Paul Summergrad
Roger G. Kathol *Editors*

Integrated Care in Psychiatry

Redefining the Role of Mental Health Professionals in the Medical Setting

Springer

Integrated Care in Psychiatry

Paul Summergrad • Roger G. Kathol
Editors

Integrated Care in Psychiatry

Redefining the Role of Mental Health Professionals in the Medical Setting

Springer

Editors

Paul Summergrad
School of Medicine
Tufts University
Boston, MA, USA

Roger G. Kathol
Cartesian Solutions, Inc.™
University of Minnesota
Burnsville, MN, USA

ISBN 978-1-4939-0687-1 ISBN 978-1-4939-0688-8 (eBook)
DOI 10.1007/978-1-4939-0688-8
Springer New York Heidelberg Dordrecht London

Library of Congress Control Number: 2014937325

© Springer Science+Business Media New York 2014
This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.
The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.
While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Foreword

In 1974 the music critic Jonathan Landau penned a classic article in which he stated "I have seen the future of rock and roll and its name is Bruce Springsteen." Landau was commenting on his impression of the debut album of the then fledgling rock star. If you will permit my imaginative analogy, I believe that the same can be said about integrated care and the future of psychiatry.

In recognition of this, Paul Summergrad and Roger G. Kathol have orchestrated an important book at a critical time in the evolution of psychiatry. With the enactment of the Affordable Care Act, the rise of accountable care organizations and patient-centered medical homes, and the increased national attention on mental health (much of it unwanted from the series of violent incidents involving mentally ill persons), psychiatrists, along with medical and surgical health care providers, have an unprecedented opportunity to work collaboratively to improve the health and quality of life of patients. This historic opportunity also affords the discipline of psychiatry to assume its rightful role in the house of medicine after over a century of relegation to the health care hinterlands and subordinated specialty status.

The combination of advances in brain and behavioral science with the fiscal imperatives of health care cost containment has made the following statements axiomatic and take on great resonance: "there is no health without mental health" and "mental health care is the secret sauce of health care cost containment." This means that the health care system, the field of medicine, and the federal and state governments need us, and we must be ready to rise to this opportunity and challenge, as the forces that previously ignored, marginalized, and undervalued psychiatric medicine and mental health care have dissipated and defined a path for psychiatrists.

In this context, Summergrad and Kathol's book comes at a most opportune time and contains invaluable information. It provides a comprehensive primer on the health care landscape of the Brave New World that we are entering. The chapter topics cover the relevant health care settings, populations, financing mechanisms, and training issues that psychiatrists, be they clinicians, administrators, educators or researchers, need to know to enact and participate in integrated care. The chapter authors are well-known experts in this previously esoteric but now fully emergent field.

This seminal book could well become a benchmark publication for our field and should be essential reading for psychiatrists and health care providers and administrators who have practical and intellectual interests in the evolution of psychiatry and health care.

New York, NY, USA Jeffrey A. Lieberman, M.D.

Preface

It is not unexpected that the two of us responded positively when approached 2 years ago by Springer to edit a book on the integration of medical and psychiatric care for psychiatrists. Both of us developed an interest in the orphan population composed of patients with comorbid medical and psychiatric conditions during medical school. Both of us completed internal medicine and psychiatric residencies. Both of us, thereafter, have dedicated our professional lives to fostering better care for patients with concurrent mental health/substance use disorders, hereafter called behavioral health (BH) disorders, and medical conditions.

Our careers have crossed paths on many occasions, whether it was sharing thoughts on treatment of complex patients on the complexity intervention units (medical psychiatry units) we ran at our respective academic medical centers, complaining about challenges and strategies that would support payment for the care of comorbid patients in a segregated reimbursement system, or discussing our career "next steps" in a system that did not know how to deal with doctors who really wanted to provide care across specialty boundaries. Little did we know that our career paths would become even more connected because the patients that happened to strike our fancy as young trainees would represent an important population that would likely transform the practice of psychiatry in the era of health reform and beyond.

Why do we say this? More medical patients with concurrent psychiatric illness seen in the medical setting have serious mental illness (SMI) than those seen in the BH sector. Further, they have largely been made invisible by a BH sector that is focused on supporting the discrete care of SMI patients seen exclusively in the BH setting, often to the exclusion of their general medical care needs. An entire BH system, including clinical care and payment, has been built around maintaining what we would describe as segregated psychiatric care, i.e., care administered and delivered in stand-alone inpatient and outpatient psychiatric settings with little thought that 80 % of BH patients are seen entirely or, at least, primarily in the medical setting.

Initially, this distinct psychiatric care was considered important since it was thought that it would better support evidence-based psychiatric care of those in greatest need, i.e., SMI patients, and protect limited budgets for other essential services such as housing, case management, and transitions to work. Little did they know when independent managed BH was initially set up that several key factors would demonstrate that stand-alone psychiatric care was not always in the interest of psychiatric patients:

- The majority of those with both SMI and non-SMI psychiatric disorders refuse to be seen in a stand-alone BH sector. The general medical sector provides the majority of ambulatory care for all BH patients.
- Traditionally treated SMI patients, most of whom have concurrent medical illness, have difficulty in accessing even basic medical care due to segregated treatment settings, payment complexity, and non-communicating records. The tragic impact on disability and early mortality has been well known for many years.
- BH comorbidity in patients seen in the medical setting is associated with poor medical and psychiatric illness outcomes, higher medical complication rates, functional impairment, protracted illness, and doubling or more of total health care costs.
- Finally, segregated medical and BH payment business practices prevent the coordination of medical and BH services, leading to managing budgets and patients as if their care needs are not integrated in the same person with the health and cost outcomes described above.

It is these challenges for patients and physicians alike that have led to what we consider an upcoming sea change in the way that psychiatric care will be delivered. The central tenant of health reform is that the care experience, the care, and the cost outcomes should improve as the system changes from fee for service to population-based health. This is known as the Triple Aim and has to be focused on the needs of patients and organized around those needs—what is known as patient-centered care. Psychiatrists have a phenomenal opportunity to contribute to the Triple Aim. Current segregated payment practices have marginalized psychiatrists, i.e., they are prevented from participating in delivery of evidenced-based care in the medical setting. This should change as a part of health care reform. Let us explain.

We do not mean that the assessments and treatments currently being delivered are subpar, nor that excellent care cannot or should not occur in the offices of psychiatrists and others. Rather, we contend that the way that they are delivered and to whom lead to less than optimal results. For instance, a number of studies now demonstrate that medical patients with untreated psychiatric illness have higher hospital admission and readmission rates, that once admitted they have on average one or more days longer lengths of stay, that they use more health care services, and that they cost the medical health system several times more in unnecessary/excess medical and pharmacy service use than the total amount used to support actual psychiatric treatment. A generation of artificially trying to control the cost of psychiatric care as if it represented a risk or a moral hazard has instead paradoxically cost more and not delivered the quality of total health care that any of us would want for our loved ones.

We now live in a segregated medical and psychiatric world and have done so for some time. In truth, the separation has led to the development of competing medical and BH subcultures that have learned not to talk with each other, and often view the competing culture with suspicion, if not disdain. They have built their own treatment infrastructures and have focused on discipline-specific work processes when care coordination and integration are the only way that negative clinical, functional, and economic outcomes are going to improve. Interestingly, colleagues in our respective specialties have even asked us where our allegiances lie, with medicine or psychiatry. They are uncertain what our answers mean when we say that they lie with our patients and the desire to improve poorly treated comorbid medical *and* psychiatric disorders.

Much progress has been made in defining models of integrated care that bring value, i.e., improved health while conserving health care resources, to patients both in the medical and mental health settings. We call these services "nontraditional" integrated or collaborative psychiatric services, i.e., those that are delivered in collaboration with medical and surgical colleagues in the general medical setting. This book is an attempt by the two of us to provide a roadmap for you to transition from segregated to integrated services and to be major contributors to the next generation of health care.

We wish to thank our families for helping us to put this book together. Roger's wife, Mary, when told of this third adventure into book editing, said, "Again!" but has been gracious in helping him keep up with other responsibilities while working with the book's authors, reviewing manuscripts, and finalizing what is hoped to be a contribution to colleagues in psychiatry wishing to be a valuable part of health in America. Paul's wife, Randy, has not only been a patient supporter of yet another quixotic psychiatric adventure but as an internist–psychiatrist herself has spent decades caring for patients with complex medical and psychiatric illness as a consultation-liaison psychiatrist in Boston.

We also wish to thank our professional colleagues who have taken the time to share their expertise related to selected areas of integrated practice. You will see in the chapters of this book the effort and wisdom they have shared in an area of psychiatric practice that to many is like a foreign country. Not only have they described the rationale for and models of integration but they have also provided guidance about needed future training programs and research.

Finally, we wish to thank the publication staff at Springer for their support in making the mechanics of producing even an edited book as simple as possible for two very busy souls. They have been delightful to work with and timely and supportive to all our efforts to produce a guide to a rapidly changing medical-psychiatric landscape.

Boston, MA, USA — Paul Summergrad, M.D.
Burnsville, MN, USA — Roger G. Kathol, M.D.

Contents

Contributors

Stuart A. Anfang, M.D. Adult Outpatient Psychiatry, Department of Psychiatry, Baystate Medical Center, Tufts University School of Medicine, Springfield, MA, USA

Susan T. Azrin, Ph.D. Division of Services and Intervention Research, National Institute of Mental Health/National Institutes of Health, Bethesda, MD, USA

Michelle A. Blackmore, Ph.D. Department of Psychiatry and Behavioral Sciences, University Behavioral Associates and Montefiore Medical Center, Bronx, NY, USA

David A. Chambers, D.Phil. Division of Services and Intervention Research, National Institute of Mental Health/National Institutes of Health, Bethesda, MD, USA

Catherine L. Christensen, M.H.P. Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA, USA

Henry Chung, M.D. Department of Psychiatry, Montefiore Care Management, Montefiore Medical Center, Yonkers, NY, USA

Paul H. Desan, M.D., Ph.D. Department of Psychiatry, Psychiatric Consultation Service, Yale New Haven Hospital, Yale University School of Medicine, New Haven, CT, USA

Benjamin Druss, M.D., M.P.H. Center for Behavioral Health Policy Studies, Rollins School of Public Health, Emory University, Atlanta, GA, USA

Silke A. von Esenwein, Ph.D. Center for Behavioral Health Policy Studies, Rollins School of Public Health, Emory University, Atlanta, GA, USA

Alexis A. Giese, M.D. Department of Psychiatry, Medical Education, University of Colorado School of Medicine, Aurora, CO, USA

Roger G. Kathol, M.D. Department of Psychiatry and Internal Medicine, Hennepin County Medical Center, University of Minnesota, Burnsville, MN, USA

Cheri Lattimer, R.N., B.S.N. CMSA, Little Rock, AR, USA

Hochang B. Lee, M.D. Department of Psychiatry, Yale University School of Medicine, New Haven, CT, USA

Jeffrey A. Lieberman, M.D. Columbia University College of Physicians and Surgeons, New York, NY, USA

New York State Psychiatric Institute, New York, NY, USA

New York Presbyterian Hospital-Columbia University, New York, NY, USA

Benjamin Liptzin, M.D. Department of Psychiatry, Baystate Medical Center, Springfield, MA, USA

Robert M. McCarron, D.O. Division of Pain Medicine, Department of Anesthesiology, University of California Davis School of Medicine, Sacramento, CA, USA

Department of Psychiatry and Behavioral Sciences, University of California Davis School of Medicine, Sacramento, CA, USA

Department of Internal Medicine, University of California Davis School of Medicine, Sacramento, CA, USA

Grayson S. Norquist, M.D. Department of Psychiatry and Human Behavior, University of Mississippi Medical Center, Jackson, MS, USA

Virginia O'Brien, M.D. Department of Psychiatry and Internal Medicine, Duke University Medical Center, Durham, NC, USA

John Onate, M.D. Department of Psychiatry and Behavioral Sciences, University of California Davis School of Medicine, Sacramento, CA, USA

Anna D.H. Ratzliff, M.D., Ph.D. Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA, USA

Sarah K. Rivelli, M.D. Department of Medicine, Duke University Medical Center, Duke University, Durham, NC, USA

Department of Psychiatry and Behavioral Sciences, Duke Global Health Institute, Durham, NC, USA

John Sargent, M.D. Department of Psychiatry, Tufts Medical Center, Boston, MA, USA

Barry Sarvet, M.D. Department of Psychiatry, Baystate Medical Center/Tufts School of Medicine, Springfield, MA, USA

Bruce J. Schwartz, M.D. Department of Psychiatry and Behavioral Sciences, University Behavioral Associates and MBCIPA, Montefiore Medical Center, Bronx, NY, USA

Kristen G. Shirey, M.D. Department of Medicine, Duke University Medical Center, Duke University, Durham, NC, USA

Department of Psychiatry and Behavioral Sciences, Duke Global Health Institute, Durham, NC, USA

William H. Sledge, M.D. Department of Psychiatry, Yale University School of Medicine, New Haven, CT, USA

Paul Summergrad, M.D. Department of Psychiatry, Tufts Medical Center, Tufts University School of Medicine, Boston, MA, USA

Marshall R. Thomas, M.D. Department of Psychiatry, Colorado Depression Center, University of Colorado School of Medicine, Aurora, CO, USA

Jürgen Unützer, M.D. Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA, USA

Philip Sung-En Wang, M.D., Dr.P.H. National Institute of Mental Health/ National Institutes of Health, Bethesda, MD, USA

Jeanette A. Waxmonsky, Ph.D. Department of Psychiatry, Colorado Depression Center, University of Colorado School of Medicine, Aurora, CO, USA

Scott Wetzler, Ph.D. Department of Psychiatry and Behavioral Sciences, University Behavioral Associates and Montefiore Medical Center, Bronx, NY, USA

Paula C. Zimbrean, M.D. Department of Psychiatry, Yale University School of Medicine, New Haven, CT, USA

Chapter 1
A Vision of Integrated Psychiatric and Medical Care for 2023

Paul Summergrad and Roger G. Kathol

Abstract This book was written so that early- and mid-career psychiatrists and psychiatrists in training can catch a glimpse of the changing health care environment and the new roles psychiatrists will play in it. While the book summarizes where we are today, the majority of its pages are devoted to forward thinking, i.e., exploring the world of psychiatry that we expect will unfold during the next quarter century. Of course, this centers on the majority of our patients that currently have very limited access to psychiatric services, since they are seen in the medical setting, where psychiatrists rarely practice either due to workforce limitations or financial barriers. Chapter authors share information about the prevalence of psychiatric illness in medical patients, the impact that poor treatment has on total health outcomes and cost, promising models of integrated care that place psychiatrists in a central role as contributors to total health improvement, fiscal and clinical steps that need to be taken to transition from standalone psychiatric services to integrated services, and training and research agendas that will, looking forward, allow psychiatrists to play a central role in integrated health care.

We are excited about the future of psychiatric practice, but many in psychiatry are unfamiliar with the revolution in health that is taking place and the important role that they can play. We hope that this book provides them with a base understanding and stimulates them to become active partners with medical colleagues as new health opportunities are built for our patients.

P. Summergrad, M.D. (✉)
Department of Psychiatry, Tufts Medical Center, Tufts University School of Medicine,
800 Washington St. #1007, Boston, MA 02111, USA
e-mail: psummergrad@tuftsmedicalcenter.org

R.G. Kathol, M.D. (✉)
Departments of Psychiatry and Internal Medicine, Hennepin County Medical Center,
University of Minnesota, 3004 Foxpoint Road, Burnsville, MN 55337, USA
e-mail: rogerkathol@icloud.com

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_1,

The changes now occurring in the health care environment—driven by quality, financial, and scientific considerations—will lead to dramatic changes in the ways we organize and provide care, how we pay for it, and the technologies we use to assess it. What cannot and must not change is our attention to the patient in front of us—using all the skills and knowledge we possess to help them—and our responsibility to make sure that the care we provide is scientifically credible and will benefit them and our communities as a whole.

This book *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting* suggests a transformation in the psychiatric care delivery environment over the next 10 years. Many traditional psychiatric services for mental health and substance use disorder, hereafter referred to as behavioral health (BH), settings will be reconfigured since their design and the workforce able to provide care are insufficient to meet burgeoning needs for psychiatric care in a population health environment. Rivelli and Shirley (Chap. 2) review the prevalence of psychiatric illness and confirm that over two-thirds of BH conditions present in the medical setting. Most of these patients remain untreated, though Azrin et al. (Chap. 3) indicate that models in which psychiatric care have been introduced into medical settings have potential to improve access and outcomes for untreated comorbid medical populations. The failure to identify psychiatric illness in the medical setting and to treat it according to our best available data means that only a small percentage of BH patients will continue to be exposed to evidence-based care or even "best practices." Fewer than 10 % receive psychiatric intervention. Further, only a portion of these would be expected to have changed BH, let alone total health, outcomes based on the level and duration of psychiatric intervention.

Nontreatment or poor treatment of BH conditions in the current health care environment is associated with poor medical and surgical illness outcomes and as a result dramatically increases total health care costs. It has been known for some time that annual medical service use costs for patients with BH conditions were on average two times higher than medical and surgical patients without BH conditions. Studies by Milliman from 2008 and from Price Waterhouse Coopers (PWC) in 2011 suggest that the increased total medical costs associated with mental health and substance use disorders are likely over 200 billion dollars a year and perhaps higher. We participated in a recent study prepared for the American Psychiatric Association that showed that in the commercial insurance environment, only 5.6 % of annual health care dollars are used for BH services and medications, whereas *increased* medical expenditures for BH patients accounted for 16 % of the annual commercial health care budget. In those covered by public programs (Medicare and Medicaid), the percent spent on BH services and medications rises to 7.7 %, but the *increased* spending for medical services remains high at 14.1 % of the budget. Thus, there is a value proposition for psychiatrists who strive to reverse these health and cost consequences by attending to the negative impact of untreated psychiatric illness in medical settings. In order to do this, however, the payment system for psychiatric care needs to be integrated with all other health services, and psychiatrists need to be paid to deliver health-enhancing care in the medical setting.

Anfang and Liptzin (Chap. 4) and Schwartz et al. (Chap. 5) review the history of payment and delivery of psychiatric services and then describe the need to couple reimbursement reform with service delivery reform as we move to the next step in psychiatric care delivery. Medical/surgical hospitals and clinics and their clinicians are already banding together as “clinically integrated networks.” When risk bearing under Medicare and in an expanding world of commercial and Medicaid population-based contracts, these are called Accountable Care Organizations (ACOs). To date, despite clear evidence that medical and psychiatric patients have a high prevalence of comorbid illness, which leads to use of more medical and surgical services and earlier death, little thought has been given to the role that BH providers, including psychiatrists, would play in ACOs. The impact that interacting BH conditions have on total health outcomes and health care costs is too large to be ignored.

Managed BH organizations, which pay for BH services, subtly demand through reimbursement and utilization management rules that BH practitioners assess and treat BH patients in isolation, i.e., in the BH setting and not focusing on the total health care needs of their patients. They do this to hold down behavioral health care spending, ignoring the negative effect that it has on total health care costs or patient well-being. The Anfang and Schwartz chapters confirm that changing from the current system will not be easy but, unless the BH payment system, which thinks that medical and psychiatric care can be effectively cared for in different places for the same patient, is addressed, value-added BH services to medical/surgical patients in the medical setting will remain inaccessible for the foreseeable future.

For years, many leading psychiatrists have recommended the elimination of the dividing line between medical and psychiatric reimbursement. Thomas et al. (Chap. 11) suggest some of the first steps that can be taken to accomplish this task and points out that it is not without risk. While we cannot remain where we are and expect to contribute to ACOs striving for the Triple Aim, i.e., better care, better outcomes, and lower cost, the transition requires deliberate steps that will preserve key elements of the existing BH system. This will include insuring care for the seriously mentally ill, while opening the door for initiation of nontraditional BH services to currently orphaned BH patients in the medical/surgical setting and medical care to those in the public mental health sector who are dying years before their rightful time. Chapters by Ratzliff et al. (Chap. 7), von Esenwein and Druss (Chap. 8), Sarvet and Sargent (Chap. 9), and Desan et al. (Chap. 10) provide thoughts related to the development and delivery of integrated psychiatric services in outpatient settings, public programs, child psychiatry practices, and inpatient settings. Each describes models that have been tried and their likelihood of bringing benefit to patients.

Ms. Lattimer (Chap. 6) describes an important addition to integrated medical and BH service delivery, i.e., integrated case management. Patients with the most complicated, complex illness, over 60 % of whom have comorbid medical and BH conditions, experience challenges in accessing and following through on value-added care. Chapter 6 describes an integrated “patient assist” program in which care/case managers help patients with clinical and nonclinical medical and BH barriers to improvement without handing patients off from one care/case manager to another.

It is this new breed of nurse/social worker that can help psychiatrists and other BH specialists as well as the primary and specialty medical/surgical clinicians marshal patients from persistent chronic comorbid illness to health stabilization. Importantly, Chap. 6 provides guidance on how psychiatrists and other BH practitioners can best capitalize on the medical and BH assist services of "integrated" care/case managers.

This book would not be complete if it did not provide thoughts and guidance in nonclinic and nonpayment-based needs as psychiatry transitions to become a major contributor to the world of medicine in the future. The chapter by McCarron et al. (Chap. 12) addresses the first need, i.e., to enhance/adjust psychiatric training so that an adequate workforce complements new models of psychiatric care. While training about the treatment of patients with psychiatric illness will continue to evolve and improve as more is learned from clinical studies, it is also important for trainees to learn other skills, such as how to work in multidisciplinary teams, apply psychiatric assessments and interventions to patients with active and interacting medical/surgical conditions in the medical setting, coordinate concurrent BH services with medical/surgical interventions, and support nonpsychiatrist BH practitioner team members and care/case managers. All of this will be required if we are to produce a workforce that can achieve improved outcomes and provide direct psychiatric assistance when patients are not improving.

Finally, chapters by both Azrin et al. (Chap. 3) and Norquist (Chap. 13) discuss the current state of and future needs for research about the treatment of BH conditions in patients who receive the majority, if not all, of their care in the medical/surgical setting. We have much to learn about the delivery of integrated services and the treatment of patients with medical comorbidities.

Many psychiatrists have practiced outside of the general medical environment for so long that they need a resource, such as in this book, that will clarify the value they will bring to psychiatrically orphaned medical/surgical patients and to their nonpsychiatric physician colleagues. In addition, we hope that this book will serve as a guide to effective evidence-based care for those who wish to provide holistic care to patients. It is our hope that this book reaches early- and mid-career psychiatrists, giving them a glimpse at and vision for the future as they build a home in a burgeoning new world of psychiatric practice. We, of course, do not have all the answers, and the future itself will be the judge about whether this book provided needed tools for those interested in expanding the contribution that psychiatry makes to patients with BH conditions during the next several decades. If we only stimulate our young colleagues to think past current disconnected medical and psychiatric care models and to improve the health and well-being of patients as health delivery changes, we both feel we will have done our job.

Chapter 2
Prevalence of Psychiatric Symptoms/Syndromes in Medical Settings

Sarah K. Rivelli and Kristen G. Shirey

Abstract Mental health and substance use disorders, or behavioral health (BH) disorders, are common and associated with significant morbidity, disability, and health-care costs. However, BH services are not adequate to meet this need. BH care in the general medical sector has increased substantially in the last decade. However, such care tends to lack adequate evidence-based mental health treatment despite a growing evidence base. Moreover, behavioral and medical conditions tend to co-occur, and thus, patients with combined needs are often seen in medical settings. BH and medical conditions are risk factors for one another, and each complicates the course and treatment of the other. Based on these observations, it is essential that we integrate mental health and medical care delivery to improve access, care, and reduce cost.

Introduction

Globally, mental health problems are highly prevalent and associated with dramatically impaired quality of life, increased mortality, substantial cost, and impeded development. Major depression is presently the fourth leading cause of disability worldwide. By 2020, it is expected to be the leading cause of disability as measured by disability-adjusted life years [1]. BH and musculoskeletal disorders, such as chronic back and neck pain, were the largest contributors to years lived with disability across all age groups in the USA in 2010 [2]. The top 20 disorders that confer

---

S.K. Rivelli, M.D. • K.G. Shirey, M.D. (✉)
Department of Medicine, Duke University Medical Center, Duke University,
Durham, NC 27710, USA

Department of Psychiatry and Behavioral Sciences, Duke Global Health Institute,
Durham, NC 27710, USA
e-mail: kristen.shirey@duke.edu

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_2,

the most years lived with disability in 2010 include seven BH disorders: major depression, anxiety disorders, drug use disorders, alcohol use disorders, schizophrenia, bipolar disorder, and dysthymia [2].

In the USA, nearly half of the population will develop a BH condition during their lifetime [3]. BH sector services are inadequate to meet this substantial need. In fact, 96 % of US counties lack sufficient numbers of psychiatrists or psychiatric nurse practitioners, making BH care in the medical setting a necessity [4]. Hence, some have argued that primary care is the de facto mental health and substance use service for 70 % of the population [5]. While the number of general medical practitioners providing BH care has increased substantially in the last decade, evidence-based BH treatment is the exception rather than the rule. Care in the medical sector includes fewer visits, less evidence-based treatment, and a preponderance of pharmacotherapy, with a notable absence of proven psychotherapeutic and psychosocial strategies. Yet many patients prefer to receive BH care in the general medical environment, despite the current challenges in the quality of such care.

Among adults with medical conditions, 29 % also have a BH condition. On the other hand, among those with BH conditions, 68 % also have comorbid medical conditions [6, 7]. BH and medical conditions serve as potent interacting risk factors, complicating the development, course, and treatment of each other. While patients with BH conditions are seen frequently in the medical setting, their BH needs often go largely unmet, which contributes to overall poor health [6].

This chapter provides an introduction to the significant prevalence of BH conditions in medical settings such as primary care and the general hospital inpatient setting; it then reviews such comorbidity among particular illnesses by organ system.

BH Comorbidity by Service Location

Primary Care

BH conditions are common and have substantial impact on medical outcomes in primary care. Patients are most likely to be diagnosed and treated for BH conditions in primary care settings; such patients also typically have one or more chronic medical condition. Moreover, the course and management of medical conditions involve health behaviors and psychosocial factors, underlining the impact of BH. A comparison of the prevalence for common disorders in the general population and in primary care is presented in Table 2.1 [8–15].

Major depressive disorder (MDD) has a lifetime prevalence rate of approximately 13 % and 1 year prevalence of 5–7 % [3]. In primary care clinical settings, annual prevalence of MDD ranges from 5 to 13 % in adults and 6–9 % in the elderly. More than half of people seeking help for BH problems never see a BH specialty provider; often they seek care from primary care providers. Although the majority

Table 2.1 Prevalence of common mental health disorders in primary care settings

Disorder	Prevalence in general population (%) [2]	Prevalence in primary care settings (%) [9–16]
Depression	13.2	5–20.7
Dysthymia	1.5	2–12.6
GAD	5–6	10.3
Panic disorder	1.1–3	2.8
OCD	2	0.14
PTSD	6.8	12
Social phobia	13.2	3.6
Specific phobia	12.5	4.4
Bipolar	1.5	0.5
Schizophrenia	0.7	0.9
Substance use disorders	27	16–20
Eating disorders	0.3–1	2.3–2.8
Somatoform disorders	4.9–21	7.6–39.4

of patients receiving care for depression are in primary care settings, many cases of depression are not detected by primary care providers. In a 1995 HMO-based study, clinicians recognized only two-thirds of patients with MDD. Missed cases were more likely to be younger and to have less severe depression. Rates of detection increase when systematic screening and integrated primary care–mental health programs were implemented [16]. Interestingly, the large majority of antidepressant prescriptions are written by primary care physicians, though such prescribing is often for patients that don't actually have a diagnosed BH disorder.

The prevalence of MDD among older adults is lower than that of younger adults; however, severity may be greater in older adults, who have the highest risk of suicide among age groups. Fifty to seventy-five percent of those who complete suicide have seen their primary care doctor within the past month, and 39 % had been seen by a doctor within 1 week of their death [17]. Depression is twice as common in women as it is in men. Other demographic groups at high risk of depression are those with chronic medical diseases, comorbid substance use disorders or other psychiatric diagnoses, and people who are either unemployed or have lower socioeconomic status.

In primary care settings, where half of adults receiving treatment for MDD are managed, the severity of depressive symptoms is equivalent to patients receiving care in specialty mental health-care settings. For example, in one survey of patients receiving depression care in primary care settings, 43 % reported having experienced suicidal ideation in the past week [18]. Thus, patients seen in primary care are as affected as those in the BH sector. The prevalence of depression in various medical settings is presented in Table 2.2 [3, 12–14, 19–26].

Dysthymia, characterized by persistent low-grade depressive symptoms, is less common than MDD, with a 12-month prevalence in community-based adult samples of 1.5–1.6 % [3]. In primary care settings, prevalence of dysthymia is estimated to be 2–4 %, though sub-threshold depressive diagnoses are notoriously difficult to

Table 2.2 Prevalence of depression in medical settings

Disorder	Prevalence (%)	Reference
General population	6.7	[3]
Primary care	5–20.7	[12–14]
Emergency room	7	[27]
General hospital	26	[19]
Cardiology outpatient	12–23	[20]
Cardiology inpatient	16–20	[20]
Endocrine outpatient	12–18	[21, 22]
HIV outpatient	16.2–36	[23, 24]
Oncology outpatient	16.3	[25]
Neurology inpatient, post-CVA	20	[26]

screen for and, therefore, may not be accurately estimated in clinical or community populations. More broadly defined, sub-threshold depressive disorders have been detected in primary care settings in 16 % of adults and 10 % of older adults [28].

Anxiety disorders are the most common psychiatric illnesses in the US general population. They affect 15–20 % of patients attending medical clinics. Because a number of medical conditions may present with anxiety, and anxiety disorders are associated with a number of somatic symptoms, it is important to evaluate patients with anxiety for underlying or comorbid medical conditions or medication side effects. Even though anxiety disorders are exceedingly common in the general population, only 7 % of those with anxiety disorders are noted to have them by their primary care providers [29]. These low detection rates are attributable to many factors, including brevity of office visits, lack of education received by primary care providers, poor screening procedures, unwillingness to label a patient with a BH condition, and frequent presentation of anxiety symptoms as primarily somatic complaints. However, one-third of patients presenting with somatic complaints to their primary care provider have an anxiety or depressive disorder [28]. Thus, it is essential for medical providers to consider these common BH disorders in order to avoid costly, potentially harmful and unnecessary medical work-ups.

Generalized anxiety disorder (GAD) affects 5–6 % of the population and is highly comorbid with other psychiatric illnesses; 80 % of patients with GAD also meet diagnostic criteria for major depressive disorder, dysthymia, phobias, or substance use disorders. GAD is also highly comorbid with medical illnesses, including chronic pain, irritable bowel syndrome, cancer, asthma, and cardiovascular disease [29]. Careful clinical diagnostic assessment and symptom management might prevent excessive testing and specialty referrals.

Social and specific phobias are common, affecting 13.2 and 12.5 % of the population, respectively [3]. Social phobia typically begins in childhood or adolescence, and significantly affects relationships and school and work performance. In spite of profoundly impacted function across multiple domains, only 27 % of sufferers seek treatment for social phobia. Health-care-seeking behavior is even lower among people with specific phobias. Eight percent of patients seek health care for specific phobias; a lower rate than for any other anxiety or mood disorder.

While panic attacks are common with a lifetime prevalence of 23 %, panic disorder (PD) without agoraphobia affects 3.7 % of community members and with agoraphobia only 1.1 %. Though not as common as depression or GAD, panic attacks and panic disorder account for a larger amounts of total health-care service utilization and are associated with functional impairment. Nearly 85 % of patients with PD and 96 % with PD and agoraphobia seek treatment for their symptoms [30]. However, 70–80 % of treatment occurs in primary care settings with no specialty mental health-care involvement [30]. In a large Canadian epidemiologic survey, health-care-seeking behavior was higher in PD patients than patients with other forms of anxiety or those with mood disorder [31].

Obsessive-compulsive disorder (OCD) has a lifetime prevalence of 2 %. The average time from onset to diagnosis is 11 years [32]. In spite of symptom underreporting, OCD is intensely distressing and is a strong risk factor for suicide. More than half of people with OCD experience suicidal ideation and 15 % attempt suicide. It is not entirely clear how many patients with OCD are seen in the primary care setting, but given the long time prior to diagnosis, it is likely substantial but goes unrecognized.

Post-traumatic stress disorder (PTSD) affects 6.8 % of the population and nearly one in five veterans [3, 9]. Between 12 and 25 % of patients seen in primary care settings have PTSD. Overall utilization of health care is high among this population, with higher visit frequency and doubled health-care costs [33]. Civilians and veterans with PTSD experience higher rates of chronic pain, irritable bowel syndrome, fibromyalgia, and arthritis. Studies of veterans with PTSD also reveal increased relative risk for cardiovascular, gastrointestinal, endocrine, respiratory, and autoimmune diseases.

Bipolar disorder affects 1.5 % of the general population. Though commonly believed to be best managed in the BH sector, prescription data from patients with bipolar disorder reveal that a significant proportion of mood stabilizer and antipsychotic prescriptions are generated by primary care providers, and such prescriptions are consistent with the chronic management of bipolar disorder. A recent cross-sectional study in the UK revealed that among patients with serious mental illness (defined as schizophrenia or bipolar disorder), 31 % had been seen only in primary care settings over the past 12 months. In this sample, 56.3 % had a diagnosis of schizophrenia and 37.7 % had bipolar disorder [34]. Schizophrenia affects nearly 1 % of the population, and is associated with high rates of medical comorbidity. In the USA, adults with serious mental illness die 25 years earlier than do adults in the general population, largely secondary to cardiovascular disease and complications of diabetes, indicating that this population has tremendous medical need and dramatic disparity with respect to access to and quality of primary medical care [35].

In primary care settings, the prevalence of somatoform disorders is roughly 10 %, although the diagnosis is rarely made by primary care physicians [10]. At least one-third of patients suffering from somatoform disorders have comorbid mood or anxiety disorders. Health-care utilization and costs are markedly elevated in patients with somatoform disorders, with or without comorbid mood or anxiety disorders.

Substance use disorders have a lifetime prevalence of 27 %. Alcohol use disorders are particularly frequent, and rank second only to hypertension in terms of disease prevalence in the US adult population. International studies have shown that 20–30 % of patients presenting to primary care have hazardous, i.e., a repeated pattern of drinking that increases the risk of physical or psychological problems, or harmful drinking, i.e., evidence of such drinking-related problems [11].

Prescription drug abuse was measured to occur in over 570,000 US citizens in 2001–2002, yet less the 15 % of abusing individuals participate in specialty substance abuse treatment [36]. Opioid addiction is four times more likely in the primary care chronic pain population. Over 80 % of such patients report at least one drug-related aberrant behavior, which is a strong predictor of addiction [38]. In pain clinics, opioid addiction is estimated to be 2–5 %, opioid abuse 20 % and occasional aberrant misuse of opioids even more common.

Emergency Departments

With the Community Mental Health Act in the 1960s, community BH agencies were established to provide psychiatric care largely in place of long-term hospitalization. Most communities were, and continue to be, ill-equipped to provide BH services. As such, emergency departments (EDs) have often become the primary portal of entry for BH care. With federal, state, and local budget cuts as well as managed care companies' restrictions, access to BH care services has become even more limited. Care has increasingly been driven to EDs and provided only when patients are in crisis. With limited access to outpatient BH services and pervasive poverty and comorbid substance use disorders, patients with mental illness tend to be relatively high utilizers of ED services, whether or not the presenting complaint is psychiatric in nature. Screening of all ED patients revealed that 44.7 % met DSM-IV criteria for current or past psychiatric disorder with major depressive disorder most heavily represented at 7 % [38].

Aside from acute exacerbations of chronic mental illnesses such as schizophrenia, bipolar disorder, and major depressive disorder, suicidality and substance use disorders are commonly encountered in EDs. According to the NHAMCS ED database, over a 16-year study period (1993–2008), there was an average of 420,000 annual ED visits for suicide attempt or self-inflicted injury. Further, during this study period the average number of ED visits for suicide attempt per year nearly doubled [39]. Of all attempted suicide attempt and self-injury visits in this study, one-third of patients had documented mental health diagnoses. Suicidal ideation is common among patients presenting to EDs for any reason. One study found that 13 % of ED patients not presenting with psychiatric complaints or suicidality endorsed suicidal ideation upon screening [40, 41].

Physical and psychiatric sequelae of alcohol use are extremely common in the ED, and due to the breadth of presentations, including trauma and injuries, hepatitis, pancreatitis, withdrawal, seizures, and psychiatric symptoms it is difficult to estimate the overall proportion of ED visits related to alcohol use. A German study found that 30 % of patients evaluated by psychiatrists in the ED were diagnosed with alcohol related disorders [42]. A 1-year systematic evaluation of consecutive adult ED patients presenting for medical complaints in Michigan showed that 15 % met DSM-IV criteria for either abuse (6.7 %) or dependence on (8.3 %) alcohol or illicit drugs [43]. In a Canadian study of ED resource use, 11 % of patients had documented substance use disorders, and 8.6 % of visits were attributed directly to substance-related problems. Furthermore, the medical inpatient admission rate for substance-related visits was 25.3 %, significantly higher than overall admission rates of 17.6 % ($p<0.001$) [44].

General Hospital Inpatient

BH diagnoses make up a significant proportion of all hospital admissions nationally, with 17.9 % of all discharges having a BH disorder coded as a secondary condition [45]. Psychiatric comorbidity is common among medical inpatients, with 20–40 % meeting criteria for a DSM-IV diagnosis [46]. The most common diagnoses are depression, anxiety, substance abuse, delirium, and dementia. Using a structured interview, the prevalence of depression was found to be as high as 26 % in one study of medical inpatients [19], while suicidal ideation was found in 7.2 % in another study [47].

Patients with BH diagnoses are more likely to be high utilizers of the health system, to be readmitted and to have longer lengths of stay in the hospital. Thus, patients with BH conditions are seen frequently in the general medical hospital. Individuals with major depression were nearly three times more likely to be rehospitalized within 90 days compared to other patients in one study [48], while patients with schizophrenia had an OR of 2.63 (95 % CI: 1.13–6.13) for a potentially avoidable readmission in another study [49].

Patients with BH problems are not only likely to present for admission to the hospital, but may develop conditions while in the hospital in response to their medical illness. For example, 30 % of patients met criteria for PTSD after a myocardial infarction, while 18.2 % met criteria for PTSD 6 months after cardiac surgery. More traumatic illness generally leads to higher rates of PTSD; up to 45 % of burn unit patients meet criteria for PTSD. Moreover, comorbid PTSD and depression among medical patients is associated with higher health-care utilization [50].

Alcohol-related disorders impact between 12.5 and 30 % of patients in the general hospital. In one study using systematic screening and case validation in a general hospital, 30 % of men and 8 % of women met criteria for alcohol abuse or dependence, yet alcohol was noted to be a problem by the admitting team among only 18 % of patients [51]. Even though the American College of Surgery mandated in 2007 that all Level I trauma centers screen for alcohol use disorders and provide at least a brief intervention in the hospital, the majority (72.4 %) of centers screen patients using only laboratory tests which may be falsely negative by the time of

Table 2.3 Prevalence of delirium in medical settings

Disorder	Prevalence (%)	Reference
Emergency room	8–10	[54]
General hospital, on admission[a]	11–25	[54, 55]
General hospital, incident delirium[a]	30	[54]
Oncology inpatient	25–30	[56]
Neurology inpatient, post CVA	30–40	[26]
Postoperative, cardiac[a]	42	[57]
Postoperative elective hip arthroplasty[a]	22	[58]
Surgical and trauma intensive care unit	69	[54]
Intensive care unit, ventilated	50–80	[54]

[a] Sample of elderly patients

admission, as opposed to evidenced based screening instruments such as the CAGE questionnaire [52].

Hospitalizations for drug abuse comprised 3.3 % of all admissions in 2005 and such patients tend to stay in the hospital on average 1 day longer than other patients [53]. Admissions related to cocaine were most common at 35.1 %, with opiate-related admissions accounting for 26 % of admissions.

Delirium is extremely common in the general hospital, particularly amongst the elderly and those with prior cognitive impairment. The prevalence of delirium across medical settings is presented in Table 2.3 [26, 54–58]. One study examined a hospital-wide sample of non-ICU patients and found an overall hospital prevalence of 20 % for inpatients. As many as half of the patients on the geriatric units had delirium, and about 25 % of general medical patients met criteria [55]. Approximately 11–25 % of elders are admitted with delirium, while an additional 30 % develop delirium in the hospital [54]. Postoperative delirium risk increases with the risk and length of the surgery. Abdominal and cardiac surgeries are associated with a rate of approximately 50 % of postoperative delirium [54].

Intensive Care Units

The most common disorder encounter in the intensive care setting is delirium. Delirium occurs in 31 % of all Intensive Care Unit (ICU) admissions and has a cumulative incidence of 81 % over the course of the ICU stay [54]. Delirium is associated with increase ICU and hospital length of stay, functional and cognitive decline and increased mortality.

Critical illness is by definition, a life threatening event that is potentially traumatizing. Patients often report feeling fearful during and after ICU care. A review of PTSD symptoms following treatment in an ICU found a median point prevalence of questionnaire-ascertained PTSD of 22 %, while the median point prevalence of clinician-diagnosed PTSD was 19 %. Higher number of ICU days appears to be a risk factor for PTSD, while illness severity has not been found to be a consistent predictor [59].

Acute lung injury (ALI), which includes acute respiratory distress syndrome, is associated with an increased risk for depression, PTSD and anxiety after ICU care. All are associated with decreased health-related quality of life. A systematic review found that at discharge, 44 % of ALI patients met criteria for PTSD by diagnostic interview. Symptoms tended to persist with 25 % still meeting criteria 5 years post discharge. Clinically significant depressive symptoms were found to have a median prevalence of 28 %, while anxiety symptoms were found among 24 % of patients [60].

BH Comorbidity by Organ System

Review of the prevalence of BH conditions by treatment setting reveals high rates of such conditions, including those with substantial severity. In a similar vein, examination of BH conditions occurring among patients with particular medical illness shows substantial comorbidity. This section is organized by organ systems and highlights some of the more common medical illness and associated BH conditions.

Neurology

Neurological symptoms without diagnosable neurologic cause are present in up to one third of all patients presenting to neurology clinics [61]. This includes symptoms such as weakness, pain and symptoms largely disproportionate to an underlying disease. One study of consecutive new patients referred for neurology consultation, revealed that 44 % of outpatients and 20.5 % of inpatients met criteria for a DSM-IV somatoform disorder [62]. Undifferentiated somatoform disorder was the most common at 17.5 %, followed by pain disorder (11.6 %). While somatization disorder was diagnosed in only 1.1 % of patients, somatoform NOS was found in 7.1 %. Lastly, conversion disorder was seen in 2.9 % of patients.

Epilepsy

Approximately half of all patients with seizures have psychiatric symptoms and syndromes. Complex partial seizures are the most common form seen in adults and frequently present with psychiatric symptoms including affective, perceptual behavioral or cognitive symptoms. Interictally, patients with epilepsy have been found to have high rates of panic attacks 20 %. Approximately 8–10 % of epilepsy patients have postictal symptoms ranging from mood disturbance to psychosis [26]. These symptoms are generally short-lived but may be a focus of clinical attention.

Depression assessed by the PHQ-9, was found in 29.3 % of patients presenting to an epilepsy clinic. Patients with well-controlled seizures tended to have lower depression scores than those with persistent seizures [63]. Overall, depression and suicide have been shown to be 4–5 times greater among patients with epilepsy than in the general population [26]. Non-epileptic seizures (NES), also called psychogenic seizures or pseudoseizures, are common, representing 10–30 % of neurology outpatients in epilepsy clinics [64] and 20 % of patients referred to epilepsy monitoring units. About 25 % of patients with NES also have epileptic seizure disorders. Thus, such patients are frequently seen in the neurology setting.

Cerebrovascular Disease

Psychiatric symptoms and syndromes are seen in at least half of all patients after stroke. Delirium is prevalent post-stroke, impacting 30–40 % of patients in the acute post-stroke period. Dementia may be diagnosed in approximately 25 % of patients in the 3-month period after stroke [26, 64].

Approximately 20 % of patients meet criteria for major depression in the acute post-stroke period, an additional 20 % meet criteria for minor depression [26]. The prevalence of depression is highest in acute hospital and rehabilitation settings, and declines among patients living in the community to between 10 and 15 %. Vascular depression comprises executive dysfunction, more frequent and severe T-2 weighted hyperintensities on brain MRI, tends to be of late onset and poorly responsive to antidepressants. Less is known about its prevalence, but it is thought to be significant among patients with late life depression associated with cognitive deficits and is refractory to treatment.

Generalized anxiety is frequently comorbid with depression in the acute post-stroke period, though symptoms may be more short lived than the 6-month duration required by DSM-5 criteria. The prevalence of significant anxiety symptoms by self-rating scales is 25–30 %. Post-stroke mania and psychosis are less common, each affecting approximately 1–2 % of patients in the acute period [26]. Pseudobulbar affect, characterized by spells of laughing or crying, is seen in approximately 15 % of post-stroke patients and is often a reason for psychiatric consultation [65].

Movement Disorders

Hallucinations and delusions occur in up to 57–76 % of patients with dementia with Lewy bodies, 54 % of patients with Parkinson's disease and dementia, and 7–14 % of patients with Parkinson's disease without dementia [66]. Depression is seen in about 40–50 % of patients with Parkinson's disease and is one of the major determinants of quality of life; anxiety can also be a common symptom [67]. Early Parkinson's disease may be mistaken for depression given the overlap in clinical features.

In one study of 1,449 outpatients with Parkinson's disease, only 29.4 % were free from psychiatric symptoms, whereas 49.6 % had depression and/or dementia in some combination. Thirty-one percent had various symptoms such as illusions, hallucinations, delusions, and anxiety that did not meet criteria for a specific disorder [68].

Multiple Sclerosis

Multiple sclerosis (MS) affects approximately 350,000 people in the USA. Subcortical cognitive impairment impacts at least half of all patients with MS and is manifested as decreased speed of processing, executive dysfunction and memory problems. More than half of patients with MS report depressive symptoms, which can be difficult to distinguish from the fatigue and pain often seen in the illness [69] The lifetime prevalence of a major depressive episode is 50 % in MS [70].

Traumatic Brain Injury

Traumatic brain injury (TBI) may be characterized by cognitive deficits, personality changes, mood and anxiety disorders and psychosis. A history of alcohol use disorders complicates the presentation in 40–50 % of patients with TBI. As many as 23 % of TBI patients meet the criteria for personality disorder. Depression in patients with TBI can be as high as 77 % among those with more severe injuries [71]. Up to 15 % of patients with TBI attempt suicide during a 5-year follow-up post-injury [26]. TBI and PTSD often co-occur, with rates of PTSD ranging from 15 to 44 % among civilians versus more severely injured veterans with TBI, respectively.

Headache

Lifetime prevalence for MDD among migraine patients is 34 %, while for bipolar disorder is it 9 %. Migraine patients are 3–4 times more likely to have panic disorder and GAD, with lifetime prevalence rates of at least 11 and 10 %, respectively [69]. Given high rates of comorbid psychiatric disorders, routine BH screening in headache clinics is now recommended by some headache experts [72].

Cardiac

Among outpatients with known coronary artery disease (CAD), 12–23 % of patients meet criteria for MDD [20]. Similarly, among survivors of acute myocardial infarction (MI), 16–20 % meet diagnostic criteria for MDD, which is at least three times the rate in the general community. Furthermore, up to 45 % have significant depressive symptoms, as measured by the Beck Depression Inventory (BDI) [20]. Interestingly, not all depression following an MI is incident depression; approximately 55 % of episodes have onset prior to the cardiac event [73]. Somatic symptoms appear to be more prominent in post-MI patients compared to those seen in BH settings who tend to have more prominent cognitive and affective symptoms [74]. Less is known about the long-term course of depression post MI, but some studies suggest that it tends to follow a chronic course during the first year [20].

Depressive symptoms are also prevalent after coronary bypass grafting (CABG). A study using the Diagnostic Interview Schedule found that 20 % of 309 CABG patients met criteria for MDD [75]. About 40 % of patients also have significant symptoms of anxiety prior to and following CABG [76]. In patients with congestive heart failure, the prevalence of MDD assessed by diagnostic interview is 19.3 %, while clinically significant symptoms by self-rating questionnaires are found in 33.6 % of patients [77].

Because depression is highly prevalent, is associated with decreased adherence to medications and rehabilitation, and has been shown to have a substantial increase in cardiovascular morbidity and mortality, the AHA Science Advisory has recommended routine screening among cardiac patients [78]. Screening using the two-step method of Patient Health Questionnaire in cardiology settings yields a prevalence of 18 % positive depression screens, a sensitivity of 91 % and specificity of 55 % compared to a structured interview. Interestingly, this brief self-rated screening provides valuable prognostic information: after adjustment for age, sex, body mass index, history of myocardial infarction, hypertension, diabetes, heart failure, and high-density lipoprotein levels, screening positive for depression was associated with a 41 % greater rate of cardiovascular events over a mean of approximately 6 years of follow-up [79].

While depression has been most well-studied, other psychiatric diagnoses are also more prevalent among patients with CAD. Systematic diagnostic assessment of 100 stable outpatients with CAD revealed a mean number of comorbid psychiatric disorders per subject of 1.7. Point-prevalence of current disorders outside of depression included: dysthymic disorder (15 %), alcohol abuse (19 %), PTSD (29 %), generalized anxiety disorder (24 %), binge-eating disorder (10 %), and primary insomnia (13 %) [80].

At least 20 % of patients seen in an emergency department for chest pain meet criteria for panic disorder, while approximately half of patients presenting to primary care for chest pain have either panic attacks or the full disorder [76]. Patients with true CAD have elevated rates of comorbid panic disorder as well, with rates that are about four times that of the general population.

Symptoms of both anxiety and depression are common among patients prior to and after Implantable Cardiac Defibrillator (IDC) placement. The few studies that have used structured diagnostic interview, found that between 11 and 28 % of patients met criteria for depressive disorder and 11–26 % had an anxiety disorder. Rates of elevated symptoms of anxiety and depression based on self-report questionnaires shows significant symptoms that tend to persist and are present even 12 months post-implantation. Elevated anxiety and depression scores on the Hospital Anxiety Depression Scale (HADS) are found in 27–26 % and 23–36 % of patients pre-implantation, 15–20 % and 23–25 % during the first 6 months post-procedure and 13–33 % and 7–32 % of patients followed 1 year or more after device placement, respectively [81].

Delirium is common in patients hospitalized for MI, CHF and CABG. Post-MI delirium rates are about 20 %, while 20–25 % of patients meet criteria for delirium postoperatively [57]. Rates of delirium are elevated in cardiac intensive care settings, patients requiring intra-aortic balloon pump therapy present with delirium 34 % of the time [76], for example.

Oncology

A systematic review of mostly European studies, found a combined prevalence of 32 % for any current non-psychotic BH disorder diagnosed by structured clinical interview among inpatients receiving cancer care [82]. Another review that included 70 studies in non-palliative care settings and used DSM and ICD criteria, found the prevalence of depression to be 16.3 %. Prevalence for dysthymia was 2.7 %, for anxiety disorders 10.3 %, and for adjustment disorder 19.4 % [25].

A study of 1,529 patients undergoing active outpatient treatment for cancer, found elevated Hospital Anxiety and Depression Scale (HADS) scores compared to 237 controls from the general population. Among cancer patients, 20.6 % reported significant anxiety consistent with an anxiety disorder versus only 5.9 % in the general population, 18.1 % reported significant depressive symptoms compared to 8.0 % in the control group [83]. A study of 2,297 outpatients with a variety of cancers at various stages showed that while 36.4 % had symptoms suggesting psychiatric morbidity, only 29 % of these patients were identified by their treating oncologist as distressed [84].

Depressive symptoms may be due to stress from the diagnosis of cancer, underlying medical illness, treatment side effects or represent a preexisting vulnerability to an affective disorder. Careful differential diagnosis including evaluation for hypoactive delirium, cancer-related fatigue, and anorexia is often warranted. In random samples of hospitalized cancer patients, reported rates of depressive symptoms vary from 25 to 50 % [85]. Factors associated with greater prevalence of depression are pain, a higher level of physical disability, and more severe illness.

The prevalence of depression varies by period of assessment and instruments used. Studies show that approximately 25 % of patients will require evaluation and treatment at some point due to depressive symptoms. About half of all cases of depression after cancer diagnosis occur in patients with a prior history of MDD [86]. About 20 % of patients diagnosed with non-small-cell lung cancer have depressed mood at the time of diagnosis, and this tends to persist even after treatment [56]. Depression preceding the diagnosis of pancreatic cancer has been noted, and there has been consideration of depression as a risk factor for pancreatic cancer. Cross-sectionally, 38 % of patients with pancreatic cancer have elevated Beck Depression Inventory Scores (BDI) [56]. Overall depression is associated with poorer quality of life, decreased adherence to treatment, longer length of stay in the hospital and increased rate of suicide among patients with cancer [87].

Anxiety symptoms are common during initial evaluation given the stress, uncertainty, and difficult decisions that patients often have to make. They are also common when treatment is started or changed, or when waiting for information related to disease progression and staging. Anxiety may also be related to undertreated pain, and the experience of pain may be worsened by anxiety.

Most studies indicate that rates of anxiety disorders appear close to the normal population, though the brain tumor population may have elevated rates [56]. One large study of brain tumor patients revealed 48 % of patients met criteria for GAD; some of these subjects made up the group that met criteria for both depression and GAD, which represented 33 % of the sample [88]. Selected phobic disorders can interfere with medical evaluation and treatment, such as claustrophobia leading to difficulty tolerating MRI scans or health-related phobias such as needle phobia.

Less is known about the prevalence of anxiety disorders among longer term survivors of cancer. The National Comorbidity Survey Replication provided an opportunity to examine subjects reporting a history of cancer with no recurrence for 5 years [89]. Subjects with a history of cancer, were more likely to have any anxiety disorder (OR: 1.49, 95 % CI: 1.04–2.13) during the past 12 months, though rates for social anxiety, GAD, PTSD, and panic disorder were not significantly different. Odds for specific (OR: 1.59, 95 % CI: 1.06–2.44) and medical phobia (OR: 3.45, 95 % CI: 1.15–10.0) were significantly elevated amongst cancer survivors, however.

Cancer and its treatment can be traumatic and can lead to PTSD-spectrum symptoms for some patients. For example, 24 % of women 2 years after a diagnosis of breast cancer were found to have symptoms of PTSD, whereas only 9 % met criteria for the disorder [90]. Younger women, and those with lower education and income appear more likely to have significant PTSD symptoms [56]. Neuropathic symptoms can also be a reminder of treatment and activate anxiety, intrusive thoughts and avoidance [90].

Fatigue is extremely common among cancer patients and may be virtually a universal experience at least transiently. Fatigue may become a focus of attention for a psychiatrist given the related impairment in function and quality of life. The National Cancer Centers Network (NCCN) recommends systematic assessment for fatigue in a similar manner to assessing pain, followed by investigation of contributing causes including anxiety, depression and sleep disturbances [56]. Finally, delirium is common in cancer patients, with 255 to 30 % of inpatients meeting criteria for delirium. In terminal stages of illness, delirium prevalence reaches up to 85 % [56, 87].

Infectious Diseases

HIV–AIDS

Mental illnesses are common among people living with HIV/AIDS (PLWHA). The relationships between BH disorders and HIV are complex because baseline BH disorders confer risk for contracting HIV due to increased risk behaviors.

Of the BH illnesses experienced by PLWHA, depression prevalence ranges from approximately 20–36 % depending on evaluation method used [23]. Depression profoundly impacts HIV in many ways, with behavioral and biologic factors affecting combined antiretroviral therapy adherence, high risk sexual behavior, virologic failure, and mortality [24].

Anxiety symptoms, including dyspnea, tremor, palpitations, nausea, and diarrhea, are also common among PLWHA and may be attributable to medication side effects, illness or a primary disorder. GAD and PD have 12-month prevalence of 16 and 10 %, respectively [23]. Careful evaluation for both medical and psychiatric etiologies of mood and anxiety symptoms is warranted. Substance use disorder prevalence among PLWHA is more than 25 %, as would be expected given that IV drug use is the second most common HIV transmission risk factor. Drug and alcohol abuse is associated with increased high-risk sexual behaviors. Half of PLWHA who have a substance use disorder also meet criteria for a comorbid psychiatric diagnosis, most commonly major depressive disorder followed by panic disorder and bipolar disorder [23].

The rate of suicide completion among PLWHA in Switzerland is three times that of the general population. In the USA, one in five HIV-positive patients report having had suicidal ideation in the previous week [91]. Many factors contribute to this phenomenon, including highly prevalent comorbid depression, substance use disorders, social isolation, stigma, and chronic pain and fatigue associated with the disease.

Hepatitis C

BH disorders are common among those who have Hepatitis C Virus (HCV) infection. The occurrence of HCV infection is reported to be up to 11 times greater in people with serious BH disorders compared to the general population, and as high as 25 % in some study samples of patients with serious mental illness [92]. HCV infection was documented among almost 2 % of all hospitalizations in the VA system, 62 % of these patients also had discharge diagnoses of comorbid substance use and other BH disorders such as depression, PTSD, bipolar disorder, and psychosis [92]. Interferon has been the mainstay of treatment for HCV but causes neuropsychiatric side effects such as depression, irritability and anxiety in approximately 20–40 % of patients. However, little data support withholding treatment from individuals with psychiatric and substance use disorders. In fact, the emergence of depressive symptoms during treatment is actually associated with increased sustained viral response. Expanding access to treatment for such patients is recommended.

Endocrine

Diabetes Mellitus

Depression and diabetes are two of the most common chronic diseases in the USA, and frequently co-occur. Nearly 30 % of patients with diabetes endorse depressive symptoms when screened, and 12–18 % meet diagnostic criteria for MDD [21, 22], which is 2–3 times higher than that of the general population. Overall lifetime prevalence of MDD among people with types 1 and 2 diabetes is about 29 %, more than double that of the general population [21]. The relationships between depression and diabetes are bidirectional; people with major depressive disorder have a higher risk of developing type 2 diabetes than those without depression. At the same time, patients with diabetes develop higher rates of depression than do age-matched nondiabetic counterparts. Moreover, patients with comorbid depression and diabetes have poorer glycemic control, more disability, and prospectively higher rates of microvascular and macrovacular morbidity, dementia, and mortality.

Anxiety disorders are also common among people with diabetes. A 2002 meta-analysis revealed that 14 % of people with diabetes across 18 different studies met diagnostic criteria for generalized anxiety disorder, while 40 % described anxiety symptoms [93]. Anxiety symptoms are associated with poor glycemic control and common sequelae of poorly controlled diabetes.

Diabetes is also common among patients with severe persistent mental illness. For example, in people with schizophrenia, the prevalence of diabetes is twice as high as in the general population (10 % vs. 6 %) [94]; it remains untreated in 30 % [95]. In the CATIE trial, 41 % of participants were found to have the metabolic syndrome, which is 2–3 times the prevalence of metabolic syndrome in the general population [96].

Thyroid Dysfunction

Both clinical and subclinical hypothyroidism has been associated with mood disorders, including major depressive disorder and bipolar disorder. Hypothyroidism is considered a reversible cause of depression. The American Association of Clinical Endocrinologists recommends that the diagnosis of hypothyroidism should be considered in every patient with depression, with a careful history and exam for signs associated with thyroid dysfunction. In an Italian cohort of individuals with subclinical hypothyroidism, prevalence of depressive symptoms was 64 % [97].

Even though more traditionally associated with hypothyroidism, depression has also been described in 31–69 % of patients with hyperthyroidism [98]. Among patients with hyperthyroidism, 60 % meet diagnostic criteria for an anxiety disorder. Psychiatric symptoms do not consistently improve with hormone therapy, so often concomitant mental health treatment is required.

Obstetric-Gynecology and Women's Health

The prevalence of depressive disorders in obstetrics and gynecology practices has been reported to be as high as 27 % [99]. Postpartum depression prevalence is 10–15 % and usually appears in the first 2–3 months following delivery. Postpartum psychosis is estimated to occur at a rate of 0.1–0.2 %, and risk to the mother and child is high [100]. Transient postpartum blues lasting no more than 3–7 days is common and may occur in as a many as 75 % of women postpartum and does not require treatment.

Between 14 and 23 % of pregnant women will experience a depressive disorder during pregnancy, while approximately 13 % of women took an antidepressant at some point in pregnancy in one study [101]. Depression during pregnancy has been associated with previous episodes of major depressive illness, poor self-rated health, and greater alcohol use and use of cigarettes while pregnant. Demographic factors such as not living with a partner, not working, and less education were also significantly related to elevated symptoms of depression during pregnancy.

A study of the prevalence of psychiatric disorders among women seen in a public-sector gynecologic clinic found that nearly 7 % had panic disorder and 6 % had generalized anxiety disorder, which is at least two times higher than rates found in the National Comorbidity Survey for women aged between 25 and 45 years [99]. Moreover, research has shown that pregnant women report more anxiety symptoms than non-pregnant women and such symptoms are associated with negative health outcomes for both mother and child.

PTSD is the third most common psychiatric disorder among economically disadvantaged pregnant women, with a prevalence rate of 7.7 % [101]. Women with PTSD are more likely to engage in high-risk behaviors such as smoking, poor nutrition, and interpersonal violence all of which have known negative consequences for both mothers and their newborns. Thirty-three percent of the women with PTSD report thoughts of self-harm and more than 27 % had comorbid substance use even during pregnancy. Moreover, women with PTSD have been shown to have more complications of pregnancy, including more ectopic pregnancies, miscarriages, hyperemesis, and preterm contractions than their counterparts without PTSD.

Eating disorders primarily affect women in their childbearing years. Prevalence of bulimia nervosa (BN) or binge eating disorder (BED) in a sample of both primary care and obstetric gynecology clinics was 6.2 % [102]. Furthermore, anxiety disorders, mood disorders, and diabetes were much more common among women with

BN or BED than among women without these eating disorders. Unfortunately, fewer than 10 % of cases with BN or BED were recognized by the patients' physicians.

When carefully assessed using DSM-V diagnostic criteria, premenstrual dysphoric disorder (PMDD) occurs in 2–5 % of community-based samples, prevalence rates are approximately twice as high in outpatient obstetric-gynecology clinics [103]. The premenstrual phase may also lead to exacerbation of existing Axis I diagnoses and comorbidity between PMDD and other mood disorders, including seasonal affective disorder has been noted.

Menopausal transition rather than the postmenopausal period appears to confer a higher risk for depression in women. Rates of depression range from 8 to 20 % in the menopausal phase [101]. Risk factors for depression in the perimenopausal period include a prior history of premenstrual or postpartum depression, life stress, poor health, and absence of a partner.

Conclusion

BH problems are extremely common in medical settings and among a variety of medical illness across organ systems. Overall, 29 % of all persons with medical conditions have a comorbid mental health condition [6]. The majority of patients with BH disorders are seen only in the general medical health sector, and approximately two-thirds receive no treatment for these disorders [104]. Moreover, patients with high health service utilization tend to have high psychiatric comorbidity. However despite high utilization, such patients often receive little or no BH treatment. Finally, BH and medical conditions are risk factors for each other and the presence of one can complicate the course and treatment of the other. Based on these observations, it is essential that we integrate BH and medical care delivery to expand access, improve care, and reduce cost.

References

1. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med. 2006;3(11):e442. doi:10.1371/journal.pmed.0030442.
2. US Burden of Disease Collaborators. The state of US health, 1990–2101. Burden of diseases, injuries and risk factors. JAMA. 2013;310(6):591–608.
3. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005;62(6):593–602.
4. Thomas KC, Ellis AR, Konrad TR, Holzer CE, Morrissey JP. County-level estimates of mental health professional shortage in the United States. Psychiatr Serv. 2009;60(10):1323–8.
5. Regier DA, Narrow WE, Rae DW, Manderscheid RW, Locke BZ, Goodwin FK. The de Facto US mental and addictive disorders service system: epidemiologic catchment area prospective 1-year prevalence rates of disorders and services. Arch Gen Psychiatry. 1993;50:85–94.

6. Druss BJ, Walker ER. Mental disorders and medical comorbidity. Research synthesis report February 2011; no. 21. Princeton, NJ: Robert Wood Johnson Foundation; 2011.
7. American Hospital Association. Bringing behavioral health into the care continuum: opportunities to improve quality, costs and outcomes. TrendWatch 2012 Jan.
8. Mackenzie CS, Reynolds K, Cairney J, Streiner DL, Sareen J. Disorder-specific mental health service use for mood and anxiety disorders: associations with age, sex, and psychiatric comorbidity. Depress Anxiety. 2012;29(3):234–42.
9. Creamer M, Wade D, Fletcher S, Forbes D. PTSD among military personnel. Int Rev Psychiatry. 2011;23(2):160–5.
10. Hilderink PH, Collard R, Rosmalen JG, Oude Voshaar RC. Prevalence of somatoform disorders and medically unexplained symptoms in old age populations in comparison with younger age groups: a systematic review. Ageing Res Rev. 2013;12(1):151.
11. Funk M, Wutzke S, Kaner E, Anderson P, Pas L, McCormick R, et al. A multicountry controlled trial of strategies to promote dissemination and implementation of brief alcohol intervention in primary health care: findings of a World Health Organization collaborative study. J Stud Alcohol. 2005;66:379–88.
12. Ansseau M, Dierick M, Buntinkx F, Cnockaert P, De Smedt J, Van Den Haute M, et al. High prevalence of mental disorders in primary care. J Affect Disord. 2004;78(1):49–55.
13. Grandes G, Montoya I, Arietaleanizbeaskoa MS, Arce V, Sanchez A. The burden of mental disorders in primary care. Eur Psychiatry. 2011;26(7):428–35.
14. Toft T, Fink P, Oernboel E, Christensen K, Frostholm L, Olesen F. Mental disorders in primary care: prevalence and co-morbidity among disorders. Results from the functional illness in primary care (FIP) study. Psychol Med. 2005;35(8):1175–84.
15. Hoek HW, van Hoeken D. Review of the prevalence and incidence of eating disorders. Int J Eat Disord. 2003;34(4):383–96.
16. Zivin K, Pfeiffer PN, Szymanski BR, Valenstein M, Post EP, Miller EM, et al. Initiation of primary care-mental health integration programs in the VA health system. Med Care. 2010;48(9):843–51.
17. Luoma JB, Martin CE, Pearson JL. Contact with mental health and primary care providers before suicide: a review of the evidence. Am J Psychiatry. 2002;159:909–16.
18. Gaynes BN, Rush AJ, Trivedi M, Wisniewski SR, Balasubramani GK, Spencer DC, et al. A direct comparison of presenting characteristics of depressed outpatients from primary vs. specialty care settings: preliminary findings from the STAR*D clinical trial. Gen Hosp Psychiatry. 2005;27:87–96.
19. Cigognini MA, Furlanetto LM. Diagnosis and pharmacological treatment of depressive disorders in a general hospital. Rev Bras Psiquiatr. 2006;28(2):97–103.
20. Jiang W, Xiong G. Epidemiology of the comorbidity between depression and heart disease. In: Glassman SH, Maj M, Sartorius N, editors. Depression and heart disease. Sussex: Wiley; 2011.
21. de Groot M, Anderson R, Freedland KE, Clouse RE, Lustman PJ. Association of depression and diabetes complications: a meta-analysis. Psychosom Med. 2001;63(4):619–30.
22. Park M, Katon WJ, Wolf FM. Depression and risk of mortality in individuals with diabetes: a meta-analysis and systematic review. Gen Hosp Psychiatry. 2013;35(3):217–25.
23. Bing EG, Burnam MA, Longshore D, Fleishman JA, Sherbourne CD, London AS, et al. Psychiatric disorders and drug use among human immunodeficiency virus-infected adults in the United States. Arch Gen Psychiatry. 2001;58(8):721–8.
24. Rabkin JG. HIV and depression: 2008 review and update. Curr HIV/AIDS Rep. 2008;5(4): 163–71.
25. Mitchell AJ, Chan M, Bhatti H, Halton M, Grassi L, Johansen C, Meader N. Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. Lancet Oncol. 2011;12:160–74.
26. Huffman JC, Brennan MM, Smith FA, Stern TA. Patients with neurologic conditions I. Seizure disorders (including nonepileptic seizures), cerebrovascular disease, and traumatic brain injury. In: Stern TA, Fricchione GL, Caseem NH, Jellinek MS, Rosenbaum JF, editors. Massachusetts General Hospital handbook of general hospital psychiatry. 6th ed. Philadelphia, PA: Saunders; 2010.

27. Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen HU, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. Arch Gen Psychiatry. 1994;51(1):8–19.
28. Katz SJ, Kessler RC, Lin E, Wells KB. Medication management of depression in the United States and Ontario. J Gen Intern Med. 1998;13:77–85.
29. Kroenke K, Jackson JL, Chamberlin J. Depressive and anxiety disorders in patients presenting with physical complaints: clinical predictors and outcome. Am J Med. 1997;103: 339–47.
30. Roy-Byrne PP, Davidson KW, Kessler RC, Asmundson GJ, Goodwin RD, Kubzansky L, et al. Anxiety disorders and comorbid medical illness. Gen Hosp Psychiatry. 2008;30(3):208–25.
31. Kessler RC, Chiu W, Jin R, Ruscio A, Shear K, Walters EE. The epidemiology of panic attacks, panic disorder, and agoraphobia in the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2006;63(4):415–24.
32. Leon AC, Olfson M, Portera L. Service utilization and expenditures for the treatment of panic disorder. Gen Hosp Psychiatry. 1997;19:82–8.
33. Pinto A, Mancebo MC, Eisen JL, Pagano ME, Rasmussen SA. The Brown longitudinal obsessive compulsive study: clinical features and symptoms of the sample at intake. J Clin Psychiatry. 2006;67(5):703–11.
34. Stein MB, McQuaid JR, Pedrelli P, Lenox R, McCahill ME. Posttraumatic stress disorder in the primary care medical setting. Gen Hosp Psychiatry. 2000;22:261–9.
35. Reilly S, Planner C, Hann M, Reeves D, Nazareth I, Lester H. The role of primary care in service provision for people with severe mental illness in the United Kingdom. PLoS ONE. 2012;7(5):e36468. doi:10.1371/journal.pone.0036468.
36. Viron M, Baggett T, Hill M, Freudenreich O. Schizophrenia for primary care providers: how to contribute to the care of a vulnerable patient population. Am J Med. 2012;125(3):223–30.
37. McCabe SE, Cranford JA, West BT. Trends in prescription drug abuse and dependence, co-occurrence with other substance use disorders, and treatment utilization: results from two national surveys. Addict Behav. 2008;33:1297–305.
38. Gudin J. Clinical strategies for the primary health care professional to minimize prescription opioid abuse. Postgrad Med. 2012;124(3):131–8.
39. Richmond TS, Hollander JE, Ackerson TH, Robinson K, Gracias V, Shults J, et al. Psychiatric disorders in patients presenting to the emergency department for minor injury. Nurs Res. 2007;56(4):275–82.
40. Ting SA, Sullivan AF, Boudreaux ED, Miller I, Camargo CA. Trends in US emergency department visits for attempted suicide and self-inflicted injury, 1993–2008. Gen Hosp Psychiatry. 2012;34(5):557–65.
41. Claassen CA, Hughes CW, Gilfillan S, McIntire D, Roose A, Lumpkin M, Rush AJ. Toward a redefinition of psychiatric emergency. Health Serv Res. 2000;35(3):735–54.
42. Chang B, Gitlin D, Patel R. The depressed patient and suicidal patient in the emergency department: evidence-based management and treatment strategies. Emerg Med Pract. 2011; 13(9):1–23.
43. te Wildt BT, Andreis C, Auffahrt I, Tettenborn C, Kropp S, Ohlmeier M. Alcohol related conditions represent a major psychiatric problem in emergency departments. Emerg Med J. 2006;23(6):428–30.
44. Booth BM, Walton MA, Barry KL, Cunningham RM, Chermack ST, Blow FC. Substance use, depression and mental health functioning in patients seeking acute medical care in an inner city ED. J Behav Health Serv Res. 2011;38(3):358–72.
45. Brubacher JR, Mabie A, Ngo M, Abu-Laban RB, Buchanan J, Shenton T, Purssell R. Substance-related problems in patients visiting an urban Canadian emergency department. CJEM. 2008;10(3):198–204.
46. Saba DK, Levit KR, Elixhauser A. Hospital stays related to mental health, 2006. HCUP Statistical brief #62. Rockville, MD: Agency for Healthcare Research and Quality; 2008. www.hcup-us.ahrq.gov/reports/statbriefs/sb62.pdf.

47. Kunkel EJS, del Busto E, Kathol RG, Stern TA, Wise TN, Stoddard FR, et al. Physician staffing for the practice of psychosomatic medicine in general hospitals: a pilot study. Psychosomatics. 2010;51(6):520–7.
48. Furlanetto LM, Stefanello B. Suicidal ideation in medical inpatients: psychosocial and clinical correlates. Gen Hosp Psychiatry. 2011;33:572–8.
49. Kartha A, Anthony D, Manasseh CS, Greenwald JL, Chetty VK, Burgess JF, et al. Depression is a risk factor for rehospitalization in medical inpatients. Prim Care Companion J Clin Psychiatry. 2007;9(4):256–62.
50. Burke RE, Donz J, Schnipper JL. Contribution of psychiatric illness and substance abuse to 30-day readmission risk. J Hosp Med. 2013;8(8):450–5.
51. Rundell, J, Lineberry T, Leentjens AFG, Soellner W, Oldham R, Shim JJ, et al. Traumatic stress disorders in medically ill patients. An evidence-based medicine (EBM) monograph for psychosomatic medicine practice published jointly by The Guidelines and Evidence-Based Medicine Subcommittee of the Clinical Practice Committee, Academy of Psychosomatic Medicine (APM) and The European Association of Psychosomatic Medicine (EAPM). Dec 2012; Version 10: 1–20.
52. Hearne R, Connolly A, Sheehan J. Alcohol abuse: prevalence and detection in a general hospital. J R Sci Med. 2002;95:84–7.
53. Terrell F, Zatzick DF, Jurkovich GJ, Rivara FP, Donova DM, Dunn CW, et al. Nationwide survey of alcohol screening and brief intervention practices at US level I trauma centers. J Am Coll Surg. 2008;207:630–8.
54. Kassed CA, Levit KR, Hambrick MM. Hospitalizations related to drug abuse, 2005: statistical Brief #39. Healthcare Cost and Utilization Project (HCUP) Statistical briefs [Internet]. Rockville, MD: Agency for Health Care Policy and Research (US); Feb. 2006 to Oct 2007
55. Vasilevskis EE, Han JH, Hughes CG, Ely EW. Epidemiology and risk factors for delirium across hospital settings. Best Pract Res Clin Anaesthesiol. 2012;26:277–87.
56. Ryan DJ, O'Regan NA, Caoimh RÓ, Clare J, O'Connor M, Leonard M, et al. Delirium in an adult acute hospital population: predictors, prevalence and detection. BMJ Open. 2013;3(1): e001772.
57. Massie MJ, Greenberg DB. Oncology. In: Levenson JL, editor. Textbook of psychosomatic medicine. 1st ed. Arlington, VA: American Psychiatric Publishing; 2005.
58. Rudolph JL, Babikian VL, Birjiniuk V, Crittenden MD, Treanor PR, Pochay VE, et al. Atherosclerosis is associated with delirium after coronary artery bypass graft surgery. J Am Geriatr Soc. 2005;53(3):462–6.
59. Contin AM, Perez-Jara J, Alonso-Contin A, Enguix A, Ramos F. Postoperative delirium after elective orthopedic surgery. Int J Geriatr Psychiatry. 2005;20(6):595–7.
60. Davydow DS, Gifford JM, Desai SV, Needham DM, Bienvenu OJ. Posttraumatic stress disorder in general intensive care unit survivors: a systematic review. Gen Hosp Psychiatry. 2008;30:421–34.
61. Davydow DS, Desai SV, Needham DM, Bienvenu OJ. Psychiatric morbidity in survivors of the acute respiratory distress syndrome: a systematic review. Psychosom Med. 2008;70: 512–9.
62. Fink P, Hansen MS, Sondergaard L. Somatoform disorders among first-time referrals to a neurology service. Psychosomatics. 2005;46:540–8.
63. Seminario NA, Farias ST, Jorgensen J, Bourgeois JA, Seyal M. Determination of prevalence of depression in an epilepsy clinic using a brief DSM-IV-based self-report questionnaire. Epilepsy Behav. 2009;15(3):362–6.
64. Reuber M, Elger C. Psychogenic nonepileptic seizures: review and update. Epilepsy Behav. 2003;4:205–16.
65. Carson AJ, Zeman A, Myles L, Sharpe MC. Neurology and neurosurgery. In: Levenson JL, editor. Textbook of Psychosomatic Medicine. 1st ed. Arlington, VA: American Psychiatric Publishing; 2005.
66. Morris PLP, Robinson RG, Raphael B. Emotional lability after stroke. Aust NZ J Psychiatry. 1993;27:601–5.

67. Aarsland D, Ballard C, Larsen JP, McKeith I. A comparative study of psychiatric symptoms in dementia with Lewy bodies and Parkinson's disease with and without dementia. Int J Geriatr Psychiatry. 2001;16:528–36.
68. Findlay LJ, for Global Parkinson's Disease Steering Committee. Factors impacting quality of life in Parkinson's disease: results from an international survey. Mov Disord. 2002;17:60–7.
69. Riedel O, Lotsche J, Spottke A, Deuschl G, Förstl H, Henn F, et al. Frequency of dementia, depression, and other neuropsychiatric symptoms in 1,449 outpatients with Parkinson's disease. J Neurol. 2010;257:1073–82.
70. Nejad SH, Roffman JL, Kueppenbender K, Smith FA, Huffman JC, Stern TA. Patients with neurologic conditions II. Movement disorders, multiple sclerosis and other neurologic conditions. In: Stern TA, Fricchione GL, Caseem NH, Jellinek MS, Rosenbaum JF, editors. Massachusetts General Hospital handbook of general hospital psychiatry. 6th ed. Philadelphia, PA: Saunders; 2010.
71. Minden SL. Mood disorders in multiple sclerosis: diagnosis and treatment. J Neurovirol. 2000;6 Suppl 2:S160–7.
72. Silver JM, Hales RE, Yudofsky SC. Neuropsychiatric aspects of traumatic brain injury. In: Yudofsky SC, Hales RE, editors. Textbook of neuropsychiatry and clinical neurosciences. 4th ed. Washington, DC: American Psychiatric Publishing; 2002. p. 625–72.
73. Maizels M, Smitherman TA, Penzien DB. A review of screening tools for psychiatric comorbidity in headache patients. Headache. 2006;46 Suppl 3:S98–109.
74. De Jonge P, van den Brink RHS, Spijkerman TA, Ormel J. Only incident depressive episodes after myocardial infarction are associated with new cardiovascular events. J Am Coll Cardiol. 2006;48:2204–8.
75. Groenewold NA, Doornbos B, Zuidersma M, Vogelzangs N, Penninx BWJH, et al. Comparing cognitive and somatic symptoms of depression in myocardial infarction patients and depressed patients in primary and mental health care. PLoS ONE. 2013;8(1):e53859.
76. Connerey I, Shapiro PA, McLaughlin JS, Bagiella E, Sloan RP. Relation between depression after coronary bypass surgery and 12-month outcome: a prospective study. Lancet. 2001;258: 1766–71.
77. Maytal G, Huffman JC, Januzzi JL, Stern TA. The psychiatric management of patients with cardiac disease. In: Stern TA, Fricchione GL, Caseem NH, Jellinek MS, Rosenbaum JF, editors. Massachusetts General Hospital handbook of general hospital psychiatry. 6th ed. Philadelphia, PA: Saunders; 2010.
78. Rutledge T, Reis VA, Linke SE, Greenberg BH, Mills PJ. Depression in heart failure: a meta-analytic review of prevalence, intervention effects, and associations with clinical outcomes. J Am Coll Cardiol. 2006;48:1527–37.
79. Lichtman JH, Bigger Jr JT, Blumenthal JA, Frasure-Smith N, Kaufmann PG, Lespérance F, et al. Depression and coronary heart disease: recommendations for screening, referral, and treatment. A science advisory from the American Heart Association Prevention Committee of the Council on Cardiovascular Nursing, Council on Clinical Cardiology, Council on Epidemiology and Prevention, and Interdisciplinary Council on Quality of Care and Outcomes Research. Circulation. 2008;118:1768–75.
80. Elderon L, Smolderen KG, Na B, Whooley MA. Accuracy and prognostic value of American Heart Association-recommended depression screening in patients with coronary heart disease: data from the heart and soul study. Circ Cardiovasc Qual Outcomes. 2011;4:533–40.
81. Bankier B, Januzzi JL, Littman AB. The high prevalence of multiple psychiatric disorders in stable outpatients with coronary heart disease. Psychosom Med. 2004;66:645–50.
82. Magyar-Russell GA, Thombs BD, Cai JX, Baveja T, Kuhl EA, Singh PP, et al. The prevalence of anxiety and depression in adults with implantable cardioverter defibrillators: a systematic review. J Psychosom Res. 2011;71:223–31.
83. Singer S, Das-Munshi J, Brahler E. Prevalence of mental health conditions in cancer patients in acute care – a meta-analysis. Ann Oncol. 2010;21:925–30.
84. Hinz A, Krausso O, Haussi JP, Hockel M, Kortmann RD, Stolzenburg JU, et al. Anxiety and depression in cancer patients compared with the general population. Eur J Cancer Care. 2002;19:522–9.

85. Fallowfield L, Ratcliffe D, Kenkins V, Saul J. Psychiatric morbidity and its recognition by doctors in patients with cancer. Br J Cancer. 2001;84(8):1011–5.
86. Krishnan KRR, Delong M, Kraemer H, Carney R, Spiegel D, Gordon C, et al. Comorbidity of depression with other medical diseases in the elderly. Biol Psychiatry. 2002;52:559–88.
87. Kadan-Lottick NS, Vanderwalker LC, Block DS, Zhang B, Prigerson HG. Psychiatric disorders and mental health service use in patients with advanced cancer: a report from the coping with cancer study. Cancer. 2005;104:2872–81.
88. Braun IM, Pirl WF, Greenberg DB. Patients with cancer. In: Stern TA, Fricchione GL, Caseem NH, Jellinek MS, Rosenbaum JF, editors. Massachusetts General Hospital Handbook of General Hospital Psychiatry. 6th ed. Philadelphia, PA: Saunders; 2010.
89. Arnold SD, Forman LM, Brigidi BD, Carter KE, Schweizter HA, Quinn HE, et al. Evaluation and characterization of generalized anxiety and depression in patients with primary brain tumors. Neuro Oncol. 2008;10:171–81.
90. Greer JA, Solis JM, Temel JS, Lennes IT, Prigerson HG, Maciejewski PK, et al. Anxiety disorders in long-term survivors of adult cancers. Psychosomatics. 2011;52(5):417–23.
91. Pitman RK, Lanes DM, Williston SK, Guillaume JL, Metzger LJ, Gehr GM, et al. Psychophysiologic assessment of post-traumatic stress disorder in breast cancer patients. Psychosomatics. 2001;42:133–40.
92. Keiser O, Spoerri A, Brinkhof MW, Hasse B, Gayet-Ageron A, Tissot F, Christen A, Battegay M, Schmid P, Bernasconi E, Egger M. Suicide in HIV-infected Individuals and the general population in Switzerland, 1988–2008. Am J Psychiatry. 2010;167(2):143–50.
93. Loftis JM, Matthews AN, Hauser P. Psychiatric and substance use disorders in individuals with hepatitis C: epidemiology and management. Drugs. 2006;66(2):155–74.
94. Grigsby AB, Anderson RJ, Freedland KE, Clouse RE, Lustman PJ. Prevalence of anxiety in adults with diabetes: a systematic review. J Psychosom Res. 2002;53(6):1053–60.
95. Bresee LC, Majumdar SR, Patten SB, Johnson JA. Prevalence of cardiovascular risk factors and disease in people with schizophrenia: a population-based study. Schizophr Res. 2010;117(1):75–82. doi:10.1016/j.schres.2009.12.016.
96. Nasrallah HA, Meyer JM, Goff DC, McEvoy JP, Davis SM, Stroup TS, et al. Low rates of treatment for hypertension, dyslipidemia, and diabetes in schizophrenia: data from the CATIE schizophrenia trial sample at baseline. Schizophr Res. 2006;86(1–3):15–22.
97. McEvoy JP, Meyer JM, Goff DC, Nasrallah HA, Davis SM, Sullivan L, et al. Prevalence of the metabolic syndrome in patients with schizophrenia: baseline results from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) schizophrenia trial and comparison with national estimates from NHANES III. Schizophr Res. 2005;80(1):19–32.
98. Demartini B, Masu A, Scarone S, Pontiroli AE, Gambini O. Prevalence of depression in patients affected by subclinical hypothyroidism. Panminerva Med. 2010;52(4):277–82.
99. Learman LA, Gerrity MS, Field DR. Effects of a depression education program on residents' knowledge, attitudes, and clinical skills. Obstet Gynecol. 2003;101:167–74.
100. Stotland NL, Stewart DE, Munce SE, Rolfe DE. Obstetrics and gynecology. In: Levenson JL, editor. Textbook of psychosomatic medicine. 1st ed. Arlington, VA: American Psychiatric Publishing; 2005.
101. Yonkers KA, Wisner KL, Stewar DE, Oberlander TF, Dell DL, Stotland N, et al. The management of depression during pregnancy: a report from the American Psychiatric Association and the American College of Obstetricians and Gynecologists. Obstet Gynecol. 2009;114(3):703–13.
102. Chandra PS, Ranjan S. Psychosomatic obstetrics and gynecology – a neglected field? Curr Opin Psychiatry. 2007;20:168–73.
103. Coleman VH, Morgan MA, Zinberg S, Schulkin J. Clinical approach to mental health issues among obstetrician–gynecologists: a review. Obstet Gynecol Surv. 2005;61(1):51–8.
104. Eppeson CN, Steiner M, Hartlage SA, Eriksson E, Schmidt PJ, Jones I, et al. Premenstrual dysphoric disorder: evidence for a new category for DSM-5. Am J Psychiatry. 2012;169(5):465–75.
105. Kathol RG, Kunkel EJS, Weiner JS, McCarron RM, Worley LLM, Yates WR, et al. Psychiatrists for medically complex patients: bringing value at the physical health and mental health/substance-use disorder interface. Psychosomatics. 2009;50(2):93–107.

Chapter 3
Access to and Engagement in Evidence-Based Integrated Care

Susan T. Azrin, David A. Chambers, and Philip Sung-En Wang

Abstract Patients seen in general medical settings commonly have behavioral health conditions comorbid with other chronic medical disorders, each requiring high levels of integrated care management. With recent health care policy reform, the number of such patients recognized in the US health care system will likely increase, intensifying the need for practical integrated care models that address co-occurring behavioral and general medical disorders. Access to evidence-based integrated care can be enhanced by viewing general medical settings, especially primary care settings where people with behavioral health comorbidities are frequently seen for general medical problems, as opportunities for engagement in behavioral health care. We now have multiple evidence-based models for delivering integrated care in general medical settings. Embedded within these models are specific strategies to promote access to and engagement in evidence-based behavioral health care, such as patient activation, culturally acceptable care, shared decision making, patient education, self-management support, care coordination, reducing patients' logistical barriers to care, and use of health information technology. Yet many settings in which integrated behavioral health care could and should be accessed remain untapped or underutilized. While barriers at multiple levels hinder progress, abundant opportunities to overcome these deficits exist, such as the development of flexible integrated care models applicable to large patient populations, enhanced training for the workforce delivering integrated

---

S.T. Azrin, Ph.D. (✉) • D.A. Chambers, D.Phil.
Division of Services and Intervention Research, National Institute of Mental Health/National Institutes of Health, 6001 Executive Blvd., Room 7145, Bethesda, MD 20892, USA
e-mail: Susan.Azrin@nih.gov

P.S.-E. Wang, M.D., Dr.P.H.
National Institute of Mental Health/National Institutes of Health, Bethesda, MD, USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_3,

care, health information technology tools that support delivery of integrated care, minimization of financial barriers to evidence-based integrated care, and expansion of the integrated care science base.

Background

Despite the high prevalence of behavioral health comorbidities, i.e., mental health and substance use disorders, in non-psychiatric medical settings (as detailed in Chap. 2), most patients with behavioral health symptoms do not receive integrated care that addresses both their behavioral health and general medical conditions. Yet the number of people recognized in the nation's health care system with co-occurring behavioral health and general medical conditions will likely escalate in the coming years. Given the authors' vantage point from the National Institute of Mental Health (NIMH), which focuses on understanding and treating mental disorders, we mainly address the integration of mental health in general medical care settings in this chapter. We refer readers interested in screening and brief interventions for alcohol problems in primary care to Moyers and colleagues' meta-analytic review [1], in which they found such approaches moderately effective in reducing alcohol consumption, especially for patients whose alcohol use is unhealthy but not severe. We refer readers interested in screening and brief interventions for drug problems in primary care to Saitz and colleagues' review [2], in which they conclude that evidence for these approaches is growing but remains limited. With the advent of the Patient Protection and Affordable Care Act and accompanying expansion of Medicaid, more than 30 million previously uninsured people will enter the nation's health care system in 2014 [3]. About six million of these individuals will have untreated mental health disorders [4]. These patients will probably have worse overall health and more severe comorbid medical conditions, due in part to their prior lack of systematic care. Primary care will be the likely health care system entry point for these "complex patients," i.e., individuals with multiple chronic clinical and non-clinical problems, each interacting and creating barriers to improvement. The health care system will need to rapidly engage them in integrated behavioral health and general medical care that simultaneously addresses both medical and behavioral conditions contributing to poor outcomes. As a group, patients with multi morbidities utilize a high volume of care, particularly non-specialty care and emergency department and inpatient care for both general medical and behavioral health problems, making them a costly group of patients for health care systems [5]. Improving quality of care and patient outcomes while containing costs are both priorities and formidable challenges for this patient population. Engaging them in integrated care will be critical to meet these challenges.

Integrated care is an effective approach to addressing patients' multiple medical conditions [6], which is important given how common multiple comorbidities are in primary and other care settings. Furthermore, these comorbidities frequently include chronic conditions, such as asthma, diabetes, obesity, and cardiovascular disease, as well as depression, substance use disorders, and anxiety, all of which require ongoing disease management approaches that involve behavioral and lifestyle interventions. When one or more comorbidity is a mental health condition, reduced motivation and cognitive impairment may further complicate provider and patient attempts at disease management. For example, major depression is common among people with diabetes and a risk factor for poor diabetes self-care and adherence [7]. Failure to address psychiatric symptoms may diminish the effectiveness of care for other medical conditions. Finally, patients increasingly seek behavioral health treatment in general medical rather than behavioral health specialty settings [8], further increasing the appeal of integrated care for patients with behavioral health problems.

Recognizing the need for practical integrated care solutions, the National Institutes of Health (NIH) formed the Trans-NIH Integrated Health Strategies Workgroup, which held a summit with research and practice leaders in this field in 2010. Presenters highlighted the substantial unmet need for behavioral health care as a major driver of disability and health care costs, integrated care as a means to address those needs, and the multiple barriers to widespread implementation of integrated care. The following year, the NIH released a funding opportunity announcement, *Behavioral Interventions to Address Multiple Chronic Health Conditions in Primary Care* [9], which supports research that uses multi-disease care management approaches to improve health outcomes of complex patients seen in primary care.

People with severe mental illnesses, such as schizophrenia—whose primary (and sometimes only) connection to health care is through the behavioral health specialty system—may need other integrated care approaches, as the behavioral health specialty rather than primary care setting may be their medical home. Instead of receiving behavioral health care within general medical settings, people with severe mental illness may need models that integrate primary care into the behavioral health specialty setting (e.g., the patient centered medical home for people with severe mental illness) and represent yet another enormous challenge which we do not address in this chapter due to space and scope limitations.

In sum, patients seen in general medical settings tend to have multiple morbidities, each requiring high levels of care management. With recent US health care policy reforms, an increasing number of such patients are expected to seek care in general medical settings, heightening the need for innovative integrated care models that efficiently address co-occurring behavioral health and chronic physical conditions.

In this chapter we focus on the opportunities of health care systems and settings to embed integrated models of behavioral health care in general medical practice. The challenge we face is how to expand access to evidence-based models of integrated care across an array of medical settings so as to meet the behavioral health care needs of diverse patient populations. Whatever the model of integrated care or setting, for the care to produce positive outcomes, the patient must be motivated to address behavioral health symptoms and participate in behavioral health treatment; this we term *engagement*. Therefore, in this chapter, the challenge of increasing access to evidence-based integrated care is viewed through the lens of engagement. Underlining the importance of treatment engagement for improving access to care and producing positive patient outcomes, the NIMH convened a meeting in the fall of 2011 to address this topic specifically and broadcast the NIMH's desire to develop and test engagement strategies relevant to people with mental health care needs.

By *patient engagement* we mean an individual's active involvement in their own health care, encompassing all "actions individuals must take to obtain the greatest benefit from the health care services available" ([10], p. 2). Patient engagement reflects a number of patient behaviors, including the identification of appropriate providers, assessing costs and benefits of care, making informed treatment decisions, self-management, adhering to treatment plans, and communication with providers. Engaging in mental health care can be particularly challenging given the lingering stigma surrounding psychiatric disorders. However, integrated care models, which offer behavioral health care in non-psychiatric medical settings, may overcome part of the stigma associated with seeking behavioral health treatment. The following list of engagement strategies, which we have derived from the literature reviewed in this chapter, may enhance patient engagement in behavioral health care:

- Embedding entry points to outcome changing (evidence-based) behavioral health care within non-specialty settings
- Culturally sensitive screening for behavioral health conditions
- Culturally acceptable treatment options
- Pretreatment interventions to foster patient activation
- Shared decision making that incorporates patient preferences in establishing treatment goals and types of interventions
- Patient education on the relevant behavioral health problem and its treatment
- Coordinating care across medical conditions and service delivery systems
- Support for patient self-management, including adherence to treatment plans
- Problem solving with patient to overcome barriers to treatment
- Service delivery mechanisms that reduce patients' logistical barriers to care, such as the need for transportation
- Use of health information technology (IT) to support all of the above

Across medical settings, a number of integrated care models have been demonstrated effective in addressing behavioral health disorders comorbid with a range of other medical conditions; more models are now under study. Because the setting itself drives the integrated care design and engagement strategies, we have organized this chapter around medical settings and the opportunities for integrated care they represent.

Integrated Care Models and Engagement Strategies

Integrated care models that bring behavioral health into general medical settings have been developed for primary care, obstetrics/gynecology, pediatrics, trauma centers, and emergency departments. These models vary in their stage of development, some with a strong evidence base and others still under study. Here we describe the most promising models for integrating behavioral health care into these medical settings and note their novel engagement strategies.

Primary Care

Models for Detecting Mental Health Problems in Primary Care

Detecting a mental health problem is a first step in engaging a patient in evidence-based care. Primary care practices may want to administer routine mental health screening tools to all patients. They can also use the office visit itself to identify mental health problems by routinely giving the patient and family the chance to express all of their concerns early in the visit, asking open-ended questions that encourage the patient and family to share concerns, and developing the skills to identify verbal and nonverbal clues associated with emotional distress, e.g., depressed affect, unexplained weight loss, or poor sleep. If the patient discloses a potential mental health problem, the provider must respond empathically and support the patient in believing that the primary care practice can help with the problem [11].

For some populations, recognition of mental health problems is particularly challenging and specific strategies to better detect these problems are necessary to improve engagement in mental health care. As one example, Chinese Americans underuse mental health services despite rates of depression equivalent to those in the general population. When they seek mental health treatment, they typically do so in primary care [12].

However, Chinese American immigrants' cultural beliefs present some barriers to accessing depression care, e.g., unfamiliarity with the concept of major depression, strong stigma around psychiatric problems, limited English language proficiency, and the tendency to schedule physician visits only when physical symptoms are present. Likewise, primary care physicians may lack the cultural sensitivity to recognize depression in Chinese Americans. Yeung has shown that systematic and culturally sensitive screening for depression in primary care can dramatically increase the recognition of depression in Chinese Americans and facilitate treatment engagement [12].

Models for Coordinating Care

The evidence-based practice of collaborative care for depression is built upon Wagner's Chronic Care Model [6], with primary care as its entry point. The Chronic Care Model has been revolutionary in focusing attention on the need for primary care redesign to improve health outcomes for patients with *chronic* illnesses, a departure from outpatient care's traditional emphasis on *acute* care. Using a team-based approach, the Chronic Care Model seeks to alter the organization and delivery of health care by assuring that evidence-based treatments are administered, strengthening the patient-provider relationship, supporting patient self-management, incorporating decision support tools and clinical information systems and leveraging community resources [13].

Collaborative care's innovation was to simplify and operationalize the critical elements of the chronic care model by applying the model to the treatment of depression in primary care. The collaborative care team typically includes the patient's primary care physician, a depression care manager and consulting psychiatrist and employs a "treat-to-target" approach [14]. The care manager educates the patient about depression and its treatment, provides behavioral activation, and supports the patient's self-management behavior and antidepressant therapy as prescribed by the primary care physician. Importantly, the care manager also continually monitors the patient's treatment response, adjusting the treatment plan to better meet treatment targets, in consultation with the psychiatrist and primary care physician. Dozens of studies support the effectiveness of collaborative care for treating depression [15], and evidence suggests the model is also effective in reducing depression severity and achieving remission in bipolar depression [16]. Moreover, multiple studies support collaborative care's effectiveness in engaging underserved racial-ethnic groups, notably African Americans and Latinos, in evidence-based depression care [17].

Yet the collaborative care model is not without limitations, chief among them the primary care practice's need for additional on-site staff, namely a care manager and consulting psychiatrist, which may especially challenge small or rural practices. Fortney creatively addresses this staffing challenge by virtually co-locating a care manager, a psychologist, a psychiatrist, and a pharmacist. Patients receive care from a depression care manager by phone, medication management consultation from a pharmacist by phone if the patient does not respond to the initial antidepressant, and consultation from a psychiatrist via videoconferencing if the patient does not respond to two antidepressant trials. The primary care physician provides on-site care and the psychologist and psychiatrist provide weekly team clinical supervision. Implementing this model in Federally Qualified Health Centers (where behavioral health problems are the most commonly reported reason for visits), Fortney found telemedicine-based collaborative care for depression to be even more effective than practice-based collaborative care [18]. Likewise, Rollman studied collaborative care for anxiety disorders and found it just as effective when the care management is delivered by telephone [19].

However, the typical patient seen in primary care has multiple chronic medical conditions, all requiring some level of care management, while conventional collaborative care addresses just one problem at a time. Responding to the needs of patients with depression that co-occurs other chronic conditions, Katon and colleagues extended the collaborative care model by integrating care for depression with care for two other common comorbid medical conditions: diabetes and coronary heart disease (CHD) [20]. Diabetes and CHD are very common medical conditions in the USA and frequently co-occur with depression, whose presence adversely affects these patients' self-care for relevant risk factors, such as blood pressure, LDL cholesterol, and blood sugar. Katon's TEAMcare targets improvement in all three medical conditions by combining support for self-care with pharmacotherapy for depression, hyperglycemia, hypertension, and hyperlipidemia. A nurse (who fulfills the care manager role), supervising psychiatrist and primary care physician work as a team using the treat-to-target approach and systematically monitoring patient progress on key indicators for each condition (brief depression measure, hemoglobin A1c, blood pressure, and lipid levels), with frequent adjustments to treatment when these indicators fall short of the treatment targets. In a rigorous randomized controlled trial (RCT), patients in a 12-month program of TEAMcare demonstrated improvements in hemoglobin A1c, LDL cholesterol, blood pressure, and depression severity and reported better of quality of life and satisfaction with care than did controls [21]. TEAMcare's success likely emanates partly to its focus on teaching patients self-management strategies to control each of their chronic conditions. It is also likely that some patients would have refused depression care were it not delivered in primary care and tied to the treatment of their poorly controlled diabetes or CHD. Finally, TEAMcare has subsequently provided care management by telephone, eliminating a possible logistical barrier to care for patients and reducing the practice's on-site staffing needs.

The success of collaborative care generally and TEAMcare specifically has generated abundant research extending these models to additional patient populations seen in primary care. For example, *Cuerpo San*, *Mete Sana* ("a healthy mind in a healthy body") was developed for Latinos in public sector primary care, who have low rates of depression care and high rates of chronic disease [22]. The intervention, now under study, targets both depression and chronic medical conditions using cognitive behavior therapy (CBT) and group self-management. The group format seeks to reduce delivery costs and promote engagement through peer support. To further collaborative care's reach as well as reduce delivery cost, researchers are testing the effectiveness of online delivery of collaborative care for depression and anxiety, as well as the incremental benefit of adding an online-moderated support group [23].

More Promising Primary Care Models

Customizing Treatment for Posttraumatic Stress Disorder. Nearly eight million adults a year meet diagnostic criteria for PTSD in the USA [24]. A large-scale trial is underway to test the effectiveness of evidence-based PTSD treatment delivered to underserved, low-income ethnic minorities in primary care [25]. This study is important because the field otherwise has no model for the effective delivery of evidence-based PTSD treatment in primary care. Pharmacotherapy is the first line treatment; patients who do not initially respond receive stepped (more intensive) care, either pharmacotherapy or CBT augmentation. The culturally adapted CBT is designed for non-English speakers with multiple life stressors, low education, somatizing tendencies, and considerable stigma around seeking mental health care, which characterizes most refugees with PTSD. The model incorporates additional engagement strategies for this population, most of whom would otherwise receive no PTSD care, such as sociocultural patient and provider PTSD education emphasizing culturally specific presentations of distress.

Improving Antidepressant Adherence. While antidepressants are an effective treatment for depression, antidepressant adherence is generally poor. As many as 40 % of patients discontinue antidepressants within the first month—75 % within 3 months—which greatly reduces the treatment's effectiveness [26]. Adherence interventions are sorely needed for primary care practice, where the majority of antidepressants are prescribed.

The Treatment Initiation and Participation (TIP) program, which targets antidepressant adherence in older adults with depression, is being tested in a large-scale trial [27]. TIP is a brief (three sessions plus telephone follow-up), individualized psychosocial intervention that directly engages older adults in creating an adherence strategy tailored to their self-identified adherence barriers. An adjunct to pharmacotherapy, TIP is carried out by on-staff social workers who use motivational interviewing, problem-solving, and psycho-education to increase antidepressant adherence and reduce depressive symptoms.

Using a low-cost, direct-to-patient health IT approach to prompt antidepressant refills and thereby boost antidepressant adherence, investigators are conducting an RCT with 3,100 adults to assess the effectiveness of an automated telephone interactive voice recognition (IVR) intervention [28]. The health care system's electronic medical record serves as a platform for the IVR program that phones patient reminders and/or tardy calls timed to patients' projected antidepressant refill dates. Patients are offered the options of brief psycho-education, or transfer to a live pharmacist or the HMO mail refill pharmacy. Similar low-cost IVR medication adherence interventions have been shown to modestly but significantly increase adherence for other medications, such as inhaled corticosteroids [29].

As noted earlier, depression and CHD are very common in the USA and frequently co-occur. The presence of depression is associated with poor adherence to antihypertensive treatment and is itself a risk factor for hypertension, a primary CHD risk factor. Collaborative care and TEAMcare target adherence, but require the addition of a dedicated care manager, which in many settings is not feasible. Research is underway to develop an approach that uses existing primary care staff to increase antidepressant adherence for older adults with co-occurring depression and CHD [30]. The primary care nurse and physician support antidepressant adherence through patient education, self-management support, and brief problem-solving therapy, which are hypothesized to improve adherence to both antidepressants and hypertension treatment in older adults.

Enhancing Patient Self-Efficacy. Diabetes and depression frequently co-occur, with each condition complicating the treatment of the other and requiring a high level of self-management, as already noted. Social cognitive theory suggests that patient self-efficacy is a key mediator in patients' ability to perform health-enhancing behaviors across conditions. Yet current self-efficacy interventions are typically provided outside of primary care, require specialty-trained staff, involve multiple sessions and address a single medical condition. In an effort to improve both diabetes and depression outcomes, researchers are developing a practical provider-training intervention to increase patient self-efficacy for managing these conditions in primary care [31]. In three 15-min office-based sessions, primary care providers are taught to employ Self-Efficacy Enhancing Interviewing Techniques (SEE IT) with their patients during routine office visits, capitalizing on the therapeutic relationship patients already have with their primary care provider.

Summary

Efficient identification of behavioral health problems in primary care remains a challenge and may require systematic and culturally sensitive screening. Once mental health problems are detected, the team-based Chronic Care Model suggests many avenues for the delivery of integrated care, with collaborative care for depression the most established of these approaches. Telemedicine and other technological interventions have greatly expanded the reach of collaborative care, making it more feasible for remote and/or small practices by virtually co-locating a care manager and psychiatrist. The successful TEAMcare model extends collaborative care by integrating care for both depression and other chronic medical conditions, while new collaborative care experiments involving group and online delivery are now underway. Opportunities for integrating psychiatry into primary care abound and models under study aim to improve primary care patients' self-management by enhancing patient self-efficacy; integrate evidence-based PTSD treatment into primary care; and improve antidepressant adherence through brief psychosocial and health IT interventions.

Obstetrics/Gynecology

Depression is more common for women during the reproductive and menopausal transition years, when obstetricians-gynecologists (Ob-Gyns) represent the only health care providers many of them regularly see, especially if they are low-income or ethnic minorities. A current study led by Katon leverages the health care connection that depressed women receiving Ob-Gyn care have already established with these providers in order to engage the women in evidence-based depression care. In a large randomized trial, collaborative care for depression, adapted for the Ob-Gyn setting, was significantly more effective than usual care in improving the quality of depression care and depression and functional outcomes, while also producing high levels of satisfaction with care [32].

The postpartum period presents a unique window for engaging women in depression care, as they strive to become capable parents. The new mothers often perceive addressing their own behavioral health needs as a positive step in this direction. Accordingly, another version of Ob-Gyn-based collaborative depression care now under study focuses on women with postpartum depression [33]. This model emphasizes the role of an off-site care manager who is positioned at the health plan level and provides depression education, support and care coordination to patients telephonically, eliminating the need for office visits which may pose particular logistical challenges for new mothers.

Poor, urban women are twice as likely to have major depression during pregnancy as are middle-class women [34, 35], but are harder to engage and retain in treatment due to barriers to care at the patient, community, provider, and system levels [36]. FOR MOMS ("Maintain Our Mothers' Strength") aims to overcome these barriers to care and engage low-income, pregnant women with major depression in collaborative care for perinatal depression [37]. Pregnant women are screened for depression during obstetrics visits. The intervention components are adapted for cultural relevance to both the cultures of poverty and race/ethnicity. They include a pretreatment engagement session (via phone or home visit) based on motivational interviewing and delivered by a depression care specialist, followed by a choice of brief interpersonal psychotherapy or evidence-based pharmacotherapy. While the initial two sessions are delivered by the depression care specialist in-person, access to care is enhanced by offering subsequent sessions by phone or in-home. A consulting psychiatrist supervises the depression care specialist. FOR MOMs is now being tested in a large RCT.

Summary

For many women, their Ob-Gyn is their de facto primary care provider, and may be their only connection to the health care system. Accordingly, collaborative care for depression has been extended to the Ob-Gyn setting, with at least one study supporting its effectiveness. Other models under study aim to leverage the perinatal period as an opportunity to engage depressed pregnant and postpartum women in depression care, minimizing logistical barriers to care, activating patients through pretreatment sessions, and adapting care for cultural relevance. Given Ob-Gyns' prominence for the many women with no other source of health care, more evidence-based models for integrating psychiatry into Ob-Gyn are needed.

Pediatric and Adolescent Primary Care

Nearly one-fifth of children seen in primary care in the USA have a mental health disorder that meets diagnostic criteria, and another 14–18 % have conditions that fall just below diagnostic thresholds. Both groups experience significant functional impairment in peer and teacher relationships and general behavior. Of note, children with sub-threshold mental health problems may have levels of impairment as high as children meeting full diagnostic criteria [38]. Among youth with a mental health disorder that met diagnostic criteria, most did not receive appropriate pharmacological treatment and this was more likely to be the case for those treated in primary care [39].

Increasing Behavioral Health Treatment Capacity

Pediatricians trying to engage families to address behavioral health problems face a lack of practical models suitable for the typical family or pediatric practice. Wagner's Chronic Care Model requires a diagnosis as its entry point to care; this is problematic for the sizable number of children in primary care whose behavioral health problems cause substantial impairment yet do not meet diagnostic criteria. The Chronic Care Model also requires additional office staff and practice redesign—high barriers to implementation for many practices. Pediatricians need feasible, flexible treatment approaches that apply to the full range of behavioral health problems encountered in pediatrics and are responsive to parents' concerns and preferences.

In response, Wissow is developing an evidence-based model for child and adolescent behavioral health that enables pediatric practices to provide behavioral health care for the majority of their patients with behavioral health needs, regardless of diagnosis, by expanding the existing skills and knowledge of family and pediatric providers [40]. The core intervention components involve the following:

- Improving providers' skills for engaging patients and parents around the family's concerns, e.g., begin with screening for impairment rather than disorder, and elicit symptoms and family concerns around broad diagnostic categories rather than specific diagnoses; and
- Delivering symptom-specific strategies that in various combinations serve as the building blocks of evidence-based care for clusters of related disorders, e.g., gradual exposure to a feared stimulus as a treatment element for children's anxiety.

The model is intended to produce sustainable increases in the behavioral health treatment capacity in primary care, while remaining feasible within current practice patterns, structure and financing.

Technology to Improve Attention Deficit Hyperactivity Disorder Care

Family and pediatric practices provide the majority of care for children with Attention Deficit Hyperactivity Disorder (ADHD), including the prescription of stimulant medications, the first line treatment for ADHD. The American Academy of Pediatrics (AAP) has published ADHD practice guidelines for treating this common childhood disorder, but they have produced only modest improvements in primary care ADHD practice.

Various health IT approaches have been shown effective in increasing primary care providers' adherence to AAP guideline. For example, Epstein and colleagues implemented an internet portal that allows parents, teachers, and pediatricians to complete and transmit rating scales online, as opposed to more burdensome paper and pencil versions. Scale scores and their interpretations are then made available to the physician in a user-friendly format for use in patient treatment planning. The portal was shown to enhance quality of care by facilitating guideline-concordant care in a recent RCT [41].

The electronic health record (EHR) may prove a useful platform for decision support tools designed to enhance management of ADHD and other chronic medical conditions. Co and colleagues linked the practice's EHR with an ADHD decision support system that prompted physicians to assess ADHD symptoms every 3–6 months and document symptoms, treatment effectiveness, and adverse effects in the EHR. Results of an RCT showed that children seen in practices using the EHR-based decision support were more likely to receive ADHD assessments and documentation in the EHR was associated with increased treatment effectiveness and response to adverse effects [42].

Collaborative care featuring telepsychiatry shows promise in improving ADHD care for Hispanic children, especially in remote areas with few psychiatrists. In weekly telephone consultation, the off-site psychiatrist and care manager (off-site in the rural practice) make treatment recommendations based on routinely administered ADHD rating scale scores. The care manager shares the recommendations with the patient's pediatrician who writes the prescription; educates patients and families on ADHD and its management; and follows up with the patient monthly. Children experienced ADHD symptom reduction and parents reported satisfaction with care, although the pre-post study design limits inferences on this model's effectiveness [43].

Advancing Adolescent Depression Care

Depression is common in adolescence and untreated depression is associated with suicide, a leading cause of death for youth aged 15–24 years [44]. While evidence-based interventions for the treatment of adolescent depression exist, few are routinely available through primary care. Asarnow and her colleagues developed Youth Partners in Care, a 6-month quality improvement intervention to improve access to evidence-based depression care for depressed adolescents in primary care. In an RCT of more than 400 ethnically diverse adolescents, teams of experts adapted and implemented the collaborative care-based intervention at six sites, including managed care, public sector and academic health care programs. Patients were offered a choice of treatments: CBT, medication, both CBT and medication, care manager follow-up or referral. Care managers were trained to deliver manualized CBT, conduct patient evaluations, provide education to patients and families, and consult with specialty mental health care providers as needed. Adolescents in the Partners in Care program, compared with usual care patients, reported significantly higher rates of behavioral health care, fewer depressive symptoms and greater satisfaction with care [45]. Youth Partners in Care also holds great promise for reducing disparities in access to behavioral health care for racial-ethnic minority youths; the quality improvement strategy was especially effective for Black and Latino youths [46].

Summary

Children and adolescents with behavioral health problems are routinely seen in primary care, but these problems typically go untreated, even when the problems meet diagnostic criteria. When behavioral health treatment is delivered in primary care, it too often fails to meet guideline standards. Family and pediatric practices have a few tools for integrating behavioral health care into their practice: Health IT solutions have been shown effective in improving guideline-concordant ADHD care, as has collaborative care for adolescent depression. However, given the considerable unmet behavioral health care needs of child and adolescent primary care patients, and the level of impairment that accompanies even sub-threshold behavioral health problems, these providers need many more practical strategies to address the full range of behavioral health problems routinely encountered in their practices.

Patient-Centered Medical Home

Based on the Chronic Care Model, the patient-centered medical home (PCMH) is an ambitious model of primary care transformation that aims to improve patient outcomes, quality of care and system efficiency. Team-based care is central to the PCMH, which is accountable for meeting the majority of a patient's health care needs. The PCMH also embraces the principles of population-based health; health of the whole person; coordination of care across all elements of the health care system; enhanced access to care; and a systems-based approach to quality and safety that includes clinical decision-support tools and health IT to support the PCMH's aims [47]. Viewed by many as the centerpiece for reform of health care delivery and primary care practice, the impact of the PCMH has not yet been established. The first national test of the PCMH involved 36 family practices and found that transformation to a PCMH was possible but required tremendous effort and motivation and a long time-frame (at least 2 years) [48]. Disappointingly, quality of care did not appreciably improve.

Still in an early stage of development, the PCMH has potential for increasing access to and engagement in behavioral health care. Many PCMH demonstrations are underway, but most do not explicitly address behavioral health care. Yet, as Croghan and Brown point out, "All successful models for integrating mental health care into primary care settings are based on or are consistent with the basic tenants of the CCM [Chronic Care Model] and thus share many attributes with the PCMH" ([49], p. 4). Collaborative care, for example, with its team-based integrated care approach and aim of improving access to evidence-based mental health care, comports well with the PCMH. In addition, given that managing behavioral health problems is conceptually similar to managing physical health problems, inclusion of behavioral health in the PCMH may help to normalize behavioral health treatment in primary care practice, thereby reducing some of the stigma around seeking behavioral health care [47].

Encouragingly, Toomey and colleagues found that children with ADHD who received care from a PCMH were more likely to receive medication for ADHD and less likely to have problems with behavior, making friends and participating in activities. Children in a PCMH also missed fewer school days and their parents were contacted by the school less often [50].

Summary

The PCMH would seem an ideal vehicle for integrating behavioral health into general medical care for entire populations, with potential for reducing stigma around seeking behavioral health care. While preliminary findings on the PCMH's impact on quality of health care generally have been disappointing, at least one study found it improved quality of children's behavioral health care. The PCMH's success in engaging patients in evidence-based behavioral health care will depend largely on the extent to which it is explicitly included in the PCMH.

Emergency Departments/Trauma Centers

Improving Quality of PTSD Care in Trauma Centers

Nearly two million US civilians a year sustain traumatic physical injuries requiring hospitalization [51] and are at high risk for developing PTSD, which in turn is associated with post-injury functional impairment, independent of the injury's physical impact [52]. CBT and pharmacological interventions appear to be effective for PTSD in individuals who sustain traumatic injuries. However, the treatment must be delivered soon after the injury to be effective, and most such individuals enter treatment months or years after the injury. Responding to the need for rapid detection of PTSD in traumatically injured patients and engagement in evidence-based PTSD treatment, Zatzick developed and tested a stepped PTSD collaborative care intervention for deployment in trauma centers. The care manager initially engages the patient (while still in the hospital) by coordinating care across inpatient, primary care and community settings and helping the patient problem-solve around immediate post-injury concerns. Later, the care manager uses behavioral activation and motivational interviewing strategies to activate the patient for behavioral health treatment. Patients are then engaged in shared decision making in their choice of PTSD treatment: medication, CBT or both. The CBT includes psychoeducation, muscle relaxation, cognitive restructuring and graded exposure. Medication is prescribed by a nurse practitioner under the supervision of a psychiatrist. The care manager repeatedly measures PTSD symptoms and if the patient does not improve a higher intensity of care is offered. In an RCT of 207 hospitalized injury survivors with PTSD, patients who received the intervention had significantly fewer PTSD symptoms at 6-, 9-, and 12-months post-injury; had better physical functioning; and were more satisfied with their care as compared to those who received usual care [53]. Intervention patients also received higher quality posttraumatic care, e.g., they were more likely to receive evidence-based PTSD pharmacotherapy.

Improving Quality of Behavioral Health Care in Emergency Departments

People with behavioral health disorders are among the most frequent users of emergency department (ED) services [54], though less than half the visits for behavioral health causes are true emergencies [55]. EDs are usually overcrowded, lack access to behavioral health clinicians, and have limited capacity for discharge planning to appropriate outpatient behavioral health treatment. Consequently, seeking behavioral health care in an ED is not likely to result in high quality behavioral health treatment or successful linkage to community-based behavioral health care. Excessive ED use also increases costs and reduces ED capacity for true emergencies. Conversely, when individuals seeking behavioral health care present themselves in the ED, a unique opportunity arises to engage these activated patients in evidence-based behavioral health treatment and connect those without to care in the community.

Partners in Behavioral Health Emergency Services, a telepsychiatry consultation initiative to improve the quality of mental health care in EDs, is under study in 35 South Carolina EDs [56]. The service delivery intervention is designed to capitalize on the limited window of opportunity that an ED visit represents to assess for mental health disorder, conduct a thorough psychiatric evaluation, develop a treatment plan, and link the patient to community-based care, without relying on on-site behavioral health care staff who may be unavailable in the ED. First, the ED triage nurse or physician on duty completes an online ED intake form with the patient's diagnoses, lab values, vital signs, and reason for the mental health consultation. An off-site psychiatrist, available around-the-clock via real-time video, conducts a standard history and mental status examination with the patient by teleconference, and requests permission to contact the patient's usual behavioral health care provider. The psychiatrist then develops a treatment plan, with recommendations for acute management in the ED; the onsite ED staff implement the treatment plan. The psychiatrist also collaborates with the ED staff and outpatient behavioral health team to develop a disposition plan and facilitate linkage to the patient's usual provider or, if none exists, a new behavioral health care provider in the community. The patient's local treating physician retains responsibility for the patient's care after discharge.

The evidence for ED-based service delivery models that integrate screening for alcohol problems and brief interventions is growing [57]. Gentillelo and his team found that almost half of 2,500+ injured ED patients screened positive for problematic alcohol use [58]. Of these, 762 enrolled in an RCT testing the impact of a one-session, 30-min motivational intervention conducted by a psychologist on or near the day of discharge. This session emphasized personalized feedback comparing the patient's alcohol consumption to national norms, noting the patient's level of intoxication at admission and its impact on the patient's health and risk of future injury. Patients were encouraged to reduce their drinking in order to reduce their level of risk and offered a menu of strategies to do this, including treatment resources and local self-help programs. A month later, the patient received a letter summarizing the session. At 12 months, the intervention group had reduced their alcohol consumption by an average of 22 drinks per month, compared to 7 drinks for the control group, and the reduced alcohol intake was particularly strong for intervention participants with mild to moderate alcohol problems. Furthermore, 3 years later the risk of serious injury recurrence was reduced by nearly one-half in the intervention group.

Suicide Prevention in Emergency Departments

Suicide is a leading cause of death for teens and adults in their twenties and thirties and a major public health concern across demographic groups [42]. Visits to the ED related to intentional self-harm are common, which makes the ED an opportune setting for detecting and preventing suicide. The ED Safety Assessment and Follow-up Evaluation (EDSAFE) combines practical universal screening for suicide with a suicide prevention intervention for those screening positive [59]. The ED nurse delivers a brief motivational intervention during the ED visit, followed post-discharge by up to seven sessions of telephone counseling and up to four sessions with the patient's significant others. Counseling is based on the Coping Long Term with Attempted Suicide (CLASP) intervention, which targets suicidal behavior. The effectiveness of EDSAFE will be evaluated in a quasi-experimental study with more than 1,400 suicidal patients presenting in eight EDs.

Summary

Trauma centers now have an effective approach for rapidly identifying PTSD in traumatically injured patients and engaging them in evidence-based PTSD care. The PTSD collaborative care intervention both reduces severity of PTSD symptoms and improves physical functioning. In addition, researchers have developed ED-based models to improve the care of people seeking behavioral health treatment in this setting, to detect behavioral health problems and intervene with patients who are not seeking treatment, and to screen for suicide and conduct a brief intervention with those screening positive. Large trials are now underway to test some of these promising models for the ED. Recognizing the need and opportunity that ED care represents, the NIH created the Office of Emergency Care Research in 2012 to improve care in this setting [60]. Further research on integrated care approaches in trauma centers and EDs is warranted to boost the quality of behavioral health care delivered in these settings.

The Vision

Access to evidence-based integrated care can be enhanced by viewing general medical settings, especially primary care settings where people with behavioral health comorbidities are frequently seen for general medical problems, as opportunities for engagement in behavioral health treatment. Many settings in which integrated behavioral health care could and should be accessed remain untapped or underutilized. The vision of expanding access to evidence-based integrated care will be accomplished by developing a range of engagement strategies that meet the needs of complex patients seen in diverse health care settings. Great progress has been made on this front, with the Chronic Care Model providing the field a blueprint for engaging patients in coordinated care and care management strategies that are essential for treating most chronic medical conditions, including behavioral health problems. We now have multiple evidence-based models for delivering integrated care in general medical settings, and embedded within these models are specific strategies to promote access to and engagement in evidence-based behavioral health treatment. But much work remains. These models are limited in terms of the patient populations they reach, the behavioral health problems they address, their capacity to provide integrated care for a variety of complex patients, and the feasibility of the models across diverse service settings with varying resource levels. To fill these gaps and enhance access to integrated behavioral health care, the field needs to develop more flexible integrated care models that can address the variety of patient populations, behavioral health problems and chronic disease clusters commonly seen in a general medical setting. Our vision of enhanced access to evidence-based integrated care might look like the following:

> Ten-year old Alonso and his parents arrive at the pediatric practice to follow-up on his new asthma medication, appreciating the convenience of the evening appointment. Dr. Lee greets them warmly and inquires as to the family's well-being. Alonso's mother responds positively but suggests that he is having difficulties keeping up with his schoolwork, seems not to listen at home, and the teacher has called about unfinished assignments, though his father does not want to "bother" Dr. Lee with such problems. Alert to the parents' tension when raising these issues, Dr. Lee prompts the parents to tell her more. She quickly suspects ADHD and tells the family that she thinks she can help. After assessing Alonso's response to the new inhaled corticosteroids dosage, which is satisfactory, Dr. Lee returns to the possible ADHD diagnosis. She describes the practice's online patient portal where Alonso's teachers and parents can submit ratings of his behavior, which will aid Dr. Lee in treatment planning and treating to target. After discussing how the portal works and answering the family's questions, they agree to try it to better understand the problem and leave the clinic encouraged that there might be a solution to Alonso's behavior problems.
>
> Two weeks later, the family returns to the clinic and Dr. Lee tells them of Alonso's ADHD diagnosis, educating them about the disorder and its treatment. After exploring treatment options and responding to the family's concerns and preferences (How will stimulants interact with Alonso's corticosteroids? What are the side effects? Are there medications that have an easier administration schedule?), the parents and Dr. Lee agree to a trial of stimulants and establish the treatment goals together. Having consulted the practice's decision support system and accessed its ADHD medication algorithm, Dr. Lee hands them a stimulant prescription consistent with guideline care for ADHD and appropriate for use with inhaled corticosteroids. Dr. Lee then introduces the practice's nurse care manager, who supports the family by eliciting possible treatment adherence barriers and helping them problem solve strategies for overcoming them. The nurse care manager also offers the family brief behavioral strategies they can use at home to reinforce Alonso's positive behavior.
>
> Alonso and his parents leave the clinic feeling hopeful that his problems will soon improve and comfortable with the care Dr. Lee and her staff provided. They would not have considered seeing a behavioral health professional for Alonso's problems. In their culture, few people seek behavioral health treatment, and only if they are very sick, not like Alonso. Back in her office, Dr. Lee makes an entry into Alonso's EHR, which interacts with the decision support system and will prompt her to assess his ADHD symptoms at regular intervals and chart his progress. Three months later, after two adjustments to his stimulant dosage based on rating scale data from his parents and teacher, Alonso's ADHD symptoms are markedly reduced and his asthma remains controlled.

This family received evidence-based integrated behavioral health care in a primary care practice that minimized logistical barriers to care, proactively identified behavioral health problems in a non-stigmatizing fashion, and activated the family to engage in behavioral health care by addressing their immediate concerns. The practice involved the family in shared decision-making around treatment options and goals, educated them about the behavioral disorder and its treatment, and supported the family in managing the disorder and overcoming barriers to treatment adherence. Multiple health IT tools provided decision support and enhanced management for the coordinated care of two chronic medical conditions. Such a family has truly been engaged in integrated care at every contact.

Barriers to Implementation

What stands in the way of realizing this vision of integrated care that thoroughly engages the patient and family? In this section we identify the major barriers at multiple levels.

Structural Barriers

Health care in the USA today generally consists of multiple provider silos, each providing different specialty care and linked only loosely. Little attention is paid to communications between primary and specialty care and hospitals or to coordinating care across a patient's providers. Separate patient medical records for general medical and behavioral health care delivered within the same health care system—a practice intended to protect patients' privacy in light of the stigma around behavioral health conditions—further impairs communication across service settings. These health care silos pose a structural barrier to care coordination and make integrated care challenging. The uncertainty over behavioral health's inclusion in the PCMH is an especially problematic structural barrier to the provision of integrated care.

Likewise, research in the USA is often parsed out across multiple silos, each addressing a particular body system or medical condition. Indeed, the structure of the National Institutes of Health divides research among 27 Institutes and Centers, each focusing on a cluster of illnesses related to an organ, a population, or a system within the body. Most clinical trials systematically exclude people with comorbidities (especially behavioral health conditions), despite their representing the modal patient seen in primary care practice. Lack of research on complex patients, including those with behavioral health problems, severely limits our knowledgebase for guiding integrated care solutions.

Practice Level Barriers

Most general medical settings pay minimal attention to detecting behavioral health problems. Due to the lingering stigma around behavioral health conditions, patients may be reluctant to bring up these problems without the provider's encouragement and sensitivity to the patient's cultural beliefs. A practice that fails to take a proactive stance in eliciting patients' behavioral health concerns is no doubt missing opportunities to engage the patient in integrated care. The brevity of the typical office visit, which affords limited time to explore possible behavioral health issues, exacerbates this problem.

Practices may also avoid eliciting patients' concerns if they feel they lack the knowledge or skill to address behavioral health problems or have few treatment options to offer the patient. Many general medical settings have limited access to care management services, a key component of most evidence-based integrated care models. Likewise, the practice may lack the means to systematically assess behavioral health treatment progress, making it difficult for the provider to treat behavioral health symptoms to target. Finally, some practices have inflexible scheduling procedures that pose logistical barriers for patients, especially low-income families.

Workforce and Training Barriers

Integrated behavioral health care requires a workforce trained to work as part of a team to deliver coordinated care in general medical settings. Providers working in integrated care settings need training in chronic disease management, including strategies for patient activation, education, self-management, treatment adherence support, and coordination of care across multiple medical conditions. Primary care providers and their staff do not routinely receive this training. Behavioral health professionals may receive training in behavioral strategies for patient activation and self-management, but they may not be accustomed to working as part of a general medical team. Workers with these requisite skill sets for delivering integrated care are in short supply.

Health IT Barriers

Inadequate health IT infrastructure limits a practice's ability to conduct ongoing assessment and follow up and to support other key integrated care functions. For example, treating to target requires IT support for monitoring symptoms and side effects and assessing progress in achieving treatment goals. Lack of health IT capacity also prevents practices from extending the reach of integrated care interventions, e.g., by using telepsychiatry or virtual care managers who are located off-site.

Practices without EHRs or patient portals may have difficulty with timely information sharing among providers and patients when trying to coordinate care.

Financing Barriers

While the saying “What gets done is what gets paid for” may be overly simplistic, services not covered by insurance are not likely to be delivered or delivered consistently. Integrated care typically includes certain services that are not covered under some financing mechanisms. Insurance often does not cover behavioral health services delivered in general medical settings, behavioral health care when general medical care is delivered on the same day, coordination of care across providers, participation in team meetings, or delivery of engagement strategies that enhance patient outcomes. The care manager, a critical contributor in most integrated care models, often cannot charge for his or her services, depending on the health care system.

Knowledge Barriers

In this chapter we have identified a number of evidence-based models for integrating care in general medical settings, but many knowledge gaps remain. Current integrated care models address only a portion of possible disease clusters with which patients may present in general medical settings, e.g., diabetes or CHD co-occurring with depression. Providers need flexible, integrated care models that are applicable to the majority of their patients with behavioral health and co-occurring medical conditions. We also need to learn more about how to prioritize treatment of co-occurring conditions for complex patients (see Chap. 6) and how to better engage hard-to-reach patient groups, such as underserved low-income and ethnic-racial minorities. Finally, we need to learn more about how best to implement the evidence-based integrated care models we do have.

Recommendations

In order to expand access to evidence-based integrated care to meet the needs of complex patients seen in diverse health care settings and overcome the barriers above, we recommend the following:

1. The field should focus on single but flexible integrated care models that are applicable to the majority of a practice’s patients who have co-occurring behavioral health and medical conditions.
2. Leaders of health systems and research organizations should act to overcome the structural barriers that fragment our health care system and research infrastructure. People with behavioral disorders should not be excluded from clinical trials

based solely on their behavioral health status. Likewise, behavioral health care should be included as an essential component of the PCMH.

3. The practice of separate EHRs for behavioral health and general medical care should be eliminated. Patients' behavioral health and general medical EHRs should be integrated, with appropriate patient privacy protections and sensitivity to lingering stigma around behavioral health care.
4. The workforce trained to deliver integrated care in general medical settings should be enhanced. Primary care physicians' training should include coordinated care strategies for complex patients and routine screening for behavioral health problems. Behavioral health professionals should receive training in the delivery of team-based care in general medical settings.
5. Financial incentives should be provided for the adoption of health IT tools that support the delivery of integrated care, such as patient portals to monitor progress in meeting treatment goals, Web-based patient health records to facilitate timely communication among providers and patient, and telemedicine approaches that expand the reach of integrated care approaches.
6. Financial barriers to evidence-based integrated care should be minimized, such as those that limit payment for service components essential to the delivery of integrated care, e.g., care coordination, care management, self-management, patient education, and patient engagement strategies.
7. The integrated care science base should be extended by conducting research on the following topics:
    (a) Understanding how common clusters of behavioral health and general medical disorders interact and how treatment for one may affect treatments and outcomes of the others
    (b) Practical integrated care models for complex patients
    (c) Engaging hard-to-reach patient groups in behavioral health care
    (d) Understanding the needs of patients with behavioral health disorders who are seen in general medical settings
    (e) Understanding how to prioritize treatments for co-occurring conditions in complex patients
    (f) How to efficiently coordinate care across service sectors
    (g) How to broadly and efficiently implement evidence-based integrated care models
    (h) Practice-based research on integrated care models (the Mental Health Research Network [61] represents one example)

Conclusion

General medical settings represent opportunities for engaging people with behavioral health comorbidities in integrated care. The field has advanced by embedding integrated models of behavioral health care in an array of general medical settings. In this chapter we describe those models that have demonstrated effectiveness in primary care, Ob-Gyn, pediatrics, and trauma centers, as well as other promising models still under study. We also highlight specific engagement strategies that are intended to increase access to integrated care and enhance patient outcomes. While barriers to realizing the promise of integrated care remain, abundant opportunities to overcome these deficits exist.

References

1. Moyer A, Finney JW, Swearingen CE, Vergun P. Brief interventions for alcohol problems: a meta-analytic review of controlled investigations in treatment-seeking and non-treatment-seeking populations. Addiction. 2002;97:279–92.
2. Saitz R, Alford DP, Bernstein J, Cheng DM, Samet J, Palfai T. Screening and brief intervention for unhealthy drug use in primary care settings: randomized clinical trials are needed. J Addict Med. 2010;4(3):123–30.
3. Center on Budget and Policy Priorities (US). Understanding the CMS actuary's report on health reform. Washington, DC. 2010. http://www.cbpp.org/cms/index.cfm?fa=view&id=3187. Accessed April, 2013.
4. Calculated from Substance Abuse and Mental Health Services Administration. Results from the 2011 national survey on drug use and health: mental health findings, NSDUH Series H-45. Rockville, MD: Substance Abuse and Mental Health Services Administration (US); 2012. Report No.: (SMA) 12-4725.
5. US Department of Health and Human Services. Multiple chronic conditions—a strategic framework: optimum health and quality of life for individuals with multiple chronic conditions. Washington, DC: US Department of Health and Human Services; 2010.
6. Wagner EH. Chronic disease management: what will it take to improve care for chronic illness? Effect Clin Prac. 1998;1(1):2–4.
7. Lin EHB, Katon W, Von Korff M, Rutter C, Simon GE, Oliver M, et al. Relationship of depression and diabetes self-care, medication adherence, and preventive care. Diabetes Care. 2004; 27(9):2154–60.
8. Wang PS, Demler O, Olfson M, Pincus HA, Wells KB, Kessler RC. Changing profiles of service sectors used for mental health care in the United States. Am J Psychiatry. 2006;163: 1187–98.
9. National Institutes of Health (US). Behavioral interventions to address multiple chronic health conditions in primary care (R01). Funding opportunity announcement PA-12-024. Bethesda, MD: US Department of Health and Human Services; 2011. http://grants2.nih.gov/grants/guide/pa-files/pa-12-024.html. Accessed 18 Apr 2013.
10. Center for Advancing Health. A new definition of patient engagement: what is engagement and why is it important? Washington, DC: Center for Advancing Health; 2010.
11. Brown JD, Wissow LS. Rethinking the mental health treatment skills of primary care staff: a framework for training and research. Adm Policy Ment Health. 2011. http://download.springer.com/static/pdf/194/art%253A10.1007%252Fs10488-011-0373-9.pdf?auth66=1365016108_e485ccb58aa4860270978b93942a0d62&ext=.pdf. Accessed 19 March 2013.
12. Yeung A, Shyu I, Fisher L, Wu S, Yang H, Fava M. Culturally sensitive collaborative treatment for depressed Chinese Americans in primary care. Am J Public Health. 2010;100(12):2397–402.
13. Bodenheimer T, Wagner E, Grumbach K. Improving primary care for patients with chronic illness: the chronic care model. JAMA. 2002;288:1775–9.
14. Riddle MC, Rosenstock J, Gerich J. The treat-to-target trial: randomized addition of glargine or human NPH insulin to oral therapy of type 2 diabetic patients. Diabetes Care. 2003;26: 3080–6.

15. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. Arch Intern Med. 2006;166(21): 2314–21.
16. Kilbourne AM, Li D, Lai Z, Waxmonsky J, Ketter T. Pilot randomized trial of a cross-diagnosis collaborative care program for patients with mood disorders. Depress Anxiety. 2013;30(2): 116–22.
17. Interian A, Lewis-Fernandez R, Dixon LB. Improving treatment engagement of underserved U.S. racial-ethnic groups: a review of recent interventions. Psychiatr Serv. 2013;64(3): 212–22.
18. Fortney JC, Payne JM, Mouden SB, Mittal D, Hudson TJ, Schroeder GW, et al. Practice-based versus telemedicine-based collaborative care for depression in rural Federally Qualified Health Centers: a pragmatic randomized comparative effectiveness trial. Am J Psychiatry. 2013; 170:414–25.
19. Rollman BL, Belnap BH, Mazumdar S, Houck PR, Zhu F, Gardner W, et al. A randomized trial to improve the quality of treatment for panic and generalized anxiety disorders in primary care. Arch Gen Psychiatry. 2005;62(12):1332–41.
20. Katon W, Lin EH, Von Korff M, Ciechanowski P, Ludman E, Young B, et al. Integrating depression and chronic disease care among patients with diabetes and/or coronary heart disease: the design of the TEAMcare study. Contemp Clin Trials. 2010;31(4):312–22.
21. Katon WJ, Lin EH, Von Korff M, Ciechanowski P, Ludman EJ, Young B, et al. Collaborative care for patients with depression and chronic illnesses. N Engl J Med. 2010;363:2611–20.
22. Project information: Group self-management for persons with depression and medical illness. Project No. R34MH093557-01A1. Bethesda, MD: National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8243425&icde=15637463&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC. Accessed 18 Apr 2013.
23. Project information: Online treatments for mood and anxiety disorders in primary care. Project No. 5R01MH093501-02. Bethesda, MD: National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8423688&icde=15894053&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC. Accessed 18 Apr 2013.
24. Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSMIV disorders in the National Comorbidity Survey Replication (NCSR). Arch Gen Psychiatry. 2005;62(6):617–27.
25. Project information: Two stepped care models for PTSD among Cambodian refugees in primary care. Project No. 1R01MH094312-01A1. Bethesda, MD: National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8297624&icde=15637378&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC. Accessed 18 Apr 2013.
26. Olfson M, Marcus SC, Tedeschi M, Wan G. Continuity of antidepressant treatment for adults with depression in the United States. Am J Psychiatry. 2006;163:101–8.
27. Project information: Personalized antidepressant adherence strategies for depressed elders. Project No. 5R01MH087557-03. Bethesda, MD: National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8300131&icde=15637501&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC. Accessed 18 Apr 2013.
28. Project information: Antidepressant adherence via telephonic interactive voice recognition (IVR). Project No. 5R01MH090160-03. Bethesda, MD: National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8231555&icde=15671052&ddparam=&ddvalue=&ddsub=&cr=5&csb=default&cs=ASC. Accessed 18 Apr 2013.
29. Vollmer WM, Feldstein A, Smith DH, Dubanoski JP, Waterbury A, Schneider JL, et al. Use of health information technology to improve medication adherence. Am J Manag Care. 2011; 17(12 Spec No.):SP79–87.

30. Project information: Adherence to antidepressant medication and hypertension treatment. Project No. 5R34MH085880-03. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8196759&icde=15637403&ddparam=&ddvalue=&ddsub=&cr=2&csb=default&cs=ASC. Accessed 18 Apr 2013.
31. Project information: Provider training to support patient self-efficacy for depression care. Project No. 1R34MH095893-01A. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8374051&icde=15637844&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC. Accessed 18 Apr 2013.
32. Melville JL, Reed SD, Russon J, Croicu CA, Lumdan E, LaRocco-Cockburn A, et al. Improving care for depression in obstetrics and gynecology: a randomized controlled trial. Obstet Gynecol (in press).
33. Project information: Identification and therapy of postpartum depression. Project No. 5R01MH071825-05. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=7902176&icde=15668051&ddparam=&ddvalue=&ddsub=&cr=29&csb=default&cs=ASC. Accessed 18 Apr 2013.
34. Hobfoll S, Ritter C, Lavin J, Hulszier M, Cameron R. Depression prevalence and incidence among inner-city pregnant and postpartum women. J Consult Clin Psychiatry. 1995;63: 445–53.
35. Scholle SH, Hasket RF, Hanusa BH, Pincus HA, Kupfer DJ. Addressing depression in obstetrics/gynecology practice. Gen Hosp Psychiatry. 2003;25:83–90.
36. Miranda J, Chung J, Green B, Krupnick J, Siddique J, Revicki D, et al. Treating depression in predominantly low-income young minority women: a randomized controlled trial. JAMA. 2003;290:57–65.
37. Project information: FOR MOMS: culturally relevant treatment for perinatal depression. Project No. 5R01MH084897-05. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8423797&icde=15637527&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC. Accessed 18 Apr 2013.
38. Briggs-Gowan MJ, Owens PL, Schwab-Stone ME, Leventhal JM, Leaf PJ, Honwitz SM. Persistence of psychiatric disorders in pediatric settings. J Am Acad Child Adolesc Psychiatry. 2003;42(11):1360–9.
39. Merikangas K, He J, Rapoport J, Vitiello B, Olfson M. Medication use in US youth with mental disorders. JAMA Pediatr. 2013;167(2):141–8.
40. Project information: Center for mental health services in pediatric primary care. Project No. 5P20MH086048-03. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8211039&icde=15749330&ddparam=&ddvalue=&ddsub=&cr=26&csb=default&cs=ASC. Accessed 18 Apr 2013.
41. Epstein JN, Langberg JM, Lichtenstein PK, Kolb R, Altaye M, Simon JO. Use of an internet portal to improve community-based pediatric ADHD care: a cluster randomized trial. Pediatrics. 2011;128(5):E1201–8.
42. Co JPT, Johnson SA, Poon EG, et al. Electronic health record decision support and quality of care for children with ADHD. Pediatrics. 2010;126(2):239–46.
43. Myers K, Vander Stoep A, Thompson K, Zhou C, Unützer J. Collaborative care for the treatment of Hispanic children diagnosed with attention-deficit hyperactivity disorder. Gen Hosp Psychiatry. 2010;32(6):612–4.
44. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). 2005. www.cdc.gov/ncipc/wisqars. Accessed 28 Mar 2013.
45. Asarnow JR, Jaycox LH, Duan N, LaBorde AP, Rea MM, Murray P, et al. Effectiveness of a quality improvement intervention for adolescent depression in primary care clinics. JAMA. 2005;293(3):311–9.

46. Ngo VK, Asarnow JS, Lange J, Jaycox LH, Rea MM, Landon C. Outcomes for youths from racial-ethnic minority groups in a quality improvement intervention for depression treatment. Psychiatr Serv. 2009;60(10):1357–64.
47. Peikes D, Zutshi A, Genevro J, Smith K, Parchman M, Meyers D. Early evidence on the patient-centered medical home. Final report. Rockville, MD: Agency for Health Care Research and Quality (US); 2012. Pub No. 12-0020-EF.
48. Crabtree BF, Nutting PA, Miller WL, Stange KC, Stewart EE, Jaen CR. Summary of the National Demonstration Project and recommendations for the patient-centered medical home. Ann Fam Med. 2010;8 suppl 1:S80–90.
49. Croghan TW, Brown JD. Integrating mental health treatment into the patient centered medical home. Rockville, MD: Agency for Health care Research and Quality (US); 2010. Pub No. 10-0084-EF.
50. Toomey SL, Chan E, Ratner JA, Schuster MA. The patient-centered medical home, practice patterns, and functional outcomes for children with attention deficit/hyperactivity disorder. Acad Pediatr. 2011;11(6):500–7.
51. Bergen G, Chen LH, Warner M, Fingerhut LA. Injury in the United States: 2007 Chartbook. Hyattsville, MD: National Center for Health Statistics; 2008.
52. Zatzick D, Jurkovich G, Fan MY, et al. The association between posttraumatic stress and depressive symptoms, and functional outcomes in adolescents followed longitudinally after injury hospitalization. Arch Pediatr Adolesc Med. 2008;162:642–8.
53. Zatzick D, Jurkovich G, Rivara FP, Russo J, Wagner A, Wang J, et al. A randomized stepped care intervention trial targeting posttraumatic stress disorder for surgically hospitalized injury survivors. Ann Surg. 2013;257(3):390–9.
54. Hunt KA, Weber EJ, Showstack JA, Colby DC, Callaham ML. Characteristics of frequent users of emergency departments. Ann Emerg Med. 2006;48(1):1–8.
55. Claassen CA, Hughes CW, Gilfillan S, McIntire D, Roose A, Lumpkin M, et al. Toward a redefinition of psychiatric emergency. Health Serv Res. 2000;35(3):735–54.
56. Project information: Clinical and policy implications of a statewide emergency telepsychiatry program. Project No. 5R01MH086239-03. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8073473&icde=15596370&ddparam=&ddvalue=&ddsub=&cr=6&csb=default&cs=ASC. Accessed 18 Apr 2013.
57. D'Onofrio G, Degutis LC. Preventive care in the emergency department: screening and brief intervention for alcohol problems in the emergency department: a systematic review. Acad Emerg Med. 2002;9(6):627–38.
58. Gentilello LM, Rivara FP, Donovan DM, Jurkovich GJ, Daranciang E, Dunn CW, et al. Alcohol interventions in a trauma center as a means of reducing the risk of injury recurrence. Ann Surg. 1990;230:473–84.
59. Project information: Emergency department safety assessment and follow-up evaluation (EDSAFE) trial. Project No. 5U01MH088278-04. Bethesda (MD). National Institutes of Health, Research Portfolio Online Reporting Tools. http://projectreporter.nih.gov/project_info_description.cfm?aid=8274846&icde=15595255&ddparam=&ddvalue=&ddsub=&cr=2&csb=default&cs=ASC. Accessed 18 Apr 2013.
60. National Institutes of Health (US). NIH Office of Emergency Care Research. . Bethesda (MD): US Department of Health and Human Services; 2012. http://www.nigms.nih.gov/About/Overview/OECR/History.htm. Accessed 10 Apr 2013.
61. Mental Health Research Network (US). https://sites.google.com/a/mhresearchnetwork.org/mhrn/. Accessed 19 Apr 2013.

Chapter 4
Payment Barriers and Potential Solutions to Psychiatric Service Delivery in the Medical Setting

Stuart A. Anfang and Benjamin Liptzin

Abstract This chapter explores the question of payment barriers and economic challenges for psychiatric service delivery within the medical setting. We first summarize how payments for psychiatric services developed and are treated differently than other medical services. Integrated care and patient-centered medical homes are shifting American health care from a fee-for-service model to a complex model of global payment, risk sharing, and incentives for quality and coordinated care. Psychiatry and behavioral health will play an essential role in consultation, care management, and coordination with primary care partners. Integrated behavioral health care models can be safer, better, and ultimately less expensive. We provide suggestions on how to address the challenge of convincing the health care system to integrate the payment for psychiatric and other behavioral services.

Background

When exploring the question of payment barriers and economic challenges in 2013 for psychiatric service delivery within a medical setting, it is helpful to consider the historical context: Why is this even a question in the first place? Why have psychiatrists and other mental health providers been discouraged from caring for patients in usual medical settings or under unified payment systems? How did payment for psychiatric services come to be treated differently (some would assert "separate but

---

S.A. Anfang, M.D. (✉)
Adult Outpatient Psychiatry, Department of Psychiatry, Baystate Medical Center, Tufts University School of Medicine, 3300 Main Street, Suite 3D, Springfield, MA 01199, USA
e-mail: Stuart.Anfang@baystatehealth.org

B. Liptzin, M.D.
Department of Psychiatry, Baystate Medical Center, Springfield, MA, USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_4,

unequal") compared to all other medical services? That is a complex question, and an outline of some of the historical factors and pressures is of value.

Separate treatment and facilities for the psychiatrically ill date back to the earliest days of our country's health care system. As an example, in 1792 the Pennsylvania Hospital in Philadelphia established a separate wing for mentally ill patients. Later, in 1811, the founders of the Massachusetts General Hospital established a separate facility—the Asylum—across the river in Charlestown, later relocated as McLean Hospital to Belmont, Massachusetts. This model was followed in multiple cities throughout the East Coast and later Midwest: separate private "asylums," often located on large tracts of land in rural settings, where the limited therapies of the time were provided in a setting of clean air, "therapeutic work," and escape from urban congestion and poor hygiene. Beginning in 1773 with the opening of Eastern State Hospital in Williamsburg, Virginia, states began to erect their own public state asylums and hospitals, a pattern that spread across the country in the mid-nineteenth century encouraged by Dorothea Dix's campaign for more humane treatment. These institutions, typically isolated from their neighboring communities, became enormous "cities" unto themselves, often with their own farms, dairies, shops, and self-sufficient communities (including staffs living on the premises). It became clearly established that public care of the mentally ill was a responsibility of state governments, with little if any involvement from the growing federal government. Whether public or private, these institutions were located separately from other health care facilities. Within state government, these facilities were generally overseen by a Department of Mental Health separate from a Department of Public Health. Into the mid-twentieth century, the public institutions grew in size and number, typically becoming more focused on institutional and chronic care for society's most disadvantaged and often including the cognitively impaired and other chronically handicapped patients along with the mentally ill. Often derided as "warehouses" and "backwards" with poor prognoses for its residents, these institutions suffered from neglect and insufficient funding as state budget priorities shifted to other areas.

Beginning in the 1950s and 1960s, a number of factors came together to bring about unprecedented change in the American mental health service system. From a clinical perspective, the advent of antipsychotic medication in the mid-1950s brought the first new treatments with the promise of significant clinical improvement for patients with schizophrenia and related illnesses. Over the next two decades the rapid development of new psychopharmacologic agents continued, including antidepressants, antipsychotics, anxiolytics, and lithium and other mood-stabilizing agents. In 1961 the Joint Commission on Mental Health established by Congress published a report on state mental health facilities called "Action for Mental Health," which argued for developing programs of community-based care. President Kennedy, in the setting of the "New Frontier" of the 1960s and increased attention to civil and human rights, proposed and then signed the Community Mental Health Act of October 1963, the final major bill to reach his desk prior to his assassination. For the first time, the federal government provided significant financial resources for mental health care to develop community-based care integrated with community general hospitals and their physicians and psychiatric services, workforce development, and support for research. States, however, saw this as an opportunity to promote deinstitutionalization while reducing their state hospital census (and costs). These hospitals began to downsize and close, as chronically ill patients were placed in community settings for community mental health centers to manage. Many patients were "trans-institutionalized" from mental hospitals into nursing homes or jails, often with little or no psychiatric follow-up [1]. While there were many care successes during this era, the community mental health centers never fully achieved their promised funding or goals. As the clinical population shifted, available community services were never sufficient for the demand, and government funding again became directed towards other priorities. Community mental health centers, as with state mental hospitals, also developed largely outside and separate from the general health care system.

In 1965, with the passage of Medicare and Medicaid as part of President Johnson's "Great Society," the federal government entered into a major role in the funding of health care. Now, an enormous population of elderly and chronically disabled patients as well as indigent patients, many of whom had psychiatric and substance-use disorders, became insured by Medicare and Medicaid, respectively. For the first time, they were able to seek treatment within the broader health care system. From the outset, however, there continued to be a distinction between psychiatric diagnoses and other medical conditions, including differential payments and benefit limitations for behavioral health (BH), including both mental health and substance-use disorder, care. Medicare imposed a lifetime limit of 190 days for inpatient care in psychiatric hospitals (although none on psychiatric units in general hospitals), limited outpatient care to $250/year, and set a copayment of 50 % for outpatient visits as opposed to 20 % for other medical services. Medicaid did not and to this day does not, with rare exceptions under waiver processes, cover inpatient care for adults aged 22–64 in "Institutions for Mental Diseases," defined as hospitals with greater than 50 % psychiatric discharge diagnoses. This last exclusion was designed to prevent states from shifting the cost of public mental hospitals from 100 % state funding to Medicaid funding with federal matching funds.

These restrictions, which prevented parity between insurance coverage for behavioral and physical disorders, were likely based on multiple factors [2]. There was limited experience with coverage of psychiatric care under private insurance. This represented a Catch-22. Most BH care was provided in public mental institutions, so there was no reason to provide coverage, but, without insurance, there was no way to pay for care in general hospitals. There was also (1) a federal concern about taking on a cost burden historically borne by the states, (2) a general concern that behavioral disorders were difficult to define and that the costs of care were high and difficult to predict, and (3) a concern about the perceived chronicity of psychiatric impairment with limited optimism about treatment interventions. Finally, there was a lack of understanding of behavioral disorders and ongoing stigma towards the psychiatrically ill, a population with little political clout or appeal.

Despite the restrictions built into Medicare and Medicaid, the availability of funding accelerated the parallel development of psychiatric inpatient units in general hospitals, which had begun in the 1930s with funding from the Rockefeller

Foundation [3]. While in 1934 96 % of all psychiatric beds were in state or veterans hospitals, by 1970 there were more than 22,000 psychiatric beds in non-federal general hospitals, and by 1990 there were more than 53,000. Increasing private insurance coverage developed in parallel with care in general hospitals. These efforts were further bolstered by state and federal efforts, which began to require parity in health insurance coverage for behavioral disorders similar to that for other medical conditions [2].

Within a decade of passage of Medicare and Medicaid, the federal government, states, as well as private insurers became alarmed about rising costs throughout the entire health care system. Early experiments with prepaid insurance and managed health care, such as Kaiser Permanente in California, offered examples of cost control through annual budgets with the promise of maintaining quality care. In 1973, President Nixon signed the Health Maintenance Organization (HMO) Act, an effort to address the problem of escalating health care costs. The goal was to develop new programs that encouraged preventive and coordinated medical care, improving quality of care while decreasing cost by establishing an integrated system of health care delivery, the HMO. Over the next decade, HMOs rapidly increased. By 1980, 40 million Americans were enrolled in some type of managed health care program.

HMOs experimented with different models of providing and covering behavioral health care [4, 5]. Most early programs were closed panel systems, where employed physicians and nonmedical BH professionals served as employees or a group of BH clinicians contracted to provide necessary services, often on a capitated basis. These initial efforts were intended to be innovative, i.e., to provide population-based single-class care and to contain costs while maintaining excellence. By the late 1980s, however, as cost pressures escalated and covered populations broadened, the public demanded more choice of providers. HMO structures changed to more open systems with networks of providers. Centralized control focused less on direct provision of care and more on management of cost and utilization.

Similar efforts to manage behavioral health costs began to include tight utilization review of inpatient and outpatient care through internal BH management subsections of the medical managed care company or carving out behavioral health coverage to for-profit specialized third parties. Both of these targeted payment for BH services and are thus called “carve-in” and “carve-out” managed behavioral health organizations (MBHOs). These BH payers offered aggressive management and cost savings for the BH budget viewed in isolation from the total medical cost of care [6]. A stimulus for growth of MBHOs was the wide variability and lack of standardization of treatment for similar clinical presentations. It was difficult to understand one hospital treating depression in 3 weeks and another in 12 months. This variance was contained by MBHOs in the 1980s, but then MBHOs continued to unreasonably ratchet down coverage and payment once they had established their prominent place in the health marketplace. In the 1990s, state agencies eager for cost containment followed the private insurers’ lead by carving out Medicaid BH coverage to MBHOs serving the public sector. It was hoped that this would maintain cost neutrality while expanding community-based services under waivers to previously state-funded hospital care.

Within the medical marketplace, the psychiatrically ill became increasingly disenfranchised, consistently receiving less financial support for their needs than those seeking medical and surgical care. The number of behaviorally ill who were uninsured or underinsured grew. Even when patients were insured, providers were often offered payment below the cost of providing care. Low payments resulted from several converging factors, including the following: lack of commercial coverage for the serious mentally ill; increasing numbers of patients having low-paying public insurance or no insurance coverage; denials for provided care were more rigorous by MBHOs than MCOs; and coverage limits in insurance products were more restrictive for BH than for medical services. Many providers stopped accepting patients with Medicaid and commercial “carve ins” and “carve outs,” which, by now, had reputations for denying rather than supporting care.

Many of these fourth-party entities also employed frequent and intrusive utilization reviews in a disparate manner from medical services. General hospitals had increasingly replaced public mental hospitals as the inpatient institutions caring for publically funded patients. By 1998, there were nearly 55,000 designated psychiatric beds in non-federal general hospitals. However, as cost pressures escalated in general hospitals and financial margins turned negative, general hospital psychiatry departments became vulnerable. As a disproportionate share service, psychiatric care was seen as a “drain” on the overall hospital, since reimbursement and margins for BH services were so much less than for general medical care [7]. Inpatient units began to close or to be relocated off campus outside the general hospital. This was especially challenging for academic departments of psychiatry, which had previously relied on inpatient revenue to offset historical “loss leaders” like ambulatory, emergency, and consult/liaison psychiatry. The academic department’s role in research, education, and training the next generation of psychiatrists became increasingly threatened [8].

Despite these measures, health care expenditures continued to rise faster than the growth of the overall economy. It became widely accepted that while America was spending a much higher percentage of GDP for health care than any other country, Americans were receiving care from a system that was fragmented, varied in quality and access, and was inefficient—all while millions remained uninsured. The Institute of Medicine issued several influential reports decrying the “quality chasm” of health care in the United States [9], including for mental health and substance-use disorders [10]. With the unfulfilled promise of HMOs and managed health care to “bend the cost curve,” political pressure built to finally “fix the system.” President Obama was able to achieve the historic goal of national reform in March 2010 with the passage of the Patient Protection and Affordable Care Act (ACA). Among the initiatives encouraged by this complex legislation (and evolving regulations) are patient-centered medical homes (PCMH) and accountable care organizations (ACO) [11, 12]. Both of these have important implications for how BH care could be delivered in the future.

Integrated Care: Collaboration and Economics

The evolving details and implementation of PCMH and ACO are discussed elsewhere in this volume. In terms of the payment system, this represents a historic system-wide shift from a longstanding fee-for-service (FFS) model incentivized by volume and procedures to a complex model of global budgets, risk sharing, and incentives for quality and coordinated care operating under the rubric of population health. How will psychiatry and behavioral health care fit in? It is increasingly clear that BH disorders account for a significant percentage of impairment and disability and are correlated with increased overall health care costs. It is also clear that nearly 80 % of psychiatric illness is not being treated by psychiatrists and other BH professionals, but rather by primary care or other specialty medical physicians and their staffs. Without change in the support for integrated care and equitable payment for BH services, primary care practitioners will continue to manage the psychiatric needs of most BH patients, including many of those with serious mental illness (SMI), often without the clinical support they need from psychiatrists and other BH clinicians. BH patients seen exclusively in the primary care sector include a large number of SMI patients given the sheer volume of patients—and services will need to be designed to address that reality. It is a common misperception that only less severe BH patients are managed exclusively in the primary care sector [13, 14].

Psychiatry, particularly within general hospital and clinic settings and in large multidisciplinary medical groups, has long argued that there are savings or "medical cost offsets" as well as quality improvements by collaboratively addressing BH needs in medical patients. Basically, the message is while we know that poor reimbursement of BH leads to negative margins for psychiatric services (particularly when compared to more profitable medical and surgical services), psychiatry contributes to value and savings by treating and improving the care of common BH conditions that are highly comorbid with medical illnesses. By doing so, it is possible to avoid unnecessary medical costs, including laboratory tests, imaging studies, hospitalizations, office visits, and ER admissions. As compelling as the argument seems, in early years, it was difficult to quantify and measure. Efforts designed to capture the medical cost offset were limited by data and methodological challenges, such as short follow-up periods and targeting of behavioral health costs in a "carved-out" payment system.

More recently, better designed and completed research studies now show that interventions, such as proactive consultation, delirium prevention/treatment, care management, and integrated substance abuse treatment, can not only improve clinical outcomes but also control cost [15]. Kathol and colleagues suggest that psychiatrists who specialize in the treatment of medically complex patients can lead to a transition from traditional consultation- and referral-based outpatient programs to proactive, value-added programs. Core to all of these programs is the implementation of work processes that assure the application of evidence-based BH service in the medical setting, especially to patients with chronic medical conditions with escalation of care when expected improvement is not occurring.

A good example of this over the past 10 years has been the emergence of extensive evidence showing that collaborative care for depression (and now other behavioral disorders) within primary care settings [16–19] leads to both improved medical and BH outcomes and lower cost. By imbedding psychiatrists with a proactive care manager (see Chap. 7), over 70 studies now show that predictable depression and anxiety-free days associated with concurrent improvement of the patient's medical condition, especially with TEAMcare, can be associated with cost savings accruing over up to 5 years after being in collaborative care treatment.

In a recent randomized controlled trial of systematic care management (TEAMcare) in Washington state for outpatients with poorly controlled diabetes or coronary heart disease, it was possible to demonstrate decreased depression, additional quality-adjusted life years (QALYs), and lower mean outpatient cost [20]. A 2012 analysis of 30 studies of collaborative care concluded that the weight of the evidence indicates that collaborative care provides good economic value [21]. Despite this consistent and resounding success story, Katon and colleagues [22] note that challenges remain in financing these programs. They argue that there is a need to create new payment approaches that facilitate the implementation of evidence-based BH practices in the medical setting, such as are delivered through collaborative care. The payment environment remains a major barrier.

The challenge is how to finance the additional training, personnel, case management, and consultation resources—costs not reimbursed under the current FFS payment structure [23]. Successful efforts at larger scale implementation have to date relied on funding from foundations or research grants, raising questions about sustainability once those additional resources are withdrawn. The Veterans Administration has developed a robust effort to support the implementation of evidence-based collaborative care for depression with its QUERI program, in a setting of employed practitioners, no FFS reimbursement, and global budgets. Kaiser Permanente has also demonstrated success within its large capitated organization, building upon its prior participation in the IMPACT research trial.

In Minnesota, the Depression Improvement Across Minnesota, Offering a New Direction (DIAMOND) program of the Institute for Clinical System Improvement (a QI organization chartered by nonprofit health plans) pioneered large-scale implementation based on the IMPACT model in FFS-based clinics. Clinics are paid by health plans using a supplemental bundled case rate that covers care management, supervision, and psychiatric consultation in addition to traditional FFS billing by the patients' primary care providers [24]. This mechanism allows smaller clinics to designate and train staffs in evidence-based approaches. By 2012, they had recruited more than 9,000 patients in 80+ sites into the program with demonstrated successful outcomes. While this program worked well for clinics with a high percentage of commercially insured patients for whom the bundled case rate could apply, it did nothing for patients in public programs for whom supplementary funding was unavailable.

Building on IMPACT and DIAMOND, in 2012, CMS awarded $18 million over 3 years for ICSI and collaborators to develop, implement, and evaluate Care of Mental, Physical, and Substance Use Syndromes (COMPASS) at sites across seven states (www.icsi.org). This may help demonstrate to health plans and payers the value added (and overall cost savings) through collaborative chronic care management for depression and other psychiatric conditions in primary care settings. These savings can then be used not only to fund such programs but also to contribute to net savings for patients and the health system.

A program that demonstrated a financially sustainable model is based at Intermountain Healthcare in Salt Lake City [25], integrating BH into primary care settings. They developed a team-based approach known as "mental health integration" to care for complex patients with unmet BH needs. According to Reiss-Brennan, "The team includes the PCPs and their staff, and they, in turn, are integrated with BH professionals, community resources, care management, and the patient and his or her family." They reported that their integration model improved physician and staff satisfaction. Patients treated in these integrated clinics showed improved satisfaction, lower costs, and better quality outcomes. In fact, they argue that this integrated program was financially sustainable without subsidies because of the savings on the total costs of the patients' medical care, a finding similar to that with collaborative care. Even with the Intermountain program financing the BH providers in the medical setting requires payment work-arounds. This is associated with challenges in sustainability.

Working with Primary Care Practices

Our local experience mirrors some of the common challenges and opportunities of integrating behavioral health into primary care. Fifteen years ago, the Department of Psychiatry at Baystate Medical Center, the Western Campus of Tufts University School of Medicine in Springfield, Massachusetts, and the area's tertiary care and academic referral center, began to explore ways to integrate behavioral health services into primary care practices. Initially, we co-located a single therapist (PhD psychologist or MSW) in each of the five adult primary care practices to try to improve the coordination of care for patients in that setting who could benefit from BH services. The primary care practices provided space but no other support for the clinicians. After several years the model was felt to be unsustainable and was abandoned. There were several reasons for that.

Before the development of patient-centered medical homes and the emphasis on quality measures related to BH care with pay-for-performance dollars attached to those measures, there was little incentive for primary care practices to integrate a BH clinician into their practice. There was no shared financial risk, so the primary care practices had no incentive to keep the clinician's schedule full. There was also no electronic health record (EHR) for sharing information. In fact, the clinicians had to carry their paper records to the primary care office, which was burdensome for scheduled patients and unworkable for urgent patients. In two of the primary care practices, the clinician was found to be so helpful that even after the Baystate-funded program was terminated the clinician continued to see patients in the practice as a private practitioner. However, the model of care provided was generally limited to a social worker providing evaluation with ongoing therapy rather than a fully integrated program. We now know that our original program would not have been expected to change outcomes nor save money [26], but it was a good-faith effort to assist with BH issues in the medical setting.

A different model developed with respect to primary care pediatric practices. Compared to other states, Massachusetts is relatively well supplied with psychiatric manpower. However, in Western Massachusetts, with rural, suburban, and poor urban areas scattered across a wide geographic area, access to psychiatry is more challenging than in the eastern part of the state. In June 2005, the state government budget included funding for the Massachusetts Child Psychiatry Access Project (MCPAP) [27]. The goal of this program was to bring a system for child psychiatry/primary care collaboration to scale across the entire state, aiming to improve access to care for children with BH problems. The state was divided into six regions, with MCPAP teams created within academic medical centers for each of these regions. The MCPAP teams were tasked with providing collaborative support to all pediatric primary care clinicians of their respective regions by implementing a system for the clinicians to obtain (1) immediate informal telephonic consultation regarding the BH needs of any child in the primary care setting; (2) expedited as-needed provision of formal outpatient consultation for children referred by the PCP; (3) assistance in coordinating care for children who need community BH services; and (4) continuing professional education regarding children's BH designed specifically for PCPs. The central planning, administration, and coordination of the program are provided by a managed BH organization under contract with Massachusetts for statewide public-sector BH initiatives, including the Medicaid program. The MCPAP serves all children and adolescents in the state regardless of the child's or the family's insurance status. Although all the services are provided off-site from the pediatric practice rather than co-located, the system is designed to provide virtually constant availability and collaboration from the child psychiatry resources. This program is also referenced in Chap. 9 by Sarvet and Sargent in this book.

The funding for this program is provided by the state through full reimbursement to each academic medical center for the direct and indirect operational expenses of its contracted team, supplemented by FFS billing (as possible) for the expedited direct clinical evaluations. As of 2010, the cost of the program, including administrative expenses, is $2 per child/adolescent per year or $3 million for the 1.5 million children in Massachusetts. The model has garnered national attention and is being replicated in Connecticut and other sites. Other examples of off-site consultation programs have been developed in Washington, New York, Ohio, and other states, with funding provided by state or federal grants and contracts [28]. Key to the ongoing success of MCPAP is designated continuous funding through the state budget. Without the ongoing funding, the model would be unsustainable. In addition, the 2014 state budget added a requirement that private insurers provide support for the care consultation and coordination costs given that a majority of the MCPAP services are used by their beneficiaries.

Absent a similar designated appropriation for adult patients, we are experimenting with other models for integrating behavioral health care within the adult patient-centered medical home [29, 30]. Baystate Medical Practices includes an adult outpatient psychiatry service and ten primary care medical practices throughout the region. The program brings an adult psychiatrist on site to selected primary care practices one half-day per month. During this time, the psychiatrist sees pre-scheduled patients for single-visit consultations targeted around specific questions raised by the PCP (typically around diagnostic clarification and psychopharmacologic management). Consultations are billed as usual through the patient's insurance. Patients who do not show for their appointments lead to lost productivity. The psychiatrist provides specific recommendations to the primary care provider for implementation. The consultation note is part of the integrated EHR shared by all clinicians, inpatient and outpatient, across Baystate Health. If clinically appropriate and necessary, the patient may be followed by the psychiatrist within the regular outpatient psychiatry clinic. The on-site consultation slots are limited to initial evaluations only. In addition to the on-site direct consultation, the psychiatrist is available for informal indirect "curbside" consultations via PCP queries through the shared EHR or by telephone or e-mail. The goal is to allow PCPs within a specific Baystate primary care practice to have access to and an established relationship with a designated consultant psychiatrist. This serves to enhance the PCP's comfort and skill managing psychiatric illness. While it may be unsustainable, non-scalable, and a work-around in our current payment system, planting a psychiatrist in primary care practices is another good faith effort to improve psychiatric access.

We have described several models of integrated BH service delivery with evidence that they improve clinical outcomes and costs and several in which access is improved but outcome change and cost savings cannot be guaranteed. Unfortunately, the latter fall into the category in which payment work-arounds can be generated whereas the former are the ones in which systematic implementation should be pursued. Strategically, it makes sense to think about ways in which implementation of value-added programs can be encouraged and fiscally supported and leads to the discussion below.

Transitioning to a Global Payment System

The 2008 enactment of the Mental Health Parity and Addiction Equity Act was a long-sought and critical first step towards bringing behavioral health care into the mainstream of the US health care system, requiring parity in benefit coverage (BH benefits offered must be equivalent to all other medical and surgical benefits). The ACA moves beyond the federal parity law, mandating that Medicaid plans and state-based insurance exchanges cover BH services as part of an essential benefit package (establishing a minimum "floor" for necessary BH services) [12]. The ACA's emphasis on integrated care models—encouraging demonstration projects, innovation within Medicaid and providing support for IT, care management, health promotion, transitional care, etc.—recognizes the value and importance of services that have not traditionally been reimbursable under the FFS system. For private insurers, financial incentives to ACOs could support similar coordination of care, establishing bundled or global payments to fund evidence-based value-added BH services. Risk adjustment and risk sharing will be critical in setting bundled payment rates, countering incentives to "cherry pick" and avoid patients with BH needs.

The "triple aim" of improving overall population health, improving access and quality/outcomes, and controlling costs will guide the transformation of the health care economy as providers, hospitals, and insurers grapple with how to transition from a "FFS" world [31, 32]. Efforts to link pay for performance (P4P) to quality improvement and outcome measurement have been challenging to implement successfully in behavioral health. Measures need to have broad acceptance in the field, be clinically relevant to patients and practitioners, and be able to accurately account for differences in risk and illness severity [33]. A 2011 Cochrane review of seven studies concluded that there is currently insufficient evidence to support the use of financial incentives to improve the quality of primary health care [34]. Nevertheless, a 2012 report by Unutzer and colleagues provided the first data-based analysis of a P4P initiative in the context of a large-scale collaborative care program for primary care patients with depression and other common behavioral health disorders [35]. Their results could not prove direct causation but suggested that when key quality indicators (such as PHQ-9 scores) are tracked and a substantial portion of payment is tied to the indicators, effectiveness of care can be substantially improved. The authors noted that this requires substantial investments in and commitment to quality infrastructure, in particular the ability to track systematically the quality and outcomes of the care provided, and then intervening appropriately. They conclude that "after 20 years of building a robust research evidence base for integrated behavioral health care, the time has now come for payers to provide the right incentives and tools for organizations to implement evidence-based programs that can serve large populations of patients with common behavioral health problems."

Recognizing the risk that vulnerable populations (including the behaviorally ill) may not be fully incorporated and embraced by the new ACO model, Fisher and colleagues have suggested financing strategies (including start-up financing, appropriate risk adjustment, and well-designed reward systems) that may overcome these obstacles [36]. Broadening reimbursement for consultation, including through telemedicine, would be an important step forward. Integrated EHR, incorporating behavioral health within the larger medical record, may allow for efficient communication and coordination, including screening and decreasing duplication/error. There is a growing research base supporting integrated case management, including patient self-management and Web-based supports [37, 38]. A complementary effort is being developed to integrate primary care into community behavioral health settings. Scharf [39] recently described the characteristics and early implementation experiences of community behavioral health agencies that received Primary and Behavioral Health Care Integration grants from the Substance Abuse and Mental Health Services Administration to integrate primary care into programs for adults with serious mental illness.

Having demonstrated that untreated or undertreated behavioral illness causes significant cost in terms of disability, functional impairment, and associated medical expense; that collaborative treatment between behavioral health and primary care providers is clinically effective and evidence based; and that improved and coordinated behavioral health care is safer, better, and may ultimately be less expensive, the challenge ahead will be convincing medicine to integrate not just behavioral health care but also its financing. As we have seen, this would be a historic paradigm shift, but a shift that has already begun over the past decade with state and federal passage of mental health parity. As the health care "pie" gets smaller (or at least grows at a smaller rate), how will behavioral health clinicians get paid and will it be financially viable? Will behavioral health providers continue to be paid FFS, be sub-capitated (potentially in favor of lower cost providers), become salaried employees (like the old closed panel HMOs), or develop a new mechanism to share ACO performance dollars for meeting quality and savings goals? The solutions remain to evolve in the years and possible struggles ahead but will likely be directly dependent on clinicians' abilities to be responsive to the needs of primary care providers and their patients.

References

1. Borson S, Liptzin B, Nininger J, Rabins P. Psychiatry and the nursing home. Am J Psychiatry. 1987;144:1412–8.
2. Frank RG, Goldman HH, McGuire TG. Will parity in coverage result in better mental health care? New Engl J Med. 2001;345:1701–4.
3. Summergrad P, Hackett TP. Alan Gregg and the rise of general hospital psychiatry. Gen Hosp Psychiatry. 1987;9:439–45.
4. Bennett MJ. The greening of the HMO: implications for prepaid psychiatry. Am J Psychiatry. 1988;145:1544–9.
5. Brady J, Krizay J. Utilization and coverage of mental health services in health maintenance organizations. Am J Psychiatry. 1985;142:744–6.
6. Glasser M. The history of managed care and the role of the child and adolescent psychiatrist. Child Adolesc Psych Clin N Am. 2010;19:63–74.
7. Liptzin B, Gottlieb G, Summergrad P. The future of psychiatric services in general hospitals. Am J Psychiatry. 2007;164:1468–72.
8. Liptzin B, Meyer RE. Financing academic departments of psychiatry. Acad Psychiatry. 2011;353:96–100.
9. Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington, DC: National Academies Press; 2001.
10. Institute of Medicine. Improving the quality of healthcare for mental and substance-use conditions: quality chasm series. Washington, DC: National Academies Press; 2006.
11. Druss BG, Mauer BJ. Health care reform and care at the behavioral health-primary care interface. Psychiatr Serv. 2010;61:1087–92.
12. Barry CL, Huskamp HA. Moving beyond parity – mental health and addiction care under the ACA. NEJM. 2011;365:973–5.
13. Kessler RC, Demler O, Frank RG, Olfson M, Pincus HA, Walters EE, et al. Prevalence and treatment of mental disorders, 1990-2003. NEJM. 2005;352:2515–23.
14. Wang PS, Lane M, Olfson M, Pincus HA, Wells KB, Kessler RC. Twelve-month use of mental health services in the United States. Arch Gen Psychiatry. 2005;62:629–40.

15. Kathol RG, Kunkel EJS, Weiner JS, McCarron RM, Worley LL, Yates WR, et al. Psychiatrists for medically complex patients: bringing value at the physical health and mental health/substance use disorder interface. Psychosomatics. 2009;50:93–107.
16. Katon W, Unutzer J, Wells K, Jones L. Collaborative depression care: history, evolution and ways to enhance dissemination and sustainability. Gen Hosp Psychiatry. 2010;32:456–64.
17. Unutzer J, Katon WJ, Fan MY, Schoenbaum MC, Lin EH, Della Penna RD, et al. Long term cost effects of collaborative care for late-life depression. Am J Managed Care. 2008;14:95–100.
18. Community Preventive Services Task Force. Recommendation from the Community Preventive Services Task Force for Use of Collaborative Care for the Management of Depressive Disorders. Am J Prev Med. 2012;42:521–4.
19. Thota AM, Sipe TA, Byard GJ, Zometa CS, Hahn RA, McKnight-Eily LR, et al. Collaborative care to improve the management of depressive disorders: a community guide systematic review and meta-analysis. Am J Prev Med. 2012;42:525–38.
20. Katon W, Russo J, Lin EH, Schmittdiel J, Ciechanowski P, Ludman E, et al. Cost-effectiveness of a multicondition collaborative care intervention. Arch Gen Psychiatry. 2012;69:506–14.
21. Jacob V, Chattopadhyay SK, Sipe TA, Thota AB, Byard GJ, Chapman DP, et al. Economics of collaborative care for management of depressive disorders: a community guide systematic review. Am J Prev Med. 2012;42:539–49.
22. Katon WJ, Lin EHB, Von Korff M, Ciechanowski P, Ludman EJ, Young B, Peterson D, et al. Collaborative care for patients with depression and chronic illnesses. N Eng J Med. 2010;363:2611–20.
23. Kathol RG, Butler M, McAlpine DD, Kane RL. Barriers to physical and mental condition integrated service delivery. Psychosom Med. 2010;72:511–8.
24. Solberg LI, Glasgow RE, Unutzer J, Jaeckels N, Oftedahl G, Beck A, et al. Partnership research: a practical trial design for evaluation of a natural experiment to improve depression care. Med Care. 2010;48:576–82.
25. Reiss-Brennan B, Briot PC, Savitz LA, Cannon W, Staheli R. Cost and quality of Intermountain's mental health integration program. J Healthcare Manag. 2010;55:97–113.
26. Bower P, Knowles S, Coventry PA, Rowland N. Counselling for mental health and psychosocial problems in primary care. Cochrane Database Syst Rev. 2011; (9):CD001025.
27. Sarvet B, Gold J, Bostic JQ, Masek BJ, Prince JB, Jeffers-Terry M, et al. Improving access to mental health care for children: the Massachusetts child psychiatry access project. Pediatrics. 2010;126:1191–200.
28. Keller D, Sarvet B. Is there a psychiatrist in the house? Integrating child psychiatry into the pediatric medical home. J Am Acad Child Adol Psychiatry. 2013;52:3–5.
29. Amiel JM, Pincus HA. The medical home model: new opportunities for psychiatric services in the United States. Curr Opin Psychiatry. 2011;24:562–8.
30. Harkness E, Bower PJ. On site mental health workers delivering psychological therapy and psychosocial interventions to patients in primary care: effects on the professional practice of primary care providers. Cochrane Database Syst Rev. 2009; (1): CD000532.
31. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. Health Aff. 2008;27:759–69.
32. Katon W, Unutzer J. Consultation psychiatry in the medical home and accountable care organizations: achieving the triple aim. Gen Hosp Psychiatry. 2011;33:305–10.
33. Liptzin B. Quality improvement, pay for performance, and "Outcomes Measurement": what makes sense? Psychiatr Serv. 2009;60:108–11.
34. Scott A, Sivey P, Ait Ouakrim D, Willenberg L, Naccarella L, Furler J, et al. The effect of financial incentives on the quality of health care provided by primary care physicians. Cochrane Database Syst Rev. 2011; (9): CD008451.
35. Unutzer J, Chan YF, Hafer E, Knaster J, Shields A, Powers D, et al. Quality improvement with pay-for-performance incentives in integrated behavioral health care. Am J Public Health. 2012;102:e41–5.
36. Lewis V, Larson B, McClurg A, Boswell R, Fisher E. The promise and peril of accountable care for vulnerable populations: a framework for overcoming obstacles. Health Aff. 2012;31:1777–85.

37. Kathol RG, Lattimer C, Gold G, Perez R, Gutteridge D. Creating clinical and economic “wins” through integrated case management. Prof Case Manag. 2011;16:290–8.
38. Hunkeler EM, Hargreaves WA, Fireman B, Terdiman J, Meresman JF, Porterfield Y, et al. A web-delivered care management and patient self-management program for recurrent depression: a randomized trial. Psychiatr Serv. 2012;63:1063–71.
39. Scharf DM, Eberhart NK, Schmidt N, Vaughan CA, Dutta T, Pincus HA, et al. Integrating primary care into community behavioral health settings: programs and early implementation experiences. Psychiatr Serv. 2013;64(7):660–5.

Chapter 5
Psychiatrist's Changing Role in a Reformed Delivery System: Adding Value in Accountable Care Organizations

Bruce J. Schwartz, Michelle A. Blackmore, Scott Wetzler, and Henry Chung

Abstract The introduction of accountable care organizations (ACOs) and recently enacted health care reform legislation have the potential to transform our fragmented health care system, with efforts to advance behavioral health parity. Meeting the ACO triple aim to improve care quality and population health, while lowering health care costs, is not possible without fully integrating mental health and substance use care. This chapter outlines how psychiatrists are uniquely positioned to lead efforts to ensure adequate integration of behavioral health care concerns throughout ACOs, at an individual as well as a population level. Elements within an ACO requiring such behavioral health integration are reviewed, including identifying target populations, and use of health information technology, measurement-based care aimed at mental health and substance use, care management teams, and protocols for monitoring care quality and encouraging cost savings. The many roles of psychiatrists within an integrated care system are also discussed, from developing guidelines for identifying and monitoring behavioral health needs for a defined population to establishing evidence-based practice protocols. Psychiatrists are important members of the health care team, providing supervision, training, and consultation, as well as direct patient care. Experiences from Montefiore Medical Center's ACO initiatives are outlined to provide a model for integrative care

---

B.J. Schwartz, M.D. (✉) • S. Wetzler, Ph.D.
Department of Psychiatry and Behavioral Sciences, University Behavioral Associates and MBCIPA, Montefiore Medical Center, 111 E 210th St, Bronx, NY 10467, USA
e-mail: bschwart@montefiore.org

M.A. Blackmore, Ph.D.
Department of Psychiatry and Behavioral Sciences, University Behavioral Associates and Montefiore Medical Center, Bronx, NY, USA

H. Chung, M.D.
Department of Psychiatry, Montefiore Care Management, Montefiore Medical Center, Yonkers, NY, USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_5,

procedures and ways in which psychiatry can facilitate collaborative care efforts. Strategies for expanding successful integrative care approaches throughout the health care system are also discussed.

Historically, inadequate mental health coverage and constraints imposed by managed behavioral care "carve out" companies tended to direct the provision of mental health care outside of medical settings and to manage mental health budgets in isolation from total health care costs. When mental health or substance use issues were addressed, primary care physicians were rarely informed, and there was little collaboration between behavioral and primary care providers. This fractured system of care made it difficult to treat patients with comorbid medical and behavioral disorders.

The enactment of the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) and the Affordable Care Act of 2010 (ACA) has the potential to transform this fragmented system of care. In particular, the ACA encourages the formation of accountable care organizations (ACOs) with the goal of creating integrated health systems that coordinate the delivery of behavioral and medical care. ACOs are expected to better coordinate care, focus on quality, improve outcomes, and prevent illness and hospitalizations. The entire model of care delivery may change, placing a new emphasis on population management. It is within this context that mental health and substance use problems can no longer be ignored, both for a population as well as the individual patient, as these behavioral conditions have a significant impact on medical quality and cost outcomes [1].

The MHPAEA and ACA significantly increase the number of people with insurance coverage for mental health and substance use care. The ACA encourages behavioral health parity by requiring that state-based insurance exchanges include coverage for mental health and substance use disorders comparable with medical benefits, and the MHPAEA limits differential management of behavioral health, substance use, and medical services. The low income expansion of Medicaid will substantially increase beneficiary enrollment as well. Given that the uninsured are more likely to present with mental health and substance use disorders, an estimated 1.5 million newly covered individuals will access behavioral health services [2]. ACOs will not be able to reach goals for improving access to behavioral care, meet quality benchmarks, and reduce total medical costs without effectively addressing mental health and substance use conditions. As coordinated care efforts expand, it will be increasingly important for psychiatrists to position themselves as essential providers and innovative leaders in this changing ACO health care environment.

ACO Elements in Earlier Health Care Initiatives

While officially enabled by the ACA legislation, the ACO concept is based on earlier coordinated care delivery initiatives, including health maintenance organizations (HMOs), the Physician Group Practice Demonstration (PGP), and patient-centered medical homes (PCMHs). These programs aim to reduce ineffective silo-based systems of care by improving multi-condition collaboration and medical and behavioral health care integration. Improving accountability for care quality and cost effectiveness through performance outcome measures and payment reform are primary functions of these programs. The PGP Demonstration, implemented by Medicare in 2005, piloted incentivized care coordination via shared cost savings. However, behavioral outcome measures had not been emphasized, and support is mixed on the program's cost effectiveness [3].

Several collaborative care models have improved behavioral health access and patient outcomes in primary care settings. The more successful collaborative care efforts do not simply rely on being co-located, but emphasize early detection and treatment of comorbid behavioral health conditions, typically depression, and comorbid chronic medical conditions (e.g., diabetes mellitus, coronary heart disease). For instance, the IMPACT study (Improving Mood: Providing Access to Collaborative Treatment) demonstrated that evidenced-based collaborative care for patients with depression resulted in the majority of enrolled patients showing a sizable reduction in depressive symptoms, improvement in physical and social functioning, and patient satisfaction, as well as lower health care costs compared to usual care patients [4, 5] (see Chap. 7). Similar findings, including reductions in depressive symptoms, have been observed in the DIAMOND project (Depression Improvement across Minnesota: a New Direction) [6, 7], which uses IMPACT program key components as a core. A more recent multi-condition collaborative care intervention program, termed TEAMcare, resulted in a decrease in depression severity, better controlled medical conditions (i.e., diabetes mellitus, coronary heart disease), and lowered outpatient costs compared to usual care patients [8]. Psychiatrists have had a substantial role in these collaborative care efforts, generally providing consultation and supervision to primary care providers and care managers regarding medication management and/or evidence-based psychotherapy for behavioral health conditions.

The PCMH model, initially proposed in 1967 by the American Academy of Pediatrics, sets the foundation for current ACO models. The National Committee for Quality Assurance (NCQA) began licensing PCMHs in 2008, requiring standards for patient-centeredness, behavioral health and medical care management integration, and assessment of patient experiences and satisfaction. The NCQA criteria for becoming a Level-3 medical home requires primary care clinics to demonstrate population-based approaches for quality improvement for three chronic illnesses, including a behavioral disorder, such as major depression [9]. The PCMH model places emphasis on PCPs taking responsibility for care coordination of these chronic illnesses and coordinating with behavioral health specialists (BHS). A potential limitation to this model is there are not yet explicit incentives identified for behavioral and medical providers to work collaboratively to improve total costs and care quality [10].

ACOS Under ACA

ACO Model

The ACO concept was formalized in 2011, when CMS published recommended rules to implement the model for Medicare fee-for-service patients. The rules have a three-part aim: improve quality of care (safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity), provide better health for populations (health education, preventative services), and lower expenditures (eliminate duplicate and wasteful services). The provider-led ACO entity has the potential to improve coordination of medical and behavioral health services for its designated population across the entire continuum of care, from physicians to hospitals to specialists, regardless of point of access within the health care system. Due to the focus on holistic, patient-centered services, the full inclusion of behavioral health care into ACOs is essential. To further promote accountability and cost-effectiveness, each ACO assumes responsibility for a defined population of Medicare fee-for-service beneficiaries, and receives financial savings shared with the federal government if benchmarks for care quality are met. Aligned provider, payer, and patient incentives and shared savings encourage improved efficiency and effectiveness of care, as well as create a strong incentive to adequately address behavioral conditions to meet these goals. The shared savings or bonuses can then be used to further improve care quality and effectiveness in the ACO, including training and payment for case and care managers.

Under the ACA, Health Home services became available to states in 2011, providing an integrated care option that targets Medicaid patients with two or more chronic illnesses (e.g., heart disease, obesity, asthma, diabetes, mental health condition, substance use disorder), a severe and persistent mental illness, or one chronic condition and risk for developing another. The Health Home expands on the PCMH model, with an even greater emphasis on linkage to behavioral health treatment given the target population includes many patients with severe and persistent mental illness. Interdisciplinary health care teams develop care plans intended to improve patient experience and health care quality through coordinated case and care management. Health Homes also aim to link patients to needed community and social support services. States have flexibility in the duration, amount, and breadth of services provided to the Health Home population. Thus, the ACA established ACOs and Health Homes with the aim to better coordinate behavioral and medical care with identified accountable care managers.

Needed Elements in an ACO

Implementing an ACO involves substantial operational, administrative, and technical challenges. The ACO must have a legal entity to manage financial risks, receive compensation, and distribute shared savings and financial incentives.

A solid administrative support system and interoperable information technology (IT) infrastructure are also needed to manage at-risk patient populations, promote collaborative care and evidence-based medicine, monitor care quality and cost savings, and determine spending and performance benchmarks.

Ideally, ACOs require an extensive investment in interoperable IT that allows for timely sharing of inpatient and outpatient electronic health records (EHRs) and treatment plans across the continuum of care, guides treatment interventions, and aids in the prevention of unnecessary or duplicate procedures and treatments. EHRs can enhance care continuity by providing near-real-time data to assist collaborating behavioral and medical care providers, as well as care and case managers. These all-inclusive records can facilitate identification of patient needs through electronic screening, patient tracking, remote patient monitoring, and timely feedback on patient outcomes and satisfaction, although statutory and patient privacy issues need to be carefully addressed. Patient engagement with providers can also be encouraged through innovative communication techniques, including use of educational websites, online portals to personal health information, telemedicine, treatment through "e-visits," and open-access scheduling and email reminders. Furthermore, since many psychiatric patients drop out of care, these electronic systems help to identify and reach out to these vulnerable and high-risk patients to reengage them in both medical and behavioral health services. Psychiatrists are essential to providing content expertise in the development of IT that ensures adequate integration of behavioral health care concerns throughout the health care system, as many EHRs have relatively limited depth on behavioral health issues.

Protocols for monitoring care quality within an ACO are also needed for establishing performance benchmarks to which providers will be held accountable. Quality performance measures and present-time data analysis are needed to determine intervention outcomes at a population and individual level. Measures of coordination and efficiency of care, preventative care efforts, functional health status, patient and caregiver experience, and total costs must include behavioral health data to accurately reflect overall patient health. Unfortunately, there are few valid measures addressing clinical integration or coordination, and adequate measures are especially lacking for care quality of persons with mental health and substance use conditions [11, 12].

However, several screening and outcome measures for depression and substance use have successfully been incorporated into medical settings. Collaborative care efforts for depression have used measurement-informed care as a key ingredient in primary care to track depression outcomes [13, 14]. The Patient Health Questionnaire (PHQ), two-item and nine-item version, is most commonly used in these medical settings [15]. Measurement-based care is beginning to be extended into psychiatric settings as well, with the PHQ-9 demonstrating feasibility and utility in monitoring depression symptom severity and treatment response and remission, even in practices with limited resources [7, 16, 17]. Screening for alcohol and substance use, given its role in complicating and exacerbating medical conditions, is also increasingly being conducted at primary care sites [18]. The Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) is one brief screen used in primary care to identify risky drinking and alcohol use [19]. Often, depression and substance use screening measures are utilized throughout treatment to assess outcome, but more comprehensive behavioral health symptom measures and quality indicators are also warranted. The Meaningful Use Standards of 2012 now have several behavioral health outcome measures that can be selected for reporting, especially on depression follow-up timeframe and on response and remission using the PHQ-9.

Implementation of new payment structures will be another needed element in ACOs, as current fee-for-service structures will not be sustainable. ACO and non-ACO provider reimbursements, incentives, and savings will have to be substantial enough to reform health care delivery and encourage accountability, and psychiatrists will need to accommodate these new payment methodologies. Currently, the most common payment models are fee-for-service plus bonus, bundled payments plus bonus, shared savings and losses, annual global capitation, or monthly capitation. Case rates or episode-based payments, as utilized in the DIAMOND project, encourage greater care collaboration between behavioral health and medical health providers. However, the challenge here is for psychiatrists to financially benefit as medical costs are reduced, which will require integrated financing of care. Psychiatrists will need to formulate innovative reimbursement models for behavioral health care services, and given the importance of financial incentives offered through an ACO, their involvement in establishing sustainable reimbursement models, including care management, consultation and infrastructure costs, is crucial.

Identifying Target Populations

As different ACOs serve different populations, the optimal way to identify patients with mental health or substance use disorders will vary depending on the population to be served. For example, in an elderly Medicare population, behavioral issues may be more covert and could be identified through screening at a primary care clinic, or may be more commonly associated with memory difficulties. Conversely, patients who are dually eligible for both Medicare and Medicaid often represent the sickest and poorest group and present with a much higher rate of psychiatric and substance use illness. The behavioral disorders in these patients are often easily recognized and may be best identified in chronic care facilities. Similarly, patients eligible for Health Homes represent the highest-cost and highest-need Medicaid population, and have a disproportionate amount of mental health and substance use disorders. Many of these patients are easily identified in community mental health clinics or are high utilizers of ER and medical inpatient services. Thus, identification of target populations will be necessary across different clinical presentations and throughout the range of patient entry points within the ACO model.

Following screening in primary care, the physician, typically the PCP, needs to confirm any symptomology with the patient and then either administer a brief intervention, seek consultation, or provide a referral to a psychiatrist or other BHS.

Cut-off scores may identify a large number of potential patients, making it critical that the follow-up intervention by the PCP, psychiatrist, or BHS confirm the presence of the behavioral disorder, any significant comorbidity, and the need for treatment. One screen-and-refer model for identifying substance use in medical settings, known as Screening, Brief Intervention, and Referral to Treatment (SBIRT), has shown effectiveness in reducing the problem behavior [18]. In patients with moderate to high levels of risk, a brief intervention aimed at improving insight and motivation to address the problem behavior is implemented. Referrals to specialists are recommended for more extensive treatment if necessary. Identification of at-risk patients and assertive follow-up highlight some of the potential strengths of integrated care within ACOs, including universal screening for underlying behavioral health problems, early identification of at-risk populations, tailored interventions based on patient characteristics, and multidisciplinary collaboration to address threats to patient health. Many of these techniques have historically been piloted in public sector psychiatric settings.

Role of Psychiatry in Models of Collaborative, Integrative and Stepped Care

Collaborative and integrative care refers to the interface of primary and behavioral care, with the level and intensity of collaborative care efforts falling on a continuum (stepped care) within integrated care models. A model may be partially integrated, where the psychiatrist or other mental health clinician works with primary care, routinely exchanging information with on-site counseling services and offering referrals to specialty providers; to fully integrated, where behavioral health care is co-located in primary care with a shared treatment plan consisting of behavioral and medical elements, and a high degree of shared treatment responsibility between primary care and behavioral care.

In the co-location model of integrated care, the patient can access behavioral health services on the primary care site with greater convenience, less stigma, and an expectation that care will be coordinated with their primary care provider [20]. Reverse co-location models, where medical services are provided within a behavioral health clinic, aim to improve the general health of patients with severe and chronic mental health conditions or substance use disorders, who often have high levels of medical comorbidities and difficulty accessing medical care. Psychiatrists serve as the primary providers in this model. The more successful co-location models focus on collaboration between medical and behavioral health providers, given simply being located in the same facility does not ensure collaborative care. These more collaborative co-location models encourage increased access and utilization of behavioral health services, earlier identification of illnesses, better tailoring of treatment interventions, improved referral follow-up, and reductions in health care expenditures [20, 21].

Collaborative care is the model most frequently used within integrated care, with substantial empirical research supporting its effectiveness [13, 14]. The patient's point of access in the ACO's health care system influences how collaborative care efforts are implemented, as well as the role of the psychiatrist or other BHS. The point of entry may depend on the severity of the medical or behavioral health problem, diagnostic clarity, or the patient's own level of engagement. Patients may be identified as in need of a BHS and care or case manager after repeated hospitalizations for a medical and/or behavioral health condition, or through a routine behavioral health screening during a PCP visit. For patients primarily receiving care for a behavioral health condition, the treating specialist may identify the patient as in need of a PCP, to better address their co-occurring medical conditions.

Within collaborative care models, a stepped-care approach is often utilized to deliver and monitor behavioral treatments that are effective but conserve behavioral health resources. Health care teams (e.g., PCP, psychiatrist, other BHS, nurse, care or case manager) choreograph health care visits, share knowledge of the patient's care, and monitor the patient's progress using treat-to-target measures, often incorporated into electronic records and registries, to ensure patients are moved to the next level of stepped care when necessary. A team-based approach is critical to the success of these coordinated care efforts. Generally, the lowest level of stepped care will require the least amount of the BHS's time. The nature and complexity of a patient's behavioral health condition(s) will determine the extent of a psychiatrist's involvement within the treatment team, and this relationship may change depending on the course of a patient's condition and the patient's preference. With this team-based system, patients are likely to experience behavioral and mental health treatment as part of routine primary care. Cost-effectiveness, improved clinical, medical, and social functioning, and patient satisfaction have been demonstrated in these highly collaborative, integrative health care programs [4, 8, 14].

Leading the integration of behavioral health into the new ACO delivery system will require psychiatrists to learn additional skills beyond the more familiar consultation-liaison role. The psychiatrist's role will differ based on a patient's level of stepped-care and their behavioral health needs, the level of collaboration within the psychiatrist's work setting, and available resources [22]. Psychiatrists must be able to adapt and offer flexible services, from providing supervision and training to the health care team, to becoming the primary provider for a patient in need of a psychiatrist's specialty care. They will have an important role in facilitating the interdisciplinary team and in evaluating and monitoring patients' behavioral health needs and clinical symptoms, either directly or through consultation with the PCP or other providers. In the event that the PCP is providing basic behavioral health care, the psychiatrist can support behavioral health interventions by providing ongoing consultation and supervision (in person, via videoconferencing, phone, or email). For instance, when a clinical question does not require a face-to-face visit, a psychiatrist may engage in a pre-consultation exchange with the PCP and health care team to provide diagnostic clarity and psychopharmacology education, inform medication management, and assist in the utilization of brief, evidence-based behavioral interventions (e.g., addressing barriers to medication adherence, behavioral activation coaching, problem-solving therapy, motivational interviewing, etc.).

If a more comprehensive psychiatric assessment and/or intervention are required, a more direct psychiatric consult may be necessary. In this case, the psychiatrist may see a patient once or a few times for care recommendations, with the patient returning to the PCP or other provider for primary care. More complex cases involving considerable behavioral health issues may require comanagement of a patient, where the psychiatrist provides their expertise more regularly or even becomes the primary care provider when a patient is unable to access regular primary care services.

Special populations, such as patients with chronic pain or patients in need of palliative care, offer an example of cases that often present with psychiatric comorbidities or vulnerabilities. Behavioral interventions are critical to the successful management of these patients. To improve access to psychiatric expertise and best utilize resources in such cases, televideo technology and telepsychiatry may be used for patient consults, especially in instances where geographic, scheduling, or resource barriers preclude timely evaluations. Such technology also can be used to provide psychopharmacology education and brief therapeutic interventions. Psychiatric involvement in these aspects of care can apply to all patients with chronic conditions, not just those with major mental health disorders.

At a population level, the psychiatrist's expertise in biopsychosocial models of disease and mental illness, chronic illness management, and behavior modification will be essential for informing the development of more holistic approaches and new organizational structures at the interface of mental and medical health care [22]. The substantial research base on collaborative care for depression and chronic comorbid medical conditions can provide guidance in these efforts [13, 14]. Psychiatrists can lead in the identification and monitoring of behavioral health needs for defined patient populations, as well as establish guidelines for evidence-based interventions to be conducted by the PCP, BHS, or other providers. Disease registries, feedback from individual cases, and input from the health care team on best practices can be utilized by psychiatrists to develop systems of improved clinical efficiency and overall performance. For instance, psychiatrists may determine and implement safe limits on dosage and prescription refills for at-risk patients who often present with complex medication regimens and may be at risk for drug interactions or overuse of medication. For more demanding populations with significant physical and mental health needs, psychiatrists can provide important insight for developing comprehensive health management plans that focus on accurate diagnoses, functional status, and quality of life, thereby improving the management of patients with complex comorbidities.

Actualization of truly collaborative health care, which has as one of its priorities the provision of empirically-based behavioral treatment, will require that psychiatrists participate in local, state, and national health care delivery systems and forums [22]. Psychiatrists are potentially well suited for leadership positions in such health care entities, given their medical training, knowledge of systems and multidisciplinary teams, and experience with the adverse effects on their patients resulting from the many barriers to care in the current and traditional health care system. Greater involvement in systems-level administration will help facilitate the full integration of behavioral health within the ACO and strengthen the role of psychiatry in health care reform efforts.

Barriers to Coordinated Behavioral Health Care

Given the vital role of psychiatry within these collaborative care systems, improving access to psychiatrists in settings where mental health providers are sparse is of great importance. In rural areas, there is often limited access to specialty behavioral health services. This creates significant barriers to coordinated care efforts and a greater reliance on PCPs for providing behavioral health care. Utilization of technological advances (e.g., telepsychiatry, telemedicine, videoconferencing, interoperable EHRs) to provide psychiatric consultation and deliver medication management and psychotherapeutic interventions to patients in need, may prove especially beneficial in these circumstances. Psychiatrists can also utilize these tools to train and supervise PCPs and other providers to better assess and more directly serve their patients suffering from mental health conditions. Therefore, psychiatrists should become well versed in using this technology within their practice to ensure they can provide this necessary service within the ACO.

Other potential barriers to coordinated care efforts fall into the more practical and administrative realm. For one, behavioral and medical health providers have typically operated in their separate silos, and overcoming this historically autonomous stance, different styles of practice, and limited information sharing will be a challenge. Strengthening relationships among care providers through a focus on outcomes will facilitate transfer of knowledge and acceptance of challenging patients across the continuum of care. Being well informed about confidentiality laws, including the typically more restrictive laws surrounding substance use and mental health records, and establishing parameters for information sharing will help address concerns and resistance regarding communication of patient health information. Care coordination or service agreements are also needed to structure clinical relationships and determine the parameters of referral procedures. These agreements must address a range of issues, including responsibility for care and medication management, consultation and comanagement, sharing of clinical data, time frames for information flow, and management of emergency medical care. Fortunately, ACOs are potentially advantaged to provide compensation for previously non-billable services, such as physician–physician consultation, administration of brief interventions, supervision during case conferences, and telephonic and videoconferencing activities, necessary for collaborative care. Training programs must prepare psychiatrists to work within these collaborative care settings, including instruction on how to adequately serve in their educational, consultation-liaison, and supervisory roles, as well as how to manage operational, administrative, and financial challenges unique to ACOs.

Montefiore Medical center's ACO Initiatives

Montefiore Medical Center serves a low-income, minority population in the Bronx, one of the nation's poorest urban counties, with 31 % of residents living below the poverty line [23] and more than half insured through Medicaid or Medicare or meeting for dual eligibility. Many residents suffer from one or more chronic illnesses, including asthma, heart disease, obesity, diabetes, and comorbid behavioral health conditions [23, 24]. Montefiore serves a population that receives an enormous amount of health care at a very high cost. Thus, a more integrative approach, particularly among the high-cost, high-needs patients, is likely to achieve improved health outcomes, lower costs, and improve patient satisfaction, as outlined in the ACA.

To better serve this population and contend with a changing financial environment, Montefiore established an integrated provider association (IPA) and a behavioral care IPA in 1995, aligning the medical center, its physicians, and health plans. The IPA now credentials over 3,000 physicians, including Montefiore staff and community-based private practice physicians. It has contracts with several health plans covering over 225,000 individuals with government-sponsored and private health insurance. Montefiore established the Care Management Organization (CMO) and University Behavioral Associates (UBA), a behavioral health services organization, to further advance necessary care coordination efforts, enhance chronic and high-risk case management, improve provider and customer service satisfaction, and manage financial risk. These two management service organizations were established to eliminate the need for intermediary managed care organizations, entities often criticized for focusing on corporate profits rather than quality care and having limited understanding of the patient populations they serve. UBA is operated by the Department of Psychiatry, serves as the utilization and quality review agent, and allows providers more control over administration of behavioral health services.

Based on the health plan contracts, the CMO and UBA developed practices to better integrate medical and behavioral health care services. The relevance of behavioral health providers in these efforts is to help manage high-risk patients and decrease costly, avoidable hospital admissions and readmissions. Potentially preventable readmissions cost the NYS Medicaid program $814 million in 2007. Patients with a mental health or substance use disorder accounted for $665 million or almost 82 % of those expenditures. Internal analyses revealed comorbid behavioral health disorders, including depression, substance use, and psychosis, are among the strongest predictors of Montefiore readmissions and repeat ED use [25]. This is consistent with NYS data indicating that leading correlates of frequent ED utilization are psychiatric and alcohol and substance-related disorders [26].

In response to these findings, Montefiore developed a program to identify and implement appropriate discharge and follow-up procedures for repeat ED utilizers, based on their specific behavioral, clinical, and social service needs. Protocols were put in place for flagging chronic ED users on arrival, in order to create individualized discharge plans linking them to needed health care and community services. The CMO and UBA also worked together to train medical care managers to screen for depression using the PHQ-9 and facilitated management guidance to PCP's by fax and by referral to UBA case managers. Services developed within this system also aimed to improve access to outpatient care, including 24/7 linkage to behavioral health clinicians and case managers to assist with determining appropriate level of care and provide referrals. Further, the Department of Psychiatry at Montefiore collaborated with the Montefiore Medical Group (MMG) to co-locate psychiatric services in several primary care sites in need of behavioral health services. Psychiatric services were well received; however, collaborative care efforts were hampered due to an inability to readily share patient information and limited availability of other BHSs. Implementation of a behavioral EHR with an interface to the medical EHR is in process to aid in information sharing, but the high need for behavioral care still threatens to overburden the limited available behavioral health resources. This difficulty underscores the importance of collaborative care strategies rather than relying primarily on co-location.

Several Montefiore programs have successfully moved beyond simple co-location to better integrate medical and behavioral health care. At one medical clinic using the IMPACT model, patients are screened for depression and outcomes are tracked using the PHQ-9. With the use of a stepped-care approach, patients have demonstrated a substantial reduction in their depressive symptoms. Compliance with the program is also high, with 73 % of patients keeping all appointments. Collaborative care efforts within the PCMH have also been implemented using a TEAMcare type of model with care management "synergy" teams, assigned to medical and behavioral at-risk patients identified through screening with the PHQ-9 and AUDIT-C, or upon referral from PCPs. Synergy teams consist of a care manager (e.g., an RN, LCSW, or psychologist), a primary care provider, and a psychiatrist who provides "virtual" consultation and collaboration in evidence-based treatment. Psychiatrists utilize comprehensive EHRs to review cases and consult regularly with the team to address patients who are not meeting target goals, including medication adherence. They supervise or directly provide psychopharmacology education, medication management, and brief psychotherapeutic interventions when needed (e.g., behavioral activation, patient self-management coaching, motivational interviewing, problem-solving therapy, brief cognitive therapy). Internal analyses of the impact of the synergy teams found a clinically significant reduction in PHQ-9 scores among patients with coronary artery disease or diabetes, and among those with improved depressive symptoms, the vast majority demonstrated improved disease control parameters.

Care management is an essential element to Montefiore's coordinated care efforts, acting as a link between the patient and their providers, to assist in monitoring care, encourage follow-up, and support self-management activities. The CMO Care Guidance Program provides a systematic process for care management, utilizing individualized care plans and patient data reports. Detailed care plans, based on comprehensive baseline assessments, specify interventions linked to specific problems. Chronic care protocols for conditions like depression are utilized to minimize treatment variations that increase costs without improving outcomes. For patients with complex medical and mental health profiles taking multiple medications, a comprehensive pharmacy review is performed, and follow-up calls are provided to the patient, their physicians, and the pharmacy regarding findings. Educational mailings or referrals to individual or group counseling also are provided for patients recently diagnosed or with poorly controlled chronic conditions, and home visits are offered to patients unable to travel. Performance and care outcome reports are utilized to identify potential patient needs and determine impact of interventions used, across providers, maintaining provider accountability and offering incentives to improve performance. Moving forward, Montefiore intends to utilize PCMH and collaborative care models for behavioral health throughout the outpatient network, engaging off-site psychiatric services through "virtual" consultations and collaborations to maximize staff and financial resources.

As Montefiore was already engaged in integrative care efforts and possessed the ACO infrastructure and experience managing populations under financial risk, it was designated a Pioneer ACO Program by CMS in January 2012. Payment models within Pioneer ACOs do not deviate substantially from current fee-for-service payment structures, but organizations successful in achieving shared savings in the first 2 years can move away from a fee-for-service payment model into a population-based payment structure with full financial risk. The Montefiore ACO has been assigned over 23,000 Medicare beneficiaries to begin. Cost benchmarks are established each year based on historical expenditures and patient population characteristics. Quality benchmarks must be achieved and are used to prorate any financial savings.

Montefiore was also awarded a NYS Health Homes contract serving 3,000 high-cost Medicaid patients. As the behavioral care management wing for Montefiore, UBA had already had a Managed Addiction Treatment Services (MATS) contract for the highest cost substance-using Medicaid patients in the Bronx. MATS is an intensive case management program aimed at improving outpatient treatment compliance and reducing the need for repeated, costly inpatient detoxification. Over the past 4 years, MATS has consistently demonstrated a 60 % reduction in total substance use treatment expenditures. The MATS program was merged into the Health Home and now has the added aim of targeting all medical and behavioral health treatment costs and outcomes. Between contracts with health plans, PCMH sites, the Pioneer ACO, MATS, and the Health Home, Montefiore is responsible for coordinating the care of a large swath of the Bronx population, regardless of point of entry into the system. This population-based approach has clearly defined protocols for care coordination, but more importantly, it has clearly identified accountable care managers for every patient managed under outcomes-based contracts with financial risk.

To implement and enhance coordinated care efforts, Montefiore continues to develop essential ACO infrastructure components, including substantial investment in health IT. Montefiore's interoperable EHRs are linked to the Bronx Regional Health Information Organization (RHIO), facilitating continuous and time-efficient access to patient information and promoting continuity of care across the network.

The IT infrastructure also improves efficiency of care procedures, linking ambulatory and inpatient care, laboratory services, and pharmacy systems. Montefiore utilizes a web portal that enables patients to contact medical staff with questions or address treatment needs including obtaining referrals, scheduling appointments, and requesting medication refills. The CMO's telehealth program is utilized to help providers and care managers monitor patient health and functional status from their home through telemonitoring, as well as provide patients with health care education and encourage treatment compliance. Montefiore also developed an aggregated data analytics tool called Clinical Looking Glass that accesses the hospital's extensive data systems to obtain provider-specific reports on patients, performance reports, and data support for clinical quality improvement and research [27]. Together, these systems allow for the integration of clinical and claims data to guide patient stratification based on health risk and identify the need for care and case management. Data is also used to identify intervention components that account for measured outcomes with this technology. Patient information can then be used to guide protocols, tailor interventions, and improve care efficiency.

Conclusion

The health care delivery system is beginning to change with the implementation of ACOs. Meeting the triple aim to improve quality of care, provide better health for populations, and lower health care expenditures is not possible without the full integration of behavioral health care. The ACO model reconfigures incentives and introduces accountability for providers across the continuum of care, encouraging them to work collaboratively to optimize outcomes and enhance patient and provider satisfaction. These changes require a fundamental shift away from silo-based, fragmented care toward development of innovative, integrative strategies that ensure more holistic, patient-centered care. Psychiatrists have an essential role within this changing health care environment, primed to provide insight into the substantial benefits of improving the primary care and behavioral health interface.

Psychiatrists' expertise is critical to the development of guidelines for identifying and monitoring behavioral health care needs for the defined ACO patient population, as well as establishing evidence-based practice protocols for the numerous health care settings within the ACO system. Behavioral health interventions for treatment adherence and compliance can also be implemented within medical care interventions. Further development of valid and comprehensive behavioral health indicators is essential in this process to ensure behavioral health needs and intervention outcomes are adequately assessed. Psychiatrists must also be involved in the creation and dissemination of behavioral health promotion, wellness, and prevention interventions. To better meet these goals, psychiatrists should lead efforts in the design and implementation of research agendas aimed at demonstrating the value of integrating evidence-based behavioral health services.

On an individual patient level, psychiatrists are important members of the health care team, providing consultation, training, supervision, and/or direct patient care within a collaborative care model. Therefore, psychiatrists should take initiative to develop the collaborative skills necessary to successfully integrate their behavioral health services into the ACO system, including gaining a solid understanding of the roles and needs of members of the health care team and familiarity with common medical conditions affecting their patients. Given the importance of health IT (e.g., EHRs, telepsychiatry, telemedicine) within an ACO, proficiency in incorporating these techniques into one's practice should also be a training focus. Psychiatrists must actively engage with these issues to ensure that health IT processes and content fully support behavioral health integration at all levels of the health care delivery system. Finally, understanding how ACO payment structures influence collaborative practice is necessary for successful integration of behavioral health and medical care. Familiarity and involvement in administration, IT development, quality control, and financing of health care and public health activities will secure roles for psychiatrists in crucial decision-making arenas within emerging ACOs, allowing them to promote full behavioral health integration to achieve the triple aim.

Given the upfront investment in ACO infrastructure, provider training, and care and case management services, as well as the likely decrease in volume of inpatient services provided, a shift in thinking away from short-term savings to future revenues is necessary within an ACO system. Several years will likely be needed to demonstrate improvement in care quality and cost reductions. During this transition period, it is important for psychiatrists to continue to bring behavioral health care to the forefront and educate other health care providers on the necessity of collaborative care efforts in meeting the aims of quality improvement, accountable care, and cost reduction long-term.

References

1. Druss BG, Walker ER. Mental disorders and medical comorbidity. Research Synthesis Report No 21. The Robert Wood Johnson Foundation. 2011. http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf69438. Accessed 27 Feb 2013.
2. Garfield RL, Zuvekas SH, Lave JR, Donohue JM. The impact of national health care reform on adults with severe mental disorders. Am J Psychiatry. 2011;168:486–94.
3. Centers for Medicare and Medicaid Services. Physician Group Practice Demonstration succeeds in improving quality and reducing costs. Press release of the Centers for Medicare and Medicaid Services, 2011 Aug 8. https://www.cms.gov/apps/media/press/release.asp?Counter=4047. Accessed 15 Feb 2013.
4. Unützer J, Lin EHB, Arean PA, Hegel MT, Tang L, Belin TR, et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. JAMA. 2002;288:2836–45.
5. Unützer J, Katon WJ, Fan MJ, Schoenbaum MC, Lin EHB, Della Penna RD, et al. Long term cost effects of collaborative care for late-life depression. Am J Manag Care. 2008;14:95–100.

6. Katon W, Robinson P, Von Korff M, Lin E, Bush T, Ludman E, et al. A multifaceted intervention to improve treatment of depression in primary care. Arch Gen Psychiatry. 1996;53:924–32.
7. Korsen N, Pietruszewski P. Translating evidence to practice: two stories from the field. J Clin Psychol Med Settings. 2009;16:47–57.
8. Katon W, Russo J, Lin EHB, Schmittdiel J, Ciechanowski P, Ludman E, et al. Cost-effectiveness of a multicondition collaborative care intervention: a randomized control trial. Arch Gen Psychiatry. 2012;69:506–14.
9. The National Committee for Quality Assurance. Standards for Patient-Centered Medical Home Care (PCMH). 2011. http://www.ncqa.org/Programs/Recognition/PatientCenteredMedicalHomePCMH.aspx. Accessed 15 Feb 2013.
10. American Hospital Association Committee on Research. Accountable care organizations: AHA research synthesis report. American Hospital Association. 2010. www.aha.org/research/cor/content/ACO-Synthesis-Report.pdf. Accessed 22 Feb 2013.
11. Pincus HA, Spaeth-Rublee B, Watkins KE. The case for measuring quality in mental health and substance abuse care. Health Aff. 2011;30:730–6.
12. Kilbourne AM, Fullerton C, Dausey D, Pincus HA, Hermann RC. A framework for measuring quality and promoting accountability across silos: the case of mental disorders and co-occurring conditions. Qual Saf Health Care. 2010;19:113–6.
13. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. Arch Intern Med. 2006;166:2314–21.
14. Thota AB, Anderson CW, Clinton W, Gelenberg AJ, Hennessy KD, Duffy FF, et al. Collaborative care to improve the management of depressive disorders: a community guide systematic review and meta-analysis. Am J Prev Med. 2012;42:525–38.
15. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med. 2001;16:606–13.
16. Duffy FF, Chung H, Trivedi M, Rae DS, Regier DA, Katzelnick DJ. Systematic use of patient-rated depression severity monitoring: is it helpful and feasible in clinical psychiatry? Psychiatr Serv. 2008;59:1148–54.
17. Katzelnick DJ, Duffy FF, Chung H, Regier DA, Rae DS, Trivedi MH. Depression outcomes in psychiatric clinical practice: using a self-rated measure of depression severity. Psychiatr Serv. 2011;62:929–35.
18. Agerwala SM, McCance-Katz EF. Integrating screening, brief intervention, and referral to treatment (SBIRT) into clinical practice settings: a brief review. J Psychoactive Drugs. 2012;44:307–17.
19. Bradley KA, DeBenedetti AF, Volk RJ, Williams EC, Frank D, Kivlahan DR. AUDIT-C as a brief screen for alcohol misuse in primary care. Alcohol Clin Exp Res. 2007;31:1208–17.
20. Collins C, Hewson DL, Munger R, Wade T. Evolving models of behavioral health integration in primary care. Milbank Memorial Fund. 2010. http://www.milbank.org/reports/10430EvolvingCare/10430EvolvingCare.html#PracticeModel3. Accessed 22 Feb 2013.
21. Koyanagi C. Get it together. How to integrate physical and mental health care for people with serious mental disorders: a report by the Bazelon Center for Mental Health Law. 2004. http://www.bazelon.org/LinkClick.aspx?fileticket=5tCrFDlgyGc%3D&tabid=104. Accessed 15 Feb 2013.
22. Pollack DA, Raney L, Vanderlip ER. Integrated care and psychiatrists. In: McQuistion HL, Sowers WE, Ranz JM, Feldman JM, editors. Handbook of community psychiatry. New York: Springer Science+Business Media; 2012. p. 163–75.
23. Montefiore Medical Center Community Service Plan 2010–2013. http://www.montefiore.org/documents/communityservices/CSP2010-2013.pdf. Accessed 15 Feb 2013.
24. Olson EC, Van Wye G, Kerker B, Thorpe L, Frieden TR. Take care southeast Bronx. NYC Community Health Profiles. 2nd ed. 2006;4:1–16. http://www.nyc.gov/html/doh/downloads/pdf/data/2006chp-104.pdf. Accessed 27 Feb 2013.

25. Chung H. The role of behavioral care in PCMH and ACO's. Annual meeting of PCMH Innovations; 2013 Feb 15; Albany, NY.
26. Raven M, Gould DA. Time and again: frequent users of emergency department services in New York City. United Hospital Fund. 2012. http://www.uhfnyc.org/publications/880847. Accessed 15 Feb 2013.
27. Bellin E, Fletcher DD, Geberer N, Islam S, Srivastava N. Democratizing information creation from health care data for quality improvement, research, and education—the Montefiore Medical Center experience. Acad Med. 2010;85:1362–8.

Chapter 6
Working with Integrated Case Managers to Improve Health Outcomes and Reduce High Cost in Patients with Health Complexity

Cheri Lattimer

Abstract Over the last four decades, the US health care system has changed dramatically. Consequently, medically complex and high-cost patients and their doctors are at significantly greater risk for miscommunication regarding treatment and medication regimes. Knowing how to identify, assess, and implement actions that address health complexity can offer significant support to patients, families, and other caregivers facing challenges presented by a complicated health care system. Psychiatrists can be key contributors to total health outcome improvement and cost reduction in patients with health complexity, but can do this best if they learn to coordinate their clinical skills with the assist functions of integrated case managers. This chapter provides an overview of a collaborative interdisciplinary model of care in which psychiatrists with other treating clinicians utilize the support services of integrated nurse and/or social worker case managers trained to help patients with biopsychosocial and health system barriers to improvement, i.e., those with health complexity. Physicians working with trained case managers can improve care coordination, transitions of care, patient safety, health outcomes, and cost.

Ms. Lattimer is the Executive Director of The Case Management Society of America (CMSA), a 12,000-member organization of primarily nurses and social workers that supports the development, implementation, growth, and improvement of value-added case management programs and professionals throughout the health system.

C. Lattimer, R.N., B.S.N. (✉)
CMSA, 6301 Ranch Drive, Little Rock, AR 72223, USA
e-mail: clattimer@cm-innovators.com

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_6,

The Doctor–Patient Relationship

In the early 1960s physicians provided and supported patients in every area of the care process. In fact, the physician was the mainstay for much of the care coordination and transition support necessary to meet their patients', families', and other caregivers' needs. Physicians addressed not only health care risks and health status but also served as the coordination hub for information. They provided advocacy for patients dealing with an acute care episode, chronic care management, or end-of-life decisions. Medical practitioners utilized nursing staff within their individual or clinic practice in a way that offered support to patients and family. The collaboration between the physician, the nurse and the patient enhanced communication and provided patients with education about their illness and the intended course of treatment. It handled coordination of referrals and support for the development of self-care management skills. The doctor would follow their patient as an outpatient and during inpatient hospitalization, assist with specialty referral, coordinate treatment planning, activate health care resources, and might even make house calls.

Over the last four decades, much has changed. The relationship that most patients came to depend on with their physician has been fractured, fragmented, and siloed. Both the physician and the patient are dissatisfied with the new process and feel that their relationship has been severed. Today's providers are tasked with a significant number of business and administrative activities, including finding in-network providers for referrals, following rigorous coding and billing procedures, completing extensive encounter documentation, using in-formulary drugs, etc., that detract from quality patient time, including that previously used in performing diagnostic assessments and discussing treatment interventions and options. More medically complex patients, such as those with chronic or catastrophic conditions or multi-morbid medical and behavioral health (BH) needs, suffer more extensively from this fragmentation due to risk of miscommunication about assessment results and treatment plans. Importantly, an increasing number of patients fall into the chronic and complex category in today's practice of medicine.

In the twenty-first century, health care reform has brought with it a focus on the Triple Aim, i.e., better care, better health, and lower cost [1]. As a part of this initiative, providers are being asked to streamline the patient encounter and look for new and innovative ways to become more efficient. Yet for patients with chronic multi-morbid illness or high-cost complicated treatment needs, streamlining may actually contribute to greater difficulty in managing health, increase the use of health care resources, and result in poor adherence to treatment recommendations. Among patients with multiple clinical diseases and treatment challenges, those with cognitive impairment; mental health and substance abuse disorders, hereafter referred to as BH conditions; functional impairment and disability; health frailty; low income; lack of insurance; homelessness; and language barriers are at even higher risk. These patients often become complicated, treatment-resistant, and costly to the health care system in large part because they require more time and assistance but don't get it.

Despite health system changes and expectations, providers try to ensure that patients understand their medical conditions, their treatment options, and how to navigate the complicated barriers within the health care delivery system. Yet with time constraints, ever expanding patient loads, and reduction of primary care provider payments, the amount of time for connecting and establishing a strong physician–patient relationship and support process continues to dwindle. Patients, their families, and other caregivers are encouraged to take a more active role in the health care of the patient but with a lack of provider support and limited knowledge base and resources to navigate the complicated health care system, many patients do not know who to ask for help let alone what to ask.

Psychiatrists are among a subset of clinicians who frequently witness the results of the changes described above on patient outcomes since they are often asked to treat BH contributors and consequences of partially treated chronic medical illness in disheartened and frustrated patients. Unfortunately, many psychiatrists practice in separate settings from their medical/surgical colleagues, use independent and non-communicating medical records, and are seemingly tasked with addressing BH issues in isolation of the many other interacting medical health problems. These all add to even worse care fragmentation for complex patients already bouncing from doctor to doctor. Further, psychiatrists have limited knowledge about how to best utilize the assistance and support that can be derived by working with a new and growing group of health care specialists, i.e., case managers.

This chapter will describe the role of integrated case managers as they assist with the health care needs of complex patients trying to navigate a dysfunctional system. It will share thoughts on the case manager-primary care and specialist physician collaborative interaction, with special attention to psychiatrists, and how it can bring value by helping to improve total health outcomes. Finally, it will define a multi-domain approach to complexity assessment and assistance that includes coordination of services for medical and BH conditions as a core part of its care support process. In the hands of trained integrated case managers, the complexity assessment disentangles and connects barriers to improvement with the development of a systematic goal and action-based care plan that supports clinician treatment recommendations. Integrated case managers use relationship-based work processes that are applicable in both primary medical and primary psychiatric patients with comorbid cross-disciplinary illness.

Defining Health Complexity

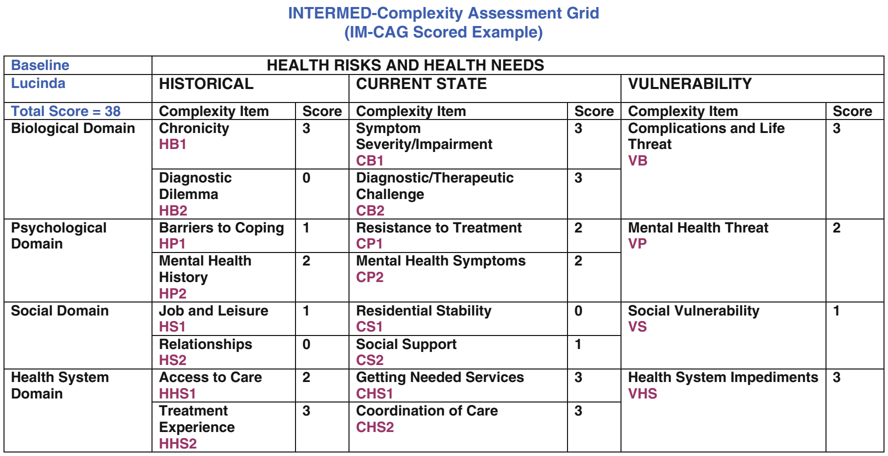
Psychological and biological factors can interact and contribute to complex patient presentations and outcomes. For instance, a patient might have an easily treatable but potentially dangerous medical condition, such as pneumonia (biological factor). However, if the patient is home bound with agoraphobia (psychological factor), preventing her/him from getting needed antibiotics, then a curable illness becomes difficult to treat due to an unaddressed psychiatric illness impacting medical intervention. Interaction of biological and psychological systems, a simple form of health complexity, influences whether the patient remains healthy, suffers impairment, or dies.

Nonclinical factors, such as the patient's social situation or experience within the health system can also contribute to treatment resistance and persistent poor health. These are less often assessed during standard doctor-based diagnostic evaluations. Even when assessed, medical and BH clinicians infrequently consider nonclinical barriers to improvement part of their accountable. For instance, if a patient lives on the street, has no friends or relatives to call on for support, is uninsured, does not have access to needed providers, does not have the ability to communicate with health care providers due to mental incapacity, or has had past negative interactions with hospitals or physicians, he/she is at greater risk for receiving no care, poor care, or late care. Without assistance in addressing each of these, such patients will experience worse clinical and functional outcomes than those without and health related costs would almost certainly be higher. Nonclinical problems add an additional dimension to the concept of complexity but are generally not perceived as the responsibility of the clinician to address. Thus, they consistently contribute to persistent poor outcomes.

Most providers acknowledge that health complexity exists but generally define it in terms of medical or psychiatric illness *severity* and/or *acuity*. Thus, targeted actions for patients in traditional complexity-based care focus on correct diagnosis and treatment, usually in either the medical or BH discipline but generally not both. While illness severity and acuity are certainly components of complexity and potentially helpful to address when nonclinical barriers to improvement are absent, when used as the only target of intervention and assistance, they frequently miss important contributors to treatment resistance due to their narrow biomedical or psychological focus.

A European research group took our understanding of health complexity to a new level when it developed the INTERMED complexity measurement system [2]. Using the INTERMED approach, it became possible to unravel and quantify multidomain biopsychosocial and health system clinical and nonclinical contributors to poor health outcomes in complex patients and to build care plans based on identified actionable assessment findings. In this model, accountability for all patient issues that lead to poor outcomes returns to the purview of health practitioners. Further, since the INTERMED method primarily targets high-need, high-cost patients, it also has the potential to bring both clinical and economic value.

For instance, a patient with diabetes, complicated by severe peripheral neuropathy and depression, must deal with diabetes control, pain, and depression (case complexity characteristics), all of which can negatively influence adherence to primary diabetes management and clinical outcome. Treatment of the depressed diabetic patient with illness complications, however, also necessitates communication among medical and BH service providers, attendance at multiple appointments, and purchase and coordination of potentially interacting medications (care complexity characteristics). When non-disease-related patient needs are not met, treatment



INTERMED-Complexity Assessment Grid
(IM-CAG Scored Example)

Baseline	HEALTH RISKS AND HEALTH NEEDS					
Lucinda	HISTORICAL		CURRENT STATE		VULNERABILITY	
Total Score = 38	Complexity Item	Score	Complexity Item	Score	Complexity Item	Score
Biological Domain	Chronicity HB1	3	Symptom Severity/Impairment CB1	3	Complications and Life Threat VB	3
	Diagnostic Dilemma HB2	0	Diagnostic/Therapeutic Challenge CB2	3		
Psychological Domain	Barriers to Coping HP1	1	Resistance to Treatment CP1	2	Mental Health Threat VP	2
	Mental Health History HP2	2	Mental Health Symptoms CP2	2		
Social Domain	Job and Leisure HS1	1	Residential Stability CS1	0	Social Vulnerability VS	1
	Relationships HS2	0	Social Support CS2	1		
Health System Domain	Access to Care HHS1	2	Getting Needed Services CHS1	3	Health System Impediments VHS	3
	Treatment Experience HHS2	3	Coordination of Care CHS2	3		

Fig. 6.1 Example of a scored INTERMED complexity assessment grid. Reprinted with permission from Kathol RG, Perez R, Cohen J. The Integrated Case Management Manual: Assisting Complex Patients Regain Physical and Mental Health. 1st ed. New York City: Springer Publishing; 2010

follow through for the underlying illness itself becomes spotty while the cost health service use escalates and health issues persist.

According to the INTERMED approach, health complexity includes the two components mentioned above, i.e., case and care complexity, and requires a shift from targeted biomedical care to individualized and integrated care in order for patient outcomes to improve [3]. The differences between case and care complexity are further clarified in The Integrated Case Management textbook, which states:

> Patient-based case complexity is manifest in many clinical situations, such as when patients experience adverse medication events or drug interactions or when symptoms overlap from multi-morbid illness (e.g. chronic lung disease and anxiety or hypothyroidism and depression). Health system-based, care complexity is manifest by the way that health services are supported by the system, delivered by practitioners and available to the patient. For instance, patients experience care complexity when delays in care occur with long wait lists, when translation services are not available or when clinicians providing care do not talk with each other and coordinate services [4].

If only case or care components of health complexity are addressed, holistic patient care is not delivered. As a result, patient outcomes suffer if improvement occurs at all. This is particularly problematic for those with higher levels of identified complexity.

The interaction of health risk factors in the biological, psychological, social, and health system domains has been studied over the past 20 years by researchers in Europe as means of uncovering case and care complexity and disentangling barriers to improvement [2]. As a result of this research, the INTERMED complexity assessment grid has been standardized and is now adapted to the US health system in the form of the Integrated Case Management-Complexity Assessment Grid (ICM-CAG) (Fig. 6.1). While clinicians can utilize the ICM-CAG on their own, it is better to allow a trained interdisciplinary case manager who works with the patient and the patient's primary and specialty care clinicians, including psychiatrists, to complete it for several reasons. First, training in its use is necessary to assure valid and consistent scoring. Second, it enables the case manager, who will become an important link between the patient or the patient's caregivers, and the providers contributing to the patient's care. Third, the approach to administration, described below, allows the case manager to initiate a relationship with the patient, a component considered core to the patient's engagement in changing to more healthy behaviors.

This allows clinicians to focus on biomedical and psychiatric factors related to the patient's progress toward health stabilization and allows the case manager to understand and support clinical care while assisting with nonclinical barriers. Clinicians must still understand the basics of the ICM-CAG and the integrated case management process in order to effectively coordinate their intervention capabilities with the assist functions provided by case managers. Further, practitioners are the final arbiters of care, thus they will be the ones to endorse the role of case managers in assisting their complex patients try new, hopefully successful, ways to improve their health.

Scoring the ICM-CAG is accomplished via a scripted dialogue learned during training, using open-ended questions, in patients proactively targeted for health complexity. Such patients may be identified based on their provider's prior experiences in caring for the patient, through patient registries, or from claims databases. The patient-case manager dialogue accomplishes three important functions. First, it allows case managers to systematically perform comprehensive cross-disciplinary medical and BH assessments designed to uncover case and care complexity. Second, it allows barriers to improvement (health risk factors) to be identified and "anchored" according to the level and immediacy of need in the adult 20-item color-coded ICM-CAG and 25-item pediatric complexity grid. Third, it initiates the development of a relationship between the case manager and the patient as a care plan is built and assistance commences. This relationship serves to support a longitudinal helping activity in which the patient ultimately will take ownership and participate in overcoming identified barriers.

The ICM-CAG approach to complexity assessment and intervention uses clinimetric/communimetric rather than psychometric methodology. Each anchored score in the adult and pediatric ICM-CAG informs specific actions to be taken on behalf of or by the patient in order to overcome identified barriers to improvement. The assessment does not just provide a score representing level of complexity, though such a score is also generated, but rather provides a detailed roadmap to help patients stabilize their health. Items on the grid scored as "3" require immediate attention; scores of "2" indicate need for assistance, though not immediately; scores of "1" may need attention in the future, thus remain on the radar; whereas those scored "0" indicate that no assistance in the content area is necessary. Thus, the ICM-CAG guides the development of a care plan in which readily identifiable goals are connected to actions based on item-by-item grid scores.

The assessment is clinometric because it connects identified barriers with direct health-related assistance. Some may be related to disease intervention from doctors, nurse practitioners, etc. Some may come in the form of assistance with seemingly peripheral health related issues, such as finding a primary care physician, finding financial resources so that prescribed medication can be purchased, or assuring that transportation is available to get to appointments. The ICM-CAG is also communimetric because patients and clinicians, with minor education about the ICM-CAG, can easily understand the color-coded complexity grid. It, therefore, can serve as a communication tool between the case manager and patient, the case manager and the patient's clinicians, and the clinician and patient. It is an ideal way to assure that all involved in the patient's care, including the patient, are on the same page as goals are developed and collaborative corrective action is taken.

The ICM-CAG should be of particular interest to psychiatrists since it is as useable for seriously mentally ill (SMI) psychiatric patients with or without medical comorbidity as it is for medical patients with or without psychiatric comorbidity. Not only will psychiatrists be able to effectively work with case managers providing assistance in the "medical" sector, they can also set up their integrated case management programs for SMI patients and work with integrated case managers in the BH sector. Thus, for the 50–75 % of SMI patients with concurrent chronic, life shortening, medical conditions participating in the Assertive Community Treatment (ACT) psychiatric case management process, psychiatric and non-psychiatric physicians will understand and be able to effectively interface with integrated case managers without additional training.

Traditional Case Management to Integrated Case Management

Before discussing case management per se, it is important to put the readership on common ground regarding terminology. For purposes of clarity in this chapter, the term "case manager" will refer to health professionals, usually nurses and social workers, who assist with the timely coordination of quality services for *multimorbid patients with health complexity*. They address a patient's specific longitudinal needs and promote positive outcomes in a cost-effective manner. This shortened description is consistent with the full definition found in the Case Management Standards of Practice [5]. Others use similar terms in lieu of "case manager" for individuals who perform identical activities, such as care coordinator, health coach, care manager, disease manager, etc. We prefer to use the term "case manager" since there is a literature suggesting that this is a group that targets more challenging multimorbid patients regardless of the primary medical and/or BH condition and uses a longitudinal multi-domain approach when providing assistance [4].

Case managers do not "diagnose" or "treat." Rather, they assist patients overcome clinical and nonclinical barriers to improvement of which fostering adherence to treating practitioner, i.e., doctors, nurse practitioners, physician assistants, etc., recommendations is a part. Thus, case managers augment primary and specialty clinician interventions by supporting patient follow through and documenting that desired outcomes are occurring. In addition to this clinical component, however, they also assist patients with nonclinical barriers, such as getting transportation to appointments, educating patients about their illnesses, identifying supportive community resources, and the like. In many ways, by default, they take on the activities described at the beginning of the chapter that used to be relegated to physicians.

"Case managers are qualified health care professionals who are licensed and/or have certification in a health or human services discipline that allows the professional to conduct an assessment independently as permitted within the scope of practice of their discipline" [5]. In addition, they possess the following characteristics:

- Knowledge and experience with care coordination
- A focus on patient-centered processes
- Ability to assess, plan, and facilitate assistance across the care continuum
- Knowledge of population-based care management strategies
- Communication skills needed to work with patients, family, care team, and others

Thus, they are recognized and vital participants on the care coordination team that targets complicated high cost patients for assistance. They empower patients and family to understand and access quality, efficient care. Case managers can be found in every area of health care services, facilitating communication and coordination among members of health care teams, and most importantly, involving the patient in the decision-making process to help minimize fragmentation in services. The traditional case manager offers key support to physicians, patients, their families, and other caregivers regardless of setting by providing the roles, functions, and activities outlined in Table 6.1.

It is through the application of these roles, functions, and activities that traditional case managers address the concerns of patients with complicated health needs. When health care interventions are appropriately implemented and coordinated collaboratively among the physicians, the traditional case manager and other members of the health care team, patients and caregivers benefit from increased adherence to medication and treatment planning. Figure 6.2 demonstrates the care continuum within the context of case management skills.

Integrated case management expands the traditional definition of case management (Table 6.2) by connecting and providing assistance for disentangled barriers to improvement in the four complexity-based health risk domains described above (see Fig. 6.1), i.e., it uses a complexity rather than a disease platform. This continues to allow case managers to assist with clinical barriers found in the first two domains by assisting with physical and BH needs. Equal weight, however, is given to medical and BH conditions since the interaction of the two can be damaging to health improvement and cost containment. Thus, integrated case managers, who have completed integrated case management training, are capable of assisting with reversal of medical and BH barriers without having to hand the patient to another case manager.

Table 6.1 Traditional case management roles, functions, and activities[a]

1. Conducts a comprehensive assessment of the patient’s health and psychosocial needs, including health literacy status and deficits, and develops a case management plan collaboratively with patients and families/caregivers.
2. Plans with patient, family/caregiver, the primary care physician/provider, other health care providers, the payer and the community to maximize health care responses, quality and cost-effective outcomes.
3. Facilitates communication and coordination among members of the heath care team, involving the patient in the decision-making process in order to minimize fragmentation in the services.
4. Educates the patient, the family/caregiver and members of the health care delivery team about treatment options, community resources, insurance benefits, psychosocial concerns, case management, etc., so that timely and informed decisions can be made.
5. Empowers the patient to problem-solve by exploring options of care to maximize desired outcomes.
6. Encourages the appropriate use of health care services to improve quality of care and to maintain cost effectiveness on a case-by-case basis.
7. Assists the patient in the safe transitioning of care to the next most appropriate level.
8. Promotes client self-advocacy and self-determination.
9. Advocates for delivery of services so that they facilitate positive outcomes for the patient, the health care team, and the payer but always with priority given to the needs of the patient.

[a] Reprinted with permission, the Case Management Society of America, 6301 Ranch Drive, Little Rock, AR 72223, www.cmsa.org

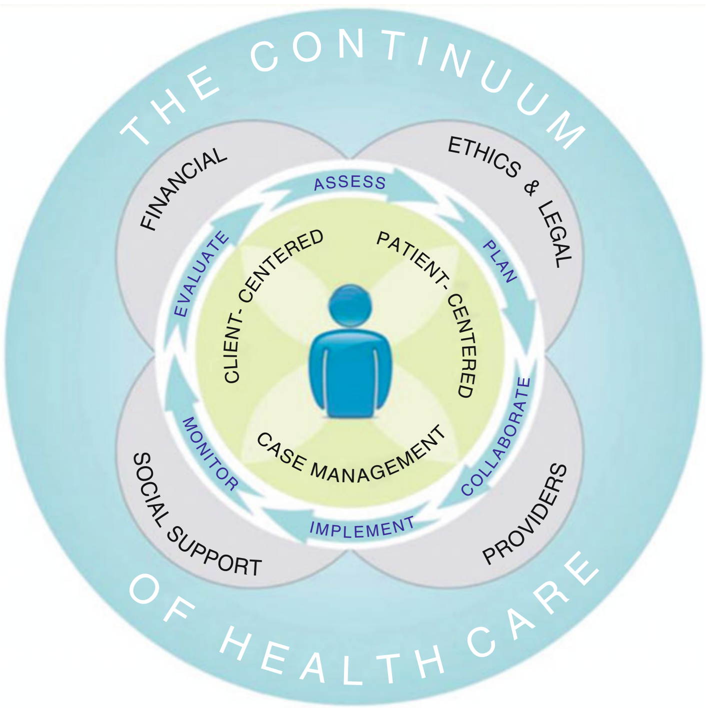


Fig. 6.2 Graphical depiction of patient-centered case management. Reprinted with permission, the Case Management Society of America, 6301 Ranch Drive, Little Rock, AR 72223, www.cmsa.org

Table 6.2 Summary of differences between traditional and integrated case management[a]

Traditional case management	Integrated case management
• Illness-focused	• Complexity-focused
• Problem-based	• Relationship-based
• Diverse triggering methods	• Complexity-based triggering
• Case managers trained in general medical case management	• Case managers trained in multi-domain assessments
• Pediatric case management based on child/youth manager experience	• Systematic pediatric complexity-based case management capability
• Illness-targeted care plans drive patient goals and actions	• Care plan development linked to multi-domain patient assessments
• Medical and mental health support requires manager handoffs	• Multi-domain health management without handoffs
• Process orientation and measurement—cases touched, calls made	• Outcome orientation and measurement—clinical, functional, fiscal, satisfaction
• Manager case load dictated by process targets	• Manager case load dictated by outcome expectations

[a]Reprinted with permission, the Case Management Society of America, 6301 Ranch Drive, Little Rock, AR 72223, www.cmsa.org

In fact, using integrated case management techniques, it is possible for case managers to work with primary medical patients, such as those experiencing multiple complications from diabetes, including depression, as well as primarily psychiatric patients, such as those with schizophrenia complicated by chronic pulmonary disease. Cross-disciplinary care support is a core component of an integrated case manager's clinical expertise.

While part of the comprehensive care process in traditional case management addresses nonclinical barriers to improvement, they are generally given less weight than clinical barriers. This is especially true for needs outside the discipline from which a case manager has had the majority of her/his clinical experience, i.e., medical or BH. In integrated case management, nonclinical barriers are recognized as being as or more destructive than clinical barriers. Thus, nonclinical barriers receive assessment and assistance attention equivalent to clinical barriers.

Nonclinical barriers can be found in the psychological, social, and health system domains of the ICM-CAG. For instance, in the psychological domain, deficient patient coping mechanisms may influence their ability to participate in their treatment program. In the social domain, caring for a dependent family member may prevent a patient from showing up for appointments, particularly when they also have a limited social support system. In the health system domain, non-communication among the patient's providers may lead to duplicate testing or treatment and no insurance can lead poor provider access. Each of these is indirectly related to the actual diagnosis and treatment of the patient, i.e., nonclinical, but each can be the primary reason that a patient is treatment resistant or persistently ill.

Since integrated case management is designed to assist patients in reconnecting siloed medical and mental health care and uses the ICM-CAG complexity platform to systematically connect barriers to improvement with corrective actions designed to achieve collaborative goals, advanced training for case management professionals wishing to use this enhanced approach to case management is necessary. Nurses, social workers, and other licensed professionals, coming from both physical and BH backgrounds can learn integrated case management techniques by participating in formal training, available through the Case Management Society of America (CMSA) [6]. The training program uses The Integrated Case Management Manual: Assisting Complex Patients Regain Physical and Mental Health [4] as its textbook and is composed of eight 1-h recorded sessions and a day and a half of face-to-face training.

Case managers completing training will take a test certifying that they have achieved the necessary base knowledge about integrated case management from reading the Manual and participating in the training components. They will also have practiced the application of integrated case management assessment dialogues, anchoring ICM-CAG scores based on standardized mock patient interviews, and reconciled scores with other trainees and instructors so that manager-to-manager inter-rater reliability is present. Standardized scores are then connected to the development of a care plan for the mock patients and the initiation of formal case management activities. At the completion of training, case managers should be able to systematically assess and assist patients with clinical and nonclinical medical and BH barriers to improvement without cross-disciplinary referral. Since integrated case managers coming from medical or BH backgrounds do not "treat" patients, but rather assist patients get needed treatment, they are able to perform interdisciplinary assistance without violating licensure scope of practice.

"The integrated case management process includes: a relationship and communication between complex patients and the case manager, a longitudinal outcomes orientation, the systematic assessment of complexity, the use of complexity item scores and their interactions to guide health improvements action, and case manager accountability for health outcomes in all risk and need domains" [4]. The program and the comprehensive assessment break down many of the silo's in care coordination. As a result, the case manager and physician are able to focus on the total person. Integrated case management offers a holistic and patient-centered approach to address health complexity. Through the partnership of the case manager, their physicians, and other stakeholders in the patient's health, the team identifies care options that not only meet patients' needs but also promote optimal patient outcomes.

Patient cognition, emotions, and behaviors affect their ability to follow through on medical treatment recommendations and to achieve total health outcomes. When they are treated out of the context of other medical conditions, it makes treatment of the BH disorders more difficult but also leads to worse outcomes for vulnerable patients with illness interactions. This is where case management can bring value to patients and clinicians, including psychiatrists involved in their care, by assisting with both clinical and nonclinical barriers to improvement in a complicated multifaceted health system.

Understanding Case Management Support Programs and the Case Manager

In addition to supporting a comprehensive approach to case management through its integrated case management program, CMSA, a recognized leader in developing tools and resources for case management, has developed support programs to address subissues included in the concept of complexity, such as patient non-adherence. In the ICM-CAG, "non-adherence" would be directly addressed under the heading of Resistance to Treatment—CP1 (see Fig. 6.1). In 2005 CMSA began work on the Case Management Adherence Guide, which became known as CMAG. CMSA released its third edition of the guide in 2012, which now identifies health complexity related to medication and treatment adherence [7]. CMAG 2012 offers a conceptual model of factors influencing patient behavior, adherence, and health complexity. The model defines four patient-related external domains: condition, treatment, psychosocial, and health system that impact patient adherence to a therapeutic recommendation (Fig. 6.3). Case managers are encouraged to envision the model as an interlocking relationship of assessment findings leading to assistance activities for patients.

Factors associated with the patient-related domains include the patient's (1) knowledge and beliefs; (2) motivation to manage; (3) confidence in management; (4) expected outcomes; and (5) understanding of the consequences. The relationships of each of the circles in Fig. 6.4 are representative of the complexity associated with medication adherence [7]. Case managers who understand the issues of health complexity can assist physicians in addressing the health needs where complexity occurs. Case managers who are able to apply the more in-depth

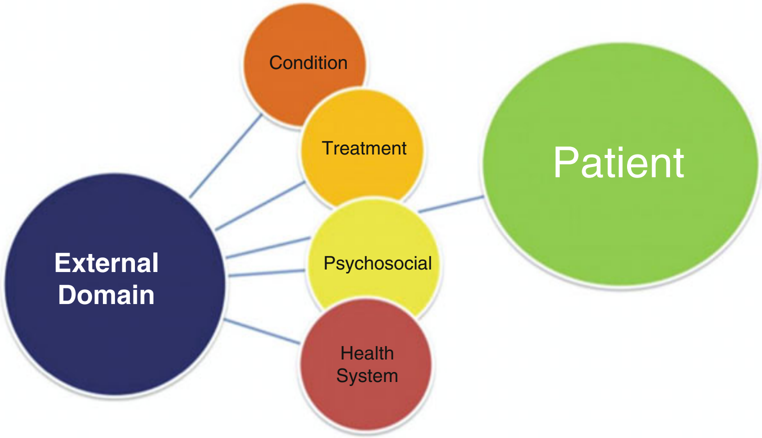


Fig. 6.3 CMAG external domains impacting patient adherence. Reprinted with permission, the Case Management Society of America, 6301 Ranch Drive, Little Rock, AR 72223, www.cmsa.org

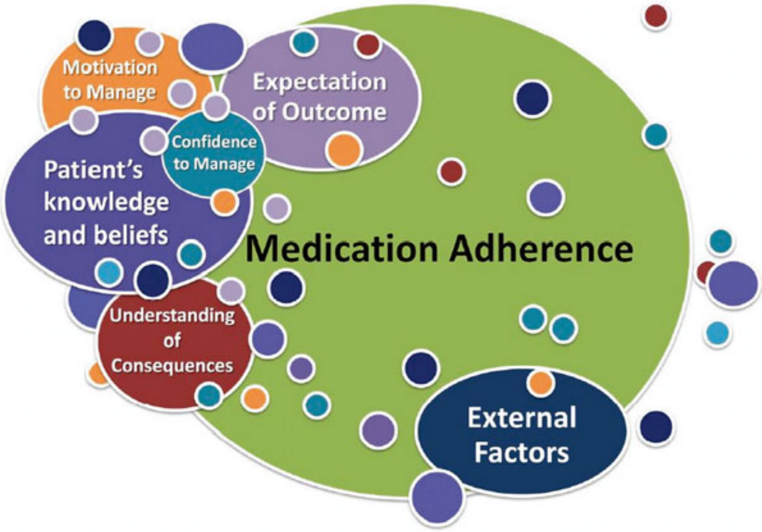


Fig. 6.4 Factors associated with the patient-related domain. Reprinted with permission, the Case Management Society of America, 6301 Ranch Drive, Little Rock, AR 72223, www.cmsa.org

CMAG concepts to medically and behaviorally complex and high cost patients as a part of integrated case management have the potential for greater improvement of patient outcomes related to treatment adherence.

In addition to the CMAG program, CMSA also supports programs that further elaborate on case management assistance to patients during transitions of care. "The term 'care transitions' refers to the movement patients make between health care practitioners and settings as their condition and care needs change during the course of a chronic or acute illness. For example, in the course of an acute exacerbation of an illness, a patient might receive care from a PCP or specialist in an outpatient setting, then transition to a hospital physician and nursing team during an inpatient admission before moving on to yet another care team at a skilled nursing facility. Finally, the patient might return home, where he or she would receive care from a visiting nurse. Each of these shifts from care providers and settings is defined as a care transition" [8]. In the ICM-CAG, "care transitions" would be directly addressed under the heading of Coordination of Care—CHS2 (see Fig. 6.1).

Like treatment adherence, care transitions are associated with documented poor outcomes. For instance, in complex or high cost patients, these transitions can be multiplied several times over during the course of an acute episode or long-term management of a chronic condition. Poor transitions of care often contribute to hospital readmissions and medical errors. A recent report by Jencks et al. [9] shows that on average 19 % of Medicare fee-for-service patients discharged from the hospital were readmitted within 30 days. Thirty-four percent were readmitted within 90 days.

In 50.2 % of those rehospitalized within 30 days, no bill for a physician office visit could be documented, suggesting that the inpatient to outpatient handoff failed. Pertinent to CMSA's cross-disciplinary approach of integrated case management, 30-day readmission rates for those with mental disorders are nearly double those without while for those with both mental and substance use disorders readmissions nearly triple [10]. Thus, CMSA provides more information and support in this area for case managers to augment its integrated case management program.

Beginning in 2012 the Centers for Medicare and Medicaid Services (CMS) began accepting newly created transitional care codes (99495 and 99496) to reimburse for the management of patients who have transitioned from the hospital. These codes are important because they acknowledge the importance of care coordination and transitions of care at the point of the patient leaving one provider/facility and moving to another. These codes may be utilized by physicians, physician assistants, and advanced practice nurses. They will cover the services of the case manager under the direction of a physician and they cover communication with the patient and family/caregiver either by direct contact, telephonic or electronic.

Integrated Case Management as a Part of Needed Changes in Psychiatric Practice

In this period of health care reform, it is clear that providers are charged with improving care coordination and transitions of care beyond their individual practice setting. This means that there must be a change in the way that care is delivered and coordinated. For psychiatrists, such change comes at two levels. First, they must transition so that their BH service delivery is as accessible in the primary and specialty medical settings as it is in the BH setting. Data now demonstrates that the majority of patients with BH conditions, including those with serious mental illness, are seen and treated in the non-psychiatric sector. Second, since there are so few psychiatrists to fill a vast clinical need, they must think of intervention strategies that will maximize utilization of their expertise, especially for patients who are in the most need of their help, i.e., those with health complexity.

The first change, i.e., BH service delivery in the medical sector, is discussed in a number of other chapters in this book. While it is not easy, it is a necessary prelude to the second change, i.e., developing strategies that maximize value to patients and the system during delivery of psychiatric services. In this chapter, a new and expanding health professional "helper" function is discussed, which is provided by case managers in collaboration with treating providers, including psychiatrists practicing in either primary BH or medical settings or both. This new discipline of primarily nurses and social workers assumes many of the roles performed by primary care and specialty doctors before health reform forced changes in practice patterns in the 1980s. Since doctors no longer have time to follow through on clinical barriers to improvement and do not consider themselves accountable for nonclinical barriers, then case managers are a logical set of professionals to take on this role.

It is this new group of professionals and the assist functions that they perform that could provide an important strategy for expanding the reach and effective outcomes provided by psychiatrists and other BH professionals in the future. A focal example of how this can work is illustrated by the numerous studies of the Washington University research consortia in their extensive publications showing collaborative care outcomes in medical patients with depression [11, 12]. These research studies document the effective use of case managers working with psychiatrists imbedded in primary care clinics in which clinical and cost outcomes are consistently and persistently improved for up to 5 years after study completion [13, 14]. In a more recent expansion of the depression focused model, i.e., TEAMCare, in which trained cross-disciplinary case managers supported diabetes, cardiovascular, and depression care, it was possible to demonstrate even greater reduction in depression symptoms than when depression was assisted in isolation and the improvement in diabetes and cardiovascular outcomes while reducing total cost of outpatient care. This strategy is similar to that performed more broadly in the “complexity” platform of integrated case management.

Thus, a next strategic step for psychiatrists in the future is to learn to work with integrated case managers along with other treatment providers so that they can take advantage of the time saving assistance that these professionals could bring as high need/high cost patients with health complexity medical and psychiatric care. This will allow them to evaluate and treat more patients while collaborating with health professionals dedicated to follow through of treatment interventions, overcoming other barriers that might prevent patients from improving, and assuring that medical and BH outcomes are achieved. By doing so, evidence suggests that resultant clinical improvement will also result in lower total health care costs associated with reduction in health service use and decreased disability. It will be a win for patients, for psychiatrists and other medical providers, for purchasers, and for the health system.

Health care is experiencing new models of care, realignment of how we pay for care, how we organize care, and how care is delivered. The traditional and conventional model of health care will be replaced by an interdisciplinary team working collaborative to enhance patient-centered care and improved patient outcomes. Physicians, psychiatrists, and integrated case managers working together to address health complexity and coordination of care will fundamentally change the ways in which we provide health care.

References

1. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. Health Aff. 2008;27:759–69.
2. Huyse F, Stiefel F. Integrated care for the complex medically ill. Med Clin North Am. 2006;90(4):679–92.
3. de Jonge P, Huyse FJ, Stiefel FC. Case and care complexity in the medically ill. Med Clin North Am. 2006;90:679–92.
4. Kathol RG, Perez R, Cohen J. The integrated case management manual: assisting complex patients regain physical and mental health. 1st ed. New York: Springer; 2010.

5. Case Management Society of America. CMSA standards of practice for case management. Little Rock, AR: Case Management Society of America; 2010.
6. Integrated Case Management Training. 2013. http://www.cmsa.org/Individual/NewsEvents/IntegratedHealthManagementTraining/tabid/380/Default.aspx. Accessed 30 May 2013.
7. Case Management Adherence Guidelines 2012. Available from: http://www.cmsa.org/Individual/Education/CaseManagementAdherenceGuidelines/tabid/253/Default.aspx.
8. The Care Transitions Program. 2012. http://www.caretransitions.org/definitions.asp. Accessed 30 May 2013.
9. Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. N Engl J Med. 2009;360:1418–28.
10. Medicare spending for beneficiaries with severe mental illness and substance use disorder. 2013. http://www.thescanfoundation.org/sites/thescanfoundation.org/files/1pgdatabrief_no38_medicare_spending_for_beneficiaries_with_severe_mental_illness_and_substance_use_disorder.pdf. Accessed 30 May 2013.
11. Katon WJ, Seelig M. Population-based care of depression: team care approaches to improving outcomes. J Occup Environ Med. 2008;50:459–67.
12. Seelig MD, Katon W. Gaps in depression care: why primary care physicians should hone their depression screening, diagnosis, and management skills. J Occup Environ Med. 2008;50:451–8.
13. Katon WJ, Russo JE, Von Korff M, Lin EH, Ludman E, Ciechanowski PS. Long-term effects on medical costs of improving depression outcomes in patients with depression and diabetes. Diabetes Care. 2008;31:1155–9.
14. Unutzer J, Katon WJ, Fan MY, Schoenbaum MC, Lin EH, Della Penna RD, et al. Long-term cost effects of collaborative care for late-life depression. Am J Manag Care. 2008;14:95–100.

Chapter 7
Building Value-Added Teams to Care for Behavioral Health Needs in Primary Care

Anna D.H. Ratzliff, Catherine L. Christensen, and Jürgen Unützer

Abstract Collaborative care has emerged as an evidence-based approach to care for patients with common mental health disorders such as depression or anxiety in primary care. To deliver successful collaborative care, a program must build a team with effective "shared workflows." A psychiatrist functioning in a mental health leadership role may play an important role in the development, implementation, and ongoing improvement of a high-functioning collaborative care team. The process of building such a team involves several stages: leadership commitment, preparing for team building, developing a clear vision for the scope of the program, assessing current resources and workflows, conducting a gap assessment to identify staff and training needs, generating a collaborative care workflow, training staff, program launch, and supporting the ongoing quality improvement efforts of the team.

Fundamentals of Collaborative Care

Behavioral health problems, such as depression and other mental and substance use disorders are common, disabling, and costly [1, 2]. Although there are effective treatments for common mental health disorders, only a minority of patients access these treatments [3]. Collaborative care has emerged as an evidence-based approach to care for patients with common mental health disorders such as depression or anxiety in primary care [4–6]. In this model of care, a team of providers, including the patient's primary care provider, a care manager, and a psychiatric consultant, work together to provide evidence-based mental health care (Fig. 7.1). The clinical approach in collaborative care follows the principles of measurement-based care,

---

A.D.H. Ratzliff, M.D., Ph.D. (✉) • C.L. Christensen, M.P.H. • J. Unützer, M.D., M.P.H., M.A.
Department of Psychiatry and Behavioral Sciences, University of Washington,
1959 NE Pacific Street, Seattle, WA 98195-6560, USA
e-mail: annar22@u.washington.edu

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_7,

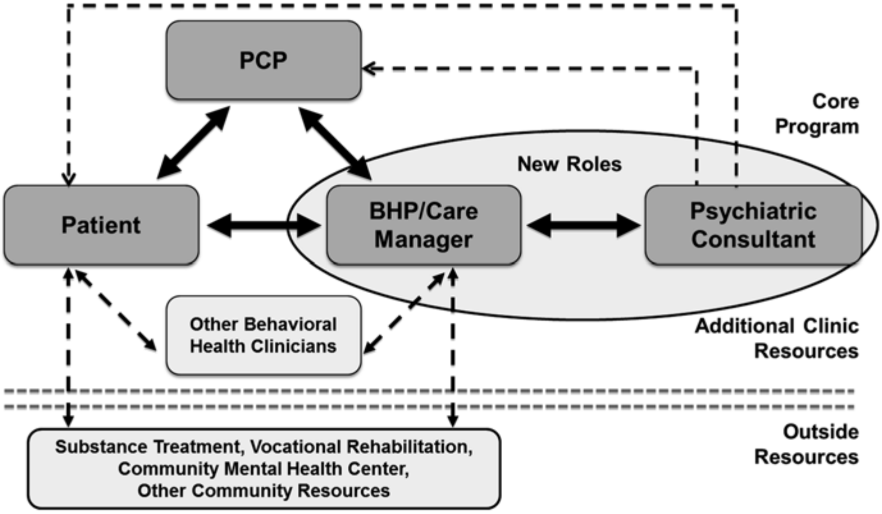


Fig. 7.1 Collaborative Care Team. ©2013 University of Washington AIMS Center, http://uwaims.org

treatment to target, stepped care, and other aspects of the chronic illness care model developed by Wagner and colleagues [7]. This approach has been recommended as a best practice by the Surgeon General's Report on Mental Health, the President's New Freedom Commission on Mental Health, and as an evidence-based practice by the Substance Abuse and Mental Health Services Administration's (SAMHA) National Registry of Evidence-based Programs and Practices (NREPP) [8–10]. It can also provide care that is consistent with the requirements of the 2011 National Committee for Quality Assurance (NCQA) criteria for becoming a Level-2 medical home, which requires clinics to demonstrate a population-based approach for at least one behavioral health disorder such as major depression [11]. Collaborative care teams are a way to leverage the limited mental health workforce, especially the limited number of psychiatrists and psychologists, and still provide high-quality mental health care to populations.

The largest trial of collaborative care to date is the IMPACT (Improving Mood: Providing Access to Collaborative Treatment) trial [12], which demonstrated that collaborative care for depression was significantly more effective than usual care provided in a range of primary care settings. In this study, patients who were assigned to the IMPACT intervention were treated by a behavioral health care manager who provided education, coordinated care, delivered brief evidence-based counseling such as behavioral activation or problem solving treatment in primary care, tracked patients in a registry, and supported medication management by the primary care provider (PCP). A psychiatric consultant supported this team to provide recommendations on patients who present diagnostic or therapeutic challenges using a stepped care approach. Patients treated using this model had greater satisfaction with depression care, better depression outcomes, and less functional

Table 7.1 Key principles of collaborative care[a]

Patient-centered care
Primary care and behavioral health providers collaborate effectively using shared care plans
Population-based care
All behavioral health patients are tracked in a registry: no one "falls through the cracks"
Measurement-based treatment to target
Measurable treatment goals and outcomes defined and tracked for each patient. Treatments are actively changed until the clinical goals are achieved
Evidence-based care
Treatments used are "evidence-based"
Accountable care
Providers are accountable and reimbursed for quality of care, clinical outcomes, and patient satisfaction, not just the volume of care provided

[a] ©2013 University of Washington AIMS Center, http://uwaims.org

impairment compared to patients in care as usual [12, 13]. The IMPACT trial also demonstrated that collaborative care provided substantial cost savings when compared to care as usual [14].

As far back as 2006, a meta-analysis conducted by Gilbody and Bower [5] concluded that with 37 randomized controlled trials supporting the effectiveness of collaborative care, the evidence base for this approach was sufficiently strong that no additional research was needed, but efforts should instead focus on disseminating and implementing evidence-based collaborative care programs [5]. Over the past 10 years, the AIMS (Advancing Integrated Mental Health Solutions) Center at the University of Washington has provided training and technical assistance to over 5,000 clinicians in more than 600 primary care practices that have implemented evidence-based collaborative care programs. Based on this experience, the AIMS Center has developed a systematic approach to building collaborative care teams and a set of customizable implementation checklists and team building tools that help guide organizations through the process of developing effective teams. These tools are available at no cost from the AIMS Center (http://uwaims.org/).

Both research and implementation experience suggest that effective collaborative care requires more than simply co-locating a mental health provider in a primary care practice. Simple co-location efforts have not been shown to improve health outcomes when compared to care as usual [15]. In our experience, effective collaborative care programs include teams that have effectively "shared workflows" and follow a number of core principles. These core principles were recently summarized in a consensus statement by a group of national experts in integrated care convened by the AIMS Center and the University of Washington (Table 7.1) [16]. *Patient-centered* care, in which the patient's PCP actively collaborates with behavioral health specialists in the care of patients, is the foundation for effective collaborative care programs [6]. Effective programs focus on *populations* of patients, tracking all patients in need of care proactively, usually through some sort of registry or care management tracking system so that no patients "fall through the cracks." Validated clinical outcome measures such as the PHQ-9 for depression [17] are routinely used to support *measurement-based treatment to target* and treatment adjustments or intensification if patients are not improving as expected. Treatments provided by effective integrated care teams include *evidence-based* psychosocial and pharmacological modalities, and the whole team is *accountable* to reaching treatment targets and conducting ongoing quality improvement efforts to help improve outcomes for the population of patients they serve.

Core Team Members

A collaborative care team is structured around the principles of collaborative care and, as a patient-centered approach, starts with the patient (see Fig. 7.1). The treating team works to provide high-quality care that patients will be able to access in the primary care setting in which they already receive their medical care. The core collaborative care team will consist of at least three core team members: the PCP, the care manager or behavioral health provider, and a psychiatric consultant. As depicted in Fig. 7.1, these members of the team are all located in the primary care setting. Some clinic settings may have the additional benefit of other behavioral health staff who offer additional services to clients but may not be directly involved in delivering collaborative care core functions. The care manager and psychiatric consultant are typically new roles in a primary care setting and much of the work of team building is defining clinical workflow to incorporate these new members.

PCPs

Collaborative care starts with the PCP and the care environment in which most PCPs practice: fast-paced, high-volume settings with a wide array of presenting problems. Facing these challenges, PCPs learn to quickly triage patients to focus on the most pressing issue for a particular visit and to address longer-standing problems over time. When it comes to treating patients with common behavioral health problems, most PCPs are trained to make an initial assessment and to start treatments for common problems such as depression (e.g., prescription of an antidepressant medication), but they may lack the time and skills required to fully explore a patient's mental health problem with its complex biopsychosocial determinants and to explore all treatment options with a patient. In the collaborative care model, the PCP continues to oversee all aspects of the patient's care, including identifying patients with behavioral health problems, making an initial diagnosis (e.g., depression), prescribing psychotropic medications, and making adjustments in medication treatment in close consultation and collaboration with the patient's care manager and a designated psychiatric consultant. An important task for the PCP is to introduce the patient to the collaborative team approach and the care manager, ideally using a "warm handoff." This increases the likelihood that the patient will follow-up with the care manager and effectively engage in collaborative care. Most PCPs appreciate the patient-centered approach of collaborative care and the ability to get support to care for the patients with which they often have developed deep connections. Even if patients prefer to have mental health specialty care at another facility or if the mental health treatment needs of a patient exceed what can be provided by a collaborative care team in primary care, the care manager can help facilitate an effective referral and make sure that care continues to be effectively coordinated between the PCP and the outside mental health provider.

Care Manager

The care manger is at the heart of a strong collaborative care team. The care manager helps ensure effective communication among all team members and is often the lead contact person for the patient who is receiving behavioral health services in primary care. A care manager's professional training and background can come from a variety of disciplines, including training as a MSW, LCSW, RN, or a degree in clinical psychology (MA, PhD, PsyD). For this role, the qualities of the care providers who become care managers may be more important than the specific degree they have. The ideal care manager will have the personal qualities of *organization, persistence, creativity, flexibility, willingness to learn*, and to be a *strong patient advocate*. A care manager must possess or develop a wide range of skills to be successful, including the ability to communicate effectively with both primary care and behavioral health professionals, to engage and provide psycho-education for patients, to perform systematic initial and follow-up assessments, to support medication management (e.g., where to get medication, plan for adherence, facilitate medical care for questions related to medications), to provide brief behavioral therapy using evidence-based strategies, to review cases with the psychiatric consultant on a regular basis (usually weekly), to communicate psychiatric recommendations to the PCP, to facilitate referrals to outside treatment resources, and to prepare patients for relapse prevention. A sample job description can be found on the AIMS Center website [16]. As there are currently limited training programs that prepare behavioral health providers for this type of work, the best care mangers are often identified by their personal qualities and then trained to fulfill this challenging position.

Other Behavioral Health Providers

Some clinics have the benefit of other behavioral health providers as part of the resources available in the clinic for patient care. Examples include chemical dependency counselors, psychologists with a focus on delivery of evidence-based psychotherapy or health behavior change, and clinical social workers who can help with referrals to community-based resources. These valued team members may provide additional in-house resources to support the primary care based collaborative care team.

Psychiatric Consultant

Psychiatric consultants can play several important roles as part of an effective collaborative care team. The traditional role of directly assessing and treating patients in a primary care setting (either in person or via televideo) is coupled with the responsibility of providing consultation for a defined population of patients followed by the primary care team. In this indirect consultant role, the psychiatrist works with both a care manager and a primary care provider to provide diagnostic or therapeutic recommendations on a defined caseload of primary care patients. This role is usually filled by a psychiatrist or psychiatric advanced registered nurse practitioner who has both the medical and psychiatric training to make recommendations about medications as well as other evidence-based treatments for mental health problems commonly in the context of medical comorbidity. Typically, the psychiatric consultant will spend at least 1 h/week systematically reviewing each care manager's caseload of patients and discussing patients who are not improving to make recommendations for additional diagnostic work-up or changes in treatment. Treatment recommendations are often communicated to the PCP through the care manager, but the consulting psychiatrist is also available to the PCP through prompt access by e-mail and phone during working hours. Such caseload consultation is a departure from the typical doctor–patient relationship for a psychiatrist, but most consulting psychiatrists experience a deep sense of satisfaction from seeing the population impact of this work. This team approach allows them to help improve the lives of significantly more patients than a more traditional approach in which they see a limited number of patients in a primary care practice. Another rewarding aspect of the consulting psychiatrist role is the support and education of primary care-based providers that is part of every day's work. Consulting psychiatrists have numerous opportunities to help educate care managers and PCPs through the regular assessments and recommendations provided as part of their work, but they frequently also provide direct education (e.g., brown bag lunch talks), articles, and other educational materials to the primary care team. Although this is not universally true, psychiatric consultants often have key leadership roles in the development, implementation, and ongoing improvement of high functioning collaborative care teams. Functions in this role may include administrative leadership (e.g., negotiating the scope, staffing, and payment for a collaborative care program) and clinical leadership (e.g., the development of clinical protocols for challenging patients). As with the care manager, the successful psychiatric consultant will typically possess specific personal attributes to support their diverse roles in the collaborative care team, including *flexibility, confidence, outgoing personality, adaptability, ability to* *tolerate uncertainty and interruptions, ability to help provide and shape care delivered by a team of providers with the PCP in a lead role, interest in treating diverse patient populations, and a willingness to "stretch" their skills to meet the needs of the patients served in a particular primary care practice* (e.g., adding skills in addictions or the treatment of depressed adolescents). The psychiatric consultant will also need strong skills in psychiatric diagnosis, psychopharmacology, and basic knowledge of brief behavioral interventions to support integrated treatment planning. A sample job description can be found on the AIMS Center website [16]. This emerging field of outpatient consultative psychiatry is an exciting opportunity for the psychiatric consultant interested in a challenging and rewarding clinical experience.

Building the Team

Overview

The core collaborative care team is not created by simply adding a care manager and psychiatric consultant into a primary care setting. This team needs support to become an effective team. This process starts once there is strong organizational and leadership commitment to implementing an evidence-based collaborative care program and the organization is ready to begin the multi-step process of implementing a collaborative care model. Implementation typically involves three major stages: pre-launch, launch, and post-launch, with specific parts of the team building process occurring in each of these stages (Table 7.2).

Ideally, an organization should spend adequate time on the pre-launch stage. Early in this process the focus is on preparing for the team-building process (choosing a facilitator and identifying the key roles and professionals involved in the team) and establishing program goals and vision (clarifying the populations and mental health disorders that will be targeted such as children or adults, specific behavioral health conditions covered, special population needs, numbers of clients to be served). Providing enough lead time to educate the staff about the basics of collaborative care and creating a vision for the new program can improve engagement and accuracy of subsequent staff assessments and workflow development. The next step in this pre-launch phase is the completion of a team-building process that includes an organizational assessment of the current workflow, a gap assessment to identify staff and resource needs, development of the new collaborative care workflow, and a detailed plan for implementing the new model. Typically, this phase of team building can take several months to complete. Initial clinician and staff training should also occur pre-launch. Giving adequate time and focus to complete all of the steps in the pre-launch stage will help ensure care team members understand their new roles and have the skills necessary to work together and with patients as a team. An ideal plan is to schedule all phases of the team-building process to be completed a

Table 7.2 Sequence for building a collaborative care team[a]

Pre-launch	*Team-building preparation*
	• Choose team building facilitator
	• Identify clinicians and staff participating in team-building process
	• Introduce collaborative care and team-building process to participants
	Program vision
	• Complete visioning process
	• Establish measurable outcome goals
	• Tailor collaborative care tasks according to program vision and goals
	Current workflow, staff self-assessment, and gap assessment
	• List all collaborative care tasks
	• All participants complete staff self-assessment based on current job responsibilities and workflow
	• Facilitator compiles staff self-assessments to identify gaps, duplication of services, and training needs
	Collaborative care workflow
	• Review current workflow
	• Review project vision and goals
	• Identify *who, how, when, where* for each collaborative care task, creating new collaborative care workflow
	Implementation plan
	• Identify staff hiring and training needs
	• Identify facilities, IT, and other resource requirements
	• Create patient education materials
	• Develop internal communication materials and protocols
	Training
	• Group training for collaborative care team members
	• Skill-based training to support new roles
Launch	*Program launch*
	• Collaborative care team begins working together
	• Enroll first patients!
Post-launch	*Support for care teams*
	• Conduct weekly case reviews with psychiatric consultant to support care managers and PCPs
	• Identify additional training needs
	• Address team burnout
	Ongoing collaborative care workflow review and adjustment
	• Monitor previously identified outcome measures regularly
	• Adjust collaborative care workflow, as needed to achieve program goals
	• Celebrate successes

[a] ©2013 University of Washington AIMS Center, http://uwaims.org

few weeks before the launch of the new program. At the program launch date, the organization is prepared to begin new workflows and enroll the first patients in the new model of care. Care teams will also need ongoing support during the post-launch phase, a time when the collaborative care workflow may need to be reviewed and adjusted, based on ongoing monitoring of the program goals.

The pre-launch stage, and specifically the team-building process, is important for several reasons. In many cases, the process of team building is the first opportunity to work together and facilitate communication between team members. The team-building process challenges the team to create a clear vision of the program and the team's definition of success for the program. The goal of more effective collaboration is facilitated by a systematic approach to identifying gaps and overlaps in the roles of different team members when it comes to caring for individuals with behavioral health problems. This process allows the team to think through even small operational details and develop a change plan to anticipate common challenges for the new collaborative team. The psychiatric consultant may take an active leadership role in this development process, but at a minimum they should be actively involved as a team member in the team-building process.

Preparing for Team Building

It is important to choose a good facilitator to lead the team-building process. The facilitator should both support the implementation of the new collaborative care model *and* have the authority to gain participation in the team-building process by all staff and clinicians. The facilitator should also have the authority, or support from organization leadership, to make changes to clinical workflows and staffing that may be identified during the team-building process. The facilitator may be a member of a collaborative care team (e.g., the consulting psychiatrist) or an individual in organization leadership or administration. The role or job title of the facilitator is less important than their ability to work well with both clinicians and staff and their expertise in leading projects that require strong people and organizational skills. During team building, the facilitator will drive the process, and their responsibilities may include clarifying the vision for the collaborative care program, tailoring the team-building worksheets used during the process according to the scope and goals of the organization's collaborative care program; presenting information to staff to help them understand collaborative care and the team-building process; distributing, collecting, and tabulating worksheets completed by staff; facilitating meetings with organizational leadership and staff to discuss current workflow and change plan; creating detailed implementation plan and timeline; and revisiting new workflows on an ongoing basis to review progress and adjust plans as necessary.

Prior to beginning team-building activities, it is important to identify all clinicians and staff who will participate in the process. For purposes of team building, the collaborative care team should be defined broadly. At a minimum, representatives for all professionals who will be part of a care team should participate, including care managers, primary care providers, and consulting psychiatrists. It is also helpful to include other clinicians and staff who will interact with the team. This may include leadership and administrators (e.g., CEO, CFO, clinic manager), medical assistants and physician assistants, behavioral health clinicians, IT staff, front desk and other support staff. Although these clinicians and staff members may not directly provide collaborative care, such "silent partners" can participate in team building and give important input into the planned changes that will affect the clinic workflow and clinic operations. Including the behavioral health staff that will likely interface with the new collaborative care team, such as chemical dependency counselors, social workers, and specialty therapists, is also important to developing an inclusive workflow. Leadership and administrators need to understand the process, outcomes, and proposed workflow changes to give support for added resources. Front desk staff and other clinicians may interact with the care team and need to understand new clinical roles and workflows. Engaging as broad a group as possible helps everyone understand the key principles of collaborative care and creates "buy-in." Special care should be taken to identify key "champions" from each professional group, who can garner "buy-in" and communicate important information back to colleagues. Once all staff participating in team building have been identified, they should receive a basic introduction to collaborative care and the team-building process. This information can be covered in a 1-h presentation by the team-building facilitator or organizational leadership. The AIMS center website also has recorded sample introductory webinars on collaborative care [16].

Program Vision

Before beginning workflow and staff assessment, the organization and program leadership must develop a clear vision for the program. The five key principles of collaborative care (see Table 7.1) should be considered in this process, and the following questions may be useful to consider during the visioning process:

- What are your hopes for the collaborative care program?
- Who would it serve? What services would be offered?
- How much will a collaborative care program improve the health of your patients?
- What strengths does the organization already have in working together?
- What challenges do you see for implementing collaborative care in the organization?
- How will we know if this program is working? What should we measure?

Even when there is a clear mandate related to the development of the collaborative care program, creating a shared definition of the target patient population and behavioral and/or physical health issues that will be addressed as part of the new practice model is the foundation for defining the tasks that must be accomplished by the new team. Most importantly, measureable goals for numbers of patients served and clinical outcomes achieved by the program should be established. Throughout team building the focus will be on these patient outcome goals established during the visioning process and *what is needed to reach these goals*, rather than specific jobs titles or process measures that may not be strongly related to clinical outcomes. It is important that the program vision is clearly communicated both internally and externally. During this process, organizations often name and brand their collaborative care program and begin developing a common vocabulary. This facilitates communication about the team building process (among staff) and the new program (among staff and eventually among staff and patients) and clearly conveys that the organization is *doing something new and different*.

Current Workflow, Staff Self-Assessment, and Gap Assessment

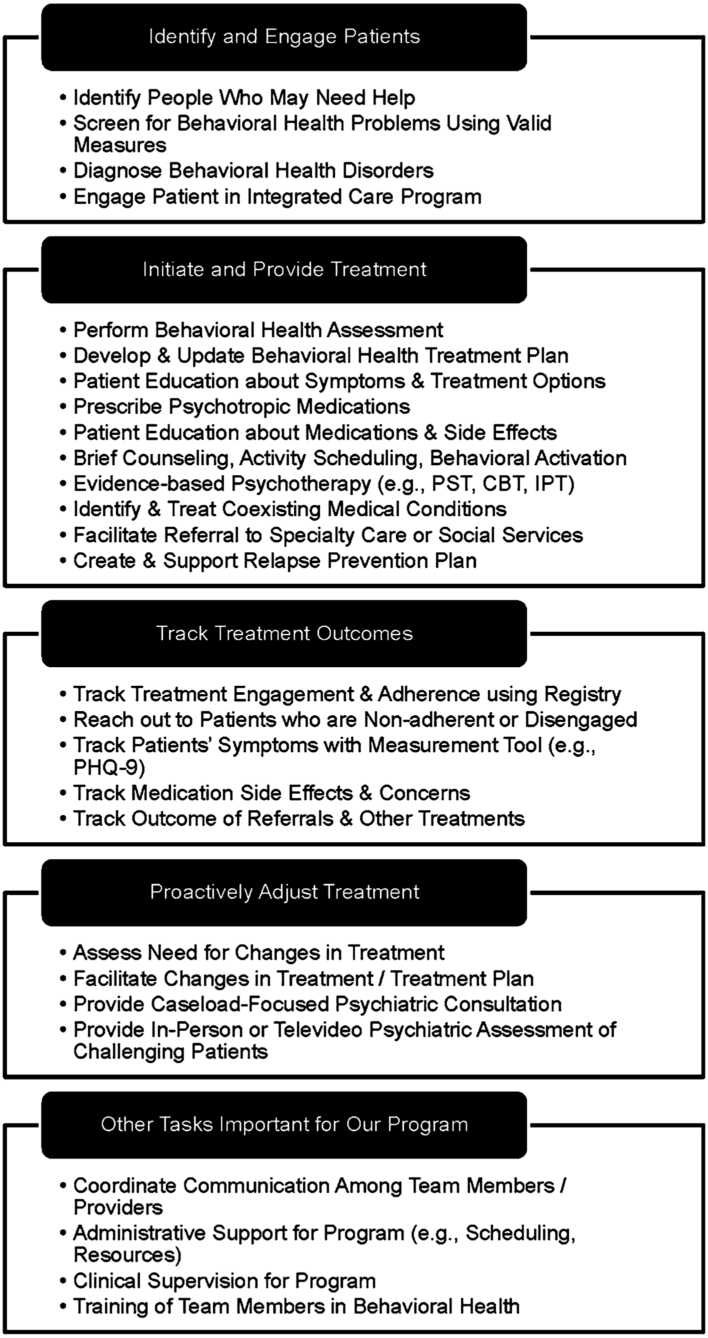
The team-building facilitator uses the program vision to identify and list all collaborative care tasks that must be accomplished to provide collaborative team-based care. Figure 7.2 lists common collaborative care tasks, which can be tailored based on the clinical indications and patient population addressed by the program. For example, tasks related to screening and follow-up will be tailored based on the actual measurement tools to be used and outcomes that will be tracked. There may be tasks in Fig. 7.2 that are not relevant to the program, or additional tasks not listed that should be included to serve specific target populations (e.g., language or interpreter services for patient populations who do not speak English).

After program goals and related tasks are clearly articulated, the team-building facilitator conducts a staff assessment in order to survey the organization for current strengths and gaps in services. For each collaborative care task on the list, each staff member responds to a series of questions designed to determine:

- Which tasks are they doing now?
- Which tasks are other staff members doing?
- How important is the task?
- Would they like to do the task and what training is required for them to do this task?
- Will the task ensure effective patient care?
- If not part of the individual's role now, whose role is it?

It is important that each staff member completes these questions *individually* and based on the *current* clinic workflow.

The team-building facilitator compiles all of the staff self-assessments into a summary or gap assessment, mapping out the current team structure and task coverage. The information in the summary can help pinpoint collaborative care tasks that are not currently covered, tasks that are being duplicated, and staff and training needs. The team-building facilitator now has a complete overview of the current status of collaborative care functions within the organization and can start considering if and where changes are needed to cover the new collaborative care tasks and insure team members work together to meet patient outcome goals.



Identify and Engage Patients

- Identify People Who May Need Help
- Screen for Behavioral Health Problems Using Valid Measures
- Diagnose Behavioral Health Disorders
- Engage Patient in Integrated Care Program

Initiate and Provide Treatment

- Perform Behavioral Health Assessment
- Develop & Update Behavioral Health Treatment Plan
- Patient Education about Symptoms & Treatment Options
- Prescribe Psychotropic Medications
- Patient Education about Medications & Side Effects
- Brief Counseling, Activity Scheduling, Behavioral Activation
- Evidence-based Psychotherapy (e.g., PST, CBT, IPT)
- Identify & Treat Coexisting Medical Conditions
- Facilitate Referral to Specialty Care or Social Services
- Create & Support Relapse Prevention Plan

Track Treatment Outcomes

- Track Treatment Engagement & Adherence using Registry
- Reach out to Patients who are Non-adherent or Disengaged
- Track Patients' Symptoms with Measurement Tool (e.g., PHQ-9)
- Track Medication Side Effects & Concerns
- Track Outcome of Referrals & Other Treatments

Proactively Adjust Treatment

- Assess Need for Changes in Treatment
- Facilitate Changes in Treatment / Treatment Plan
- Provide Caseload-Focused Psychiatric Consultation
- Provide In-Person or Televideo Psychiatric Assessment of Challenging Patients

Other Tasks Important for Our Program

- Coordinate Communication Among Team Members / Providers
- Administrative Support for Program (e.g., Scheduling, Resources)
- Clinical Supervision for Program
- Training of Team Members in Behavioral Health

Fig. 7.2 Collaborative Care Tasks. ©2013 University of Washington AIMS Center, http://uwaims.org

Collaborative Care Workflow

The organization is now ready to create a customized collaborative care workflow and detailed implementation plan. The team-building facilitator coordinates and provides guidance during this step, but all participating staff should give input. Often a special staff meeting or series of meetings is used to facilitate the discussion. Participants start with reviewing *where we are now*, based on the results of the summary of the staff assessments. Next, participants review and discuss *where do we want to be*? What is the project vision and "practical ideal"? How will the organization provide the most effective care for patients and meet patient outcome goals?

After discussion of *where are we now* and *where do we want to be*, participants discuss *how to get there*. This should be *specific*. For each task required for the collaborative care program, discuss and document *who*, *how*, *when*, and *where* the task will be completed, including plans for smooth hand-offs and communication methods. Specific details may include at what point in the patient flow a task is completed (e.g., intake, initial assessment), if a task is constrained by certain days of the week (e.g., a prescriber is only available on a certain day), and where the task is to be completed (e.g., clinic, partner agency).

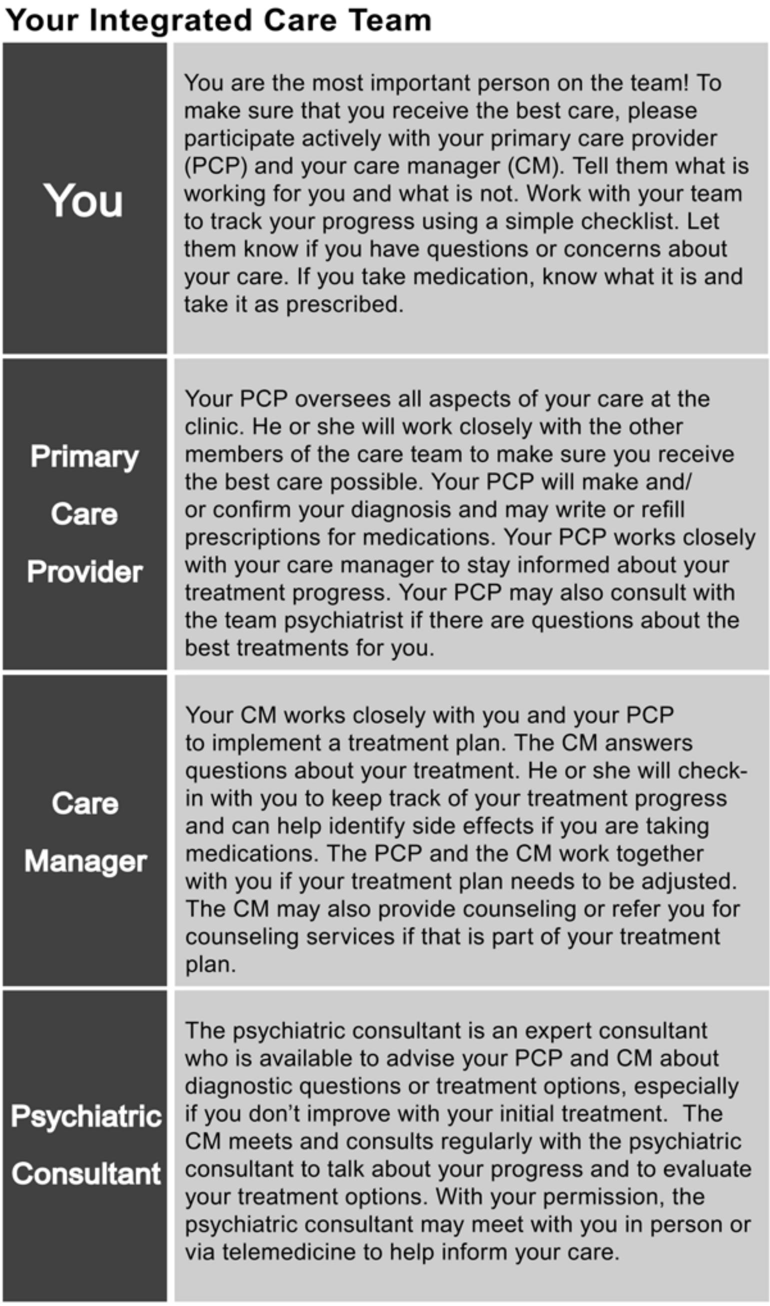
Implementation Plan

The detailed collaborative care workflow can now be used to develop an implementation plan and collaborative care materials for staff and patients. It is important to determine if there are organizational-level changes necessary. The team-building facilitator may want to create a detailed quality improvement action plan with designated process owners, and timeline. It is again important to be as specific as possible. At a minimum, the following questions should be addressed:

- Does staff need to be hired? What types of staff?
- Do existing or new staff need to be trained?
- What facilities, IT, and other resources are required to implement the collaborative care workflow?

Depending on program goals and organizational resources, new staff may be hired or existing staff re-deployed to cover collaborative care tasks and align staffing with the new workflow. Care manager tasks may be split between higher and lower skilled staff to better use existing clinic staffing structure. Organizations may already have psychiatrists in-house that can serve in role as team psychiatrists or the organization may need to use external consultants for this role.

At this stage, organizations often create materials to introduce the new care delivery model to patients and organization clinicians and staff. Figure 7.3 is an example of a template that can be used to introduce the care team to patients.



Your Integrated Care Team

You	You are the most important person on the team! To make sure that you receive the best care, please participate actively with your primary care provider (PCP) and your care manager (CM). Tell them what is working for you and what is not. Work with your team to track your progress using a simple checklist. Let them know if you have questions or concerns about your care. If you take medication, know what it is and take it as prescribed.
Primary Care Provider	Your PCP oversees all aspects of your care at the clinic. He or she will work closely with the other members of the care team to make sure you receive the best care possible. Your PCP will make and/or confirm your diagnosis and may write or refill prescriptions for medications. Your PCP works closely with your care manager to stay informed about your treatment progress. Your PCP may also consult with the team psychiatrist if there are questions about the best treatments for you.
Care Manager	Your CM works closely with you and your PCP to implement a treatment plan. The CM answers questions about your treatment. He or she will check-in with you to keep track of your treatment progress and can help identify side effects if you are taking medications. The PCP and the CM work together with you if your treatment plan needs to be adjusted. The CM may also provide counseling or refer you for counseling services if that is part of your treatment plan.
Psychiatric Consultant	The psychiatric consultant is an expert consultant who is available to advise your PCP and CM about diagnostic questions or treatment options, especially if you don't improve with your initial treatment. The CM meets and consults regularly with the psychiatric consultant to talk about your progress and to evaluate your treatment options. With your permission, the psychiatric consultant may meet with you in person or via telemedicine to help inform your care.

Fig. 7.3 Introducing a Collaborative Care Team. ©2013 University of Washington AIMS Center, http://uwaims.org

Organizations often include photographs of each team member (care manager, primary care provider, consulting psychiatrist, other behavioral health providers), as well as contact information for the patient to use for questions (usually the care manager). This information can be made into a brochure and combined with other patient educational pieces, such as a brief overview of the organization's approach to treating behavioral health issues, depression or other mental health information, and patient self-monitoring tools. Primary care organizations should also develop internal communication materials and protocols and clinic-specific guidelines and protocols for psychiatric emergencies. It is especially important to discuss and document procedures for communicating important information between care team members, such as how to ensure that recommendations from psychiatric consultants are effectively communicated to primary care providers.

The collaborative care workflow and implementation plan should be reviewed on an ongoing basis, with more frequency in the beginning weeks and months of the collaborative care program. To ensure accountability, program leadership can establish a regular process for tracking program outcomes. If patients are not improving and outcomes are not met, then the clinic workflow and collaborative care team responsibilities should be reviewed and adjusted. Specific program outcome measures will be based on program goals and previously established metrics, and may include:

- Number of patients served in the integrated program.
- Number and percent of patients who show clinical improvement as measured at the patient level.
- Number and proportion of patients who receive initial assessments, follow-up assessments, and psychiatric consultation if they are not improving as expected.

All new collaborative care programs will need adjustment, as care teams adapt to their new roles and learn to work together.

Supporting Implementation by Addressing Common Barriers

Throughout the process of team building, there are a variety of barriers and challenges that can arise and prevent successful implementation of a collaborative care program (Table 7.3). Although the amount of direct involvement a psychiatric consultant may have in addressing these barriers may vary, familiarity with these common barriers and potential solutions to address these challenges may be helpful in the psychiatric consultant role of a mental health clinical leader.

One of the most common, and potentially detrimental, challenges that an organization may face is a lack of appreciation of the core principles of collaborative care and the idea that effective team building requires more than just "working in the same place." Careful attention to identifying and tracking specific pre-identified patient outcomes is important in addressing this challenge. If the team has not developed a clear workflow to effectively share patient care and to communicate

Table 7.3 Team building: barriers and solutions[a]

Lack of appreciation of the core principles of collaborative care	• Address common misconception that collaborative care is the same as co-located care (working in the same place) • Focus on goal of improved patient outcomes • Develop a system to identify and track the population targeted by collaborative care effort • Deliver evidence-based approaches to behavioral health • Encourage whole team responsibility for quality and outcomes of behavioral health care
Vision is not aligned with resources	• Leadership buy-in • Identify and support resource needs – Collaborative care may require additional staff – Make sure that new staffing is adequate based on expected patient caseload – Consider practical needs such as patient registry, private space to see patients, computers, phone – Screen for only behavioral health issues the organization has resources to address • Address funding concerns – Anticipate costs for both short-term startup and long-term sustainability – Consider creative partnerships – Assess billing practices • Champion to advocate for BHPs and other resources • Identify referral resources and partners (e.g., for social needs)
Communication challenges	• Provide orientation to all team members • Promote clear vision of goals for program • Develop workflow with special attention to method and timing of team member communication
Limited time and resources to a build team	• Identify facilitator/champion to lead this process – Leadership to advocate for time to complete assessment and participate in facilitated team building • Schedule adequate time for team building and give the work group a clear timeline • Consider using AIMS team building tool or other facilitated process to build team and develop work flow • It is never too late to build or rebuild a team!
Inadequate skills in effective teamwork	• Plan training and practice specific collaborative care skills (e.g., integrated care planning) • Train together – Ideally all team member participate in training as group – Each member should understand model of program and individual roles/responsibilities • Consider online programs for training • Review program effectiveness in regularly scheduled QI meetings after program launch and identify needs for additional training and resources

(continued)

Table 7.3 (continued)

Individual concerns about scope of practice	• Seek to understand concerns of providers • Acknowledge strengths of team members and apply those skills to new role • Clearly define roles through team building within scope of practice for each provider • Provide training to support team in performing in new roles • Focus on patient outcomes and collaborative care tasks to reach those outcomes
Team burnout	• Address lack of resources in initial phase of project • Focus on good team communication • Publically share success stories • Regularly review workflow and revise as needed • Consider team reflection to address inevitable challenges

[a]©2013 University of Washington AIMS Center, http://uwaims.org

about shared goals and progress in the patient's treatment, the patient outcomes are less likely to improve. Patient registries tailored to tracking behavioral health outcomes are important tools to help monitor and track patients effectively and efficiently. The use of a registry supports the delivery of evidence-based behavioral health care to a defined caseload of patients. It helps identification of patients who are at risk of falling through the cracks or who are not improving as expected so that a change in treatment plan can be made. A disease management registry is not the same as an electronic medical record (EMR), although some EMRs can be customized to include a patient registry. Patient registries can be set up using paper-based systems, spreadsheets, or more advanced, Web-based electronic tracking systems. A good registry includes forms to guide patient encounters and allows clinicians across settings to develop and utilize a shared care plan that tracks both physical and behavioral health conditions. An ideal registry has search and reporting features that facilitate population tracking, treatment to target, measurement-based care and caseload supervision/consultation from a specialist. The ability to rapidly identify and then deliver appropriate evidence-based mental health treatment is the core of an effective collaborative care program. Periodic review of the outcome metrics at the patient population level should be a regular part of the ongoing assessment of the implementation plan and clinic workflow, to ensure the previously established patient outcomes are being met. Orientation to these concepts for the whole organization, but especially program champions, is critical for a successful implementation. Additionally, as a program begins to have success stories, using data to highlight improved patient outcomes can be an effective way to support team buy-in and morale.

A lack of alignment between the vision for the mental health care program and available organization resources can be another significant barrier to developing a collaborative care program. A clear benefit of collaborative care is that a psychiatrist can leverage their expertise over a larger patient caseload and improve patient mental health outcomes at a population level by working with a collaborative care

Table 7.4 Collaborative care program staffing in diverse practice settings[a]

Clinic population	Percentage of clinic population with need for care	Typical active caseload for 1 FTE care manager	Number of unique primary care clinic patients to justify 1 FTE care manager	Typical personnel requirement for 1,000 unique primary care patients	
				FTE care manager	FTE psychiatric consultant
Low need (e.g., insured, employed)	2 %	100–125	5,000	0.2	0.05 (2 h/week)
Medium need (e.g., comorbid medical needs/chronic pain/substance abuse)	5 %	65–85	1,500	0.7	0.07 (3 h/week)
High need (e.g., largely homeless, addicted)	15 %	50	333	3	0.3 (12 h/week)

[a]©2013 University of Washington AIMS Center, http://uwaims.org

team, but the caseload size must take into consideration the needs of the population being served. Care managers on collaborative care teams often support active caseloads of 50–125 patients. Care teams with higher need patients, such as safety-net populations or with a large number of patients having multiple chronic diseases, will support a smaller caseload (about 50 active patients per care manager). Care teams with lower need patients will have larger caseloads (about 100–125 active patients per care manager). Table 7.4 provides suggestions for staffing ratios for collaborative care teams depending on the complexity of the patient population served. It is important for organizational leadership to proactively address personnel requirements, hiring or contracting additional care managers and psychiatrists to ensure care teams are adequately staffed to meet the expected patient caseload. Caseload expectations should also be discussed with care team members as part of the team-building process, and patient caseload size and staffing requirements evaluated on an ongoing basis.

Another resource concern can be the lack of partnerships with outside organizations to address gaps in services provided. For example, patients may require referrals for housing or social needs. It is important to set up these partnerships early, and the team-building process can help to identify existing service gaps that can be filled by a referral organization. During implementation planning, it is important to revisit the scope and goals of the project that were identified in the early team building steps to ensure implementation plans are in line with these goals. Many of these resource challenges will require additional staff or financial resources, and leadership buy-in and support of resource needs is critical [18]. Leadership will need to address common funding concerns, including anticipating costs (both short-term start up and long-term sustainability), considering creative partnerships, and developing billing practices to support the collaborative care program. Common ways to fund collaborative care involve fully capitated payment schemes (e.g., in organizations such as staff model HMOs or the VA) or partial capitation and case rate payments (e.g., in the DIAMOND program in Minnesota). Additional information on funding for integrated care practices is addressed elsewhere in this book (see Chap. 4).

These decision makers are also needed to provide access to resources required to accommodate new clinic workflows. Care managers will require private space within the primary care clinic for in-person appointments and telephone calls with patients who have behavioral health needs. Care managers and behavioral health staff may need access to the EMR and scheduling systems. The importance of communication is highlighted throughout both the team building process and the tasks of collaborative care because communication is considered an essential factor of high functioning teams [19, 20]. In the early stages of team building, clear communication from leadership about the vision for a collaborative care program and orientation to how this work is different than current practice is foundational to the rest of the team building process. Methods for clear communication between team members, especially around patient care handoffs, should be clearly defined as part of the workflow and implementation plans. Organizations should leverage current communications methods, such as EMR messaging and tasking, to facilitate this process. Additionally, training all team members on effective communicate strategies is critical. Lastly, clear communication to patients about collaborative care and how team members will be working together (see Fig. 7.3) supports the principle of patient-centered care.

The timing of the team building process is also critical. Ideally, team building will occur after an organization has secured resources and leadership support to start a collaborative care program but with enough lead-time to complete the preplanning, team building, and workflow development before the launch of the program and the first patients are seen. Common challenges with starting team building too early include staff who do not understand collaborative care enough to provide meaningful input to workflow development, a program vision that is not clearly defined enough to develop an accurate workflow, and/or implementation too removed from the development of the workflow that staff do not remember the new plan. Conversely, if a new program is launched before team building is complete, staff can struggle with unclear roles and responsibilities, which can lead to poor collaboration and teamwork. In some cases, a launch must occur before team building is complete. In this case, allowing staff time to complete the team-building process can help “rebuild” the team and reset expectations for success.

One of the strengths of collaborative care is the ability for team members to be able to share their unique and complementary professional expertise with the whole team, but most medical and mental health professionals have little knowledge or skill in collaborative care. Staffing and training needs have to be systematically identified and addressed. New staff may need to be hired or existing staff need to be trained in additional skills prior to moving to a collaborative care model.

There are a growing number of structured collaborative care training options, for example online trainings and webinars offered by the AIMS Center at the University of Washington or certificate programs offered through the University of Massachusetts Medical School Center for Integrated Primary Care. Training should include a more in-depth explanation of collaborative care and care team roles, organization or project-specific goals, and information on the mental health issues to be addressed targeted to primary care clinicians and staff, including assessment, medication and behavioral treatment options, and relapse prevention. Specific training topics will depend on the scope of the project (e.g., specific mental health disorders targeted by the program) and background of the care team members. For example, primary care nursing staff serving in a care manager role may need training in mental health assessments and working with patients on mental health needs. Trainings should be focused on building and practicing new skills (e.g., educating a patient about depression). Psychiatrists new to the role of a consulting psychiatrist as part of a collaborative care team may need training in working with a care manager to evaluate patients and recommend treatment options as well as in the practice of caseload-driven population care. Modules to support the training of psychiatrists developed by the AIMS Center at the University of Washington with funding in part from the SAMHSA/HRSA Center for Integrated Health Solutions are available online (http://uwaims.org), as well as workshops presented at national professional meetings that are targeted to these training needs.

Ideally, all members of the collaborative care team should train together, even if they are learning different skills. This allows them to understand each team member's unique role, and helps the team better understand the workflow, including how patient hand-offs will occur and where in the flow team members need to communicate. Participating in group training can also be a way for team members to begin the process of collaboration and team work. This method of working in a team is not natural for many mental health professionals, especially for clinicians who may have previously worked with patients one-on-one [19]. So team training provides a good opportunity to start the process of team communication and collaboration. However, due to busy clinic schedules, it can be difficult for staff and clinicians to devote extensive time to training. *At a minimum*, care team members should receive training to support new skills and responsibilities, and a representative from each professional group (e.g., primary care providers, medical assistants, psychiatrists) should participate in larger group training. These representatives should support the new collaborative care workflow and will have responsibility for bringing information and expertise back to the other professionals in their group. After the initial training, the psychiatric consultant can further support the development of collaborative care skills through weekly case reviews and direct patient evaluations (either in person or by tele-video). These regular interactions give the psychiatric consultant the opportunity to model interviewing skills, sort through complex differential diagnoses (such as assessing for bipolar disorder) and collaborative care planning.

Even after adequate training, some medical staff may have concerns about scope of work and licensing issues. In this model, it is important to address and acknowledge the limits of each professional organization's scope of practice while at the same time encouraging staff to consider "stretching" their skill sets to facilitate effective collaboration with other team members. For example, a care manager from a social work background can be asked to use behavioral skills around medication adherence. He or she should be familiar with the names and common doses of psychotropic medications but should defer questions related to medication side effects, dose changes, or other direct prescribing questions to the primary care provider or a psychiatric consultant. The role of leadership around this issue is to listen carefully about these concerns and address key issues within the workflow. It can be important to reiterate the goal of building a closely coordinated clinical workflow that feels truly "client-centered" rather than staking out a set of "provider-centered" professional roles.

Beyond Implementation

No matter how proactive an organization is in identifying and addressing staffing, partnership, training, and other resource needs, working on a collaborative care team can be challenging and burnout is a common problem. This is especially true for care managers in their central roles requiring frequent communication with patients, PCPs, and psychiatric consultants. It is important for care teams to discuss early in the process how they will support the care manager. The supervising physician, psychiatric consultant, or a clinic administrator may fill the role of front-line support of the care managers, as a person the care managers can use to discuss difficult patients and other on-the-job frustrations. Sometimes providing additional clinical supervision and training may be needed to support staff working in a collaborative care program. PCPs also will benefit from support, especially orientation to how to effectively access psychiatric recommendations and communicate with the psychiatric consultant. Psychiatric consultants may find it helpful to develop a network of colleagues engaged in collaborative care work to share ideas about this type of work. A strength of the collaborative care team model is inherently supportive, and team members will learn to support each other as they work together.

As there is increasing interest in how to support high-functioning health care teams [19], there has also been increasing interest in how to support implementation of new team-based programs. One study has found that team-based reflection can facilitate the implementation process [21]. In this study, the authors had teams that were implementing a new program meet for several 1-h facilitated meetings to reflect on the implementation process as a team. Three common types of reflection were observed: operational reflection, which promoted buy-in, motivation and inspiration; process reflection, which enhanced team problem solving; and relational reflection, which enhanced discussions of relational dynamics of the change process. Building in an opportunity for new collaborative care teams to meet regularly and reflect as a group on the process of implementation may be another method to support the development of a high-functioning collaborative care team.

As highlighted in the principles of collaborative care (see Table 7.1), one of the most important ways to support collaborative care is to work as a team to be accountable for the outcomes of the program. Teams, or at a minimum key representatives, should meet regularly to review the specific goals and quality measures of the program that were set in the initial visioning phase of the team building process. Teams can use standard quality improvement methods, such as the "Plan, Do, Study, Act" Cycle [22], to facilitate systematic practice change and to evaluate the effectiveness of their programs, closely tracking such indicators as the number of patients enrolled and clinical outcomes. In the initial phases of a new program, post-implementation quality improvement meetings should occur weekly or at least monthly, and then as the program matures, comprehensive quality reviews should become a routinely scheduled part of the workflow (e.g., quarterly). The main goal of these quality improvement efforts is to evaluate progress towards overall program goals, but teams also learn about evaluating program level data and using this information to further refine clinical workflows and address gaps in resources or training. These activities ultimately strengthen the team's capacity to improve patient outcomes. Often, there are many successes in improved patient outcomes and celebrating these successes can be an important strategy to strengthen the team and the organization commitment to collaborative care.

Conclusion: Working Well Together

Although the process to develop a high-functioning team may seem detailed, the effort devoted to building a clear workflow can make the difference between a successful program and a program that struggles. When a team is truly collaborative and integrated, the team members will both enjoy working together and provide better patient care. Patients appreciate the ability to receive seamless, quality mental health care in a setting in which they are already comfortable and with a PCP with whom they have a trusted relationship. PCPs appreciate the ability to share the care of patients with care managers and the easy access by phone, e-mail, and notes to a designated psychiatric consultant who knows them and their practice. Care managers enjoy many aspects of working in a collaborative care team: the ability to get additional training, to help patients who often have no other access to mental health care, the opportunity to work closely with medical staff and to participate in weekly supervision with a psychiatric consultant who can support their work with challenging patients. The psychiatric consultants find this type of outpatient consulting a rewarding opportunity to work as part of a team, to see the impact of their work on a larger patient population, and to provide expert advice and educational support to motivated and appreciative teams of care managers and PCPs. Collaborative care providers from different backgrounds have the opportunity to enhance each other's ability to deliver effective care through learning about the other providers' expertise, valuing each other's perspectives and stretching their own professional abilities.

Building a high-functioning care team is the foundation to delivering effective collaborative care in diverse primary care settings and to support an organization in achieving the "triple aim" of better patient satisfaction and outcomes at a lower cost. The team-building process reviewed in this chapter places the focus on functions of team members as opposed to narrowly defining professional roles. This allows for flexibility to tailor the process to a variety of clinical populations, practices, and available staff members. A focus on key principles of effective collaborative care, especially the attention to measurement-based practice, treatment to target, and accountability for patient outcomes is often a shift and a new challenge for collaborative care team members; however, the reward in improving patient outcomes is often profound.

When considering the fact that only 2/10 adults with common mental disorders receive care from a mental health specialist in any given year [3], and primary care practices have long been recognized as the "de facto" location of care for most adults in the USA with common mental disorders such as depression [23], team-based collaborative care provides a unique opportunity to have a population impact as a mental health professional, especially as a psychiatrist. Building a value-added team to provide collaborative care in primary care settings requires overcoming real barriers, but the reward is the opportunity to both provide much needed mental health care and enjoy working as part of a dynamic care team is worth pursuing.

References

1. Moussavi S, Chatterji S, Verdes E, Tandon A, Patel V, Ustun B. Depression, chronic diseases, and decrements in health: results from the World Health Surveys. Lancet. 2007;370(9590): 851–8. PubMed PMID: 17826170.
2. Katon W, Ciechanowski P. Impact of major depression on chronic medical illness. J Psychosom Res. 2002;53(4):859–63. PubMed PMID: 12377294.
3. Wang PS, Lane M, Olfson M, Pincus HA, Wells KB, Kessler RC. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005;62(6):629–40. PubMed PMID: 15939840.
4. Thota AB, Sipe TA, Byard GJ, Zometa CS, Hahn RA, McKnight-Eily LR, et al. Collaborative care to improve the management of depressive disorders: a community guide systematic review and meta-analysis. Am J Prev Med. 2012;42(5):525–38. PubMed PMID: 22516495.
5. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. Arch Intern Med. 2006;166(21): 2314–21. PubMed PMID: 17130383.
6. Archer J, Bower P, Gilbody S, Lovell K, Richards D, Gask L, et al. Collaborative care for depression and anxiety problems. Cochrane Database Syst Rev. 2012;10, CD006525. PubMed PMID: 23076925.
7. Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: translating evidence into action. Health Aff (Millwood). 2001;20(6):64–78. PubMed PMID: ISI: 000172297900010.
8. U.S. Department of Health and Human Services. Mental health: a report of the surgeon general. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, NIMH; 1999.

9. New Freedom Commission on Mental Health. Achieving the promise: transforming mental health care in America. Final report. Rockville, MD: Department of Health and Human Services Pub No SMA-03-3832; 2003. Available from: http://www.mentalhealthcommission.gov/reports/finalreport/toc.html
10. National Registry of Evidence-based Programs and Practices (NREPP). IMPACT (Improving mood—promoting access to collaborative treatment) [website]. The Substance Abuse and Mental Health Services Administration (SAMHSA); 2012 [updated 2012 Jun 19; cited 2013 Mar 29]. Available from: http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=301
11. Katon W, Unützer J. Consultation psychiatry in the medical home and accountable care organizations: achieving the triple aim. Gen Hosp Psychiatry. 2011;33(4):305–10. PubMed PMID: 21762825.
12. Unutzer J, Katon W, Callahan CM, Williams Jr JW, Hunkeler E, Harpole L, et al. Collaborative-care management of late-life depression in the primary care setting. JAMA. 2002;288(22): 2836–45. PubMed PMID: 12472325.
13. Lin EH, Tang L, Katon W, Hegel MT, Sullivan MD, Unutzer J. Arthritis pain and disability: response to collaborative depression care. Gen Hosp Psychiatry. 2006;28(6):482–6. PubMed PMID: 17088163.
14. Unützer J, Katon WJ, Fan MY, Schoenbaum MC, Lin EH, Della Penna RD, et al. Long-term cost effects of collaborative care for late-life depression. Am J Manag Care. 2008;14(2): 95–100. PubMed PMID: 18269305.
15. Uebelacker LA, Smith M, Lewis AW, Sasaki R, Miller IW. Treatment of depression in a low-income primary care setting with colocated mental health care. Fam Syst Health. 2009;27(2): 161–71. PubMed PMID: 19630457.
16. University of Washington. AIMS (Advancing Integrated Mental Health Solutions) Center [website]. Seattle, WA: University of Washington; 2013 [updated 2013 Mar 29; cited 2013 Mar 29].
17. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med. 2001;16(9):606–13. PubMed PMID: 11556941.
18. Kathol RG, Butler M, McAlpine DD, Kane RL. Barriers to physical and mental condition integrated service delivery. Psychosom Med. 2010;72(6):511–8. PubMed PMID: 20498293.
19. Wynia MK, Von Kohorn I, Mitchell PH. Challenges at the intersection of team-based and patient-centered health care: insights from an IOM working group. JAMA. 2012;308(13): 1327–8. PubMed PMID: 23032546.
20. Sargeant J, Loney E, Murphy G. Effective interprofessional teams: "contact is not enough" to build a team. J Contin Educ Health Prof. 2008;28(4):228–34. PubMed PMID: 19058243.
21. Shaw EK, Howard J, Etz RS, Hudson SV, Crabtree BF. How team-based reflection affects quality improvement implementation: a qualitative study. Qual Manag Health Care. 2012;21(2): 104–13. PubMed PMID: 22453821.
22. Varkey P, Reller MK, Resar RK. Basics of quality improvement in health care. Mayo Clin Proc. 2007;82(6):735–9. PubMed PMID: 17550754.
23. Regier DA, Narrow WE, Rae DS, Manderscheid RW, Locke BZ, Goodwin FK. The de facto US mental and addictive disorders service system. Epidemiologic catchment area prospective 1-year prevalence rates of disorders and services. Arch Gen Psychiatry. 1993;50(2):85–94.

Chapter 8
Integrating Care in the Public Sector

Silke A. von Esenwein and Benjamin Druss

Abstract Patients with serious mental illnesses (SMI) have greater odds of having chronic and multiple physical comorbidities, leading to increased morbidity and early morbidity. The majority of the population receives their health care services in public sector settings. Historically, there have been ongoing concerns about poor coordination and integration of primary care and mental health services in the public sector, leading to poor quality of care and outcomes for patients. This chapter provides an overview of the historical roots of the current public health and mental health systems, and addresses clinical and professional issues arising for psychiatrists in light of anticipated changes to the public mental health system.

Introduction

Over the course of the last 50 years, there have been ongoing concerns about poor coordination and integration of primary care and mental health and substance use disorder, hereafter referred to as behavioral health (BH), services in the public sector [1]. The 2010 Affordable Care Act (ACA) provides the chance to change the landscape of health care services in the public sector through insurance expansion and demonstration projects testing new models of care delivery [2]. In order to meet the demands of an expanded and restructured public health system, new models of care will be needed, as well as a reevaluation of the roles and competencies required of BH providers, including psychiatrists. In light of a chronic shortage of BH providers [3], this will require innovative approaches to patient care and care coordination.

S.A. von Esenwein, Ph.D. (✉) • B. Druss, M.D., M.P.H.
Center for Behavioral Health Policy Studies, Rollins School of Public Health, Emory University, 1518 Clifton Road, Atlanta, GA 30322, USA
e-mail: svonese@emory.edu

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_8,

This chapter provides an overview of the historical roots of the current public health and BH systems and addresses clinical and professional issues arising for psychiatrists in light of anticipated changes to the public mental health system.

The Public Sector: Populations, History, and Current State

The Public Health and BH System

Community Health Centers (CHCs) and Community Mental Health Centers (CMHCs) are two of the most important threads in this public health safety net for persons who are uninsured and poor, including for those with serious mental disorders. In "America's Health Care Safety Net: Intact but Endangered," the Institute of Medicine defines safety net providers as those who "…offer care to patients regardless of their ability to pay for those services…a substantial share of their patient mix are uninsured, Medicaid, and other vulnerable patients" [4]. Nationwide, there are more than 1,200 CHCs that provide primary care services to more than 22 million individuals. CMHCs provide about one-third of all mental health episodes in the United States [5], and a far higher proportion of all visits by patients with severe mental disorders [6] and those without insurance [7].

The patients receiving care in CHCs and CMHCs are among the nation's most vulnerable populations: About half of patients that seek services in the public sector either reside in rural areas or live in economically depressed inner city communities, more than two-thirds of whom have incomes below the poverty line and 60 % of whom are persons of color [8]. Although the patient populations that CHCs and CMHCs share have some similarities, the two systems operate largely independently, with little or no coordination between providers or sites. In its report on the public safety net, the IOM describes "the single greatest flaw of the mental health safety net is its nearly total disconnection from the core [general medical] safety net" ([4], p. 189). The first part of this chapter will provide an overview of the historical roots of this divide.

Community Health Centers

Community Health Centers (CHCs) are nonprofit, community-directed provider organizations that provide primary medical care to communities confronted with significant financial, geographic, language, cultural, and other barriers. The first CHCs were founded in the wake of President Johnson's "War on Poverty" in the 1960s, after the passage of the landmark Economic Opportunity Act of 1964. The goal of the CHC model was to empower local communities with federal funds to establish clinics that would not only provide accessible medical care, but also serve as a creator for jobs and as an investment in the infrastructure of struggling communities. Shortly thereafter, the passage of Medicaid and Medicare in 1965 significantly expanded access to physical health benefits to the elderly, disabled, and families living in poverty. The expansion was followed in 1975 by the passage of The Community Health Center program, which authorized the creation of Federally Qualified Health Centers (FQHCs) under section 330 of the Public Health Service Act, marking the official "birth" of CHCs.

Since 1975, CHCs have grown to be an integral and essential part of the nation's health delivery system, and constitute the largest group of safety net primary care providers in the United States. Currently, CHCs operate under the auspices of The Health Resources and Services Administration (HRSA) and the Bureau of Primary Health Care (BPHC) administration, which are part of the U.S. Department of Health and Human Services. Consequently, CHCs must remain in compliance with all of the FQHC regulatory requirements established by Medicaid and Medicare, including reporting extensive data on patient demographics and services provided (the Uniform Data System), and program performance indicators (GPRA, Government Performance and Results Act).

CHCs are uniquely positioned to respond to the increased demand for BH services that will result from the Medicaid eligibility expansion in 2014. The ACA will provide funding to increase the number and capacity of federally qualified health centers by providing an additional $11 billion in dedicated funds to the health centers program from 2011 to 2015 [9]. It has been estimated that CHCs will more than double health center caseloads, from 18.8 million patients in 2009 to as many as 44.1 million in 2015 [10], many of whom will seek BH services.

While a majority of CHCs employ BH specialists, for the most part they rely on their primary care providers to deliver the majority of BH services. Due to a severe shortage of psychiatrists and other BH professionals in the public sector [11], the increased use of primary care providers without psychiatrists has been on the rise in the last decade [12]. More widespread use of BH screening tools, reduced stigma, and the development and heavy promotion of new, safer antidepressants and other psychotropic medications have encouraged care of BH disorders solely in general medical settings, especially for the treatment of depression [13]. It is estimated that there are about twice as many primary or family care physicians in the United States [14]. About 40 % of urban family physicians and 52 % of rural family physicians report providing mental health services [14]. In addition, there are far more nonphysician mental health providers, including nurses, social workers, and psychologists, than psychiatrists and family physicians combined, and they play a significant role in the provision of mental health services in CHCs [15]. Consequently, CHC staff and providers will be expected to address gaps in mental health care in urban and rural settings [16].

While many patients with BH illnesses can be served in the primary care setting, there may be less access to evidence-based psychotherapy, and clinical and case management capacity may be more challenging for patients with serious mental illnesses, such as schizophrenia and bipolar disorder [17]. Primary care providers tend not to be trained in how to interact with patients with serious mental disorders, and may, therefore, not engage with the patients effectively [18]. In our work, we have received numerous reports from patients with SMI of not being believed about physical symptoms [19]. ("They thought my itching skin was me hallucinating") or not receiving adequate consent for procedures ("He told me to just sign this and then I would have a small operation that would make the pain go away. I had no idea that they took out my uterus!"). Furthermore, they may miss or misinterpret the early warning signs of a psychiatric crisis [20] and may be less familiar with treatments for schizophrenia and bipolar disorders than for depression. Furthermore, primary care providers are often not prepared to provide the extensive support and clinical services needed by people with SMI, including assistance with employment, housing, and acute care interventions [21]. Interestingly, these are also services often needed but not supplied for those with just physical disease.

Community Mental Health Centers

Community Mental Health Centers (CMHCs) are nonprofit organizations providing BH services to underserved communities. In parallel to the establishment of CMHCs, several pieces of federal legislation were instrumental for the emergence of CMHCs. The Barden-Lafollete Act of 1943 mandated that people with SMI receive federal and state rehabilitation services. Shortly thereafter, the National Mental Health Act of 1946 established the National Institute of Mental Health (NIMH), an organization whose intent was to apply the public health approach to mental health. The 1946 Act allowed the federal government to provide grants to create new mental health treatment centers and supporting outpatient treatment provided by the state.

In the 1960s, driven by patients' rights advocacy, court rulings and laws emerged that made involuntary hospitalization more difficult and enforced higher-quality care in psychiatric hospitals; there was a growth in CMHCs, especially due to the Community Mental Health Center Act of 1963. The 1963 Act signified a significant shift from treating individuals with SMI in state mental hospitals to treatment in community-based settings and "least restrictive environments." It allowed for federally matched state grants to help create new community-based treatment centers.

President Kennedy's "bold step forward" in mental health care had four overriding goals: to supplement, surpass, and eventually replace the state mental hospital system of care; to establish a new system of community-based care that would provide mental health services to all in need; to place these services in close proximity to general hospital psychiatric services and beds to enhance the integration with medical care; and to support research and workforce development. The new community-based system was intended to serve "catchment areas" where inpatient, outpatient, emergency, and consultation services would be provided nationwide by the 1970s. However, competing fiscal priorities and resistance by the Nixon administration to support the program resulted in the failure to establish a network of community-based centers in the planned catchment areas.

In 1977, congressional hearings chaired by First Lady Rosalyn Carter revealed that the CMHC programs were not “catching” or providing care for patients discharged from state mental health hospitals. In order to invigorate the program, the Carter administration established the Community Support Program (CSP). The money was to be given to the states specifically to help coordinate services “for one particularly vulnerable population—adult psychiatric patients whose disabilities are severe and persistent.” The legislation passed 1 month before the elections in 1980, but in 1981, the Reagan administration terminated the federal CMHC program altogether. The CSP program remained as part of NIMH until 1992, at which time a decision was made to move it under the oversight of mental health services from the NIMH to the newly created Substance Abuse and Mental Health Services Administration (SAMHSA).

The 1981 Omnibus Budget Reconciliation Act was a further push towards greatly expanding the autonomy of states on how to allocate resources towards BH. The Act dictated that federal funds previously disbursed to CMHCs would be block granted to states themselves. Furthermore, the federal appropriations for block grants were significantly less than the funding previously available to community programs. The reduced federal fiscal support left the public BH system to compete with many other state government programs for already limited state funds. While the State Mental Health Planning Act of 1986 now allowed CMHCs to receive reimbursement from Medicare and Medicaid, in most states, block grant funding meant that BH spending fell far behind other spending priorities such as corrections. Over time, Medicaid funding offsets more than half of the reduced state spending on BH care, making it the largest payer of BH services in the United States, although many of these programs were managed by separate funding streams or payers [22].

The fiscal crisis starting in 2007 resulted in severe cuts to an already strapped public BH system, resulting in the largest decrease in BH spending since the late 1960s at a time of increased demand for community BH services. While states took different approaches to dealing with the spending cuts, most states resorted to cutting essential adult and children’s BH services, including crisis, day program, and employment training services.

The state control of BH services had the effect of creating a Community Mental Health system that operates under heterogeneous state guidelines for standards of care, reimbursement rules, and local site governance, and with no enhanced financial support under the ACA. In contrast to sites within the federally financed and regulated CHC network, CMHCs present a more heterogeneous profile in terms of accountability and quality of treatment [74].

For persons with an SMI, public BH clinics are often the first and only points of contact with the health care system [23]. For instance, female patients who report feeling understood and trusted by their BH provider tend to be more engaged with the health care system in general [19]. While this would make CMHCs a logical place for the provision of medical services to this population, most CMHCs do not have the economies of scale to deliver a full range of medical services onsite, have developed a cultural style of practice different from the general health system, or are often unable to coordinate a full spectrum of medical problems without access to a larger team of specialist providers and services [24]. Furthermore, CMHCs are typically not able to obtain reimbursement for provision of medical services under either Medicaid or state block grants for the uninsured [22, 25, 26], making it a challenge to finance these models of care [22, 25, 27, 28].

As a consequence, people with SMI treated in these settings commonly have poor access to, and quality of, primary medical care [29]. In addition to poor quality of care, lifestyle risk factors such as smoking, poor diet, and physical inactivity all contribute to premature mortality in patients treated in the public BH sector [30]. Improving physical health and reducing premature mortality for patients treated in the public sector will require close attention to improving access to primary medical care and addressing adverse health behaviors in the context of sociodemographic disadvantage. CMHCs can play an important role in these efforts, as can community psychiatrists who practice in these organizations [31, 32].

Mending the Safety Net: Models for Collaboration Between CMHCS and FQHCS

Increasingly, CMHCs and FQHCs are developing partnerships [33] to jointly manage populations they share. These partnerships create virtual health homes in which the two organizations jointly provide "comprehensive, person-centered care and integrating the physical and BH needs of patients" [34]. These health homes are not required to provide all services themselves, but have to ensure that services can be accessed and become part of a coordinated treatment plan. The decision for a particular structure will be based on the resources of the BH agency, including the existing physical facilities, availability of community partners, financing options, the number of patients served, the available workforce, and other factors [35].

The first option is the in-house model. In this model, the "parent" agency employs behavioral and primary care providers that are responsible for providing all required behavioral and physical health services [35, 36]. The agency has complete control over the service delivery and quality, and may be able to implement any necessary changes quickly, without having to consult partner agencies. For instance, a randomized trial has shown that in-house treatment for patients with substance use-related medical conditions resulted in higher rates of abstinence when compared to the usual care group and total lower cost [35].

However in-house models require considerable resources for planning, start-up, and implementation, and may therefore be more suited for larger systems, such as large public sector hospitals or Veterans Administration facilities. Even when the bulk of care is delivered onsite, memoranda of understanding with other community agencies will typically be needed for complex patients for specialty services such as medical subspecialists (e.g., endocrinologists), dental services, and social support services.

In light of the significant resources needed to create an in-house model, many agencies are pursuing partnership-based approaches to create a PCMH [35]. In this model, a CMHC sets up a satellite mental health clinic inside of an FQHC or an FQHC sets up a primary care clinic within a CMHC. In either case, the clinic is able to bill under their parent organization. Furthermore, it enables sites to refer more complex cases back to the parent organization for consultation or ongoing care.

The co-located partnership model serves as the primary approach for SAMHSA's Primary Behavioral Health Care Integration (PBHCI) grant program [33]. This program, currently funded by the Affordable Care Act's Prevention and Public Health Fund, is a nationwide demonstration project that has awarded 94 grants to community-based health agencies to collaborative partnerships between primary care and behavioral health care sites. The goal of this grant program is to provide medical services to people with SMI using primary care providers and nurse care managers embedded in the mental health center.

While a promising approach, this partnership model requires the development of a close working relationship between community partners. Differences in organizational cultures need to be overcome, communication and medical information flow need to be established, and administrative processes, such as billing and scheduling, need to be coordinated. In our qualitative work for this program, we have observed that organizational culture and information flow are significant barriers in establishing integrated workflow. For instance, FQHCs tend to have a more hierarchical decision structure, which makes it hard for treating clinicians to make independent and timely connections with BH providers without going through a lengthy approval process. On the other hand, BH providers report feeling less restricted by organizational processes reaching out to primary care providers, and are frustrated with the perceived lack of responsiveness from the primary care counterparts. Furthermore, there are significant barriers with sharing information about patients since most current electronic medical systems are not usually equipped to easily exchange information, and privacy concerns, often stimulated by stigma or prior dismissal of medical complaints by the general health system, often make release of information more difficult. These communication difficulties appear to provide many opportunities for miscommunication and feelings of frustration among providers.

A third structural option for behavioral health agencies is a facilitated referral model. In this approach, the agency develops a system of coordinated referrals to partnering agencies. For instance, a BH agency might conduct physical health screenings onsite, and then refer patients who require services to primary care providers in the community. In most cases, the facilitated referral model employs a case manager who acts as a central facilitator between patients, BH, and primary or specialty care providers. Furthermore, the care manager is responsible for tracking the behavioral and health status of patients, provides client health education, and encourages patients to become more active and engaged participants in their health care [21]. In the PCARE study, two nurse care managers located in a CMHC provided patient education and activation, communication and advocacy with medical and BH providers, and helped overcome system-level barriers to care such as underinsurance and lack of transportation [37]. At 12-month follow-up, subjects in the PCARE group were significantly more likely to have a usual source of primary care, had significantly fewer ER visits, and had significantly higher rates of improvement in preventive medical care measures [37].

Core Clinical Features of Public Sector Integrated Care Models

Regardless of the system-level approach used in developing relationships between CMHCs and FQHCs, certain key features need to be provided to make sure that patients receive the best care possible [38]. Care should be *person-centered,* guided by individual patients' needs, preferences, and expectations [35]. With person-centered care, the patient is an engaged and informed collaborative participant in care. In addition, patients need education and activation [35] to make decisions and participate in their own care.

In the public sector, person-centered care translates into a strong focus on recovery-focused practice that prioritizes patients' individual needs [39]. Treatment plans are expected to be established in consultation with patients, and are made in the context of individual cultural and spiritual influences. In patient-centered psychiatric care, therapeutic approaches and treatment techniques are nonjudgmental, motivational, hope-inspiring, and sensitive to traumatic experiences, including adverse childhood experiences and involuntary inpatient hospitalizations. Studies of people with a SMI suggest that trauma exposure is nearly universal, with multiple traumas being the norm. Thirty-four to fifty-three percent report child abuse and 43–81 % report lifetime victimization [40]. As the majority of patients with SMI are seen in the public sector, trauma-sensitive care is an essential tool for mental health care providers.

Public sector care for people with mental illnesses should also be *population-based* [38]. Population-based care involves screening and outcome-driven treatment that ensures that all members of a clinic or geographic region receive treatment [41]. Populations can be defined by a particular condition, set of characteristics, practice/provider group, or other parameters, and their health outcomes are actively and systematically identified, tracked, and managed. While they are important for all settings, these population-based approaches are particularly important in the public sector, where many patients tend to use less health care overall [42], including going without primary care and preventive services [43]. When they do seek care, they are more likely to use an emergency room as their main source of care [44], to be hospitalized for ambulatory care sensitive conditions [45], to receive poor quality of care [46], to be diagnosed at an advanced stage of disease [45], and to have higher rates of hospital readmissions [47].

Care management is a key strategy in population-based care (see Chap. 6). Care management entails following a defined population of patients to monitor their treatment response and coordinate adjustments to care as needed. In addition to performing health education and treatment assessments, care managers help with linking the patient with the appropriate resources and services that allow them to achieve their personal health goals and good health [48]. Care managers also have the important role of ensuring that communication is established and maintained between team care members. Thus, care managers can be the “glue” that holds treatment teams together. In the public sector, care managers typically need to go past managing medical or BH problems and need to help patients with a broader array of services such as housing, transportation, and employment.

While most care coordinators are either social workers or nurse case managers, successful care coordination can also be implemented and sustained by trained peers, community health workers, and health navigators, especially given their ability to connect with patients due to shared experience and/or background [49, 50]. Peer support programs have capitalized on the lived experience of individuals with mental health and substance use disorders to offer education and self-management support services with positive outcomes [51–53]. In addition, peer health navigators have been shown to be effective in providing self-management support in the patient-centered medical home [54, 55]. Because these individuals have less training than nurses and social workers, the care management functions they can provide will be more limited. However, they are becoming an increasingly important component of integrated care teams, and it is essential that psychiatrists be accustomed to working with this emerging work force.

To keep track of specific patient groups, care teams use *patient registries* to collect basic clinical data, including assessment or lab results, treatment regimens, and appointments. Registries then give provider teams the ability to systematically review health outcomes, coordinate health care services and follow-up, and identify weaknesses and gaps in care. Registries identify the populations of interest, and have fields for key BH and medical outcomes. For mental health care delivery, key outcomes include depression measures such as the PHQ-9 or the Alcohol Use Disorders Identification Test (AUDIT) [56]. For medical care delivery, these will typically include parameters such as blood pressure, serum cholesterol, and hemoglobin A1C.

Workflow streamlining, tracking of individual and population-based outcomes, and real-time information exchange can be facilitated with the help of sophisticated, system-wide computerized information systems. Evidence suggests that when carefully implemented, *health information technologies (HIT)* have a positive impact on behavior, as well as operational, process, and clinical outcomes [57]. The use of HIT will also allow providers to have access to embedded decision flow charts for various conditions, and send providers alerts when they prescribe a treatment that appears to be contraindicated, giving the provider an opportunity to review or explain his/her decision [57].

Despite the evidence of benefits of coordinated health information exchange between organizations [57], implementation of electronic medical records and other HIT technologies has been limited, especially in the public health and BH sector [58]. The decision to exclude community mental health centers and nonphysician behavioral health care providers from the incentives in 2009’s Health Information

Technology for Economic and Clinical Health (HITECH) Act means that this transformation is getting a later-than-ideal start [59]. Future IT investments in this sector will be critical, and psychiatrists will be called upon to encourage the implementation of HIT technologies in the settings where they work.

Telehealth strategies are a potential mechanism for increasing access to medical and BH care services for underserved populations seen in the public sector. For instance, Fortney et al. [60] found that, in smaller, primarily rural FQHCs, depression care management via telemedicine was more effective in treating depression than care management set in practice-based collaborative care. Patients treated in the telemedicine group reported significantly higher BH status, reductions in depression severity, and improved quality of life, when compared with patients treated by clinicians in the collaborative care group. While the cause for this difference is not clear, it appears that telemedicine care managers showed a higher fidelity to the care manager protocol and provided more encouragement for patients to engage in self-management activities, when compared to onsite depression care managers.

The integrated health home requires providers to work together as part of a *multidisciplinary team* that shares responsibility for addressing patients' comprehensive care needs. Team member may include psychiatrists and other BH providers, primary care providers, social workers, administrators, peer specialists, and even lawyers [61]. To be effective, integrated care teams do not only share common office space, office supplies, medical records, and shared billing and scheduling services, but are also engaged with the improvement of both general medicine and BH outcomes for patients [62]. Regardless of location or organizational structure, it is essential that the members function as a single unit with clear roles, a shared plan, effective communication, sensitivity to the differing cultures of general medicine and BH, and mechanisms for coordinating care between team members.

Roles for Psychiatrists in Emerging Public Sector Models

In these emerging models, the clinical and administrative activities expected of psychiatrists will differ from the traditional one-on-one clinic prescriber role. For psychiatrists, this will demand comfort with relinquishing part of their psychiatric "turf" and extensively working with non-psychiatrist providers, including care managers and peer specialists [63, 64]. To date, relatively few psychiatrists have had experience with working in collaborative care settings [65]. However, the changing health care environment will provide psychiatrists with many opportunities to collaborate with providers across the health care spectrum and to become champions for integrated care models.

In FQHCs, psychiatrists are increasingly working as onsite specialist consultants. In this configuration, the primary care provider can request a psychiatric consult when needed and is able to communicate with the mental health provider frequently. The primary care provider has the opportunity for a "warm hand-off" to the co-located psychiatrists, reducing high no-show rates usually seen in the public sector, and patients can usually be seen the same day [66]. Furthermore, primary care providers are more likely to refer patients to BH services, and communication between providers is improved by increased personal contact and the availability of "curbside" consultations [67]. In a setting with a higher level of integration [68], psychiatrists may be part of interdisciplinary treatment teams and are responsible for monitoring BH needs for identified populations, and to provide supervision and guidance to team members [67].

In CMHCs, integrated care will likely result in the expansion of psychiatrists' traditional scope of work to preventive physical and BH care, including screening for medical risk factors, patient health educations, treating common medical conditions, and involvement in wellness activities [65]. In CMHC settings with limited access to primary care, psychiatrists may manage or co-manage cardiometabolic conditions and other common diseases, including conducting health screening for common health conditions and cardiometabolic risk factors such as glucose and lipid levels, blood pressure, weight, waist circumference, body mass index, HIV status, Hepatitis C, and carbon monoxide [65]. This will require knowledge about preventive practices and guidelines, including the U.S. Preventive Services Task Force recommendations [69].

Furthermore, psychiatrists will have to be familiar with the guidelines for higher risk subgroups, such as those for patients on second-generation antipsychotics [70]. Nearly all psychiatric medications can cause increased weight and metabolic abnormalities [71]. Atypical antipsychotics, in particular, may lead to weight gain, due both to increased appetite and to hypertriglyceridemia and insulin resistance. Switching to lower-risk antipsychotics may improve metabolic abnormalities in patients on second-generation antipsychotics [70]. Thus, psychiatrists will have to have knowledge about metabolic effects of antipsychotics, and know about safe and effective medication switching protocols.

There is a growing recognition of the importance of the role of environmental factors in facilitating or being detrimental to the behavioral or physical health of people [72]. Patients seen in the public sector not only carry the largest burden of chronic disease and have limited access to care, but are also exposed to higher rates of potentially detrimental environmental, economic, and *social determinants of health* than other groups [72]. A number of social and environmental factors have been correlated with an increase in overall prevalence of BH disorders, including child abuse or neglect, low social support, low income or unemployment, poor neighborhood conditions, and insecure housing [72]. Thus, an understanding of environmental determinants of health is especially crucial for clinicians treating underserved populations. For instance, in our work [37] we have learned that social and environmental issues often created significant barriers for patients' adherence to treatment protocols, and that patients considered their social issues more pressing than any physical and BH concerns our clinical team wanted to prioritize.

In any safety-net setting psychiatrists will need to develop skills for working in and leading teams. Working in teams can be difficult due a variety of reasons, including differences in professional values, goals, and power issues [73]. There may also be communication issues because of profession-specific jargon and terminology. In a public health care environment where workloads are high and resources scarce, knowledge about team processes, conflict resolution, and effective delegation strategies will be essential skills for any psychiatrist in a team or leadership role. In order to step forward as team leaders in the behavioral safety-net setting, psychiatrists will need to develop management and leadership skills, including budgeting and use of population data to manage care. Furthermore, psychiatrists will have to become more comfortable with the pace and decision-making process in team settings, which may be a major shift for clinicians, who are used to making treatment decisions quickly and on their own.

Conclusion

Emerging models of integrated care in the public sector pose opportunities for BH patients and the providers who treat them. Greater focus on whole-patient needs, and focus beyond individuals to population-based models hold the promise to improve care in a fragmented public BH safety-net system. For psychiatrists, these also bring the chance to take on new roles in integrated care teams in both primary care and BH specialty settings. To make the most of these opportunities, psychiatrists will need to relearn basic medical skills, while learning new skills in wide-ranging fields including use of data to guide practice, information technology, and management/leadership skills. With these new skills, psychiatrists will have the opportunity to better make a major impact on improving care for a highly vulnerable population. As physicians with training in medicine and psychiatry, psychiatrists are well positioned to become leaders in this transformational period in health care.

References

1. Druss BG. The mental health/primary care interface in the United States: history, structure, and context. Gen Hosp Psychiatry. 2002;24(4):197–202.
2. Hawkins D, Groves D. The future role of community health centers in a changing health care landscape. J Ambul Care Manage. 2011;34(1):90–9. doi:10.1097/JAC.0b013e3182047e87.
3. Bureau of Labor Statistics. Occupational outlook handbook. Washington, DC: U.S. Department of Labor; 2012–2013.
4. Lewin M, Altman S. America's Health Care Safety Net. Washington, DC: Institute of Medicine; 2000.
5. Witkin M, Atay JE, Manderscheid RW, DeLozier J, Male A, Gillespe R. Highlights of organized mental health services. In: Manderscheid R, Henderson MH, editors. Mental Health, United States, 1988. Washington, DC: Department of Health and Human Services; 1998.
6. Kessler R, Berglund PA, Walters EE, Leaf PJ, Kousis AC, Bruce ML, et al. A methodology for estimating the 12-month-prevalence of serious mental illness. Mental Health, United States, 1998. Washington, DC: Department of Health and Human Services; 1998.
7. Hartley D, Bird DC, Lambert D, Coffin J. The role of community mental health centers as rural safety net providers. Portland, ME: Edmund S. Muskie School of Public Service; 2002.

8. Bureau of Primary Health Care. Uniform data system. Washington, DC: Health Resources and Services Administration; 2002.
9. Rosenbaum S, Jones E, Shin P, Tolbert J. Community health centers: opportunities and challenges of health reform. Washington, DC: Kaiser Commission on Medicaid and the Uninsured; 2010. p. 8098.
10. Ku L, Richard P, Dor A, Tan E, Shin P, Rosenbaum S. Strengthening primary care to bend the cost curve: The expansion of community health centers through health reform. Policy Research Brief No. 19; 2010
11. Rosenblatt RA, Andrilla CH, Curtin T, Hart LG. Shortages of medical personnel at community health centers: implications for planned expansion. JAMA. 2006;295(9):1042–9.
12. Forrest CB. Primary care in the United States: primary care gatekeeping and referrals: effective filter or failed experiment? BMJ. 2003;326(7391):692–5.
13. Olfson M, Marcus SC, Druss B, Elinson L, Tanielian T, Pincus HA. National trends in the outpatient treatment of depression. JAMA. 2002;287(2):203–9.
14. Xierali IM, Tong ST, Petterson SM, Puffer JC, Phillips Jr RL, Bazemore AW. Family physicians are essential for mental health care delivery. J Am Board Fam Med. 2013;26(2):114–5.
15. Health M. United States, 2010. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2012.
16. Miller BF, Druss B. The role of family physicians in mental health care delivery in the United States: implications for health reform. J Am Board Fam Med. 2013;26(2):111–3.
17. Culpepper L. The role of primary care clinicians in diagnosing and treating bipolar disorder. Prim Care Companion J Clin Psychiatry. 2010;12 suppl 1:4–9.
18. Lester H, Tritter JQ, Sorohan H. Patients' and health professionals' views on primary care for people with serious mental illness: focus group study. BMJ. 2005;330(7500):1122.
19. Borba CP, Depadilla L, McCarty FA, von Esenwein SA, Druss BG, Sterk CE. A qualitative study examining the perceived barriers and facilitators to medical healthcare services among women with a serious mental illness. Womens Health Issues. 2012;22(2):e217–24.
20. Anderson KK, Fuhrer R, Wynant W, Abrahamowicz M, Buckeridge DL, Malla A. Patterns of health services use prior to a first diagnosis of psychosis: the importance of primary care. Soc Psychiatry Psychiatr Epidemiol. 2013;48(9):1389–98.
21. Alakeson V, Frank RG, Katz RE. Specialty care medical homes for people with severe, persistent mental disorders. Health Aff (Millwood). 2010;29(5):867–73.
22. Koyanagi C. Get it together: how to integrate physical and mental health care for people with serious mental illness. Washington, DC: Bazelon Center for Mental Health Law; 2004.
23. Druss BG, Rosenheck RA. Locus of mental health treatment in an integrated service system. Psychiatr Serv. 2000;51(7):890–2.
24. St Peter RF, Reed MC, Kemper P, Blumenthal D. Changes in the scope of care provided by primary care physicians. N Engl J Med. 1999;341(26):1980–5.
25. Mauer B. Behavioral health/primary care integration: finance, policy and integration of services. Rockville, MD: National Council for Community Behavioral Healthcare; 2006.
26. Parks J, Pollack D, Mauer B. Integrating behavioral health and primary care services: opportunities and challenges for State Mental Health Authorities. Alexandria, VA: National Association of State Mental Health Program Directors; 2004.
27. Bartels SJ. Caring for the whole person: integrated health care for older adults with severe mental illness and medical comorbidity. J Am Geriatr Soc. 2004;52(12 suppl):S249–57.
28. Parks J, Svedsen D, editors. Morbidity and mortality in people with serious mental illness. Alexandria, VA: National Association of State Mental Health Program Directors; 2006.
29. Druss BG, Bradford WD, Rosenheck RA, Radford MJ, Krumholz HM. Quality of medical care and excess mortality in older patients with mental disorders. Arch Gen Psychiatry. 2001; 58(6):565–72.
30. Sokal J, Messias E, Dickerson FB, Kreyenbuhl J, Brown CH, Goldberg RW, et al. Comorbidity of medical illnesses among adults with serious mental illness who are receiving community psychiatric services. J Nerv Ment Dis. 2004;192(6):421–7.

31. Sowers W. Transforming systems of care: the American Association of Community Psychiatrists Guidelines for Recovery Oriented Services. Community Ment Health J. 2005; 41(6):757–74.
32. Pincus HA, Page AE, Druss B, Appelbaum PS, Gottlieb G, England MJ. Can psychiatry cross the quality chasm? Improving the quality of health care for mental and substance use conditions. Am J Psychiatry. 2007;164(5):712–9.
33. SAMHSA-HRSA Center for Integrated Health Solutions. http://www.integration.samhsa.gov/
34. What is a health home? Available from: http://blog.samhsa.gov/2010/12/04/what-is-a-health-home/
35. California Institute for Mental Health. www.cimh.org/portals/0/documents/CF%20Integration%20Paper%20-%20Volume%201.pdf
36. Parthasarathy S, Mertens J, Moore C, Weisner C. Utilization and cost impact of integrating substance abuse treatment and primary care. Med Care. 2003;41(3):357–67.
37. Druss BG, von Esenwein SA, Compton MT, Rask KJ, Zhao L, Parker RM. A randomized trial of medical care management for community mental health settings: the Primary Care Access, Referral, and Evaluation (PCARE) study. Am J Psychiatry. 2010;167(2):151–9.
38. AIMS Center. Patient-centered integrated behavioral health care principles and tasks. Seattle, WA: University of Washington; 2011.
39. Sowers W, Pollack D, Everett A, Thompson KS, Ranz J, Primm A. Progress in workforce development since 2000: advanced training opportunities in public and community psychiatry. Psychiatr Serv. 2011;62(7):782–8.
40. Mueser KT, Salyers MP, Rosenberg SD, Goodman LA, Essock SM, Osher FC, et al. Interpersonal trauma and posttraumatic stress disorder in patients with severe mental illness: demographic, clinical, and health correlates. Schizophr Bull. 2004;30(1):45–57.
41. Halpern R, Boulter P. Population-based health care: definitions and applications. Boston, MA: Tufts Health Care Institute; 2000.
42. Hoffman C, Paradise J. Health insurance and access to health care in the United States. Ann N Y Acad Sci. 2008;1136:149–60.
43. Ayanian JZ, Weissman JS, Schneider EC, Ginsburg JA, Zaslavsky AM. Unmet health needs of uninsured adults in the United States. JAMA. 2000;284(16):2061–9.
44. Newton MF, Keirns CC, Cunningham R, Hayward RA, Stanley R. Uninsured adults presenting to US emergency departments: assumptions vs data. JAMA. 2008;300(16):1914–24.
45. Clancy CM. The persistent challenge of avoidable hospitalizations. Health Serv Res. 2005; 40(4):953–6.
46. Pleis JR, Lucas JW, Ward BW. Summary health statistics for U.S. adults: National Health Interview Survey, 2008 (Data from the National Health Survey). Vital Health Stat 10. 2009; 242:1–157.
47. Berenson J, Shih A. Higher readmissions at safety-net hospitals and potential policy solutions. Issue Brief (Commonw Fund). 2012;34:1–16.
48. Druss B, von Esenwein S. Improving primary medical care for persons with mental and addictive disorders: systematic review. Gen Hosp Psychiatry. 2006;28(2):145–53.
49. Viswanathan M, Kraschnewski J, Nishikawa B, Morgan LC, Thieda P, Honeycutt A, et al. Outcomes of community health worker interventions. Evidence Report/Technology Assessment. 2009(181):1–144, A1-2, B1-14, passim.
50. Goodwin K, Tobler L. Community health workers expanding the scope of the health care delivery system. Washington, DC: National Council of State Legislatures; 2008.
51. Campbell J, Leaver J. Emerging new practices in organized peer support. Report from NTAC's National Experts Meeting on Emerging New Practices in Organized Peer Support March 17–18, 2003, Alexandria, VA.
52. Daniels A, Grant E, Filson B, Powel I, Fricks L, Goodale L. Pillars of peer support: transforming mental health systems of care through peer support services. Atlanta, GA: The Carter Center; 2010.
53. Salzer MS, Schwenk E, Brusilovskiy E. Certified peer specialist roles and activities: results from a national survey. Psychiatr Serv. 2010;61(5):520–3.

54. Genesys Health Network program summary in AHRQ Health Care Innovations Exchange. Available from: http://www.innovations.ahrq.gov/content.aspx?id=2905
55. Torres T. A model for self-management support in the patient-centered medical home. Grand Blanc, MI: Genesys Health Network; 2009.
56. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption—II. Addiction. 1993;88(6):791–804.
57. Hanson A, Levin BL. Mental health informatics. New York: Oxford University Press; 2013.
58. Druss BG, Dimitropoulos L. Advancing the adoption, integration, and testing of technological advancements within existing care systems. Gen Hosp Psychiatry. 2013;35(4):345–8.
59. Leonard K. Excluded groups want in on health information technology funding. Kaiser Health News; 2011.
60. Fortney JC, Pyne JM, Mouden SB, Mittal D, Hudson TJ, Schroeder GW, et al. Practice-based versus telemedicine-based collaborative care for depression in rural federally qualified health centers: a pragmatic randomized comparative effectiveness trial. Am J Psychiatry. 2013; 170(4):414–25.
61. St. Clair J. Lawyers join doctors to ease patients' legal anxieties. NPR Health; 2013.
62. Collins CC, Hewson DL, Munger R, Wade T. Evolving models of behavioral health integration in primary care. New York: Milbank Memorial Fund; 2010.
63. Bower P, Gilbody S, Richards D, Fletcher J, Sutton A. Collaborative care for depression in primary care. Making sense of a complex intervention: systematic review and meta-regression. Br J Psychiatry. 2006;189:484–93.
64. Berry-Millett R, Bodenheimer TS. Care management of patients with complex health care needs. The Synthesis project. Research synthesis report No. 19; 2009.
65. Shim RS, Koplan C, Langheim FJ, Manseau M, Oleskey C, Powers RA, et al. Health care reform and integrated care: a golden opportunity for preventive psychiatry. Psychiatr Serv. 2012;63(12):1231–3.
66. Runnels P. Case studies in public-sector leadership: addressing the problem of appointment nonadherence with a plan for a walk-in clinic. Psychiatr Serv. 2013;64(5):404–6.
67. Cerimele JM, Katon WJ, Sharma V, Sederer LI. Delivering psychiatric services in primary-care setting. Mt Sinai J Med. 2012;79(4):481–9.
68. Heath B, Wise Romero P, Reynolds K. A review and proposed standard framework for levels of integrated healthcare. Washington, DC: SAMHSA-HRSA Center for Integrated Health Solutions; 2013.
69. U.S. Preventive Services Task Force. Available from: http://www.uspreventiveservicestaskforce.org/
70. American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus development conference on antipsychotic drugs and obesity and diabetes. Diabetes Care. 2004;27:596–601.
71. Mitchell AJ, Vancampfort D, Sweers K, van Winkel R, Yu W, De Hert M. Prevalence of metabolic syndrome and metabolic abnormalities in schizophrenia and related disorders—a systematic review and meta-analysis. Schizophr Bull. 2013;39(2):306–18.
72. Fisher M, Baum F. The social determinants of mental health: implications for research and health promotion. Aust N Z J Psychiatry. 2010;44(12):1057–63.
73. Jenkinson J, Oakley C, Mason F. Teamwork: the art of being a leader and a team player. Adv Psychiatr Treat. 2013;19:221–8.
74. Kuno E, Rothbard AB. The effect of income and race on quality of psychiatric care in community mental health centers. Community Ment Health J. 2005;41(5):613–22.

Chapter 9
Integrating Child Psychiatric Care

Barry Sarvet and John Sargent

Abstract Families bring concerns about behavioral health in their children to their pediatric primary care providers. New models of primary care are integrating behavioral health screening, assessment, monitoring, and treatment into office practice. The Pediatric Medical Home is such a model utilizing care coordination to ensure attention to the whole child. Resources created by the American Academy of Pediatrics and the American Academy of Child and Adolescent Psychiatry are available to support this practice transformation. A variety of integration models are described including co-location of behavioral health professionals and video and telephone consultations. Barriers, including reimbursement issues, training needs, space considerations, and family and medical team comfort, all will need to be addressed to make integrated care a reality. The Affordable Care Act with its support for accountable care organizations may help build integrated pediatric care and support the pediatric medical home as the location of both medical and behavioral health care for children and families.

B. Sarvet, M.D. (✉)
Department of Psychiatry, Baystate Medical Center/Tufts School of Medicine,
3300 Main Street, 4th Floor, Springfield, MA 01199, USA
e-mail: barry.sarvet@baystatehealth.org

J. Sargent, M.D.
Department of Psychiatry, Tufts Medical Center, Boston, MA, USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_9,

Background

Working Definition of Integration

In the context of child psychiatry in primary care, integration represents the capability of the pediatric primary care practice to address the behavioral health needs of children in the primary care setting. Integration may occur:

At the *provider* level: That is, a primary care provider who has sought and developed advanced expertise in child psychiatry and utilizes this expertise within his/her general practice.

At the *practice* level: That is, the practice has children's behavioral health experts working as part of the primary care team. These experts may or may not be physically present in the primary care office.

Non-integration represents a lack of such capability of the practice, such that the child and family are told that behavioral health problems lie outside of the direct scope of responsibility of the practice. When behavioral health problems are either inadvertently detected or presented by families, the patients are told to seek help elsewhere.

Notwithstanding a long-standing Western philosophical tradition of attempting to separate the mind from the body, there is increasing recognition that the behavioral health and overall health of children cannot be clearly distinguished from one another. The high volumes of behavioral health concerns brought to the attention of pediatric primary care providers reflect broad societal acceptance of this principle. Nonetheless, our pediatric health care system has taken longer to come to grips with this. Many, if not most, pediatric primary care providers lack adequate training and resources and feel ill prepared to provide appropriate attention to the behavioral health needs of their patients [1].

There are many lines of evidence demonstrating the relationship between child and adolescent behavioral health problems and overall health. For example, early childhood trauma has been demonstrated to have observable effects on the developing brain, and early childhood exposure to adverse life experiences has been shown to be associated with significant chronic physical health problems in adulthood [2, 3]. This understanding of extreme psychological stress as a "toxic" influence on the nervous system and the body has been embraced as a fundamental public health principle. Accordingly, pediatric primary care providers are tasked with identifying children who are subject to severe psychosocial stressors and ensuring that they receive appropriate psychosocial and psychiatric services to mitigate their effects [4].

Integrating child psychiatry services within pediatric primary care is frequently understood to be a solution to an access-to-care problem. Approximately one in five children suffers from behavioral health problems severe enough to cause significant impairment in functioning [5]. These needs, unmet by other community resources such as schools and community behavioral health services, present in the pediatric setting. Pediatric primary care providers find themselves unable to simply serve as a clearinghouse, handing these patients off to children's behavioral health providers. Workforce shortages of child and adolescent psychiatrists are well documented across the United States [6], and referrals to child psychiatry services from pediatric settings frequently prove unsuccessful [7]. As a result, pediatricians are coming to the realization that they need child psychiatric resources and expertise that are truly connected to their practices helping them to meet the needs of these patients.

In addition to those children who have known behavioral health needs, there are many children whose behavioral health issues go unrecognized [8]. The vast majority of young children in the United States are seen by a pediatric primary care provider who is in a position to detect the presence of a behavioral health problem at an early stage, prior to the development of significant deviation in development and functioning. However, it has been clearly demonstrated that in the absence of systematic strategies to identify these children, the majority of behavioral health needs are not detected [9]. Universal screening of children in the primary care setting beginning in early childhood for behavioral health problems has been recommended [10]. In order for such screening in the primary care setting to be effective and sustainable, practices need the capability to follow up on positive findings. For example, positive responses on questionnaires call for further inquiry to determine clinical significance, and identified behavioral health needs call for further assessment and intervention planning. For these functions, the practice needs the expertise of child psychiatrists and other children's behavioral health professionals readily available if not integrated within the practice.

Actually, the concept of child and adolescent psychiatrists working closely with pediatricians is not new. Child psychiatry emerged as a distinct medical specialty in the 1950s at the intersection of pediatrics, developmental neurology, psychiatry, and social sciences. However, the profession's origins are in the child guidance clinic movement beginning in the early twentieth century [11]. In child guidance clinics, child and adolescent psychiatrist precursors were more aligned with human service and juvenile justice professionals than with their medical colleagues in pediatrics. To this day, child psychiatric services are provided in systems that are quite separated from the system of general health care services. As a result of this separation, ordinary transactions of referral and correspondence routinely occurring between pediatric primary care providers and regular pediatric subspecialists do not easily occur with child psychiatrists. In recent decades, this separation has been reinforced by separation in financing through the negotiation of behavioral health "carve-out" contracts by managed behavioral health organizations.

Fortunately, there is growing acceptance among policy makers, advocates, and stakeholders that child psychiatric services are a vital component of high-value pediatric primary care delivery. The patient-centered medical home model of pediatric primary care emphasizes principles such as accessibility, coordination, continuity of care, comprehensiveness, and cultural competence in addressing special health care needs of children. As behavioral health problems are among the most prevalent and costly of children's special health care needs, patient-centered medical homes will require tightly integrated child psychiatric resources in order to successfully implement this model. Accordingly, both the American Academy of Child and Adolescent Psychiatry and the American Academy of Pediatrics have been working to promote the collaboration and integration of behavioral health and primary care [12, 13].

Where We Are Now

Readiness of Health Care Professionals

The American Academy of Pediatrics has made children's behavioral health a strategic priority for the last decade. The publication by the AAP in 2002 of "Bright Futures in Practice: Mental Health" [14] strongly established behavioral health promotion as a fundamental aspect of pediatric primary care. Later, the organization's Children's Mental Health Task Force developed additional resources advancing and supporting the provision of behavioral health care in pediatric practice. The AAP Policy Statement "The Future of Pediatrics: Mental Health Competencies for Pediatric Primary Care" [15] published in 2009 specifically identified pediatricians as responsible for addressing the highly prevalent behavioral health needs of children and called on pediatricians to build collaborative relationships with behavioral health specialists.

Concurrently, the American Academy of Child and Adolescent Psychiatry (AACAP) has been working to advance the practice of collaboration with pediatric primary care within its membership. Members of this organization have partnered with AAP in all of their children's behavioral health initiatives. AACAP published its own policy statement on collaboration with pediatric medical professionals in 2008 [16] and later published a series of papers including a "Guide to building collaborative mental health partnerships in pediatric primary care" [17] and a set of "Best Principles for the Integration of Child Psychiatry into the Pediatric Health Home" [13]. This latter document proposed differential responsibilities and recommended collaborative practices for pediatric primary care providers and child and adolescent psychiatrists working together to meet the needs of children at four levels of progressive clinical complexity. At the lowest level of complexity, the pediatrician provides anticipatory guidance and routine behavioral health screening during well child care with the availability of a child psychiatrist for informal consultation regarding implementation of screening and interpretation of ambiguous clinical phenomena. The role of the child psychiatry specialist becomes more substantial at higher levels of patient complexity, moving to formal clinical consultation and assisting the pediatrician in treatment planning and monitoring. At the highest level of clinical complexity, the child psychiatry specialist assumes primary responsibility for the behavioral health treatment of patients with the pediatrician serving an advisory role regarding the impact of the psychiatric illness and its treatment on the patient's physical health.

There are also powerful economic forces driving pediatrics and child psychiatry together. There is no question that the accountable care organization (ACO) model of health care financing has been adopted as a dominant strategy for improving health care quality and containing health care costs in the United States. ACOs are groups or networks of health care providers financially accountable for achievement of quality outcome measures as well as the overall cost of care generated by a defined population of patients. The Patient Protection and Affordable Care Act

(ACA) signed into law in 2010 directed the Centers for Medicare and Medicaid Services to implement the Medicare Shared Savings Program that is based on an ACO financing model. The Act also called for the development of ACO models of Medicaid funding including pediatrics, and commercial insurance plans are similarly moving rapidly toward ACO contracting. The inherent strategy behind the ACO model is to provide a strong financial incentive to achieve positive individual and population health outcomes rather than the financial incentive to simply provide services. Strategies for achieving these outcomes include improved coordination of care, increased teamwork between primary care providers and specialists, early detection of disease, alternative payment methods, and a comprehensive patient-centered approach to primary care service delivery. Pediatric primary care providers are recognizing that partnering with child psychiatry specialists to provide timely access to behavioral health treatment in the primary care setting has the potential of ameliorating the course of psychiatric illness in future years and to improve physical health outcomes, thereby potentially improving the financial performance of their practice.

Models of Integration

Programmatic models for integrating child psychiatry within primary care have taken a variety of forms. By definition, all program implementations share the broad aims of enabling primary care delivery systems to address behavioral health needs of children and ensuring that behavioral health treatment is coordinated with physical health care. They differ however in their strategies and tactics to achieve these aims. The following two categories of integrated service delivery models have emerged across the United States: remote consultation models and co-located models. It should be noted that there is substantial variation within each and that hybrid models may have combined strategies from both.

Remote Consultation Model

Exemplified by the Massachusetts Child Psychiatry Access Project (MCPAP), remote consultation models provide collaborative behavioral health resources to primary care practices at a distance [18]. The MCPAP has six teams distributed across the entire state of Massachusetts offering the following services to enrolled pediatric primary care providers: (1) hotline access to indirect or “curbside” child psychiatry consultation, (2) expedited direct outpatient child psychiatry or psychological consultation, (3) telephone-based care coordination, and (4) educational resources. The reliable access to indirect and direct consultation services is designed to create a virtual presence of child psychiatry expertise for the primary care practice. Remote consultation models are proliferating across the United States, currently in various stages of development in 24 states.

Advantages

This type of service delivery model is especially suitable for population-based implementation across large regions. For example, MCPAP collaborates with over 1,200 pediatric primary care providers, covers 1.25 million children and adolescents, and provides over 20,000 encounters of service per year. Cost of the service is quite small on a per member per month basis; however, because the telephone consultation and care coordination are not ordinarily covered by insurance, the program is dependent upon dedicated public funding. The remote dedicated availability of the child psychiatrist allows the service to leverage the limited workforce of child psychiatrists across a large service area. The provision of consultation by child and adolescent psychiatrists along with allied children's behavioral health professionals allows for a comprehensive scope of practice including psychopharmacological questions and biological factors impacting behavioral health.

Limitations

The consultation model is inherently an on-demand system of delivery; therefore, the integration of behavioral health service is dependent upon the motivation of the pediatrician to engage with the service. This accounts for significant variability in the volume of behavioral health service delivery across practices. Lack of physical presence of child behavioral health professionals may be less preferable to pediatric primary care providers because it leaves them with more responsibility for direct assessment of children's behavioral health needs, a task which is relatively time consuming and for which they consider themselves inadequately prepared.

Co-located Model

In the present context, the term co-located describes a category of integrated behavioral health delivery, rather than the placement of a conventionally practicing behavioral health provider in a primary care space. Exemplified by the North Carolina's Primary Care-Children's Mental Health Initiative, in this model, one or more children's behavioral health professionals work within the pediatric primary care practice and practice as members of the primary care team. Licensed clinical social workers or psychologists, these providers deliver readily accessible informal consultation, clinical assessment, brief therapy, and case management. They may also help implement behavioral health screening protocols.

Advantages

Compared to remote consultation, this model provides more readily accessible assistance to the pediatric primary care clinician in the direct assessment of behavioral health needs and more opportunities for limited therapeutic services to be offered within the primary care setting. The immediately available on-site behavioral health services are designed to improve accessibility to families, thereby reducing the likelihood of referral failures. Co-located behavioral health professionals are able to proactively engage with patients in the primary care setting, ensuring more consistent provision of behavioral health delivery within the practice and facilitating strategies for detection of behavioral health problems within the primary care panel.

Limitations

More personnel intensive and requiring additional space within the primary care setting, this model is not as readily scalable in comparison to remote consultation programs. In most regions of the United States, child and adolescent psychiatry workforce limitations preclude the generalized co-location of child and adolescent psychiatrists in primary care settings; therefore, these systems must come up with additional strategies to address questions regarding biomedical behavioral health factors. In the absence of these additional strategies, pediatric primary care providers may be left without adequate resources to guide the judicious use of psychiatric medications, to escalate care for patients not responding to initial treatments, or for complex patient assessments.

Vision for Integrated Service Delivery

Healthy development, ability to function in line with potential, and the capacity to approach adulthood with options, abilities, and self-direction are the ultimate goals of childhood and one goal of family life. We view integrated health care as collaborating with families to achieve the best possible outcome for each child. Integrated health care responds to concerns of the whole child. The integrated health team possesses the capacities to assess both physical and behavioral health status and development and to engage families in long-term partnerships for the purpose of health promotion and management of health problems. The integrated health care team ultimately includes all of the health and behavioral health care professionals involved in the care of a child and his/her family. This may include several different behavioral health professionals, care coordinators, psychotherapists, therapeutic mentors, and child and adolescent psychiatrists. In many instances comprehensive care for children with complex behavioral health needs will need a dedicated behavioral health team which collaborates with the medical team. This will require the efforts of all to work together, communicate, and coordinate plans.

A compelling strategy for achieving these goals builds upon the pediatric medical home model [19]. This model was originally developed to provide monitoring and care for children with special health care needs, often with an organized connection to subspecialty consultants as well a care coordinator monitoring disease status, treatment engagement, and utilizing an electronic medical record to monitor the patient's status and plan for needed treatments. Although initial pediatric medical home implementations focused on chronic physical health problems, it has become evident that behavioral health problems are some of the most pressing special health care needs for children. In addition studies suggest that behavioral health concerns and problems are more common in children and adolescents with chronic health conditions. While behavioral health concerns occur in approximately 15–18 % of physically well children, the incidence of behavioral health concerns in chronically ill children is 25–30 % [20]. Care plans for these complex children will need to be comprehensive and integrated. Synergies with combined treatments can provide avenues for improvement in both physical and behavioral health. The incidence of comorbid chronic illness and behavioral health concerns varies depending on the child's age, chronic illness, and access to effective care. By noticing early signs of behavioral health problems in chronically ill children early recognition may lead to greater ease of treatment, reduced morbidity, and reduced costs of care. In order to be truly comprehensive, the pediatric medical home needs to encompass care for developmental and emotional/behavioral problems. In order for this to be possible, the recently emerging resources of consultation and co-located behavioral health services described in the previous section need to be incorporated into the pediatric medical home model.

Coordination of care is a central function of the pediatric medical home model. Care coordination in pediatric medical homes has been defined as "a patient and family-centered, assessment-driven, team-based activity designed to meet the needs of child and youth while enhancing the care giving capabilities of families. Care coordination addresses interrelated medical, social, developmental, behavioral, educational and financial needs in order to achieve optional health and wellness outcomes" [21]. This care coordination function needs to accomplish several tasks: family engagement [22], negotiation of problems with families, development of the treatment plan with the entire team, and management of communication with schools, services, and other professionals. Care coordination includes the capacity to access and collaborate with community resources, to empower families to own and direct treatment with the support of the treatment team, and to maintain the monitoring record ensuring necessary follow-up. Care coordination also can plan with the family an approach to treatment, evaluate progress and outcomes, consider and make available appropriate resources, and ensure the family's voice in the planning and executing care. Care management is a very specific set of skills which have been extensively described in the Integrated Care Management Manual by Kathol, Perez, and Cohen [23]. In the medical home model, care coordination is the collective responsibility of the entire primary care team and specific care coordination tasks may be provided by a variety of professionals.

Not only the primary care team will need to be expanded to include behavioral health professionals, but also members of the primary care team who are ordinarily accustomed to working with physical health issues will need to expand his/her skills in order to address behavioral health needs. For example, a nurse who acts as a care coordinator for chronically physically ill children will need to learn engagement skills with families with behaviorally challenged children as well as develop familiarity with community resources to assist them. A social worker or psychologist, trained in brief therapy, can perform the care coordination function in addition to performing triage assessments, brief therapy for selected children and families, and ensuring successful referrals to specialty behavioral health care. A medical home care coordinator can also maintain communication with specialty behavioral health professionals and teams involved with specific children and families while ensuring effective ongoing monitoring of the child's physical health and development.

The acuity and chronicity of the family's social and behavioral needs will dictate the role of the medical home in a particular episode of care [13]. At times the specialty behavioral health professionals including child and adolescent psychiatry will be the primary resources involved with a child and family. It is essential, though, that the medical home be prepared to resume monitoring and management as the behavioral health concern is resolved or as the behavioral health professionals decrease their involvement.

Some health homes will care for significant numbers of minority families. Especially if these families are poor and experiencing multiple stresses, it may be difficult to engage them in medical or behavioral health care. Nonprofessional parent partners or family navigators who have unique knowledge of minority culture can be extremely helpful in engaging families, building trust in the treatment team, and orienting them to the treatment plan. These "parent partners" can also encourage families to take control of their child's treatment. These parent partners can also help build cultural competence in the pediatric medical home, reducing health disparities. Parent partners are especially valuable in inner city health center/medical homes. These centers can also be located in association with service centers providing assistance with housing, nutrition, and community activities.

Integrated care also provides opportunities to deliver comprehensive care for children impacted by both medical and behavioral health concerns. A depressed child may be failing to adhere to the self-management activities necessary to manage his/her diabetes or asthma effectively; an overweight child may be experiencing bullying at school and may be depressed. In situations like these building competency in managing a chronic illness or weight can lessen depression while treating depression can lead to enhanced focus upon managing the psychical challenge. This can be done utilizing a therapist within the physical space of the medical home or by a specialty professional with integration carried out by the care coordinator. Other special opportunities available in the integrated medical home include early intervention for emerging problems, building healthy habits as part of family life, primary and secondary prevention, and assisting families in becoming effective advocates for their children.

Barriers

A range of barriers can make integrated care a challenge to implement for children and families. Some of these relate to reimbursement and financial incentives, some are structurally related to practice and office organization, and many relate to patterns of practice and skill deficits in this kind of health care. Families may not expect or be comfortable with integrated care. Reluctance to share information and concerns about confidentiality can also be a barrier to integrated care for children and families.

Current reimbursement practices pay for face-to-face care and medical procedures for diagnosed conditions. Care coordination, verbal and phone consultation, and more than one medical visit in a day are not reimbursed. These services are necessary for truly integrated health care and allow for coordinated attention to physical, behavioral, and emotional issues. The ACA, through its promotion of ACOs, may allow for reimbursement for integrated care- and prevention-oriented activities. To make this a reality payment barriers will need to be surmounted.

Already existing small pediatric practices with one or two physicians may find co-located integrated care prohibitive in their office. A telephone care coordination and child and adolescent psychiatry consultation service (such as the MCPAP) can be helpful in supporting behavioral health care with these practices. A lack of office space for behavioral health assessments and treatment sessions is often a barrier in practices built and organized to provide solely medical care. These practices may not have a room for comfortable and confidential conversations with families. In some offices however completed space can be reconfigured to provide for this activity, which will be necessary for integrated care.

Many primary care physicians are uncomfortable assessing and diagnosing behavioral health concerns and were not trained to treat the problems they identify. Behavioral health clinicians may not be comfortable being the sole behavioral health professional in a pediatric practice. Medical care coordinators will need to learn to access behavioral health services and to collaborate with families with behavioral health challenges. The American Academy of Pediatrics has developed several resources to help pediatricians deliver and collaborate with behavioral health care. Bright Futures [14] and pediatric medical home [21] websites include a range of helpful resources including screening tools and guides to including behavioral health care in pediatric care. Pediatric offices and staffs will also need to be welcoming to behavioral health professionals and help them build competency and satisfaction in their work and camaraderie in the office setting.

Most families trust their child's doctor. They are comfortable coming to office visits and confiding in their pediatrician. A significant number of pediatric office visits center on behavioral concerns for children. However, some families may not expect or welcome behavioral health care at their physician's office. Confidentiality is also often a concern, and parents may be especially concerned about sharing information about behavioral health problems with schools. These parents may be worried that their child may experience stigma at school. Parents may also not trust their pediatrician to appropriately diagnose and treat behavioral health problems, especially if he or she has previously attempted to normalize problems that turned out to be serious and requiring specialized treatment.

Risks and Benefits

There are some risks to providing integrated care. By identifying greater numbers of children and providing them and their families treatment, there may be increased costs of care, and at times these costs may be spent on ineffective or inappropriate treatments. In the short term, training, workforce development, and treatment costs are likely to increase. Cost offsets may occur in the short term if early identification and early implementation of treatments ultimately reduce the need for highly expensive and prolonged treatments. Cost reductions may also occur in reduced later health care needs or in cost reductions in other systems such as schools, child welfare and foster care, juvenile justice, and prison. These cost savings may take years to be realized. Outcome studies will be necessary to determine which treatments are effective for which patients and which problems. This evaluation process will also be expensive in itself. The system of integrated health care will need the resources and will to measure outcomes and participate in continuous quality improvements. Policy makers will need to monitor the downstream impacts of integrated health care on other public and private systems.

It will also be important to monitor treatment efficacy. Likewise, it will be important to ensure that evidence-based treatments are available in all systems of care and that they are carried out with fidelity by trained and supervised clinicians who are appropriately supported and reimbursed. Addressing aspects of society negatively affected by behavioral health problems in childhood will be essential. This will require thoughtful planning and public will focusing on the best developmental outcome for all children.

Benefits of widespread implementation of integrated health and behavioral health care fall into several categories. There may be greater satisfaction in providing care for all team members, enhanced family experiences of care, more appropriate use of resources, and opportunities to address health disparities and improve cultural competence in care. We could also expect enhanced opportunities for preventive care and potentially better health and behavioral health outcomes. Each of these benefits will require thoughtful approaches to team building and to enhancing family engagement with care. The system will also need to support multidisciplinary training and pay careful attention to measuring a wide range of functional and resource use outcomes. Health care teams will become more able to provide holistic care as attention to emotional well-being is part of every encounter. Child psychiatrists, nonmedical mental health professionals, parent partners, and other medical personnel can influence each other as they work together. Integrated care also provides enhanced opportunities for monitoring chronic behavioral health concerns of children utilizing electronic medical records and methodology used to monitor chronic medical illnesses.

Effecting Change

Efforts to integrate child psychiatry within primary care are building momentum; however, the field is still in its infancy. The fundamental changes in practice for both child psychiatry specialists and primary care providers will require significant commitment and investment of time.

Coalition Building

In essence, integrated child psychiatry services are the product of successful partnerships between child psychiatrists, other behavioral health professionals, primary care providers, and families. These partnerships must be replicated from the highest levels of system leadership all the way down to the level of the providers and their relationships with patients. States that have been most successful in advancing integrated child psychiatry services have long-standing advocacy coalitions raising awareness regarding the impact of unmet behavioral health needs and proposing solutions. In Massachusetts, for example, the Mental Health Task Force of the Chapter of the American Academy with a 15-year history of harnessing the efforts of a broad set of stakeholders including parents, pediatricians, child psychiatrists, social workers, psychologists, teachers, nurses, state government leaders, and insurance company representatives has been quite successful in promoting system changes.

Payment Reform

Current fee-for-service reimbursement codes are designed for conventional child psychiatry and pediatric care and do not provide reimbursement for many of the consultation and care coordination services needed for successful integration. Payment reform mechanisms are on the horizon; however, most child and adolescent psychiatrists continue to be paid on a fee-for-service basis. The payment reform mechanisms within the Patient Protection and ACA of 2010 are primarily focused on improving adult health care. Although new payment mechanisms are currently being piloted for public and private insurance plans covering children, it will be necessary to advocate for these plans to include a full range of collaborative children's behavioral health services within bundled primary care payments and to design outcome-based incentives to promote best practices in the identification and management of children's behavioral health problems.

Training

Significant changes in the training of all pediatric and behavioral health professionals will be necessary to make integrated health care the usual mode of practice. Child and adolescent psychiatry training will need to include an enhanced focus upon training in consultation liaison experiences and in collaboration with pediatric practitioners. Training in outpatient office-based consultations in pediatric medical homes and in telephone consultations will also be necessary. These experiences will need to be developed in most current programs as their focus has not been toward this work. Child and adolescent psychiatry residents will also need expanded training in working as team members and in influencing team decision making and team actions when necessary even if they are not team leaders or present at all team meetings. Training experiences that pair pediatric or family medicine residents with child and adolescent psychiatry residents caring for patients with both medical and behavioral health problems or during primary care visits can be especially helpful.

Pediatric and family medicine residency programs will need to include training in all aspects of behavioral health. They will need to be focused on assessment and diagnosis, family engagement, parenting support, prevention, and treatment of problems identified. Training in the use of uncomplicated psychopharmacology for common childhood and adolescent behavioral health problems will also be necessary. The training of other behavioral health professionals will also need to include experiences working in pediatric medical homes. For some behavioral health professionals working in medical homes will become a career choice. They will need more intensive experiences in integrative care. These modifications of training will be enriching for all involved.

References

1. Leaf PJ, Owens PL, Leventhal JM, Forsyth BW, Vaden-Kiernan M, Epstein LD, et al. Pediatricians' training and identification and management of psychosocial problems. Clin Pediatr (Phila). 2004;43(4):355–65.
2. Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. Am J Prev Med. 1998;14(4):245–58.
3. Dube SR, Anda RF, Felitti VJ, Chapman DP, Williamson DF, Giles WH. Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: findings from the Adverse Childhood Experiences Study. JAMA. 2001;286(24):3089–96.
4. Garner AS, Shonkoff JP, Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, Section on Developmental and Behavioral Pediatrics. American Academy of pediatrics policy statement: early childhood adversity, toxic stress, and the role of the pediatrician: translating developmental science into lifelong health. Pediatrics. 2012;129(1):e224–31.
5. US Department of Health and Human Services. Mental health: a report of the surgeon general. Rockville, MD: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health; 1999.
6. Thomas CR, Holzer III CE. The continuing shortage of child and adolescent psychiatrists. J Am Acad Child Adolesc Psychiatry. 2006;45(9):1023–31.
7. Rushton J, Bruckman D, Kelleher K. Primary care referral of children with psychosocial problems. Arch Pediatr Adolesc Med. 2002;156(6):592–8.
8. Costello EJ, Edelbrock C, Costello AJ, Dulcan MK, Burns BJ, Brent D. Psychopathology in pediatric primary care: the new hidden morbidity. Pediatrics. 1988;82:415–24.
9. Costello RJ. Child psychiatric disorders and their correlates: a pediatric primary care sample. J Am Acad Child Adolesc Psychiatry. 1989;28:851–5.
10. New Freedom Commission on Mental Health. Achieving the promise: transforming mental health care in America. Final Report. DHHS Pub. No. SMA-03-3832. Rockville, MD: Department of Health and Human Services; 2003.

11. Schowalter JE. A history of child and adolescent psychiatry in the United States. Psychiatric Times. 2003;20:9.
12. American Academy of Pediatrics. Addressing mental health concerns in primary care: a clinician's toolkit. Elk Grove Village: American Academy of Pediatrics; 2010.
13. American Academy of Child and Adolescent Psychiatry. Best principles for integration of child psychiatry into the pediatric health home. 2012. http://www.aacap.org/galleries/default-file/best_principles_for_integration_of_child_psychiatry_into_the_pediatric_health_home_2012.pdf. Accessed 27 Apr 2013.
14. Bright futures in Mental Health (Volumes 1 and 2). 2002. http://www.brightfutures.aap.org/practices_guides_and_other_resoruces.html. Accessed 29 Apr 2013.
15. American Academy of Pediatrics. The future of pediatrics: mental health competencies for primary care clinicians. Pediatrics. 2009;124:410–21.
16. American Academy of Child and Adolescent Psychiatry. Policy statement: collaboration with pediatric medical professionals. 2008. http://www.aacap.org/cs/root/policy_statements/collaboration_with_pediatric_medical_professionals. Accessed 27 Apr 2013.
17. American Academy of Child and Adolescent Psychiatry. A guide to developing collaborative mental health care partnerships in pediatric primary care. 2010. http://www.aacap.org/galleries/PracticeInformation/Collaboration_Guide_FINAL_approved_6-10.pdf. Accessed 27 Apr 2013.
18. Sarvet B, Gold J, Bostic JQ, Masek BJ, Prince JB, Jeffers-Terry M, et al. Improving access to mental health care for children: the Massachusetts Child Psychiatry Access Project. Pediatrics. 2010;126:1191–200.
19. National Center for Medical Home Implementation. 2005. http://www.medicalhomeinfo.org. Accessed 30 Apr 2013.
20. Shaw RJ, DeMaso DR. Textbook of pediatric psychosomatic medicine. Washington, DC: American Psychiatric Publishing; 2010. p. 27.
21. Antonelli R, McAllister J, Popp J. Making care coordination a critical component of the pediatric health system: a multidisciplinary framework. Commonwealth Fund Pub. No. 1277. May 2009
22. Carman KL, Dardess P, Maurer M, Sofaer S, Adams K, Bechtel C, et al. Patient and family engagement: a framework for understanding the elements and developing interventions and policies. Health Aff. 2013;32(2):223–31.
23. Kathol RG, Perez R, Cohen JS. The integrated care management manual: assisting complex patients regain physical and mental health. New York: Springer; 2010.

Chapter 10
Proactive Psychiatric Consultation Services for the General Hospital of the Future

Paul H. Desan, Paula C. Zimbrean, Hochang B. Lee, and William H. Sledge

Abstract Psychiatric consultation services in general medical hospitals typically operate on a consultation-as-requested basis: medical teams determine that a patient requires a consultation, place an order for a consultation, and the patient is then seen by a psychiatrist for a standard consultation. This system may fail to detect patients who could benefit from consultation or may detect such patients after a delay, and conversely may generate consult requests for patients who will not benefit from inpatient consultation. We argue that psychiatric consultation services must become "proactive," organized to seek out cases that require and will benefit from consultation, and to provide the services actually needed in each case. We argue that such services can improve health care and decrease length of stay (LOS).

LOS has been widely studied as an indicator of the timely delivery of appropriate care. Studies used many different models and research designs. We analyze the characteristics of the few studies that had a significant effect on LOS. There are ten studies of increased psychiatric consultation, with four showing a significant improvement in LOS. Twelve studies have analyzed the effects of increased geriatric consultation, with three showing significant improvement in LOS. Three studies have focused on delirium in geriatric patients without showing LOS benefit, but one study in geriatric trauma patients did demonstrate a notable trend towards LOS improvement. Eight studies have investigated increased geriatric consultation for elderly patients with hip fracture, two with statistically significant benefit, and an additional four with trend

---

P.H. Desan, M.D., Ph.D. (✉)
Department of Psychiatry, Psychiatric Consultation Service, Yale New Haven Hospital,
Yale University School of Medicine, 333 Cedar St, Box 208037, New Haven,
CT 06520-8037, USA
e-mail: paul.desan@yale.edu

P.C. Zimbrean, M.D. • H.B. Lee, M.D. • W.H. Sledge, M.D.
Department of Psychiatry, Yale University School of Medicine, New Haven, CT USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_10,

towards improvement. Additionally, we note that three studies on clinical pathways including comprehensive geriatric consultation all show clear evidence of LOS benefit, as do six studies with dedicated ortho-geriatric unit care.

Finally, we describe two models of proactive psychiatric consultation implemented in our hospital that have demonstrated reductions in LOS. Successful studies do share certain elements in common: screening for and selection of appropriate target population who can benefit, focus on improving LOS, and close integration of consult care into medical team operation. We argue that the data thus far show that simply doing more consultations is not efficient, but that appropriately targeted and integrated care does provide timely services and reduce LOS. We conclude with suggestions about the design of successful proactive psychiatric consultation services, and with suggestions about appropriate research designs for further work in the field.

Patients in general hospitals have high rates of medical–psychiatric co-morbidity. These psychiatric issues impair medical care in the inpatient and outpatient setting, and result in lengthened admissions, worsened outcomes, and increased costs. Medical–psychiatry inpatient units permit concurrent care of medical and psychiatric issues, but may not be feasible for smaller medical systems. General hospitals typically rely on a model where psychiatric consultation can be requested by a medical team. The medical physician identifies a need for consultation, and places an order for a consult. This model has obvious shortcomings, as conversation in any psychiatric consultation team rounds makes clear. Consultation psychiatrists complain about the mismatch in consultation requests, namely that they are consulted about issues not requiring a psychiatrist or more properly addressed as an outpatient, or that they are consulted too late, or not consulted at all. We rely on the patient's physician whose expertise is not in the area of mental health or substance abuse (subsequently referred to as behavioral health, BH) and who may be preoccupied stabilizing the patient with emergent medical disease to identify the need for BH services. Furthermore, the intervention provided is a standard assessment by a physician. This evaluation is based on the familiar history of the present illness; past medical, psychiatric, social, and family history; review of systems; and exam. It is difficult for the consultant once engaged to not meet this standard of care, when a curbside consultation might have sufficed. In fact, what is required may not be a standard psychiatric consultation but a multidisciplinary intervention with other services. A full assessment may be performed, with the conclusion that an outpatient referral is needed, where the assessment will be entirely repeated.

The result of this model is either care that is delayed, or not received at all, or poorly coordinated with care of the other medical conditions. As the health care system transforms, such inefficiencies will increasingly not be acceptable. In particular, the psychiatric consultation system of the future will be proactive. Such an approach is consistent with population-based collaborative care models described elsewhere in this book. The inpatient consultation team will be responsible for detecting the need for its services and providing appropriate services in timely and efficient fashion.

In fact, substantial evidence exists for the improved outcomes with proactive consultation and a population-based approach. In the present chapter, we review past work on proactive consultation systems in psychiatric and geriatric consultation, discuss our work on emerging new models of hospital consultation, and make suggestions about how proactive psychiatric consultation services should be implemented.

Background

Psychiatric Consultation and LOS

From early days, consultation liaison (CL) psychiatry has tried to justify its existence by demonstrating improvements in quality and cost of care. Length of stay (LOS) has been from the start a key marker for appropriate care. Decreased LOS not only represents savings to the health care system, especially in a DRG-based reimbursement system, but more fundamentally represents provision of needed services in timely fashion. E. G. Billings [1, 2] performed pioneering work in the Colorado General Hospital, founding the Psychiatric Liaison Department in 1934. Over a 5-year period from 1934 to 1938, he reported decreasing the LOS of medical inpatients with psychiatric problems from 28.1 to 15.0 days, while the LOS of all admitted patients remained unchanged, 15.0–14.6 days. “Psychiatric” patients appeared to represent about 8.5 % of admissions. It is not clear how psychiatric patients were identified without a consultation service, and he appears to have used his own start-up year as a control group. He was proud to report a savings of about $43 per patient. He reported the “startling fact” of an estimated $8,464.44 annual savings to the hospital. Billings himself called attention to the fact that an important component of the improvement over this span of time was earlier consultation, an average of 8.0 versus 13.7 days, as medical teams learned to use the new resource. This is an example of the use of a historic group as a comparison group, and limitation of the study to a subgroup of admissions, namely psychiatric patients. Please see Table 10.1 for a summary of the studies discussed here.

Over the ensuing decades CL psychiatry became established as a necessary service in the general hospital. Several pivotal studies demonstrated its potential effect. In 1981, Levitan and Kornfeld [3] studied the effect of psychiatric consultation on LOS in patients aged over 64 admitted to a female orthopedic surgical unit with femur fracture. A liaison psychiatrist followed all patients ($n = 24$) during a 6-month intervention period. Median LOS was 12 days shorter, 30 versus 42 days, than in 26 similar control patients admitted to the same unit in the same months of the previous year. Of note, LOS for other types of fracture cases was unchanged between the control and experimental period. This study used an historic control group, a case definition based on age, hospital unit, and fracture diagnosis, as well as a concurrent comparison group based on a different fracture diagnosis.

Table 10.1 Studies on the effect of psychiatric/geriatric consultation on LOS

Study	Location	Intervention (n)	Comparison (n)	Intervention LOS	Comparison LOS	Comparison	Population	Intervention	Primary outcomes
Psychiatric consultation									
Billings [1]	USA	300–400/year	146	15.0*	28.1	Historic	“Psychiatric” patients	Universal consultation	LOS
Levitan [3]	USA	24	26	30* (median)	42 (median)	Historic	Female geriatric patients with hip fracture	Universal consultation	LOS, discharge to home
Hengeveld [4]	Netherlands	33	35	19	19	Randomized	BDI ≥ 13	Universal consultation	BDI, costs, LOS
Strain [5]	USA	114	84	18.5 ± 8.5*	20.7 ± 9.1	Historic	Geriatric patients with hip fracture	Universal screening, consultation as needed	LOS, costs, discharge to home
		44	26	13.8 ± 4.1*	15.5 ± 4.7	Historic			
Cole [18]	Canada	35	28	39.8	35.0	Randomized	≥65, referred, screened for confusion, anxiety or depression	Universal consultation	Multiple
Levenson [6]	USA	256	232	11.3 ± 11.7	10.2 ± 18.3	Randomized	Screened by MIST score (anxiety, depression, confusion, pain)	Universal consultation	LOS, costs
			253		11.3 ± 12.3	Historic			
de Jonge [7]	Netherlands	100	93	12 (median)	13 (median)	Historic	Screened by COMPRI, INTERMED	Universal consultation	LOS, QOL
Camus [9]	Switzerland	95	81	11.6 ± 10.2	11.2 ± 7.1	Historic	Without cognitive impairment or behavioral disturbances	Screening for GHQ > 9, consultation as needed	LOS, cost, patient satisfaction
Fritzsche [10]	Germany	144	173	13.4 ± 8.8	12.9 ± 9.8	Randomized	Cardiac patients	Intensive psychotherapeutic consultation	LOS
Desan [42]	USA	62	257	2.9 ± 2.1*	3.8 ± 3.3	Historic	Internal medicine patients	Universal screening, consultation as needed	LOS
					3.7 ± 3.9	Subsequent			
Geriatric consultation									
Burley [11]	UK	420 (male)	378	13.3	15.2	Historic	≥65	Universal screening, consultation as needed	LOS
		446 (female)	478	16.5*	25.4	Historic			
Campion [12]	USA	46	86	11.2	9.9	Concurrent	≥75	Universal consultation	Multiple

Barker [13]	USA	121	164	86 + 28*	96 + 36	Historic	≥70	Screening for risk of increased LOS, consultation as indicated	LOS
Gayton [16]	Canada	222	182	20.6 ± 23.4	20.6 ± 25.3	Randomized by unit	≥70	Universal screening, consultation as needed	Multiple
Hogan [14]	Canada	57	56	15.8 ± 12.7	14.2 ± 13.3	Randomized	≥75, with any of 7 geriatric issues	Universal consultation	Multiple
Hogan [15]	Canada	66	66	"Not different"	16.4	Randomized	≥75, with any of 7 geriatric issues plus intermediate Geriatric Status Score (functional level)	Universal consultation	Multiple
McVey [17]	USA	88	90	20.2 ± 26.5	16.6 ± 14.9	Randomized	≥65, male VA, expected LOS > 48 h	Universal consultation	Multiple
Winograd [19]	USA	99	98	24.8 ± 22	26.7 ± 33	Randomized	≥65, male VA, frail, nonterminal, non-nursing home	Universal consultation	Multiple
Thomas [20]	USA	62	58	9.0 ± 7.5	10.1 ± 7.6	Randomized	>70, not terminal or on dialysis	Universal consultation	Mortality, LOS, function
Kircher [21]	Germany	105	129	24 (median)	22 (median)	Randomized	≥65 with functional impairment, LOS > 7; not terminal, severe dementia, from nursing home or needing help at home	Universal consultation	Rehospitalization, nursing home placement within 1 year
			81		22 (median)	Concurrent			
Sennour [22]	USA	241 (last study year)	3,801	5.2	6.2	Concurrent	≥70 with physical or cognitive impairment, or ≥ 85	Screening by interaction with medical teams	LOS, costs
Harari [23]	UK	49	46	10.4 ± 11.1*	14.5 ± 12.2	Historic	≥70, specific multidisciplinary geriatric screening instrument	Universal consultation	LOS
Geriatric consultation, delirium									
Cole [24]	Canada	42	46	25.3	22.7	Randomized	≥75, delirium at screening in first 24 h	Universal geriatric or geripsychiatric consultation, follow-up	Multiple
Marcantonio [26]	USA	62	64	5 (median)	5 (median)	Randomized	≥75, with hip fracture repair	Universal consultation, daily follow-up	Incidence of delirium, LOS

(continued)

Table 10.1 (continued)

Study	Location	Intervention (n)	Comparison (n)	Intervention LOS	Comparison LOS	Comparison	Population	Intervention	Primary outcomes
Cole [25]	Canada	113	114	19.7 ± 17.1	19.1 ± 16.8	Randomized	≥75, delirium in first week	Universal geriatric or geripsychiatric consultation, intensive follow-up	Multiple
Geriatric consultation, trauma patients									
Lenartowicz [41]	Canada	248	238	15.4	19.4	Historic	≥60, admission for trauma	Universal consultation	Multiple
Geriatric consultation, hip fracture patients									
Zuckerman [29]	USA	406	57	23.2	27.7	Historic	Geriatric patients with hip fracture	Universal consultation	Complications, discharge status, LOS
Antonelli Incalzi [30]	Italy	287	258 (1 year before)	26.2 ± 14.4	26.9 ± 16.5	Historic	≥70 with hip fracture	Universal consultation	Mortality, LOS, surgical rate
			216 (2 years before)		32.9 ± 30.9	Historic			
Elliot [31]	New Zealand	61	157	20.7*	27.7	Historic	≥65 with hip fracture	Universal consultation	LOS, cost, discharge destination
Swanson [32]	Australia	36	31	21.0*	32.5	Randomized	±55, living at home, independently mobile, without dementia	Universal consultation	LOS, mortality, level of function
		57 (with no intervention)	165	26.3	28.0	Historic to concurrent		Universal consultation	

Khan [33]	UK	208	537	26.9 ± 22.6	26.1 ± 26.0	Historic	Geriatric patients with hip fracture	Universal consultation	Mortality, LOS, discharge destination
Fisher [34]	Australia	447	504	15.9 ± 14.9	16.4 ± 17.6	Historic	≥60 with hip fracture	Universal consultation	Multiple
Cogan [35]	Ireland	98	103	30.3	23.1	Historic	≥65 with hip fracture	Universal consultation	Multiple
Deschodt [36]	Belgium	94	77	11.1 ± 5.1	12.4 ± 8.5	Randomized by unit	≥65 with hip fracture	Universal consultation	Multiple
Clinical pathway, hip fracture patients									
March [39]	Australia	114 (hospital A)	256	9.0 (median)*	11 (median)	Historic	Geriatric patients with hip fracture	Clinical pathway	Mortality, nursing home placement, LOS
		81 (hospital B)	199	9.0 (median)*	11.5 (median)	Historic			
					10 (median)	External			
Choong [40]	Australia	55	56	6.6*	8.0	Randomized	Geriatric patients with hip fracture	Clinical pathway	LOS, clinical outcomes
			118		11.8 ± 7.3	Historic			
Koval [38]	USA	318	747	13.7*	21.6	Historic	≥65 with hip fracture, ambulatory before fracture, cognitively intact, living in own home	Clinical pathway	LOS, clinical outcomes

* indicates statistically significant difference between Intervention LOS and Comparison LOS ($p \leq 0.05$).

Hengeveld and coworkers [4] studied patients scoring 13 or more on the Beck Depression Inventory (BDI) on general medical wards in a Dutch hospital. Subjects were excluded if LOS was less than 5 days, illness was too severe to participate, or patients lacked fluency in Dutch (54 % of admissions were eligible). Of eligible admissions, 32 % met the depression criterion. Every other patient received a standard psychiatric consultation ($n = 33$). Subjects ($n = 2$) in the original control group who received a request for consultation were excluded from the project. Compared to the remaining patients ($n = 35$), there was no effect on LOS, on BDI at discharge, or other clinical outcome. As the authors noted, the sample size was not adequate, nor is it clear that depressed patients were the appropriate group to look for improvements in LOS. This is an early attempt at a randomized controlled trial.

Strain and colleagues [5] published in 1991 a study of LOS in patients over 64 years of age with femur fracture admitted at two hospitals. During the baseline year, psychiatric consultation was ordered in the traditional fashion (rates were 10 and 2 % in the two hospitals). In the experimental period, every patient was evaluated by the psychiatric team within 72 h of admission and consultation performed if needed (rates were 79 and 61 %). The CL psychiatrist participated regularly in meetings with surgical teams, families, nursing, and discharge planning staff. LOS was statistically significantly reduced in both hospitals, 18.5 ± 8.5 versus 20.7 ± 9.1 days and 13.8 ± 4.1 versus 15.5 ± 4.7 days. At one hospital, orthopedic units not receiving the intervention were available as control units, and LOS was unchanged, so both historic and concurrent comparison groups served as control groups. Cases were defined by age, hospital unit, and femur fracture. All cases in the intervention group were screened, but only some received the intervention.

Levenson and colleagues [6] began the modern era of LOS research with the first large randomized controlled trial of psychiatric consultation, published in 1992. While the study failed to find an improvement in LOS, this pioneering study explored and illuminated many issues in this area of research. Subjects were excluded for early discharge, transfer, death, too ill to interview, or non-consent (58 % of admissions were eligible). Subjects were screened with a composite instrument measuring anxiety, depression, confusion, and pain (48 % of eligible admissions), during a 6-month baseline period and a 15-month intervention period. During the latter, all subjects scoring above a threshold were randomized either to automatic consultation ($n = 256$) or to consultation as usual ($n = 253$). Randomization was done by medical team, with each team assigned experimental status during part of the intervention period and control status during the other part. In the group randomized to automatic consultation, only 158 (61.7 %) received consultation, due to early discharge, transfer, or death. In the group randomized to consultation as usual, 20 (7.9 %) received consultation. During a preceding baseline period, 232 patients met the threshold and formed a baseline, pretreatment comparison group. Contrary to hypothesis, the experimental group had longer LOS than the contemporaneous control group, 11.3 versus 10.2 days (median 7 vs. 5 days). The groups proved poorly balanced. The experimental group had more severe physical illness, as reflected in DRG weights, TOTSCALE scores, number of discharge diagnoses, number of procedures, and number of preceding recent hospitalizations. When the effect of disease severity was controlled for, there was no LOS difference between the two groups. This is an example of the use of a randomized control group as well as a historic control group, but one assembled by systematic prospective screening.

There are multiple reasons that this study may have failed to show an improvement in LOS. This trail-blazing study has many lessons for research in this area. First, the patients who would benefit from a psychiatric consultation may not have been identified by the screening process. Anxiety, depression, and pain may not be variables that affect discharge. Confusion may be related to a medical condition such as infection and thus may improve with medical treatment. Dementia is common, but may be a fixed condition that will be similar on admission and discharge. Second, the consultation was general in nature. Our own experience suggests that only a minority of consultation as usual is discharge-related, and a specific focus on discharge may be essential. Third, the consultation was unsolicited, and it is not clear that medical teams acted on its results. The authors did comment that their analysis showed a lower concordance with the unasked-for recommendations. Fourth, LOS is already short in the modern hospital, and perhaps further reduction is unrealistic. Fifth, the task is statistically difficult. The patient population was diverse with highly variable LOS, and there was change over time in LOS means. It may not be realistic to find a change in mean LOS. Finally, the groups were unbalanced in disease severity. Statistical methods for adjusting for groups unbalanced at randomization are never satisfactory.

De Jonge et al. [7] studied medical admissions with LOS greater than 2 days on two medical units in a Dutch hospital. Subjects were screened with the COMPRI and INTERMED instruments administered by a research nurse, in a study published in 2003. The COMPRI is based on information from the patient, doctor, nurse, and medical chart, rating 12 items indicating a risk for increased hospital care utilization. The INTERMED is based on a 20- to 30-min interview with the patient, and scores 20 items. Both of these instruments were developed specifically to detect patients with high levels of complexity and of increased LOS, and demonstrated clear association with increased LOS [8]. Subjects were excluded for LOS <2 days, consultation in previous admission, or non-consent (49 % of admissions were eligible). About 36 % of eligible patients were positive on these screens. During the half-year intervention period, a CL nurse performed a consultation for patients identified by the screens. Interventions included simple psychiatric or geriatric interventions, referral to other services including CL psychiatry, and arrangement of postdischarge care. The intervention group ($n=100$ alive at discharge) was compared to a control group during a previous half-year period ($n=93$). There were increased rates of referral to CL psychiatry (64 % vs. 26 %) and to social work (14 % vs. 6 %). There was no overall improvement in LOS, median 12 versus 13 days. A significantly improved LOS was found in the subgroup of patients over 64 years of age, median 11.5 versus 16 days ($p=0.05$), but not in the subgroup of patients under 65. This result does suggest that only certain subgroups of subjects may benefit from the intervention. The study used historic and intervention groups defined by stringent inclusion criteria and a detailed prospective screening process.

In the same year, Camus and colleagues [9] reported on a study in an internal medical unit in a Swiss hospital. During an 8-week control period and an 8-week intervention period, admissions were screened with the GHQ questionnaire. Subjects were excluded for a Mini-Mental Status Examination score of less than 24, expected LOS of 4 days or less, delirium, behavioral disturbances, psychiatric consultation already performed, refusal of consent, or lack of fluency in French. This study probably excluded many of the patients most likely to benefit from consultation. A total of 34 % of admissions were eligible. During the intervention period, if scoring above a cut-off score (a total of 33 % overall of eligible admissions) or if referred by the medical team, consenting cases were seen by a CL psychiatrist. Cases were discussed in twice-weekly interdisciplinary rounds including the internal medicine staff. Referral rate to CL psychiatry increased during the intervention period, 32 % versus 4 %. There was no improvement in LOS between the intervention group ($n=95$) and the control group ($n=95$), 10.1 ± 6.6 versus 9.8 ± 5.7 days on the internal medicine unit (the authors note the issue of patients who transfer in and out of intensive care units). There was also no improvement in estimated total care costs. There was some indication that patients in the intervention period may have been more ill, e.g., a higher rate of positive GHQ screen, 41 % versus 27 %, a reminder that unbalanced groups are very possible at this sample size. A measure of medical illness severity was not performed. This study is a comparison of historic and intervention groups preselected as likely to benefit by strict inclusion criteria. All eligible cases received a systematic screening and only screen positive cases received the intervention.

A German group, Fritzsche et al. [10], in 2006 compared intensive consultation with usual consultation in patients with four cardiac diagnoses (ischemic or valvular disease, cardiomyopathies, arrhythmias) admitted for at least 5 days, in an A-B-A/B-A-B design on two hospital units. On intervention units, all patients received intensive psychotherapeutic care, while on control units patients received consultation as usual. There was no improvement in LOS, 13.4 ± 8.8 versus 12.9 ± 9.8 days. There was also no improvement in LOS in analyses controlling for age, gender, or case complexity.

Geriatrics Consultation and LOS

During these decades, specialists in the area of geriatrics also became interested in the effects of consultation on LOS. Of course, much of consult psychiatry is geriatrics, and geriatrics includes much psychiatry, so these are closely related areas of clinical investigation. Early work by Burley et al. [11], published in 1979, pointed to the potential of substantial effects. There was a decrease in mean LOS from 20.9 to 14.9 days, comparing cases in a one half-year intervention period ($n=866$) to a one half-year control period ($n=856$). During the intervention period, all cases were reviewed with ward staff, and geriatric consultations performed as needed. What today might be called discharge planning seems to have been an important component of their role. Campion et al. [12] provided geriatric consultation to all patients on one unit ($n = 46$) but not to patients on two similar control units ($n = 86$) in a much smaller study at the Massachusetts General Hospital in 1983. There was no decrease in LOS. An early study by Barker and coworkers in 1985 [13] did specify LOS as primary objective and did obtain strongly positive results. They provided geriatric consultation to 366 patients aged 70 or greater, "judged to be at risk of longer hospital stays," 8.5 % of all admissions, in four hospitals near Rochester, NY, USA. These workers obtained a marked decrease in number of patients awaiting disposition, and a marked decrease in LOS of net 10 days, between surveys of all patients age 70 or older at the start ($n = 164$) and at the end ($n = 121$) of the intervention period. A significant component of their contribution again appeared to be discharge planning, which today would be standard.

Given these early findings, a number of randomized controlled trials were completed, chiefly over the period from 1987 to 1993. All of these trials primarily targeted inpatient and post-hospital clinical outcomes such as mortality or functional level, but LOS was a secondary outcome measure in all.

Hogan et al. [14, 15] conducted two small studies in a Canadian hospital, presented in 1987 and 1990. Subjects were patients aged 75 or greater, with any of six geriatric problems, and were randomized to multidisciplinary geriatrics consultation ($n = 57$) or control ($n = 56$) groups. There was a significant improvement in survival rates at 4 months, but no improvement in LOS. The investigators hypothesized that this study may have been limited by including patients who were either too well or too ill to benefit from consultation. A repeat study therefore was performed using an additional criterion limiting entry to intermediate levels of functional and mental status. There were stronger effects on survival and functional status than in the first study, but still no significant effect on LOS.

Gayton et al. [16] reported in 1987 a prospective trial of a geriatrics consultation service. All patients ≥ 70 years of age were screened. Subjects were excluded if admitted from an ICU or for social reasons or electively, for residence distant from hospital or for non-consent, lack of fluency in available languages, early death or discharge. A total of 60 % of admissions were eligible. Cases were randomized by hospital unit, either to multidisciplinary geriatrics consultation ($n = 222$) or to usual care ($n = 182$). There were no significant effects on clinical outcomes, and no change in LOS. A similar study published by McVey et al. in 1989 involved a multidisciplinary geriatrics evaluation in a VA setting [17]. Subjects were patients aged 75 years or more. Subjects were excluded for intensive care unit treatment, expected LOS of 2 days or less, previous consultation, or refusal of consent. In all, 62 % were eligible. Subjects randomized to the intervention received an assessment by a multidisciplinary geriatrics team, which met regularly (but not with the medical teams) and left recommendations in the chart. There were no significant improvements in clinical outcomes, nor in LOS in the intervention group ($n = 88$) compared to control group ($n = 90$), 20.2 ± 26.5 versus 16.6 ± 14.9 days. Both sets of authors speculated that the interventions were applied to a broad range of patients, most of whom did not stand to benefit. Both noted that the actual care received likely did not differ greatly with intervention, as the unsolicited recommendations of the consultants were often not followed.

Cole et al. [18] reported in 1991 a small trial involving medical patients of age 65 and over. Subjects were enrolled if referred to the geriatric consult team, 164 of 1,685 admissions ≥65 or 9.7 %. Subjects were included if fluent in French or English, not admitted to the ICU, had not received a psychiatric consultation in the last month, and scoring over threshold on measures of confusion, anxiety, depression, or functional impairment (80 of 1,685 or 4.7 % of admissions). Subjects were randomized to psychiatric consultation ($n = 41$, of whom three were discharged before seen and three died) or to no consultation ($n = 39$, of whom nine received consultation by medical team request and two died). Subjects randomized to the intervention were seen at least weekly. Subjects were reassessed with the same measures at 2, 4, and 8 weeks (if still admitted). There were no significant differences between intervention and control in any primary outcome measures nor in LOS. This design does not create comparable groups, and the study is limited in power by small size.

Winograd et al. [19] in 1993 studied a geriatrics consultation intervention, again in a VA setting, for subjects over 65 with impaired function and at least one of confusion, dependence in ADLs, polypharmacy (>6 medications), disabling chronic illness, or stressed caregiving system. Subjects were excluded for LOS <96 h, geographic distance of residence, participation in another study, permanent nursing home residence, or terminal illness. With these more demanding entry criteria, only 200 of 2,728 (7.3 %) admissions were included: 99 were randomized to a control group and 98 to care as usual. The intervention was a consultation from a geriatrics team, which met regularly to discuss cases, but these meetings did not include members of the patients actual care team. There were no significant improvements in the primary clinical outcomes, but there was a trend towards improved LOS, 24.8 ± 22 versus 26.7 ± 33 days. An improvement of 1.9 days, if reproducible, would be clinically and financially meaningful. The investigators did note concern that their consultation service was new, not yet optimally efficient, and recommendations were not necessarily followed within the hospital. The fact that the consultation service had just been initiated may have limited the effect of diffusion of the intervention to the other sectors of the hospital. Such a diffusion effect may have affected the outcome of other studies in this section using established consultation services. They note that an organizational structure supportive of geriatric consultation may be essential to success.

Thomas et al. in 1993 reported on a study in a community hospital [20]. All subjects of age 70 or greater were eligible for the study, unless admitted to an ICU, terminally ill, on renal dialysis, or residing >50 miles distant from the hospital (the percentage of total geriatric admissions eligible for the study was not reported). Follow-up data were available from 62 patients who were randomized to receive a multidisciplinary geriatric assessment, and from 58 patients randomized to no intervention. The groups appeared to be well balanced in a number of different measures. LOS was shorter in the intervention group, 9.0 ± 7.5 versus 10.1 ± 7.6 day, which was not significant ($p = 0.20$), but could represent a clinically meaningful difference. Mortality was reduced at 6 months, and there was a trend towards reduced mortality at 12 months. There was a slight advantage in measures of functional status in the intervention group. While many studies of geriatric consultation report poor adherence to recommendations, this study reported strong adherence. Moreover, while the geriatric studies discussed above were completed in academic environments where routine care was already sophisticated with regard to geriatric problems, this study took place in a true community setting where the intervention may have had more real impact.

More recently, Kircher et al. [21] studied the effect of geriatrics consultation teams in five German hospitals in patients 65 years of age or older. Subjects were excluded for expected LOS of <8 days, absence of functional impairment, nursing home residence, terminal illness, severe dementia, distant residence, absence of help requirements at home, or refusal of consent: 3.6 % of admissions were eligible, and were randomized to multidisciplinary consult ($n = 105$) or usual care ($n = 129$). Similar patients at other centers formed additional concurrent control group ($n = 81$). A strength of the study was careful tabulation of care provided. In fact, intervention and control groups received very similar care in these sophisticated academic centers, and recommendations do not seem to have had the expected impact. There was no difference in the primary outcomes of rehospitalization or nursing home placement at 1 year, nor in median LOS in the intervention group compared to usual care or other center group, 24 versus 22 and 22 days, respectively.

To summarize, of these eight randomized controlled trials, none found a significant change in LOS. The primary focus was not LOS in these studies, although all regarded this as a secondary outcome. In fact, studies that prioritized LOS as an outcome tended to have better results. The authors of all but one of the studies were concerned with the limited impact of their consultations. Simply providing a consultation is no guarantee that medical teams will attend to it. A further lesson from this series is that picking appropriate target populations was associated with strength of effect. It should be noted that these entry criteria were shown to identify patients that did benefit from specialized geriatric hospital units, a line of research we do not discuss in this chapter. The moral for researchers in psychosomatic medicine consultation is clear. Improving LOS must be an essential goal of the intervention, the target population must be able to benefit, and simply doing more unsolicited consultations will not affect hospital care or LOS.

Several recent studies, however, represented far more refined and successful approaches. A highly proactive geriatrics consultation service was described by Sennour et al. [22]. The consultation team consisted of a geriatrician physician and a nurse practitioner, and saw all patients over 69 with physical or mental impairment (and all patients over 84). The geriatrician physician attended daily medical team meetings, but could also trigger consultation if he became aware of other patients needing services. Most patients were seen within 24 h of admission, and very likely within 48 h. The consultation team took a multidisciplinary approach, contacting outpatient providers and any necessary inpatient teams such as social work or rehabilitation services. Methods of working collaboratively with medical and ancillary services in the hospital were described in detail. Early involvement in discharge planning and follow-up regarding implementation of recommendations were also described carefully. This is perhaps the only consultation study discussed in this chapter describing an integration with medical care similar to our work noted below.

This study used an illuminating method to evaluate the effect of the service. The intervention group consisted of patients ≥70 admitted from home or assisted living and seen by the consultation team within 3 days of admission. A comparison group consisted of all similar patients seen by hospitalists and other physicians who referred patients for consultation. An LOS index was calculated for each patient by dividing the actual LOS by the LOS predicted by the Centers for Medicare and Medicaid Services (CMS). In all years of the study, both uncorrected LOS and LOS index were lower in the intervention group: for example, in the last year of the study a mean LOS of 5.2 versus 6.2 days, corresponding to LOS index of 1.6 versus 1.74. They also demonstrated a consistent improvement in variable direct cost adjusted by Case Mix Index, e.g., $4,426 versus $5,234 in the last year of the study. These results are more striking as the consult patients surely were more likely to have impairment of cognition and daily activities or to require placement. As the authors noted, none of these were measured in the Case Mix Index but all are associated with increased LOS. In the last year, the consultation team saw 556 initial consults and 936 follow-up visits, and consisted of a 0.65 FTE geriatrician and a 1.0 FTE nurse practitioner. Total estimated cost was $256,110, and 61 % of this was offset by Medicare-reimbursed visits.

Harari et al. provided in 2007 a complementary but equally interesting alternate methodology for studying the effect of geriatric consultation, using the "OPAL," Older Persons' Assessment and Liaison team, approach [23]. In this carefully designed study, before and during cohorts of acute medical admissions ≥70 years of age were assembled using a systematic comprehensive geriatric assessment screening completed within 24 h of admission. During care as usual, geriatric consultation from general medical teams was typically delayed by several days. During the intervention period, cases received rapid geriatric consultation, transfer to geriatric unit if needed, and facilitated discharge planning with appropriate outpatient referrals. Mean LOS was 10.4 ± 11.1 versus 14.5 ± 12.2 days, a difference significant at $p = 0.02$. This decline was much larger than the decline in LOS in national benchmarking data. Detailed modeling was performed between LOS and a wide array of case-mix variables. In the final model only the OPAL intervention was significantly related to LOS. This is an important and elegant example of modern LOS research.

Disease-Specific Consultation and LOS

Most of the studies above concerned admissions to general medical units and included a very diverse population. Given that the effects of an intervention might be difficult to see in that context, other researchers have focused on consultation in patients with specific medical conditions. Areas of research have included (1) geriatric patients with delirium, (2) geriatric patients with hip fracture, and (3) geriatric patients with medical trauma.

Cole and coworkers [24] completed several randomized controlled trials of geriatric consultation in elderly patients with delirium. In a pioneering study published in

1994, Cole et al. studied patients of age 75 or above admitted to medical units. Cases were excluded for nonfluency in French or English, non-consent, death, admission to intensive care units, CVA, or referral to oncology or geriatric services. Cases were included if moderate or severe cognitive impairment and diagnosis of delirium were found with two systematic instruments administered in the first 24 h of admission. Subjects randomized to intervention ($n = 42$) received a consultation from a geriatrician and daily follow-up by a geriatric nurse, and control subjects did not ($n = 46$). One, 2, 4, and 8 weeks after enrollment (if still admitted) subjects were reassessed with measures of cognitive function and behavioral impairment. Eighteen percent of admissions had delirium and met the entry criteria. There were no significant differences between intervention and control in the main outcome measures or LOS. A second study [25] appeared in 2002, and was broadened to include subjects ≥65 with delirium in the first 7 days of admission; 15.5 % of admissions met the entry criteria and were randomized to a more intensive consultation with continued geriatrician follow-up or to usual consultation. Subjects received a reassessment of cognition with systematic instruments weekly while admitted. There were no significant improvements in rate of cognitive improvement or in LOS with intervention. This study still combines many different types of case, and extends follow-up over up to 8 weeks, which may not be an adequate methodology for detecting small effects.

By contrast, Marcantonio et al. in 2001 studied the incidence of delirium in elderly subjects in a much more delimited setting [26]. Subjects age 65 or older admitted for hip fracture repair were included, with exclusions for non-consent (from patient or family), terminal or oncological diagnosis. A total of 71 % of admissions were eligible. Subjects randomized to intervention ($n = 62$) received a geriatric consultation and follow-up, usually beginning preoperatively, and were compared to control subjects ($n = 64$). There was about a one-third reduction in the incidence of delirium (relative risk 0.64). By using a more specific population and intervention, the study demonstrated a clinically important change in outcome. There was no change in LOS, both groups with medians of 5 days, which could be related to limited statistical power. It is likely that any intervention reducing delirium has the potential for LOS benefit.

A related body of research on delirium prevention programs is also relevant. For example, Inouye and coworkers have developed the Hospital Elder Life Program (HELP), which has been shown to decrease the incidence and duration of delirium and in some implementations to decrease LOS as well [27]. Other programs to improve geriatric hospital care, such as Older Adults Services Inpatient Strategies (OASIS), Nurses Improving Care for Health System Elders (NICHE), or Acute Care for Elders (ACE), have also generated exciting changes in clinical outcomes, which could affect LOS in appropriate research trials [28].

We also note the existence of an extensive line of research regarding geriatrician collaboration with orthopedic services for elderly patients with hip fracture. In fact, there are well over two dozen studies in this area. Some of these studies concern longer stay ortho-geriatric rehabilitation units, which are not used in the United States. Others concern orthopedic consultation to essentially geriatric units, which are also not typically used in this country. One set of studies concerns added geriatric consultation to orthopedic units, and is directly related to our discussion [29–36]. These studies include two randomized controlled trials and six before and after trials (either prospective or retrospective), as summarized in Table 10.1. Six studies indicated a shortened LOS with intervention, and three to a statistically significant degree. One of the negative studies is related by the authors to factors outside the hospital, i.e., limited placement availability.

Some of these studies were included in a very useful review [37]. This review also included analysis of six studies of ortho-geriatric unit care, a model where orthopedic and geriatric specialists are integrated in one specialized hospital unit. The improvement outcomes in these studies involving truly integrated care are better than improvement due to superadded geriatric consultation. For example, in a pooled analysis of 1,500 admissions, LOS was dramatically improved in such units compared to usual unit care, 7.4 versus 11.0 days.

Another line of research concerns “care pathways” for hip fracture. Again, these studies of systematically organized multidisciplinary care generated clear improvements in LOS. As shown in the table, at least three studies have found statistically significant changes in LOS: 13.7 versus 21.6 days in a study with 1,065 admissions [38], median 9 versus 11 and 9 versus 11.5 days in a study in two hospitals with 650 admissions [39], and 6.6 versus 8.0 days in a study with 111 admissions [40]. Results with ortho-geriatric units and with care pathways emphasize that truly integrated care can lead to substantial improvements in clinical trajectory.

Lastly, one study to date provides controlled data regarding geriatric patients on a surgical trauma unit. Lenartowicz et al. in 2012 studied a proactive consultation service for geriatric trauma patients ($n=248$), in comparison to a historic pre-intervention group ($n=238$) [41]. All intervention subjects received a comprehensive geriatric assessment within 72 h of admission. LOS was shorter in the intervention than control group, 15.4 versus 19.4 days ($p=0.13$). There were interesting trends towards improvement in some quality indicators. This is a patient population with a high rate of behavioral issues amenable to consultation, and an important area for future research.

Current State

A First Model

Our group completed a trial of proactive psychiatric consultation on one medical unit in our hospital [42]. All cases except those admitted and discharged on a weekend were eligible. The intervention period was 5 weeks in length, and the control comparison consisted of non-weekend admissions during five such periods before and after the intervention. During the intervention period, a consult psychiatrist met each weekday with medical teams to review cases and that might benefit from psychiatric intervention. If necessary, the psychiatrist reviewed the medical record or examined the patient briefly. Prospectively, about 50.8 % of total admissions were judged to have psychiatric issues requiring attention, with 20.3 % of admissions judged to have psychiatric issues requiring consultation to avoid possible delay of discharge, 10.2 % judged to have psychiatric problems manageable by the medical team without a formal consultation, 15.2 % judged to have psychiatric problems manageable by referral to outpatient care, and 5.1 % judged to have psychiatric issues not impeding discharge. Alternatively, only 40 % of patients with psychiatric issues actually appeared to require full consultation in the hospital. Often the team was fully familiar with the patient only on the day after admission, and better able to identify psychiatric issues. This screening process was efficient, with an average screening time of 2.9 ± 2.2 min per patient. In reality, the mean reflects many patients with no psychiatric issues and fewer patients who received a small "screening" consultation.

When consultation was indicated, it was performed immediately. The psychiatrist continued to meet with the medical team and thus could monitor the implementation of interventions and their success, as well as detect the emergence of new issues requiring intervention. More consultations were performed during the intervention, 22.6 % of admissions versus 10.7 % (which is already a relatively high use of our service, compared to other units in the hospital). Consultations were performed earlier in the admission, 1.4 ± 0.9 versus 3.0 ± 2.8 days. The focus of consultation was on discharge-related issues. When issues were best addressed outside the hospital, the consult psychiatrists focused on outpatient referral. In a retrospective analysis, about 16.7 % of admissions were thought to have psychiatric issues where appropriate care affected LOS.

LOS was improved with this intervention, 2.9 ± 2.2 versus 3.8 ± 3.3 days, a difference significant at $p = 0.01$ (t test, unequal variance assumption). In particular, the intervention had its effect mainly by reducing the number and duration of longer stay cases (Fig. 10.1), with rates 14.5 % versus 27.9 % for stays longer than 4 days. Feedback from the medical teams was positive regarding the system. Teams particularly praised the ease of communicating with the consultant who was present daily on the unit. Informally, the two involved consultant psychiatrists felt that informal discussion with the medical teams was useful in many cases that did not merit a full consult. One important area of such informal input appeared to be recommendations about what placement or social services might be needed, so that such arrangements could begin promptly. Unfortunately, the study was not configured to assess systematically such contributions.

Several factors may have been important in the success of this pilot project. First, the focus of the intervention was on providing services required during the admission, services which affect LOS. Second, the consult team worked closely with the medical teams to ensure that recommendations were successful, and the consult team was able to re-intervene if additional work was needed. Since the psychiatrist met with the team daily, the psychiatrist was also able to detect promptly cases where the need for psychiatric intervention was missed initially. Third, the A-B-A research design was optimized to detect a small signal. The intervention and control groups were collected from the same unit, as combining data from multiple populations with different LOS would increase group variance. The control group was large and included intervals before and after the intervention, controlling for any secular trend.

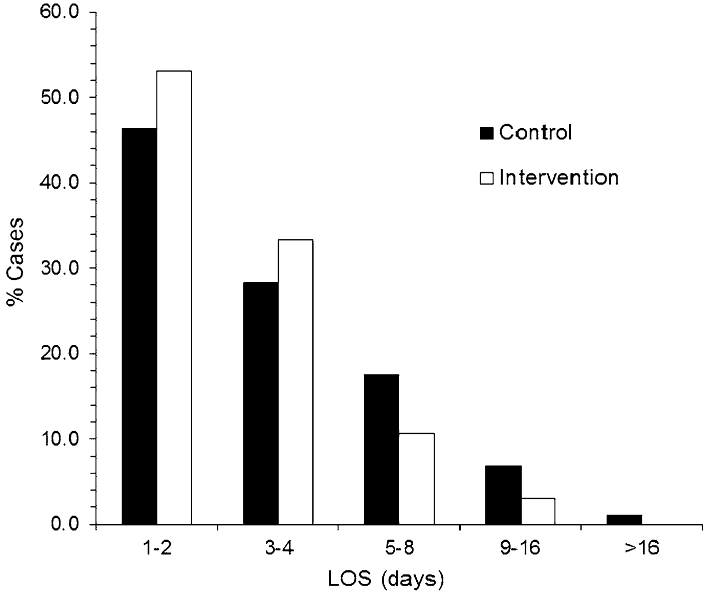


Fig. 10.1 Distribution of LOS in a study of proactive psychiatric consultation (data from [42])

A Second Model

Based on the results of this trial intervention, a second test was made of an expanded form of proactive consultation, which sought to provide similar benefits with a multidisciplinary and cost-effective team. The second model involved a nurse and social worker who provided screening and initial intervention to three medical units. These individuals worked collaboratively with a psychiatrist, and were known as the Behavioral Intervention Team. Both the nurse and social worker had extensive experience in BH services. They were present on the units daily, well known, and accessible to the physicians and nurses. Their role was to screen new admissions, by review of the medical record and by discussion with medical and nursing providers, to identify cases requiring psychiatric intervention. While they did not attend regular medical rounds, they were able to receive reports readily from medical teams, nursing staff, nursing leadership, and social work staff on the three units by virtue of their presence on the units. Again, the mandate was to identify and focus on cases where psychiatric issues might impair provision of needed medical care or otherwise delay discharge. The nurse/social worker team could determine that no intervention was needed, activate and advise social work and care coordination teams regarding needed help, provide consultation themselves, assist medical colleagues in interventions, involve a supervising psychiatrist in discussions regarding cases, or suggest full formal psychiatric consultation. When possible psychiatric barriers to discharge were suspected, this team completed a written initial assessment. When further assistance was needed, additional care was documented in one or more written encounter reports.

During a 10-month study period from 2009 to 2010, there were 5,641 admissions to these units. An initial screening consultation was performed in 945 (17 %), and a plan for necessary services was made with medical teams, floor nursing, social work and discharge care coordination, with additional psychiatric consultation if needed. Follow-up services from the Behavioral Intervention Team were required in about 7 %. Issues which were judged to require BH involvement in these proactively identified cases were psychiatric diagnosis impeding medical care or discharge, 63 % of cases; appropriate disposition arrangements, 52 % of cases; addiction care, 34 % of cases; delirium/dementia care, 18 % of cases; and behavior interfering with medical care, 17 % of cases. We have reported elsewhere in preliminary form the beneficial effects of this intervention on LOS, sitter use, and insurance denied days [43].

These observations confirm in a large-scale study our pilot observations that about 20 % of admissions to general medical units require screening for behavioral factors capable of impeding medical care and delaying discharge. Screening for such problems can be accomplished with a multidisciplinary team with relatively modest resources, less than 0.4 FTE per 1,000 admissions. These observations provide quantitative data for the design of effective proactive consultation services.

Vision

We believe that several conclusions are supported by research to date in the effect of appropriate consultation on the trajectory of medical patients in the general hospital. Appropriate psychiatric consultation can improve medical care and decrease LOS. Simply doing more general consultations, however, is not useful in optimizing treatment. It is essential to identify the patients who may actually benefit from consultation. Screening instruments, which detect depression, anxiety, pain, confusion, or psychiatric diagnoses per se, may not be useful. Research is needed in how to detect among hospitalized patients those that require intervention. The screening process must be efficient, practical, and rapid, and able to bring psychiatric and behavioral care resources to bear early in the admission. The intervention must be directed towards identifying and correcting problems that affect discharge and be specific to identifiable subgroups of patients. The behavioral consultation resources must be closely integrated with the medical team. Unsolicited recommendations left in the chart will not suffice for the dynamic interactive process. This is a population approach to consultation in the general hospital, and shares many features with ambulatory collaborative care models. Among these are screening of a population under care, close integration among psychiatrists, other behavioral care providers and the medical team, and a capacity to escalate interventions to the psychiatrist when needed. There are other care models for highly comorbid populations, such as medical–psychiatry units or complexity intervention units, but this model is applicable in the medical services approach typical of most general hospitals.

Barriers

We argue that research discussed above suggests at least ten features that will be needed for success in the proactive consultation service of the future. These include:

1. Identification of the target population. The key issue, rather, is the ability to detect which cases require intervention. In original research, investigators simply looked for cases with risk factors for increased LOS. Investigators tended to look merely for patients with "psychiatric issues." There is a logical fallacy in this, as we are actually looking for cases that require services in the hospital. In fact, there will be specific subgroups of patients with different needs. We need to understand the specific groups of patients who will benefit from intervention.
2. Efficient screening. The practical side of the above issue is how to identify these patients. What specific characteristics to assess in screening remain problems to be solved. Clearly we do not want to send another individual to do an in-person evaluation. In our first model, a psychiatrist met with the medical team on the first or second day of the admission. In our second model, a nurse/social worker team was present on the unit and received reports from a variety of sources, including medical teams, nursing, nurse leadership, social workers, and care coordinators. Screening must be not only accurate but rapid. Our experience is that triggering consultation 1 or 2 days earlier is critical to reducing LOS.
3. Electronic records. The importance of the electronic record in the integration of medical care has become obvious. The electronic record allows one individual to scan multiple cases, perhaps using automated text detection. The electronic record, including registries of key findings, measures, and clinical status, allows the consult team to follow individual cases, monitor the implementation of recommendations, assess the success of these interventions, and detect the emergence of new problems. It is not an exaggeration to say that the integrated consultation system would be impossible with paper charts.
4. Embedding of psychiatric services. In the past, consultation services tended to use one team to cover an entire hospital. Our experience suggests that dedicating specific personnel to specific hospital units permits a great step forward in effectiveness. In our initial model, the strongest positive feedback received from medical teams was an appreciation of the ease of communication when dedicated staff provided services to a limited number of units. Because of this feedback, we continued this approach in our subsequent models. Integration of medical and psychiatric care is facilitated when there is a physical integration, a co-localization, of providers from each discipline. In theory teams might communicate by calling or paging the intervention staff, but in practice this communication occurs efficiently when providers are in regular contact. This ease of communication is critical in detecting problem cases, and monitoring progress.
5. Informal consultation. Our impression has been that close contact with the medical team results in much informal curbside consultation. Many cases do not require a full consultation. In retrospect, none of our research has been configured to capture this type of interaction. Informal discussion was

also particularly important with the social work and care coordination services, as the psychiatric consultant often can direct appropriate discharge resources earlier in the admission.

6. Flexibility of response. The traditional model offers a one-size-fits-all approach, a full psychiatric consultation. In fact, what is needed to address a particular psychiatric problem will be diverse. It may range from informal curbside consultation as noted above, to care which is within the social work province, to consultation which may be handled by APRN or PA providers, or to full consultation with an experienced psychiatrist. In our first model, we set out to perform psychiatric consultations when needed. In actual practice, we found that many cases could be handled in other ways. These included curbside consultations with the medical team, arranging outpatient evaluations and treatment, triggering social work or care coordination aid, or advising these services on mental health aspects of each case. Our second model explicitly included nursing and social work levels of service as part of the intervention staff. We are currently implementing a third model that triages work flexibly to social work, nurse liaison, and trained psychiatric APRN staff, and if necessary consultation with a psychiatrist. Many hospitals already use APRN or PA staff to cover most consultations. Most cases do not have the complexity to require a psychiatric physician.
7. Implementation of consult recommendations. Another flaw in past attempts at integration has been failure of the medical teams to implement recommendations. Medical teams focus on acute medical issues, and psychiatric care may not be prioritized. This is particularly likely when the consultant simply enters an unsolicited consultation in the chart, as in much research to date. The integrated consultant will have to prove his or her usefulness. As multiple authors have noted, the relationship with medical teams is critical to success and may require development over time.
8. Close follow-up. In past paradigms, the consultant role has sometimes been seen as a brief interaction, where recommendations are delivered and the consultant departs. In the integrated service of the future, this will obviously not suffice. The consultation role will be an ongoing one, and able to react to new needs.
9. Outpatient liaison. As we have noted, one of the great inefficiencies of the present system is that hospital consultants often are called regarding issues that should be handled in the outpatient setting. In general, the consultant in the future hospital will defer involvement in outpatient issues. A great deal of work may go into an evaluation, which may or may not make it to the outpatient provider, who may not even be known at the time of hospital discharge. In the health care system of the future, at the very least channels of information sharing will be more efficient.
10. Integration of care. The model we are describing here goes beyond consultation. The consultation service of the future will be part of truly integrated care, with specific protocols and pathways for different types of patients. There may be specific units and teams with expertise for subgroups of patients, such as patients with addictions.

Risks, Benefits, and Costs

In this chapter, we have discussed the benefits of proactive consultation in terms of delivering needed services without delay, but there are important other benefits. Here we will add that a proactive approach can have important effects in morale for various sectors of the care team. Consultation psychiatrists often complain that they are consulted about cases they do not need to see, and that they are not consulted about cases they should have seen. In a proactive system, the consultation team appropriately is more empowered to do the work they know is beneficial, and experiences improved job satisfaction. Conversely, medical teams often complain about the difficulty of reaching consultants, are concerned whether the consultant is aware of all of the aspects of the case, and want the consultant to be aware rapidly when the clinical trajectory shifts. In an embedded system, our experience is that medical teams comment spontaneously about the ease of working with the consultant, and seldom complain that the consultant has missed critical features of cases. Finally, in the traditional system the nursing staff who actually see the patient and are keenly aware of behavioral factors may feel unsupported, as behavioral problems are passed from nurse to medical team to consult service back to medical team to nurse. Embedded teams where nurse to psychiatrist communication is encouraged have been popular with our nursing staff. The potential for reducing nurse burn out on behaviorally intensive hospital units impressed our hospital administrators, and should be regarded as an important outcome of such integrated care.

Conversely, new research into new modes of consult service operation should not focus on LOS alone, but also report metrics of quality and appropriateness of care. Longer-term measures should be assessed, such as quality of life and functional outcomes, including measures for specific disorders. Research should also report costs in far more detail than hitherto. The actual time spent in interventions, as well as the overall number of full-time equivalents of personnel at specific levels of qualification, should be specified. The cost savings due to LOS reductions accomplished by our programs and others [22, 42] appear to fund easily the increased cost of embedded services. Future research will be concerned with demonstrating not only which models increase quality of care but which models do so in the most cost-effective way.

Recommendations

We believe that evidence to date strongly supports the hypothesis that proactive, population models of psychiatric consultation improve patient care and efficiency in the general medical hospital. We call for increased application of such models, and in particular implementation with the type of data collection that will precisely assess benefits and costs. Research studies need to clarify the target populations able to benefit, including subgroups within that population. Specific methods of screening need to be documented and tested. The actual intervention protocols need to be described in sufficient detail that they can be exported and replicated. There will clearly be different interventions for different types of psychiatric presentations. The statistical methodology must be much more sophisticated than that reported to date. Statistical modeling must be appropriate to the distribution of LOS, which is far from normal. A priori hypotheses should be clearly explicated, and in the case of actual trials listed on www.clinicaltrials.gov or an analogous site. Thus far, there has been little research in understanding covariates that predict LOS outcome. At the present time, research is exploratory and large group size trials are not feasible or optimal. Understanding the factors that predict LOS improves our ability to use smaller group sizes and time series methods to analyze intervention effects. Research protocols must be designed to be able to detect smaller statistical signals. Interventions should be applied to particular units or subpopulations, rather than large admixtures of cases. Measures of quality and outcome need to be included in these populations. Comparison groups should be carefully selected, and as large as possible. The actual full-time equivalent effort of different professional roles should be tracked and reported, along with total costs of different components of patient care.

While the ultimate goal may be a true randomized trial where cases are identified prospectively, this approach may be difficult in actual practice for a number of reasons. Randomized trials involve extra labor and may be prohibitively expensive. It may be difficult to separate screening for cases from some level of intervention. Any intervention on a particular unit may change practice on that unit or associated units, so control cases may receive care different from usual. It may be difficult ethically or politically to withhold an intervention that is likely to improve care. Even when a randomized trial is undertaken, data should be collected in such a fashion as to identify the subgroups that benefitted from specific interventions.

In the original research on the effect of consultation, there was an emphasis on doing more consults, and there was not an emphasis on interaction with medical teams. Results were in many cases disappointing. More recent research indicates that more flexible and interactive approaches can produce strong improvements in quality of care and LOS. We predict that in the future hospital psychiatric consultation services will be energetically proactive and thoroughly integrated components in hospital medical care.

References

1. Billings EG, McNary WS, Rees MH. Financial importance of general hospital psychiatry to hospital administrator. Hospitals. 1937;11:40–4.
2. Billings EG. Value of psychiatry to the general hospital. Hospitals. 1941;15:30–4.
3. Levitan SJ, Kornfeld DS. Clinical and cost benefits of liaison psychiatry. Am J Psychiatry. 1981;138:790–3.
4. Hengeveld MW, Ancion FA, Rooijmans HG. Psychiatric consultations with depressed medical inpatients: a randomized controlled cost-effectiveness study. Int J Psychiatry Med. 1988;18:33–43.

5. Strain JJ, Lyons JS, Hammer JS, Fahs M, Lebovits A, Paddison PL, et al. Cost offset from a psychiatric consultation-liaison intervention with elderly hip fracture patients. Am J Psychiatry. 1991;148:1044–9.
6. Levenson JL, Hamer RM, Rossiter LF. A randomized controlled study of psychiatric consultation guided by screening in general medical inpatients. Am J Psychiatry. 1992;149:631–7.
7. de Jonge P, Latour CHM, Huyse FJ. Implementing psychiatric interventions on a medical ward: effects on patients' quality of life and length of hospital stay. Psychosom Med. 2003;65:997–1002.
8. de Jonge P, Bauer I, Huyse FJ, Latour CH. Medical inpatients at risk of extended hospital stay and poor discharge health status: detection with COMPRI and INTERMED. Psychosom Med. 2003;65:534–41.
9. Camus V, Viret C, Porchet A, Ricciardi P, Bouzourene K, Burnand B. Effect of changing referral mode to C-L psychiatry for noncognitively impaired medical inpatients with emotional disorders. J Psychosom Res. 2003;54:579–85.
10. Fritzsche K, Braun P, Schweickhardt A, Geibel A. [Effects of psychotherapeutic interventions on length of stay in cardiology inpatients]. Z Psychosom Med Psychother. 2006;52:127–40.
11. Burley LE, Currie CT, Smith RG, Williamson J. Contribution from geriatric medicine within acute medical wards. Br Med J. 1979;2:90–2.
12. Campion E, Jette A, Berkman B. An interdisciplinary geriatric consultation service: a controlled trial. J Am Geriatr Soc. 1983;31:792–6.
13. Barker W, William T, Zimmer J, Van Buren C, Vincent S, Pickrel S. Geriatric consultation teams in acute hospitals: impact on back-up of elderly patients. J Am Geriatr Soc. 1985;33:422–8.
14. Hogan DB. Effect of a geriatric consultation service on management of patients in an acute care hospital. Can Med Assoc J. 1987;136:713–7.
15. Hogan D, Fox RA. A prospective controlled trial of a geriatric consultation team in an acute-care hospital. Age Ageing. 1990;19:107–13.
16. Gayton D, Wood-Dauphinee S, de Lorimer M, Tousignant P, Hanley J. Trial of a geriatric consultation team in an acute care hospital. J Am Geriatr Soc. 1987;35:726–36.
17. McVey LJ, Becker PM, Saltz CC, Feussner JR, Cohen HJ. Effect of a geriatric consultation team on functional status of elderly hospitalized patients. Ann Intern Med. 1989;110:79–84.
18. Cole M, Fenton F, Engelsmann F, Mansouri I. Effectiveness of geriatric psychiatry consultation in an acute care hospital; a randomized clinical trial. J Am Geriatr Soc. 1991;39:1183–8.
19. Winograd CH, Gerety MB, Lai NA. A negative trial of inpatient geriatric consultation. Arch Intern Med. 1993;153:2017–23.
20. Thomas DR, Brahan R, Haywood BP. Inpatient community-based geriatric assessment reduces subsequent mortality. J Am Geriatr Soc. 1993;41:101–4.
21. Kircher TTJ, Wormstall H, Müller PH, Schwärzler F, Buchkremer G, Wild K, et al. A randomised trial of a geriatric evaluation and management consultation services in frail hospitalised patients. Age Ageing. 2007;36:36–42.
22. Sennour Y, Counsell SR, Jones J, Weiner M. Development and implementation of a proactive geriatrics consultation model in collaboration with hospitalists. J Am Geriatr Soc. 2009;57:2139–45.
23. Harari D, Martin FC, Buttery A, O'Neill S, Hopper A. The older persons' assessment and liaison team 'OPAL': evaluation of comprehensive geriatric assessment in acute medical inpatients. Age Ageing. 2007;36:670–5.
24. Cole MG, Primeau FJ, Bailey RF, Bonnycastle MJ, Masciarelli F, Engelsman F, et al. Systematic intervention for elderly inpatients with delirium: a randomized trial. Can Med Assoc J. 1994;151:965–70.
25. Cole MG, McCusker J, Bellavance F, Primeau FJ, Bailey RF, Bonnycastle MJ, et al. Systematic detection and multidisciplinary care of delirium in older medical inpatients: a randomized trial. Can Med Assoc J. 2002;167:753–9.
26. Marcantonio ER, Flacker JM, Wright RJ, Resnick NM. Reducing delirium after hip fracture: a randomized trial. J Am Geriatr Soc. 2001;49:516–22.

27. Inouye S, Inouye D, Baker P, Fugal E, Bradley EH. Dissemination of the hospital elder life program: implementation, adaptation, and successes. J Am Geriatr Soc. 2006;54:1492–9.
28. Bakker FC, Bakker SHM, Robben MGM, Olde Rikkert MGM. Effects of hospital-wide interventions to improve care for frail older inpatients: a systematic review. BMJ Qual Saf. 2011;20:680–91.
29. Zuckerman JD. Hip fractures in geriatric patients: results of an interdisciplinary hospital care program. Clin Orthop. 1992;274:213–25.
30. Antonelli Incalzi R, Gemma A, Capparella O, Bernabei R, Sanguinetti C, Carbonin PU. Continuous geriatric care in orthopedic wards: A valuable alternative to orthogeriatric units. Aging Clin Exp Res. 1993;5:207–16.
31. Elliot JR, Wilkinson TJ, Hanger HC, Gilchrist NL, Sainsbury R, Shamy S, et al. The added effectiveness of early geriatrician involvement on acute orthopaedic wards to orthogeriatric rehabilitation. N Z Med J. 1996;109:72–3.
32. Swanson C, Day G, Yelland C, Broome J, Massey L, Richardson H, et al. The management of elderly patients with femoral fractures: a randomised controlled trial of early intervention versus standard care. Med J Aust. 1998;169:515–8.
33. Khan R. Combined orthogeriatric care in the management of hip fractures: a prospective study. Ann R Coll Surg Engl. 2002;84:122–4.
34. Fisher AA, Davis MW, Rubenach SE, Sivakumaran S, Smith PNM, Budge MM. Outcomes for older patients with hip fractures: the impact of orthopedic and geriatric medicine cocare. J Orthop Trauma. 2006;20:172–80.
35. Cogan L, Cogan AJ, Martin LA, Kelly J, Duggan D, Hynes D, et al. An audit of hip fracture services in the Mater Hospital Dublin 2001 compared with 2006. Ir J Med Sci. 2010;179:51–5.
36. Deschodt M, Deschodt T, Braes P, Broos A, Sermon S, Boonen J, et al. Effect of an inpatient geriatric consultation team on functional outcome, mortality, institutionalization, and readmission rate in older adults with hip fracture: a controlled trial. J Am Geriatr Soc. 2011;59: 1299–308.
37. Kammerlander C, Roth T, Friedman SM, Suhm N, Luger TJ, Kammerlander-Knauer U, et al. Ortho-geriatric service: a literature review comparing different models. Osteoporos Int. 2010;21:S637–46.
38. Koval KJ, Chen AL, Aharonoff GB, Egol KA, Zuckerman JD. Clinical pathway for hip fractures in the elderly. Clin Orthop. 2004;425:72–81.
39. March LM, Cameron ID, Cumming RG, Chamberlain AC, Schwarz JM, Brnabic AJ, et al. Mortality and morbidity after hip fracture: can evidence based clinical pathways make a difference? J Rheumatol. 2000;27:2227–31.
40. Choong PF, Langford AK, Dowsey MM, Santamaria NM. Clinical pathway for fractured neck of femur: a prospective, controlled study. Med J Aust. 2000;172:423–7.
41. Lenartowicz M, Parkovnick A, McFarlan B, Haas S, Straus A, Nathens C, et al. An evaluation of a proactive geriatric trauma consultation service. Ann Surg. 2012;256:1098–101.
42. Desan PH, Zimbrean PC, Weinstein AJ, Bozzo JE, Sledge WH. Proactive psychiatric consultation services reduce length of stay for admissions to an inpatient medical team. Psychosomatics. 2011;52:513–20.
43. Balf-Soran G, Zimbrean PC, Desai R, Desan PH, Sledge WH. Behavioral intervention team reduced length of stay in general medicine units. Academy of Psychosomatic Medicine Annual Meeting, Marco Island, FL; 2010

Chapter 11
Transitioning to Psychiatric Service Delivery in the Medical Setting

Marshall R. Thomas, Alexis A. Giese, and Jeanette A. Waxmonsky

Abstract Like many in health care, psychiatrists find themselves at a crossroads during a time of dramatic health care delivery and payment changes that can potentially impact their practice, financial stability, and careers. In many ways, psychiatrists should be well positioned for the future, as there have been major advances in recognizing and treating psychiatric disorders, and their important role in driving health care utilization, costs, and outcomes. Paradoxically, however, psychiatrists are too often on the sidelines as changes occur, having been marginalized by commercial payers and hospital systems, which fail to adequately fund psychiatrists and have decreased available resources for patients. One of the biggest challenges that psychiatrists will face, given their current relative isolation, is finding ways to practice in the broader community and demonstrating their value in ways that other stakeholders can recognize. In this chapter, we discuss how psychiatrists can best position themselves for the emerging health care market.

M.R. Thomas, M.D. • J.A. Waxmonsky, Ph.D. (✉)
Department of Psychiatry, Colorado Depression Center, University of Colorado School of Medicine, 13199 East Montview Boulevard, Suite 330, Aurora, CO, USA
e-mail: jeanette.waxmonsky@ucdenver.edu

A.A. Giese, M.D.
Department of Psychiatry, Medical Education, University of Colorado School of Medicine, Aurora, CO, USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_11,

Where We Are

> The point is not to predict the future but to prepare for it and shape it.
>
> Richard Smith, Editor, British Medical Journal

Like many in health care, psychiatrists find themselves at a crossroads that creates both excitement and anxiety. It is generally agreed that the health care system needs to change to achieve better outcomes for more people at lower costs [1]. Many providers, patients, and consumer advocacy groups also feel that access to behavioral health services needs to be greatly improved [2]. However, there exist many unknowns, and psychiatrists are concerned about the future and how changes in the health care delivery and payment systems will affect their practice, financial stability, and careers.

In many ways, psychiatrists should be well positioned for the future, as there have been major advances in recognizing and understanding the prevalence of mental health issues, their psychobiological and neurobiological substrates, comorbidity with medical disorders, and their important role in driving health care utilization, costs and outcomes [3]. Stigma historically associated with mental illness and behavioral health treatment has also begun to decrease through the efforts of public health and social media campaigns [4, 5]. Paradoxically, however, psychiatrists are too often on the sidelines as changes occur, having been marginalized by commercial payers and hospital systems, which fail to adequately fund psychiatrists and have decreased available resources for patients. Psychiatrists may feel demoralized or even angry about the divergence between the potential value they could offer and the relatively devalued status that the profession occupies in today's health care system.

To understand both the development of the current state of affairs and the processes that will shape the future, health care can be best conceptualized as a complex adaptive system in which change is driven by market forces, government regulation, economic imperatives, social and cultural influences, and a myriad of special interest stakeholders [6]. Participants' (consumers, employers, insurers, hospitals, physicians, etc.) behavior is therefore driven by their unique motivations and incentives rather than overall system rules or goals. The resulting health care environment forces these participants to compete, evolve, and adapt in order to survive. Change is nonlinear and dynamic (even random or chaotic) and may lead to unintended or undesirable consequences. There is no overall leadership, management, or policy that unifies or aligns forces or decisions in this health care environment [6]. Individual relationships, local and regional alliances, and flexibility are therefore extremely important.

Over the last 20 years, economic and other forces have increasingly led many psychiatrists to seek employment in government funded programs such as community mental health centers, the Veterans' Administration system, correctional facilities, or other public sector delivery systems [7]. Starting in the early 1990s, managed mental health programs (often as a carved-out sub-plan of a commercial insurance carrier) created an inhospitable environment for private practice psychiatrists; patients were preferentially referred to non-physician therapists, reimbursement was drastically reduced, visits were limited, and administrative burdens increased. Psychiatrists adapted in a variety of ways: developing full-fee self-pay practices that minimize commercial insurance, moving to full-time employment in systems such as Kaiser, or shifting their practices to high-volume medication management visits [8, 9]. The results of these shifts are widespread and include poor access to high quality psychiatric care for many commercially insured patients and greater disconnection between psychiatrists and other physicians in primary and specialty care settings [10–12].

In a 2009 white paper prepared by American Psychiatric Association Ad Hoc Work Group Report ([3], p. 16) on the Integration of Psychiatry and Primary Care, the authors stated that

> Psychiatry must become a part of the medical mainstream for stigma to recede, expanded clinical care in the medical setting to occur, and reimbursement for psychiatric care to improve. Importantly, psychiatrists need to be at the table arguing their case for this to happen now and in the future. In today's segregated clinical care environment, mental health care is and will remain an afterthought.

Clearly, a great deal of work still needs to be done and new approaches taken for psychiatry to become part of the medical mainstream and have a seat at the table as newer, more accountable systems are developed. Given the nonlinear and chaotic process of change, psychiatrists will need to be proactive, informed, flexible, tolerant of uncertainty, and adaptable to participate effectively in shaping the future.

It seems logical, and perhaps inevitable, that the health care system's evolving emphasis on population health, accountability, and outcomes will lead to a higher priority for behavioral health. Who will take the lead, what models will be used, and what roles psychiatrists will have is still unclear. Ultimately, political forces, marketplace dynamics, and other stakeholders will determine the economic and clinical value of psychiatrists in these new systems of care. One of the biggest challenges that psychiatrists will face, given their current relative isolation, is finding ways to practice in the broader community and demonstrating their value in ways that other stakeholders can recognize. The opportunity costs of psychiatrists doing nothing are high. Failure to adapt and develop new models of practice may well lead to further marginalization of psychiatry as a profession within the next phase of health care evolution.

Psychiatry as a profession will encounter special challenges as it tries to find its seat at the table of mainstream health care. Some of the challenges are based on the reality of how they practice and some are based on stereotypes and misperceptions. For some, the old stereotype of a noncommunicative, withholding, psychoanalytic authority figure still lingers. Another factor is that many psychiatrists still practice in separate and segregated settings where they are difficult to access and seldom communicate with other physicians. There may be legitimate reasons for some of this, such as confidentiality concerns or the schedule of private office based care. Psychiatrists should at least be aware how others perceive the specialty and not be surprised if the reception at the mainstream table is a little cold at first.

Where We Are Going

> It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.
>
> Charles Darwin

A fairly simple set of organizing values or ideals, called the Triple Aim [1], has been proposed to guide the transformation of the United States health care system. It postulates the need to simultaneously balance three objectives: enhancing the patient care experience (including quality, access and reliability), improving the health of the population, and reducing or controlling the per capita cost of care. With the Triple Aim framework in mind, psychiatrists may envision opportunities to use their unique training and skills to offer value now or in the future. However, the transition process for psychiatrists from current to future models will require creativity and flexibility, as underlying economic and practice models only gradually and often incompletely become more aligned with the Triple Aim vision of the future. This may involve continuing to operate in the old paradigms of the current world to support oneself while simultaneously working on the margins to build new relationships or models that prepare for the future.

The emerging emphasis on population health may create new opportunities for psychiatrists and other behavioral health specialists. From a population health perspective, neuropsychiatric disorders and other behavioral health conditions play a major role in chronic illnesses and contribute to increased overall health care costs [13], Looking at the needs of a defined population also reveals the glaring mismatch between patient mental health needs and the delivery of psychiatric services [3, 12]. Untreated mental illnesses represent a significant public health concern; 70 % of persons with mental illnesses receive no treatment or ineffective treatment in non-mental health settings [3]. The Triple Aim objectives of cost, patient experience and quality, and population health may drive the delivery of behavioral health services in settings more convenient for patients (e.g., integrated into primary care practices) and in more cost effective ways (e.g., electronic media and tele-health). So what can psychiatrists bring to the evolving health care system that is unique, adds value, and is cost-effective?

At the core of psychiatric expertise is training and clinical experience that enables a deep and comprehensive bio-psycho-social understanding of the human experience in both health and illness, linked to extensive medical and psychiatric clinical training. Although useful in a number of settings, these skills (and the medical foundation upon which it is built) are essential in treating serious mental illness, high risk behavioral health patients, and those with complex psychiatric and medical comorbidities. Psychiatrists are uniquely trained to diagnose complicated pathology, provide nuanced formulations, and develop both the behavioral and medical aspects of a multifaceted treatment plan. But many patients, even those with significant behavioral health issues, either cannot or will not seek care in specialty mental health settings, leaving their management largely to primary care providers.

A centerpiece of health care reform is the increasing emphasis on high functioning primary care medical homes. As part of this, primary care physicians (PCPs) and other medical specialists are increasingly attempting to meet the need for behavioral health services in their patient populations. Many efforts are underway to involve or co-locate behavioral health therapists or care managers (psychologists, professional counselors, and social workers) within primary care practices to provide behavioral health consultation, brief, solution focused therapies and crisis management. Increasingly, these mental health providers are part of clinical care teams within the primary care practice setting rather than merely co-located providers practicing in parallel with the primary care team [14–16]. However, for variety of cultural and economic reasons, few of these evolving primary care medical homes have included full time, on-site psychiatrists [17]. Some have referral arrangements with a psychiatrist located outside the practice or to one who comes on-site infrequently, arrangements that do not promote full integration and team-based care. Another limitation is that linkage to more intensive or specialized behavioral health services is often lacking.

Some PCPs have embraced treating common mental health conditions in their practices, but even these practices are eager to seek psychiatric expertise for more complex or severely ill patients, such as those with schizophrenia, recurrent depression, bipolar disorder, panic disorder, personality disorders, substance-related disorders, or significant safety issues (suicidal or homicidal ideation or history). Historically, psychiatric consultations have been frustratingly difficult to obtain and not accompanied by effective communication and collaboration between the psychiatrist and PCP. Characteristics of practices and practitioners likely to successfully compete in a general medical environment have been grouped as the Four As (accessibility, affordability, affability, and accountability) [18]. At present, many psychiatrists would not receive high grades on these dimensions from their medical colleagues and patients.

Psychiatrists will need to find new ways to package and deliver their services in a way that is timely, affordable, and accessible to other medical settings and providers. The MacArthur Foundation Three Component Model and Life Goals Collaborative Care are examples of evidenced-based treatment models that cost effectively deliver psychiatric services in medical settings in the context of a collaborative team model [19, 20]. These models make efficient use of psychiatrists' time by connecting it to a primary care team with embedded behavioral health providers and care managers (see Chaps. 3 and 7). Similarly, connecting a psychiatrist via tele-health offers an efficient mechanism for working with a primary care team with embedded behavioral health specialists and care managers.

Potentially psychiatrists could also offer a range of more specialized and targeted mental health consultation services. For example, psychiatrists could provide treatment for substance-related disorders, including medication-assisted therapies, and help establish integrated substance use disorder and physical health treatment programs [3]. Psychiatrists can assist the primary care team in treating patients with chronic pain, chronic fatigue syndromes, sleep disorders, and unexplained somatic symptoms [21]. Additionally, psychiatrists bring expertise in treatment and management of dementia, delirium and neurological conditions of uncertain etiology (e.g., pseudo-seizures) to the primary care practice. Psychiatrists will need to develop additional expertise, better platforms and more cost-effective treatment models to be able to deliver these services in general medical settings.

In the envisioned future world of Accountable Care Organizations (ACOs), delivery systems will be held accountable for costs, quality, and outcomes for defined populations of patients. If the right goals and outcome measures are utilized, ACOs will likely create a variety of new opportunities for psychiatrists. Psychiatrists' expertise in the bio-psycho-social determinants of health and illness can contribute to a more comprehensive approach to improving the health of a population. To optimize this opportunity, the typical psychiatrist may need to enhance his expertise in the principles of population health in regards to behavioral health conditions, such as screening and prevention methods. Many psychiatrists are already experienced in team and community based care models (although these have historically been in relatively segregated community mental health or inpatient settings). In addition, many high cost chronic medical conditions such as diabetes, chronic heart failure, asthma, and chronic obstructive pulmonary disease are highly comorbid with psychiatric conditions such as depression and anxiety, and the presence of the psychiatric conditions often results in higher medical utilization and costs [13]. Psychiatrists can provide value by helping PCPs and medical specialists achieve better health outcomes for patients while decreasing costs related to inappropriate over-utilization of hospitals, emergency departments, readmissions, and pharmacy [15, 22]. Lastly, psychiatrists have effective skills in working with patients and families with challenging communication, compliance, and behavioral issues that may frustrate other providers and result in very high health care costs.

How We Get from Here to There

> Darwin's Paradox:
>
> What makes the (coral) reef so inventive is not the struggle between the organisms but the way they have learned to collaborate.
>
> Steven Johnson

The President of the Institute of Medicine, Harvey Fineberg MD, PhD, has posited that in order for the United States to transition to a health care system characterized by higher quality and greater efficiency, the following culture shifts will be needed: (1) from autonomy to responsibility; (2) from institution-centered to patient-centered care; and (3) from "my patient" to "all patients" [23]. In addition, the Institute of Medicine has described five core competencies health professionals will need for the future: (1) working in interdisciplinary teams; (2) providing patient-centered care; (3) employing evidence-based practices; (4) applying quality improvement; and (5) utilizing informatics [24]. Attitudes and practice styles that might have worked and been accepted in the past may not be adaptive in the future.

It is important to recognize that the pathway for psychiatry to become more accepted, integrated, valued and reimbursed will not be only through a seat at one large table but rather broad participation and collaboration in a great number of smaller settings. These activities, at least initially, may not be fully funded. It will also require psychiatrists to participate in new settings and systems as open-minded learners and to determine whether the changes to their practice are ones they wish to undergo. In some measure this will depend on local market conditions, their nearness to retirement and the nature of their current practice. While psychiatrists may have certain content expertise, patients and other providers are essentially both the customers and the experts on what's wanted, needed, and workable in their settings. Psychiatrists will need to simultaneously engage in market research, marketing, and product development. Traditional advocacy approaches for psychiatrists' inclusion and reimbursement are unlikely alone to advance their roles in these new models.

Though stressful, health care reform and the structural underpinnings of the Accountable Care Act will offer opportunities for psychiatry to participate in health care in new and different ways. These changes provide a platform for innovation and specialization analogous to the biodiversity that arises around a coral reef. As Johnson asserts in *Where Good Ideas Come From*: *The Natural History of Innovation* [25], such platforms create new opportunities and diversification as much through collaboration and connectivity as by competition. Environments that are dense in connectivity offer particularly fertile habitats for creation and growth. Productive creativity arises out of the "adjacent possible" by exploring new possibilities and combinations on the outer boundaries of one's current habitat rather than leaping into totally new and unexplored space. To maximize funding opportunities and the creativity of the "adjacent possible," psychiatrists will need to build new and personal interfaces with colleagues throughout health care, work together to see what is possible, and build a future.

Example of a Psychiatry Primary Care Collaboration Pilot

One successful model utilized a health plan-based psychiatrist to provide weekly supervision to a nurse care manager in a diabetes and depression care management intervention delivered in a federally qualified health center. The nurse care manager was located at the health center and reviewed with the psychiatrists any patient not showing an adequate response to antidepressant medication based on the Patient Health Questionnaire (PHQ-9) scores at 4–6 weeks. The psychiatrist made recommendations to the nurse care manager and primary care provider on medication augmentation and switching for approximately 35 % patients enrolled in the program. The psychiatrist observed that the medication consultation was "fairly straightforward" and the cases were "not very complicated" in terms of antidepressant medication. He also noted the primary care providers were "very competent" in initiating medications but were unlikely to use with augmentation or change antidepressants based on patient response. The psychiatrist found this model "very rewarding" because it was fairly easy to achieve positive outcomes for this population patients with diabetes and depression: 44 % of patients had a reduction of 50 % in depressive symptoms at 4 months, and 13 % of patients were in remission at 9 months. The primary care providers appreciated the ability to consult the psychiatrist as needed and the patients felt that they benefited from the care management program.

Specific Recommendations for Change

There will likely be diverse prospects for psychiatrists in integrated care settings ranging from general outpatient and inpatient medical settings to more specialized niches in substance use, geriatrics, neuropsychiatry, or psychosomatic medicine. Psychiatrists will need a proactive approach to find, evaluate, and help develop the right opportunities. Outpatient primary care or specialty medical or mental health settings may be a logical first step. Some of these practices already have relationships with non-psychiatrist mental health clinicians, in some cases co-located on site. While some such practices may feel that their behavioral health needs are sufficiently being met, they may also have a higher awareness of mental health issues, prioritize getting their patients access to behavioral health services, and be more likely to identify patients with these needs. Psychiatrists will have to avail themselves to such practices and demonstrate their ability to integrate with other team members and add value in a limited role perhaps with more complex cases at first. One strategy may be to co-locate part of one's practice within or contiguous to a primary care practice and use a blended model (traditional patients plus patients from the primary care setting) to establish a presence and gradually increase volume. Another approach is to identify outpatient medical clinics that currently lack mental health resources yet serve a large proportion of patients with chronic health conditions that are associated with comorbid mental health conditions (e.g., diabetes, chronic obstructive pulmonary disease). Another approach may be to propose pilot funding models within large integrated care systems who are operating under accountable care models.

In contrast to outpatient settings, inpatient medical settings have traditionally provided at least some access to on-site psychiatrists, and many are expanding their roles and services. Historically, the inpatient consultation psychiatrist operated in a consultative role in relative isolation from the rest of the physicians and teams providing care. Often the primary point of intersection has been the medical record, with little collaboration regarding the assessment, treatment plan, and outcomes. As hospital systems evolve, however, there may be expanded opportunities for psychiatrists to play important roles in the care of individual patients and high cost/high risk populations, participate in difficult case conferences and ethics teams, improve clinical delivery systems, and demonstrate positive impacts on quality and financial outcomes.

For example, hospitals are increasingly held financially accountable for clinical outcomes, such as readmissions, which are often related to areas that psychiatrists have expertise in: functional level, motivation, mood, social support, etc. A recent project conducted by psychiatrists and others at a Denver-area teaching hospital evaluated patients with multiple readmissions found that many lacked medical decision-making capacity and had other cognitive and functional impairments; these deficits had generally been unrecognized by the primary treating teams and not factored into discharge planning [26, 27]. Similarly, emergency departments struggle with high volumes of repeat patients with medical, behavioral, and complex psychosocial needs [28]. Referral from emergency departments to external behavioral health services is often ineffective [29]. Psychiatrists' expertise, integrated into the emergency setting, can offer crisis intervention/brief treatment, a patient-centered formulation, inclusion of the family in the evaluation and disposition, options to reduce recidivism through proactive linkage to targeted community interventions, and alternatives to emergency and inpatient care.

Strategies to Build New Models in Medical Settings

- Look for opportunities to provide or link to a continuum of care rather than one-time consultations.
- Become a comprehensive resource to non-psychiatrist physicians, other clinicians, the patient, family, and the system of care surrounding a patient.
- Leverage technology such as telemedicine, electronic media, rapid but nonconcurrent communication, and electronic health records to communicate with patients and providers.
- Approach each new system as a learner and try to understand its unique strengths, limitations, and opportunities.
- Leverage your expertise and efforts while maximizing flow-through and availability. For example, stabilized patients can be managed directly by their PCP, with the psychiatrist available if new issues arise.

To succeed in new models and roles, psychiatrists must shift paradigms and develop new skills and attitudes (or refresh old ones), not simply transplant their practice style into new settings. Psychiatrists will also need to assess how their style of practice and communication may need to change with the different expectations within the medical environment. Perhaps the primary adjustment for many psychiatrists will be the focus on systems, providers, and teams rather than individual patients. Reverting to old habits may result in the psychiatrist being perceived as unavailable, having his or her own agenda, or not being aligned with the overall clinical plan for the patient or the work unit. Secondly, psychiatrists may need to hone their communication skills, both verbally and in writing, being committed to real time accessibility, rapid response, comfortable with confidentiality issues, and adept at conveying brief need-to-know clinical information to nonmental health clinicians. Likewise, psychiatrists serving as educators and coaches in primary care and other settings may need to improve their bedside teaching skills. Busy PCPs want to learn and grow as clinicians but do not want to be impressed with how much more the psychiatrist knows. Successful integrated psychiatrists will understand how their colleagues like to learn and what they need to know while supporting them in providing better care without a competitive or pedantic component.

Time management and schedules may represent the biggest transition for many psychiatrists. In a traditional psychiatric practice, things happen on a relatively fixed schedule (mostly at the psychiatrist's convenience), the psychiatrist can be selective about which patients to accept, and the requests for services often come directly from patients. In an integrated model, however, the psychiatrist must be flexible, proactive, and readily available on-demand, modeling a can-do attitude and creativity in engaging patients and families, developing solutions, multitasking, and mobilizing (often limited) resources. Another shift is that psychiatrists in the integrated role must be willing to evaluate and provide (at least brief) treatment for the full range of behavioral health issues that may arise, including mental illnesses, substance related disorders, personality disorders, all age groups, families, medical comorbidities, and psychological and social issues. They must be comfortable providing advice, information, and treatment on a much more limited database than is common in traditional psychiatric practice. Psychiatrists who are only comfortable providing in-depth evaluations and intensive or long-term care may have difficulty with this transition. Another adjustment is developing comfort with and gratification from care delivered by multiple team members. Psychiatrists who are primarily gratified by the one-on-one relationship may find this new role less fulfilling or have trouble recognizing the indirect benefits they help achieve.

Key Skills for Psychiatrists in Integrated Care Settings

- Efficiency and time management skills
- Documentation skills: electronic health records, brief documentation in progress note format
- Measurement-based care: utilize screening tools, outcome scales, and patient-reported monitoring
- Health behavior change skills, motivational interviewing, brief cognitive-behavioral therapy skills
- System navigation skills: accessing behavioral health networks, leveraging benefits, authorizations for higher levels of care, transitioning patients to specialty mental health resources
- Working knowledge of common medical illnesses (e.g., diabetes, chronic obstructive pulmonary disease, chronic pain) or illnesses specific to a specialty setting (e.g., obesity, cancer), their management, psychiatric comorbidities and interaction, and health behavior strategies relevant to those conditions
- Communication and teaching skills—supervising other behavioral health clinicians, teaching and coaching medical colleagues

For many psychiatrists, the financial transition to integrated care will be the most challenging problem to solve. Currently, most psychiatrists in outpatient practice operate under the volume-driven fee-for-service reimbursement system, delivering reimbursable services and getting paid per service by a variety of payers, including private health plans, government payers such as Medicare or Medicaid, and (increasingly), self-pay by patients including where patients are directly reimbursed for out of network care. Other models, such as hospital-affiliated employment or group practices, usually tie psychiatrist compensation in varying degrees to their clinical productivity. The integrated care models described herein may generate some fee-for-service revenue based on billable services delivered by psychiatrists, but much of their time in these new settings will be devoted to activities that are currently non-reimbursable or may be reimburseable under global payment methodologies.

Psychiatrists considering an integrated care arrangement need to be cognizant that there will be a substantial gap between the fee-for-service revenues and their expected salary and be prepared to negotiate with the host system to develop a mutually acceptable (and beneficial) payment platform. Practices that are largely fee-for-service and not responsible for a population group or medical costs outside the practice (e.g., hospital admissions, imaging, laboratory tests) may view such an arrangement as an unaffordable subsidy. The health care system is evolving, though, and must shift from a volume-driven system to a value-driven system. Hospitals and physician networks will have to straddle the current (volume-driven, fee-for-service) business models and new business models (population-based, outcome-driven) simultaneously. For example, in primary care systems, prepayment or primary care per member per month sub-capitation models are being implemented. In other settings, such as inpatient and outpatient hospital, physician and specialty care payments are bundled around episodes of care or may receive a per member per month payment for all aspects of care.

Psychiatrists who enter these evolving systems now may have the opportunity to understand them and develop a value proposition that targets defined outcomes. For example, it has been demonstrated that patients with diabetes and major depression have significantly higher total health care costs and less favorable outcomes than those with diabetes and no depression [13, 30]. Psychiatrists, working with a primary care practice, could have a positive impact on depression screening, management, and practice support for working with these more challenging patients and help the practice evaluate the impact on clinical and cost outcomes. In this paradigm, the psychiatrist must demonstrate value and can tie his reimbursement to the overall success of the practice. In public mental health settings psychiatrists will need to become more expert in the recognition and management of common medical problems and the integration of primary care based practitioners into these settings.

Psychiatrists may indeed be anxious about the ambiguity of the future and see little advantage to shifting their practice styles, settings, or reimbursement platforms now; doing so may involve exchanging remunerative activities for those that are less so. Preparing for the future will be an exercise in scenario planning and developing strategies for practice survival in a variety of future scenarios. One strategy may be small-scale practice diversification in order to establish new partners and connections, learn how the system is evolving, use data to evaluate outcomes, and be ready to expand as the financial opportunities improve. Psychiatrists may wish to use a broad approach, developing several relationships with a range of partners in small, low-risk ways. Not all endeavors will succeed or lead to a return on investment.

In order to embark upon some of these new arrangements, psychiatrists should become expert in what is (and isn't) reimbursable under fee-for-service platforms in a primary care or specialty medical setting. Careful attention to the practice's payer mix, network restrictions, contractual arrangements, allowable codes and fee schedules, collection rates, etc., can help the psychiatrist realistically estimate how much can be collected. Primary care practices are generally not expert in these areas, may overestimate how much reimbursement is likely, and be ill equipped to bill and collect for behavioral health services. In an ongoing way, the psychiatrist will likely need to carefully track billing and collections in order to ensure that fee-for-service billing is being maximized correctly and to use as a framework for ongoing reassessment with the host practice regarding the financial arrangements. Psychiatrists will need to demonstrate that the gap between their salary and the reimbursements is not a subsidy for unproductive time, but rather represents the value-added components supporting the practice in providing higher levels of behavioral health care for a large number of patients and achieving defined clinical and cost outcomes. Activity logs for these non-reimbursable activities (e.g., phone calls, team meetings) may be useful, as will tracking of outcomes across the spectrum of medical and psychiatric conditions.

Another strategy psychiatrists may consider is establishing (or expanding) a broader community presence, meeting with key providers or health systems, getting to know some primary care or specialty practices (perhaps by doing more traditional consultations for them), joining the local medical society, getting hospital privileges and contributing to quality improvement committees, etc. Being at the table as hospitals and other health care systems grapple with these issues may offer a psychiatrist the opportunity to identify gaps he can fill, demonstrate value to colleagues and administration, and lead to paid practice opportunities.

Conclusion

In a rapidly changing environment, psychiatrists will need to take stock of their current expertise and look for opportunities to partner with health care delivery systems. Besides taking a flexible, open minded approach to exploring new practice opportunities, psychiatrists may need to consider additional training in psychosomatic medicine (e.g., chronic pain management), and measurement-based care to help them create a competitive advantage in the emerging marketplace of health care. There are both opportunities for significant success and risks as psychiatrists venture into this uncharted territory. Successful transitions will take time, occur around the boundaries of new evolving relationships, and include some misfires.

Psychiatrists with the ability and desire to function as a collaborator and team member, willingness to serve a wide range of patients, and a creative and flexible approach are well positioned to help create a new vision of psychiatric practice. These new roles may offer opportunities for psychiatrists to be highly visible leaders and innovators and make a significant contribution beyond preserving the status quo. In this vision, there are many advantages for psychiatrists who will be able to shift from practicing in isolation to team-based collaboration, increase visibility and recognition among medical colleagues, expand access to higher-quality behavioral health services for more patients, and feel gratified by achieving better patient outcomes.

References

1. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. Health Affair. 2008;27(3):759–69. doi:10.1377/hlthaff.27.3.759.
2. Committee on Quality of Health Care in America IoM. Crossing the quality chasm: a new health system for the 21st century. Washington, DC: Institute of Medicine; 2001.
3. American Psychiatric Association. Ad hoc work group report on the integration of psychiatry and primary care. Arlington, VA: American Psychiatric Association; 2009.
4. Pandya A. NAMI in our own voice and NAMI smarts for advocacy: self-narrative as advocacy tool. J Psychiatr Pract. 2012;18(6):448–50. doi:10.1097/01.pra.0000422744.79871.1a.
5. Watson AC, Corrigan PW. Challening public stigma: a targeted approach. In: Corrigan PW, editor. On the stigma of mental illness: practical strategies for research and social change. Washington, D.C.: American Psychological Association; 2004. p. 281–91.
6. Rouse WB. Health care as a complex adaptive system: implications for design and management. Bridge Link Eng Soc. 2008;38(1):17–25.
7. Ranz JM, Vergare MJ, Wilk JE, Ackerman SH, Lippincott RC, Menninger WW, et al. The tipping point from private practice to publicly funded settings for early- and mid-career psychiatrists. Psychiat Serv. 2006;57(11):1640–3. doi:10.1176/appi.ps.57.11.1640.
8. Mojtabai R, Olfson M. National trends in psychotherapy by office-based psychiatrists. Arch Gen Psychiat. 2008;65(8):962–70. doi:10.1001/archpsyc.65.8.962.
9. Olfson M, Marcus SC, Pincus HA. Trends in office-based psychiatric practice. Am J Psychiat. 1999;156(3):451–7.
10. Cunningham PJ. Beyond parity: primary care physicians' perspectives on access to mental health care. Health Affair. 2009;28(3):W490–501. doi:10.1377/hlthaff.28.3.w490.
11. Dayaratna KD. Studies show: medicaid patients have worse access and outcomes than the privately insured. The Backgrounder 2012; p. 2740.
12. Kaiser Commission on Medicaid and the Uninsured. Mental health financing in the United States: a primer. Washington, DC: Kaiser Family Foundation; 2011.
13. Thomas MR, Waxmonsky JA, Gabow PA, Flanders-McGinnis G, Socherman R, Rost K. Prevalence of psychiatric disorders and costs of care among adult enrollees in a Medicaid HMO. Psychiat Serv. 2005;56(11):1394–401. doi:10.1176/appi.ps.56.11.1394.
14. Katon W, Unutzer J. Collaborative care models for depression - time to move from evidence to practice. Arch Intern Med. 2006;166(21):2304–6. doi:10.1001/archinte.166.21.2304.
15. Katon W, Von Korff M, Lin E, Simon G, Walker E, Unutzer J, et al. Stepped collaborative care for primary care patients with persistent symptoms of depression - a randomized trial. Arch Gen Psychiat. 1999;56(12):1109–15. doi:10.1001/archpsyc.56.12.1109.
16. Katon WJ, Von Korff M, Lin EHB, Simon G, Ludman E, Russo J, et al. The pathways study - a randomized trial of collaborative care in patients with diabetes and depression. Arch Gen Psychiat. 2004;61(10):1042–9. doi:10.1001/archpsyc.61.10.1042.
17. Shim RS, Koplan C, Langheim FJP, Manseau M, Oleskey C, Powers RA. Health care reform and integratede care: a golden opportunity for preventative psychiatry. Psych Serv. 2012; 63(12):1231–3.
18. Yager J. The practice of psychiatry in the 21st century: challenges for psychiatric education. Acad Psychiatry. 2011;35(5):283–92. doi:10.1176/appi.ap.35.5.283. 35/5/283 [pii].
19. Dietrich AJ, Oxman TE, Williams JW, Schulberg HC, Bruce ML, Lee PW, et al. Re-engineering systems for the treatment of depression in primary care: cluster randomised controlled trial. Br Med J. 2004;329(7466):602–5. doi:10.1136/bmj.38219.481250.55.

20. Kilbourne AM, Goodrich DE, Lai ZS, Clogston J, Waxmonsky J, Bauer MS. Life goals collaborative care for patients with bipolar disorder and cardiovascular disease risk. Psychiat Serv. 2012;63(12):1234–8. doi:10.1176/appi.ps.201100528.
21. Leentjens AF, Rundell JR, Diefenbacher A, Kathol RG, Guthrie E. Psychosomatic medicine and consultation-liaison psychiatry: scope of practice, processes, and competencies for psychiatrists working in the field of CL psychiatry or psychosomatics. [corrected] A consensus statement of the European Association of Consultation-Liaison Psychiatry and Psychosomatics (EACLPP) and [corrected] the Academy of Psychosomatic Medicine (APM). [corrected]. Psychosomatics. 2011;52(1):19-25. doi: 10.1016/j.psym.2010.11.022, S0033-3182(10)00023-X [pii].
22. Mitchell G, Del Mar C, Francis D. Does primary medical practitioner involvement with a specialist team improve patient outcomes? A systematic review. Br J Gen Pract. 2002; 52(484):934–9.
23. Fineberg HV. Transforming health care quality, efficiency, value: priority areas for national action. In: Levitt distinguished speaker series. University of Colorado Anschutz Medical Campus. 2011. http://www.ucdenver.edu/academics/colleges/medicalschool/departments/familymed/education/CME/Pages/LevittDistinguishedSpeakerSeries.aspx
24. National Research Council. The core competencies needed for healthcare professionals. In: Greiner AC, Knebel E, editors. Health professions education: a bridge to quality. Committee on the health professions education summit. Washington DC: The National Academies Press; 2003. p. 45–74.
25. Johnson S. Where good ideas come from: the natural history of innovation. New York, NY: Penguin; 2010.
26. Chugh A, Williams MV, Grigsby J, Coleman EA. Better transitions: improving comprehension of discharge instructions. Front Health Serv Manage. 2009;25(3):11–32.
27. MacKenzie TD, Kukolja T, House RM, Loehr A, Hirsh J, Boyle K, et al. Overcoming barriers to the safe disposition of psychosocially and medically complex patients at an urban public hospital. Health Aff. 2012;31(8):1786–95.
28. Baillargeon J, Thomas CR, Williams B, Begley CE, Sharma S, Pollock BH, et al. Medical emergency department utilization patterns among uninsured patients with psychiatric disorders. Psychiat Serv. 2008;59(7):808–11. doi:10.1176/appi.ps.59.7.808.
29. Rhodes KV, Vieth TL, Kushner H, Levy H, Asplin BR. Referral without access: for psychiatric services, wait for the beep. Ann Emerg Med. 2009;54(2):272–8. doi:10.1016/j.annemergmed.2008.08.023.
30. Simon GE, Katon WJ, Lin EHB, Ludman E, VonKorff M, Ciechanowski P, et al. Diabetes complications and depression as predictors of health service costs. Gen Hosp Psychiat. 2005;27(5):344–51. doi:10.1016/j.genhosppsych.2005.04.008.

Chapter 12
Training the Next Generation of Psychiatrists in Integrated Medical–Psychiatric Care

Robert M. McCarron, Sarah K. Rivelli, Virginia O'Brien, and John Onate

Abstract With the implementation of the Affordable Care Act (ACA), there will be a growing demand for mental health care in this country (Patient Protection and Affordable Care Act. U. S. Public Law 111-148-March 23, 2010). It is likely much of this care will continue to be delivered in the primary care setting and not in traditional outpatient psychiatric clinic sites. Primary care providers (PCPs) will be in the position to further expand their existing role as primary behavioral health providers. What does this mean for the future of psychiatry and how psychiatrists are trained?

This chapter addresses the current state of psychiatric education and suggests practical ways in which this training can adapt to fast moving organizational changes, while staying true to the essential components of psychiatric practice

---

R.M. McCarron, D.O. (✉)
Division of Pain Medicine, Department of Anesthesiology, University of California Davis School of Medicine, 2230 Stockton Blvd., Sacramento, CA 95817, USA

Department of Psychiatry and Behavioral Sciences, University of California Davis School of Medicine, Sacramento, CA, USA

Department of Internal Medicine, University of California Davis School of Medicine, Sacramento, CA, USA
e-mail: Robert.mccarron@ucdmc.ucdavis.edu

S.K. Rivelli, M.D.
Department of Medicine, Duke University Medical Center, Duke University, Durham, NC 27710, USA

Department of Psychiatry and Behavioral Sciences, Duke Global Health Institute, Durham, NC 27710, USA

V. O'Brien, M.D.
Department of Psychiatry and Internal Medicine, Duke University Medical Center, Durham, NC, USA

J. Onate, M.D.
Department of Psychiatry and Behavioral Sciences, University of California Davis School of Medicine, Sacramento, CA, USA

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_12,

(e.g., biopsychosocial formulation, inclusion of psychotherapy, focus on the therapeutic alliance between provider and patient, and maintaining an expertise in psychopharmacology). We will discuss the importance of teaching psychiatry residents how to effectively interface with PCPs and other physicians, including as much-needed educational and clinical consultants. An overview on how best to train residents in the area of preventive medicine will also be provided.

Psychiatry Training and Evolving Systems of Behavioral Health Care

There is a lack of trained psychiatrists, and the number is expected to decrease over the next few decades. The number of psychiatry training programs decreased from 186 to 181 and the number of graduates from 1,142 to 985 from 2001 to 2008 [1, 2]. This has been offset by a recent trend in the offer of more positions in NRMP between 2009 and 2013, corresponding to an increase from 1,063 to 1,360 positions over that time period [3]. However, psychiatrists care for the minority of ambulatory patients with mental disorders, with about twice as many patients being treated in primary care and many receiving no treatment at all. In order to respond to the large current and projected unmet needs, psychiatric training and practice will have to adapt to new models of care delivery, leveraging technology and team-based, collaborative, integrative, and stepped-care. While the majority of psychiatric education focuses on training psychiatrists as individual providers and expert diagnosticians, psychopharmacologists, and psychotherapists, there is a need for enhanced training in directing mental health and substance use care teams, hereafter referred to as behavioral health (BH) care teams, while developing screening and triage programs in various settings and developing a system that meets the need of a large number of patients currently seen in medical settings [4].

Health reform leads to new opportunities for psychiatry, including the improvement of care for those with comorbid medical and psychiatric BH disorders in a more collaborative, outcome-oriented approach. An increased focus on quality and provider accountability will encourage greater coordination of care across currently fragmented BH versus medical settings. Increasing attention has been paid to the fact that BH disorders do not occur in a medical vacuum; in fact, medical conditions most often are comorbid. The National Comorbidity Replication Survey found that 17 % of American adults had comorbid mental health and medical conditions [5]. Among Medicaid beneficiaries in New York State, 69 % had a history of mental illness and 54 % had a history of both mental illness and alcohol and substance use [5]. Thus, we should not consider BH conditions in isolation, and psychiatrists need to not only develop and maintain their medical expertise but also understand how to collaborate on improving outcomes.

The Affordable Care Act and Psychiatric Training

The ACA promotes new care delivery models and calls for providers to better integrate BH care into the broader care continuum. Models include accountable care organizations (ACOs) and patient-centered medical homes, with the aim to coordinate and manage the full spectrum of health care needs of an individual and for providers to be held accountable for the quality and costs of care for their patients. New incentives under the ACA will encourage providers to better manage patients' transitions among settings and providers in the community. The Hospital Readmissions Reduction Program will decrease Medicare payment to hospitals with greater than expected readmissions for diagnoses such as heart failure, heart attack, and pneumonia. Given the role that BH plays in compliance, self-care, and health care utilization, which are linked with the greater likelihood of readmission, identifying and addressing BH needs will be crucial to reduce hospital readmission rates. Psychiatrists can bring substantial value in these efforts, but will need enhanced training about drivers of health behaviors, the impact of BH on medical outcomes and its care. Training in the development of comprehensive biopsychosocial formulations and treatment plans that address the overall health and well-being of patients in context of their medical illness and system of care will be crucial for psychiatrists to remain relevant. Moreover, psychiatrists will need robust training in systems-based practice to include accountable care, pay for performance, and quality improvement.

The ACA encourages the use of bundled payment rates across acute and post-acute providers for specified episodes of care. By promoting coordination across providers, this could help improve care transitions for patients with BH needs. Moreover, the ACA sets new standards for quality of BH care, including new publicly reported quality measures and a value-based purchasing pilot program for psychiatric hospitals in Medicare. Psychiatrists will need training to respond to and shape such standards and develop ways to improve care. It will be difficult to make sweeping changes to the organizational infrastructure for health care without concurrently initiating significant changes to our medical and psychiatric educational system. Such changes will need to include training in care transition, coordination of care, systems of payment, and reimbursement. The inclusion of quality improvement projects conducted in a variety of settings will be a key component of psychiatry training. The focus on quality calls for enhanced training on measurement-based and evidence-based care, experience in tracking outcomes, and the cycle of practice improvement.

Lastly, the ACA calls for the development of patient-centered medical homes (PCMH), which are based on enhanced access to care, an ongoing relationship with a personal physician, orientation to the whole person, a team approach to care, coordinated or integrated care, and a commitment to quality and safety. In the medical home model, a primary care physician takes responsibility for coordinating services provided by a team of clinicians. For most adults with BH disorders, the point of care would be an internist or family practitioner. People with serious mental illness (SMI), however, typically receive most of their care from a behavioral health clinic or community-based treatment setting. For this population, psychiatrists might be the main point of care and should monitor basic medical conditions and communicate with primary care practitioners, who provide guidance and specific treatment recommendations [6]. Thus, psychiatrists will need to develop skills in providing care in the medical setting, such as collaborating with primary care providers; while for some the challenge will be the reverse: to provide some primary care to patients in the BH sector. All of these issues will require robust training in medical and psychiatric illnesses and their intersection, including limitations of current treatment capacity in the both medical and mental health sectors. If psychiatry is to be an integral part of the PCMH, training will need to include stronger emphasis on population health, such as screening, prevention, and patient safety and quality.

As patient care teams evolve, psychiatry training will need to keep pace with new players and new roles. Advanced practice providers will play an increasing role in psychiatric patient care; thus, skills in interdisciplinary collaboration and communication, including comanaging patients, are essential. Psychiatry training will need to include how to coach, train, and lead multidisciplinary teams. With psychiatrists spending less time in a purely dyadic relationship with patients, skills in population management, monitoring outcomes, and care coordination will be increasingly necessary. Training will need to include the assessment of patients and their health without in-person contact, such as assessment via chart review, measurement tracking, asynchronous interactions via Internet or other technology, and the use of telepsychiatry. Finally, in a changing and complex health care system, psychiatrists need training in not only systems, but also in advocacy and how they can work to improve BH care delivery.

An Overview of Integrated Care

In order to create integrated psychiatric training opportunities, it is important to understand what is meant by integration. Landmark laws on parity in BH reimbursement and the ACA have brought coordination of BH, physical health care, and preventative health care to the forefront in the largest change in the American health care system since the implementation of Medicare. While there are models of integrated medical and psychiatric inpatient units and services, the majority of integrated services are based in outpatient settings.

The more common approaches for integrating medically trained psychiatric providers including those who can prescribe psychiatric medications include: telepsychiatry, co-location of psychiatry in primary care settings, collaborative care programs in primary care, primary care for the SPMI in BH settings, combined medical–psychiatric care by dually trained providers. The most common form of co-locating BH treatment is the use of social workers and other mid-level BH

Table 12.1 Examples of current BH/primary care models of integration

Models of integration	Brief description
Telepsychiatry	Consultation model that uses televideo connections to communicate with providers, patients or both
Co-location of psychiatry in primary care	Psychiatric care for patients in the primary care setting
"Med-Psych" care	General medical and BH needs are addressed by a providers who are dually trained in medicine and psychiatry
Mid-level BH providers	Provide recommendations for formal mental health referral. Typically provides case management. Counselors can provide non-medication interventions and support.
Collaborative care	A behavioral health care manager (non-physician) works as a liaison between the psychiatrist and the patient. Diagnostic and treatment protocols are often utilized

providers, under the supervision of a psychiatrist. Each of these models has advantages and disadvantages. All are dependent on strong professional relationships between providers, healthcare employees and management. Thus, psychiatrists need to develop competency in development and leadership of such multidisciplinary teams through training in communication, leadership and health system navigation. The different kinds of integrated care settings provide a variety of opportunities for clinical training (Table 12.1) [7–10].

Collaborative care is an evidenced-based integrated BH-primary care delivery model that can serve as training experiences for psychiatry residents in integrated care. In this setting, the psychiatrist serves as a consultant to the practice where systematic screening, measurement, treat-to-target evidence-based algorithms are implemented for BH conditions. The psychiatrist supports the primary care provider in treating BH conditions through the supervision and training of a care manager who sees patients face to face. In this way, the psychiatrist becomes part of a team responsible for the clinic population of patients and learns about interdisciplinary teams, communication, and consultation. Such clinical experience in collaborative care fosters competency in the use of screening tools, measurement, tracking outcomes, and understanding of the primary care setting. A summary of the components of collaborative care settings and how such clinical experiences meet crucial training needs and competencies is included in Table 12.2.

Telepsychiatry has the potential to expand clinical services to a wider geographical area. It may be the most practical approach for rural or isolated areas needing BH or other non-procedure-based medical services. It can have the same limitations of other consultation approaches if there is no systematic collaboration between providers. It can be employed in collaborative care as a tool to supervise care managers and communicate with PCPs. Thus, psychiatry training programs should include training in telepsychiatry to foster competency in novel communication and patient care methods.

Table 12.2 Examples of key components of collaborative care that provide training opportunities

Component	Example	Goals and objectives	Related competencies
Screening, population-based	Clinic administers PHQ-9 to all new patients	Knowledge of characteristics of screening tools, benefits and limitations in application	Medical knowledge
		Understand the health of the overall clinic population	Patient care
		Knowledge about public health impact BH disorders	Systems-based practice
Measurement-based	PHQ-9 scores are followed systematically at a routine frequency to assess treatment response	Knowledge of methods for routine symptom tracking and the benefits and limitations in application	Medical knowledge
		Application of symptom tracking in patient care	Patient care
Evidence-based	Evidenced-based algorithm is used to treat depression	Knowledge of evidence base for BH disorders	Medical knowledge
		Ability to appraise and apply evidence base in patient care	Patient care
Stepped-care	Adjustment of treatment intensity, frequency or location according to symptoms	Knowledge and application of escalating treatment approaches	Medical knowledge
		Triage of patients to appropriate levels of care over the course of treatment	Patient care
		Understanding and implementation of workflow to adjust to patient treatment needs	Systems-based practice
		Effective use of system resources to meet patient treatment needs	
Multidisciplinary teams	Psychiatrist supervises care manager who sees patients directly for depression, they support PCP in prescribing antidepressant treatment	Gain knowledge in the roles and structure of a multidisciplinary team	Interpersonal and communication
		Participate effective in team-based care, including adjusting level of involvement according to the needs of the team	Systems-based practice
		Coordinate care with other members of the team	Professionalism
Consultant role for psychiatrist	Psychiatrist communicates directly with care manager in weekly supervision	Effectively communicate with and support PCPs	Interpersonal and communication
	Psychiatrist participates in team meetings	Effectively communicate and supervise non-psychiatrist BH provider	Systems-based practice
		Assist in ongoing training and supervision of a non-psychiatrist BH provider	Professionalism
Electronic registry for tracking patients	Patient treatment, clinical contacts and outcomes are reviewed weekly on-line by Psychiatrist to assess treatment response	Effectively use electronic medical records and registries in patient care	Patient care
		Understand and apply decision support and use of clinical information systems	Systems-based practice
Evaluation of intervention	Systematic evaluation of number of patients screened and treated for depression, attainment of treat-to-target goals and revision of intervention as needed	Understand quality improvement cycle	Practice-based learning and improvement
		Conduct improvement plan based on analysis of practice outcomes	
		Revise practice approach according to impact on clinic population health	

Specific Training Models

Combined Training

Combined trained, double board- or triple board-certified physicians in either family medicine-psychiatry (FMP), internal medicine-psychiatry (IMP), neurology-psychiatry (NP) or pediatrics-child psychiatry (PPSYCH) represent a highly trained, knowledgeable physician force in BH and medical care integration. There are currently 30 "combined" psychiatry training programs. This includes 12 (IMP), 6 (FMP), 6 (PPSYCH), and 4 neurology-psychiatry programs (NP). These programs comprise combinations of categorical programs and lead to board eligibility in those component fields upon completion of training. In 1979, the West Virginia School of Medicine inaugurated the first combined training program. Combined training programs showed expansion and growth in the 1990s, including the advent of combined FMP programs in 1995. In May 2011, the American Board of Medical Specialties reported 419 psychiatry dual-boarded IMP and 241 FMP physicians, the majority of these from sequential training as opposed to combined training. Despite growth in the 1990s, combined training programs are currently relatively uncommon. An estimated 92 and 55 residents are currently pursuing IMP and FMP, respectively [11].

Despite relatively small numbers, it appears the combined trained physicians are well positioned for significant contributions to health care delivery and academia. Recent surveys indicate that combined IMP and FMP graduates were more likely to work in academic settings and over two-thirds were active in integrated patient care [12]. Another survey demonstrated that combined-trained physicians were more likely to have leadership roles such as training director, division chiefs, chiefs of service or department chairs, despite being younger compared to single-boarded psychiatrists. Previous concerns that combined-trained physicians only end up practicing one specialty now appear unfounded, with the majority practicing both specialties in some form [11, 12].

Both IMP and FMP training comprise 5 years of training with 30 months in each specialty. Combined NP is 6 years of training, which includes 30 months in each specialty exclusive of internship year, which is comprised of internal medicine training. The triple board programs are 5 years in length and include 24 months training in pediatrics, 18 months in general psychiatry, and 18 months in child and adolescent psychiatry. Combined training programs are not accredited by the ACGME, but the component categorical programs receive such accreditation.

Trainees in combined programs benefit from rich, diverse clinical experiences and career opportunities. Dually trained are eligible for subspecialty fellowships in either field of their combined training, allowing for access to a wide array of further training. Combined trainees also benefit from the synergy between two fields, often develop unique perspectives from experiences in different departments and cultures, and can act as translators between two fields. Most trainees believe what they gain is more than merely the sum of the parts of the categorical trainings [13]. Graduates of combined training are well placed to serve as leaders in developing new clinical models of integrated medical and psychiatric care where they can take advantage of their unique joint training experience. The presence of integrated care settings, such as complexity intervention (med-psych) units or medical psychiatry clinics, also can provide high-quality training experiences to psychiatry and medicine trainees, partially addressing gaps in current training for categorical programs in each field [14, 15].

Challenges for combined programs include complexity of administrative arrangements, the need for both departments to consistently collaborate, and, in some cases, lack of senior mentors and role models. Recruitment can be a challenge, as there is limited awareness of combined programs, and lack of understanding of how programs are structured and what they offer. This is, in part, due to the small number of programs and decline in number by approximately one-half over the past 15 years. On the other hand, satisfaction with combined training programs has been found to be very high in a number of surveys and board pass rates are often higher than categorical trainees in the same training centers [11, 13].

Unfortunately, as of this book's publication date, the American Board of Psychiatry and Neurology will not allow the formation of new combined psychiatry programs. This has likely hindered the persistence and growth of such programs. The authors believe growth of combined programs is a positive step toward training experts in BH/medical integration. Moreover, combined programs foster much-needed interdepartmental and interdisciplinary collaboration that creates novel connections between faculty, stimulating innovation in education, research, and patient care. The professional organization, Association of Medicine and Psychiatry (www.http://assocmedpsych.org), is an excellent source of information for these programs.

Cross-Training in General Medicine

It is well established that individuals with severe mental illness have shorter life expectancies than those without BH conditions. Research shows this disparity is significant, as individuals diagnosed with schizophrenia die 20–30 years sooner than those who do not have schizophrenia, a number that cannot be explained by their higher rates of suicide alone [16]. Cardiovascular disease is the most common cause of increased mortality in this population, highlighting an area where physicians can more effectively address primary prevention. Shorter life spans are not unique to schizophrenia. Another study looking at mortality rates of those with bipolar disorder found the standardized mortality ratio to be 2.5 in men and 2.7 in women [17]. Patients with depression are not spared from higher risk of medical illness, either, as those with post myocardial infarct (MI) depression have elevated risk of recurrent MI [18]. Information such as this raises the question, "What can be done to better implement preventive medical care for those with severe mental illness—a truly vulnerable population?"

Although these facts have been known for over two decades, little has been done to change how and where we provide health care to these individuals. This is not surprising, as it is nearly impossible to effectively change large systems of care without changing the way in which we train BH providers. It is clear that for patients with SMI and comorbid medical problems, their medical issues often go untreated. Many barriers can be cited, including lack of access to medical care, lack of transportation, and poor adherence to medication, etc. But, these problems are not the only ones. For those who do have a primary care provider, they may still not receive adequate medical care. In the CATIE trial., only 12 % of mentally ill patients with dyslipidemia received lipid-lowering agents, despite being in routine follow-up with a psychiatrist [19]. Those with diabetes and hypertension fared better, but there was ample room for improvement. In another study, none of the outpatient psychiatrists who responded said they routinely performed a physical exam on new patients [19]. Based on this information, identification and treatment of medical problems by psychiatrists is the exception, not the rule. This section aims to address what can be done to bridge these gaps in care, emphasizing psychiatry's role in preventive care for those with BH conditions.

Recommendations for an Integrated Psychiatry Residency Curriculum

To examine areas where change can be beneficial, consider psychiatric residencies. The ACGME requires training programs to provide 4 months of primary care experience for psychiatry residents in the first year of training. For the vast majority of residencies, this requirement is met by rotating on inpatient medical units. This setting offers little in the way of longitudinal, preventive care didactics or experiences in continuity of care. Longitudinal training experiences result in long-term retention of information, while ensuring providers stay current on the constantly changing field of medicine. Since the majority of psychiatrists work in outpatient settings after finishing residency, inpatient medical knowledge clearly does not map well onto their future work environments. It also fails to expose psychiatry residents to roles in outpatient liaison services or patient advocacy that are much needed in today's complex and fragmented medical system. Likewise there is a lack of longitudinal responsibility for patients in general medical settings, limited integration of medical care into ambulatory psychiatric training settings, and little mandated responsibility for overseeing a team at advanced stages of residency training.

Reforms can take several different pathways, the most radical being reorganization of psychiatric residency training. Rather than residents rotating primarily on inpatient medical services to fulfill their primary care requirements, they should be offered outpatient experiences in primary care settings that span their entire residency. Inpatient rotations in complexity intervention or "medpsych" units, that are preferentially part of the same clinical network as primary care training, could provide relevant training in higher acuity comorbid BH-medical illnesses. Clinical supervision might be offered by either combined-trained or both generalist physicians and psychiatrists working together. A curriculum that addresses primary and secondary prevention, as well as common primary care disorders unique to BH patient populations, would be a main focus of their clinical experience. As trainees advance in residency training, they could expand their continuity experiences by working in specialty clinics of their choosing (e.g., pain medicine, cardiac rehabilitation, endocrinology clinics). This shift to an outpatient location with the addition of didactics tailored to preventive care for the behaviorally ill, would give trainees expanded skills which translate to increased career opportunities. Trainees who envision themselves embedded in specialty clinics or who want to work in areas where there is significant overlap with psychiatry such as pain or neurology, could choose longitudinal experiences in the relevant specialties. Table 12.3 provides a recommended curriculum template for psychiatry residency programs that targets the growing need for training in integrated care. The core components of this training include longitudinal clinical and didactic learning opportunities in preventive medicine; primary care medicine; primary care-based psychotherapy training; consultation/liaison with PCPs in the area of primary care psychiatry and collaborative care training. Rotation in subspecialties such as sleep and pain medicine may also be considered, as these fields have common interplay with general psychiatry.

A preventive care curriculum for psychiatry residents would emphasize primary prevention by including topics such as smoking cessation, exercise, diet, immunization, cancer screening, cardiac risk assessment, prevention and treatment of sexually transmitted infections, and age-appropriate health screening. A comprehensive preventive medicine curriculum should be available for psychiatry trainees in 2014. Secondary and tertiary prevention might also be taught so that psychiatrists could, in part, address hypertension, heart disease, or diabetes. The latter point is important, since psychiatrists often prescribe atypical antipsychotics that can cause metabolic syndrome and already must monitor HgB A1Cs and fasting lipid panels in patients taking these drugs. The curriculum might also incorporate motivational interviewing and other brief psychotherapies that could aid patients in meeting their health care goals. Table 12.4 provides a practical overview on how psychiatry residency programs can enhance cross-training in preventive medicine and collaborative care.

One group that deserves attention is psychiatrists already in practice. A stronger effort should be made to educate these physicians so that better preventive care starts now, not several years down the road. Continued medicine education credits and coverage of preventive medicine at national psychiatry conferences should become more readily available.

Train New Trainers (TNT) in Primary Care Psychiatry

At least 60 % of all ambulatory mental health care in the USA is based in the primary care setting. This is likely to increase over the next decade. Primary care providers generally receive very little formal psychiatric training, which may result in inaccurate diagnosis and ineffective treatment of mental heath disorders. Although much of this is due to a hurried clinical schedule and less one-on-one time with patients, studies suggest primary care providers are inexperienced when it comes to the diagnosis and treatment of both commonly encountered and more complex

Table 12.3 Integrated curriculum for residency training

Postgraduate year (PGY)	Proposed integrated curriculum for psychiatry residents
PGY 1	Minimum of 4 months primary care medicine
	Intensive care clinical experiences are not recommended
	Preferred experiences include complexity intervention or “medpsych units,” primary care or urgent care sites serving patients with high BH needs, or primary care sites with strong multidisciplinary teams
	During all 4 years of training, initial physical examinations and assessments of all general medical complaints made by patients in a psychiatric hospital should be done by the psychiatry resident
	Longitudinal didactics related to primary and secondary prevention of common general medical disorders
PGY 2	One half day per week brief psychotherapy and psychiatric medication management in the primary care setting.
	The focus would be on a practical introduction to supportive psychotherapy, motivational interviewing, and cognitive behavioral therapy
	Setting may include co-located BH services in primary care, collaborative care sites or less preferably, physically separate BH and primary care sites with enhanced access and communication
	Longitudinal didactics related to primary and secondary prevention of common general medical disorders
	Longitudinal didactics related to performing “primary care psychiatry” consultation-liaison and/or collaborative care in the primary care setting. Clinical assessments based on AMPS screening.
	Didactics in quality and practice-based improvement
	Completion of a quality improvement project related to BH care in primary care setting
PGY 3	One half day primary care medicine, with a focus on providing primary and secondary prevention of common disorders
	The setting may be a co-located primary care for the SPMI population, or primary care site with substantial BH population; select specialty sites might be considered depending on interests (such as HIV, geriatric, correctional medicine)
	May include 2–4 h per week as a consultant psychiatrist to primary care, development of education and training for primary care in psychiatry, or a collaborative care rotation
	All or a proportion of the 1 year of psychotherapy training can be done in the primary care or medical setting, with a focus on brief psychotherapies, such as motivational interviewing, cognitive behavioral therapy or problem solving therapy
	Longitudinal didactics related to primary and secondary prevention of common general medical disorders
	Longitudinal didactics related to performing “primary care psychiatry” consultation-liaison and collaborative care in the primary care setting. Clinical assessments based on AMPS screening.
	Didactics in quality and practice based improvement
	Completion of a quality improvement project related to improving primary care among BH patient panel.
PGY 4	One half day primary care medicine, with a focus on providing primary and secondary prevention of common disorders
	Preferred sites would include strong multidisciplinary teams, patient-centered care, quality improvement
	2 months of elective time in pain medicine, sleep medicine or other specialties that have a strong interface with general psychiatry
	Didactics in quality and practice-based improvement
	Completion of a quality improvement project on improving BH-medical care integration with focus on the system of care and improving access, delivery, or transitions.

Table 12.4 General medical cross-training for psychiatry trainees

Cross-training experiences	Targeted educational opportunities for psychiatry trainees	Potential barriers
Interns may benefit from spending at least 50 % of the required medicine clinical experience in a primary care setting	A, B	Inpatient medicine service needs may not allow for this
Trainees should be encouraged to attend IM or FM grand rounds that have a clear focus on the prevention of common medical conditions	A, D	Must be planned in advance and trainees may only attend during less time-intensive or elective clinical rotations
Establish multidisciplinary "Med Psych" ground rounds 2–4 times per year. Faculty and trainees from IM, FM, and psychiatry can organize and facilitate	A, B, D	This is beneficial to all involved and will only take effort to coordinate. There should be a focus on preventive medicine in psychiatry and primary care psychiatry practice
Integrated Med Psych Learning Session (IMPuLSe) can be cosponsored by psychiatry, IM, and FM chief residents and be done 4–6 times per year	A, B, C, D, E	These educational sessions for residents require protected time. Sessions may be more effective is case-based
Slowly introduce clinical rotations in primary care settings. This can be 1 month electives or one half day per week longitudinal experiences	A, B, C, D, E	Service needs may not allow for this. Focus should be on learning how to consult in the primary care setting.
Targeted reading: *Journal Watch*—general medicine *Current Psychiatry* (Med Psych Section) *American Family Physician*	A, D	Some minimal costs may apply

IM internal medicine, *FM* family medicine
A, Preventive medicine updates for psychiatry trainees; B, Learn how to interface and consult with primary care providers and staff; C, Learn how to best utilize evidence-based, individual and group, brief co-therapies; D, Allows for a more effective, longitudinal learning experience; E, Learn by teaching in small group settings

psychiatric complaints. Psychiatrists will be increasingly utilized at integrated clinical sites and should understand how to work as both educational and clinical consultants in these settings. Specifically, psychiatric trainees should become familiar with the practice of "primary care psychiatry," which is focused on the diagnosis and treatment of widely prevalent psychiatric disorders in the medical setting. One can conceptualize primary care psychiatry as an abridged and targeted form of BH delivery, which can be practiced by providers who have limited formal psychiatric training and relatively less time spent with patients.

Dually trained faculty at the University of California, Davis, created a curriculum with this focus and is largely based on the mnemonic "AMPS", which details a specific, evidence-based and effective diagnostic protocol for *A*nxiety, *M*ood, *P*sychotic, and *S*ubstance disorders [20]. We suggest psychiatric trainees learn how to teach the key elements of primary care psychiatry to colleagues in the primary care setting. This requires an understanding of the complex and fast-paced primary care culture, the prevalence of common disorders, and how screening and a population-based approach to BH can be implemented. Trainees would also need to gain skills as teachers including the ability to adapt psychiatric knowledge and practice to the needs of a PCP. Trainees can gain such experience with clinical consultation, collaborative care rotations or regularly scheduled collaborative, multidisciplinary, didactic sessions at the clinical site. An established primary care psychiatry curriculum should be used.

Conclusion

The implementation of the ACA will necessitate significant changes to the BH care organizational infrastructure, which involves increasing primary care and BH integration. It will be difficult to realize these important changes and improve BH care delivery unless meaningful transformation in psychiatric education is implemented.

We propose changing training to include more emphasis on longitudinal, multidisciplinary, and collaborative approaches to patient care. A 4- to 6-month transient immersion into inpatient medicine during the intern year is no longer optimal training. Specifically, psychiatry trainees should receive ongoing training in the area of preventive medicine for those who have mental illness and learn how to improve the overall health of the BH population. Ideally, training will occur alongside colleagues in family medicine and internal medicine, within the same institution, to foster informal learning, collaboration and innovation. Trainees who are longitudinally imbedded in primary care sites are more likely to stay current with frequently changing subject matter (diagnostic and treatment changes for diabetes, hypertension, arthritis, asthma, obesity, etc.) and better prepare them for future employment and practice. Interdepartmental teaching sessions can also be utilized.

Psychiatry residents must become competent in communication and collaboration with PCPs and staff. Trainees would benefit from learning how to serve as both educational and clinical consultants. Working in this capacity will likely increase their referral base, decrease unnecessary or inappropriate referrals, and decrease morbidity and mortality in those with SMI, a vulnerable population.

Most psychiatric training programs have not yet instituted these suggested curricular changes. We recommend incremental transformation, while focusing on the long-term goal of preparing psychiatric residents for an ever-changing clinical practice that is becoming closely tied to integrated care. It is important to partner with other institutional departments who value collaboration with psychiatry trainees and faculty—often a "win-win" situation.

References

1. Patient Protection and Affordable Care Act. U. S. Public Law 111-148-March 23, 2010.
2. Faulkner LR, Juul D, Andrade NN, Brooks BA, Colenda CC, Guynn RW, et al. Recent trends in American Board of Psychiatry and Neurology psychiatric subspecialties. Acad Psychiatry. 2011;35:1.
3. National Resident Matching Program. Results and data: 2013 main residency match®. Washington, DC: National Resident Matching Program; 2013.
4. Rubin EH, Zorumski CF. Upcoming Paradigm shifts for psychiatry in clinical care, research, and education. Acad Med. 2012;87(3):261–5.
5. Druss B, Walker E. Mental disorders and medical comorbidity. Research synthesis report No. 21. Princeton, NJ: The Robert Wood Johnson Foundation; Feb 2011.
6. Hogan MF, Sederer LI, Smith TE, Nossel IR. Making room for mental health in the medical home. Prev Chronic Dis. 2010;7(6):A132.
7. Onate J. Psychiatric consultation in outpatient primary care settings: should consultation change to collaboration? Primary Psychiatry. 2006;13(6):41–5.
8. Tanielian TL, Pincus HA, Dietrich AJ, Williams Jr JW, Oxman TE, Nutting P, et al. Referrals to psychiatrists. Assessing the communication interface between psychiatry and primary care. Psychosomatics. 2000;41(3):245–52.
9. Unützer J, Schoenbaum M, Druss BJ, Katon WY. Transforming mental health care at the interface with general medicine: report for the president's commission. Psychiatr Serv. 2006; 57(1):37–47.
10. Kathol RG, Butler M, McAlpine DD, Kane RL. Barriers to physical and mental condition integrated service delivery. Psychosom Med. 2010;72:511–8.
11. Jain G, Dzara K, Gagliardi JP, Xiong G, Resch D, Summergrad P. Assessing the practices and perceptions of dually-trained physicians: a pilot study. Acad Psychiatry. 2012;36:1.
12. Summergrad P, Silberman E, Price L. Practice and career outcomes of double boarded psychiatrists. Psychosomatics. 2011;52:537–43.
13. Gleason MM, Fritz GK. Innovative training in pediatrics, general psychiatry, and child psychiatry: background, outcomes, and experiences. Acad Psychiatry. 2009;33:2.
14. Kathol RG, Krummel S, Shakespeare A. Psychiatry and internal medicine resident education in an acute care medical-psychiatry unit. Gen Hosp Psychiatry. 1989;11(1):23–30.
15. Onate J, Hales R, McCarron R, Han J, Pitman D. A novel approach to medicine training for psychiatry residents. Acad Psychiatry. 2008;32:518–20.
16. Saha S, Chant D, McGrath J. A systematic review of mortality in schizophrenia: is the differential mortality gap worsening over time? Arch Gen Psychiatry. 2007;64(10):1123–31.
17. Osby U, Brandt L, Correi N, Ekbom A, Sparen P. Excess mortality in bipolar and unipolar disorder in Sweden. Arch Gen Psychiatry. 2001;58:844–50.
18. Van der Kooy K, van Hout H, Marwijk H, Marten H, Stehouwer C, Beekman A. Depression and the risk for cardiovascular diseases: systematic review and meta analysis. Int J Geriatr Psychiatry. 2007;22:613–26.
19. Nasrallah HA, Meyer JM, Goff DC, McEvoy JP, Davis SM, Stroup TS, et al. Low rates of treatment for hypertension, dyslipidemia and diabetes in schizophrenia: data from the CATIE schizophrenia trial sample at baseline. Schizophr Res. 2006;86:15–22.
20. McCarron RM, Xiong G, Bourgeois JB. Lippincott's primary care psychiatry. Philadelphia, PA: Wolters, Kluwer, Health Publishing; 2009.

Chapter 13
Research in Integrated Psychiatric Care

Grayson S. Norquist

Abstract Advances in neuroscience have brought us closer to a better understanding of the pathology and etiology of psychiatric illness and substance use disorders, and led to new efforts in treatment development. However, any new treatments will be of limited utility if they are not implemented in standard clinical practice. Integrated care has been shown by research studies to be one potential way of improving care for those patients who are seen in primary care settings and to some extent improve medical care delivered in mental health settings. This chapter presents research outlining the issues regarding health care services for those with psychiatric illness and substance abuse, a description of current models of integrated care, research on these models, limitations of current research, future research needs, and implications of research findings for current practice and policy.

Background

Advances in neuroscience have brought us closer to a better understanding of the pathology and etiology of psychiatric illness and substance use disorders and led to new efforts in treatment development. However, any new treatments will be of limited utility if they are not implemented in standard clinical practice. Thus, research that helps elucidate barriers to accessing and delivering appropriate health care services and tests models that improve access and care is critical. Without such research, people with these disorders will continue to suffer unnecessarily.

G.S. Norquist, M.D., M.S.P.H. (✉)
Department of Psychiatry and Human Behavior, University of Mississippi Medical Center,
2500 North State Street, Jackson, MS 39216, USA
e-mail: gnorquist@psychiatry.umsmed.edu

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8_13,

Integrated care has been shown by research studies to be one potential way of improving care for those with psychiatric illness and substance use disorders who are seen in primary care settings and to some extent improve medical care delivered in mental health settings. This chapter presents research outlining the issues regarding health care services for those with psychiatric and substance use disorders, a description of current models of integrated care, research on these models, limitations of current research, future research needs, and implications of research findings for current practice and policy.

Prevalence of Disorders

With an estimated 12-month prevalence close to 7 %, major depressive disorder is among the more common mental disorders seen in primary care. It is projected to become one of the three leading causes of disease burden by 2030 [1, 2]. As many as 50 % of all depressed patients in primary care settings may remain undiagnosed [3]. Other common mental disorders likely to be seen in primary care settings include anxiety and substance use disorders. Thus, these (esp. depression) are obvious disorders to address initially when attempting to improve mental health care in the primary care setting.

In the mental health care setting there is often a lack of appropriate medical care for those with severe mental illnesses (SMI). The National survey on Drug Use and Health (NSDUH) estimated the prevalence of SMI in adults to be about 5 % in 2010. The same survey noted increased comorbidity in people with SMI of respiratory disorders (asthma, pneumonia), cardiovascular disease (hypertension, heart disease, stroke), and substance use disorders [4]. The National Comorbidity Survey-Replication (NCS-R) reported that more than 68 % of people with mental disorders have one or more general medical disorders [1].

As many as 12 million people in the USA who have severe mental illnesses die prematurely from preventable comorbid medical conditions such as diabetes, cardiovascular disease, and cancer [5]. The estimated range of early mortality is 13–30 years, but these mortality figures do not reveal the increased morbidity and overall disease burden suffered by people with these illnesses. The etiology of this increased mortality and medical comorbidity is not clear. It may be the result of lack of access to needed medical services, i.e., less likely to have insurance, no preventive services, the quality of general health care is poor; risky health behaviors, e.g., increased tobacco use; the side effects of the pharmacological treatments for these illnesses; and/or the physiological effect of the illnesses themselves, e.g., changes in the neuroendocrine system that may lead to atherosclerosis, or inflammatory processes in major mental disorders [6]. As many as one-third of those with SMI have at least one undiagnosed medical disorder [7].

There is evidence racial and ethnic minorities with SMI have even worse cardiovascular health than others. This is thought to be associated with a higher prevalence of obesity, diabetes, and multiple chronic medical conditions in these populations.

This issue is not confined to the USA where some believe the etiology is due to a disorganized system of health care. A study in England found substantially shortened life expectancies for those with serious mental disorders living there. This was especially true for those who had schizophrenia and substance abuse. Having any psychiatric diagnosis was associated with a 65 % higher than expected total mortality. The study found an elevated mortality from coronary heart disease in young adults with SMI and an increased mortality from stroke in all age groups. The use of antipsychotic medications and adverse lifestyle choices, such as high calorie diets, physical inactivity, and illicit drug use, were associated with an increased risk of cardiovascular events in these populations [8], although it is important to note that these findings have been reported as far back as the 1930s prior to the advent of current treatments for either psychiatric or cardiovascular disorders [9].

Use of Services

Many of the problems seen in primary care are medical symptoms with associated behavioral components, e.g., fatigue, dizziness, insomnia, and pain. More people in the USA receive mental health care from primary care providers than from mental health specialists [10]. As many as 70 % of people who have psychiatric illness receive treatment in the primary care setting [11]. Fewer than 3 % of older adults report seeing a mental health professional for treatment. Instead they tend to seek help in a primary care clinic [12].

Unfortunately, most primary care providers are not able to access appropriate mental health services for their patients. Only about 30 % of patients with anxiety or depressive disorder received some form of appropriate treatment. Thus, although identification is important, the type of treatment received also needs improvement [13].

Certain populations have even more difficulty accessing appropriate mental health services. People with a mental disorder who live in a rural area are less likely to receive treatment for their disorders compared to those people with a mental disorder living in urbanized areas. This is especially true when considering access to specialty mental health services. Over two-thirds of the federal designated mental health profession shortage areas are in rural counties [14]. Only 31 % of Asian Americans, 36 % of Latinos, and 41 % of African Americans report seeking depression care during the prior year compared to 60 % of non-Latino whites [15].

Current Models

Before considering research findings on integrated care it is important to first outline what it is and how it came into existence. The term integrated care encompasses a wide variety of ways in which health care services are coordinated among clinicians and sites over time. It can also include very well-defined specific

Table 13.1 Key components of collaborative care models

Component	Description
Care manager	Health professional, e.g., nurse, who educates, behaviorally activates, coordinates care, and addresses nonclinical issues in an attempt to reduce barriers to improvement of clinical disorders
Multi-professional approach	Primary care clinician, supervising psychiatrist, and supporting behavioral health professional
Structured management plan	Proactive monitoring of outcomes, communication with clinicians, and scheduled appointments
Stepped care	Evidence-based algorithms that promote escalation to higher levels of treatment when initial treatment outcomes do not show improvement
Clinical information systems	Software systems that allow clinical data documentation, monitoring, and ongoing communication to clinicians
Patient-centered care	Approach to care delivery that attempts to improve patients understanding of their health situation and to involve them in making health care decisions

interventions. Integrated care models can include a variety of components either alone or in various combinations. These might include improved communication systems (sharing information among providers), active collaboration (common goals among providers), multidisciplinary teams with mental health expertise (co-located or enhanced referral), and better continuity of care.

Integrated care can be characterized by using several dimensions such as physical proximity of services, level of communication among providers, amount of collaboration among clinicians in treatment planning, range of services available, and how financing of care is handled. Care management components can be classified along two dimensions: (1) level of integration of the steps in the process of care and (2) degree to which the roles of clinicians are integrated [16].

In the hospital setting, integrated care can range from low integration and acuity, e.g., consultation as needed, to high integration and acuity, e.g., complexity intervention (previously called medical-psychiatry) unit. Outpatient integrated models range from behavioral health services located in primary care settings to medical services located in mental health settings. In those within primary care settings, there may be co-located mental health units as well as models that emphasize active and coordinated collaboration between the primary care and mental health clinician, even if geographically separate [17].

Collaborative care is a very specific model of integrated care built on the Chronic Care Model [18]. It uses a care manager who focuses on managing one or more common mental disorders. This person tracks outcomes and communicates information to the physician and patient. In addition, the care manager educates patients, involves them in their treatment, monitors outcomes through structured scales, ensures continuity of care, encourages treatment adherence, provides brief counseling, and facilitates consultation with a specialist and referral to specialty care. The goals of treatment are measured and clinicians use stepped-care algorithms to guide their treatments while monitoring clinical outcomes [19]. The key components of this model are outlined in Table 13.1.

There are multiple reasons for integrating mental health and primary care. Mental health problems can exacerbate the disability associated with physical disorders and may complicate their management. Patients with these comorbidities consume high levels of medical services and often present first in primary care [16]. Mental disorders are often difficult to identify in the primary care setting and cover a broad range of conditions from interpersonal issues to severe cognitive processing problems. All are classified by using symptom clusters and are not easily identified in health care datasets since diagnoses may not be recorded with other medical disorders. The primary care provider is often not trained well to manage these types of problems and patients seen in primary care are often reluctant to self-identify them due to stigma, lack of self-awareness, or unwillingness due to symptoms of the disorder itself, e.g., depression. Mental health problems often require increased time or effort and current financing models do not provide incentives for primary care providers to identify and treat them.

Integrated care is not a new concept. The integration of mental health care services into medical settings started over 80 years ago with the development of consultation-liaison services (C-L) and the growth of inpatient and ambulatory psychiatric services in general hospitals [20]. In Germany a separate medical specialization called psychosomatic medicine was developed. In recent decades, integrated models have expanded beyond the traditional consultation model envisioned by C-L services. This expansion has included development of complexity intervention units, co-located mental health and primary care outpatient services, and provision for medical services in community outpatient mental health settings, all often operating under a population health model. The Institute of Medicine in its report, *Crossing the Quality Chasm*, called for coordination of care across patient conditions, services, and settings. In addition, the World Health Organization and the European Commission have also promoted the importance of integrated care [19].

Managed care systems, such as Kaiser Permanente of Northern California, have been interested for some time in improving coordination of care in primary care settings. Kaiser established co-located services in the mid-1990s. It is an integrated health care system with efficient use of hospital services and strong investment in information technology. It has highly coordinated primary care services and uses clinical protocols to drive performance. Yet it has never been clear how this model translates into delivery of integrated services at the clinical level and what components are critical for improving clinical outcomes [21]. Even within the "integrated" Kaiser system, behavioral health practitioners are paid from an independent budget and are supported through a separate behavioral health administrative structure. This may lead to perpetuation of behavioral health care that is not integrated.

The Veterans Administration is another integrated health system that has attempted to improve coordination of care for its patients. The White River Junction Veteran's Administration (VA) Mental Health Service has provided co-located collaborative care in its primary care clinics for almost a decade. This model has spread across VA medical centers and community based outpatient centers. The VA has also implemented a program that keeps track of clinical improvement through telephone checks with rating scales. Information, electronically available is conveyed to the primary care physician [21]. Care management components in the VA system include the Behavioral Health Laboratory (BHL) and Translating Initiatives for Depression into Effective Solutions (TIDES). The BHL uses a structured telephone assessment interview with mental health professionals providing clinical expertise as needed. The TIDES program uses a nurse telephone care manager who collaborates with primary care clinicians to provide protocol based assessment, monitoring, and care management [22]. The VA is placing more emphasis on co-located collaborative providers and care managers.

Models of other outpatient programs include the Depression Improvement Across Minnesota, Offering a New Direction (DIAMOND) program and the Washington State Mental Health Integration Program (MHIP). These are implementing collaborative care in various community settings within their geographic regions. TheMHIP model uses a collaborative approach in a primary care setting with a care coordinator, a consulting psychiatrist, and other mental health providers. However, patients who are too difficult to manage in the primary care clinic are referred to a community mental health center for treatment. A pay for performance program was initiated, and funding for clinics has been contingent on meeting defined quality indicators. A key component of the program has been the systematic collection of quality indicators and clinical outcomes. This program has improved substantially the quality and outcomes of care provided. Time to improvement has been reduced compared to that before the program [23].

As noted in section “Background,” very little has been done to develop integrated models in community mental health settings to handle the comorbid medical problems found in those with SMI. This is of special importance as people with SMI are followed primarily in community mental health centers and rarely in primary care clinics. However, there are some models in the USA of programs that are designed to help this population. Maine has initiated diabetes health teams that conduct disease and risk screenings, integrate health goals into individual service plans and enhance client engagement with primary care providers. New York has a program to promote improved tobacco dependence treatment for people with SMI through provider training and educational workshops. All facilities operated by the state are required to follow client’s blood pressure, body mass index and smoking status at least every 3 months. In addition, New York has a state-wide quality improvement initiative that fosters improved prescribing practices related to polypharmacy and cardio-metabolic health.

Federal agencies have also funded projects to address the problem of medical comorbidity in those with SMI. SAMHSA is funding communities to coordinate and integrate primary care services into publicly funded community-based mental health settings. CMS is funding states to set up health homes with comprehensive care management, care coordination, and transitional services after inpatient care.

Outside the USA, Denmark and the UK have the most developed coordinated care strategies [19]. In the Netherlands, the care manager not only monitors treatment but also provides some treatment. In Australia, the Mental Health Nurse Incentive Program provides incentive payments to community practices that use mental health nurses to assist in coordinating clinical care for those with severe mental disorders.

Research Findings

Research is critical to understand whether various models of integrated care are effective interventions for improving clinical outcomes in people treated within those models. In this section, some of the important studies of integrated care are outlined and recent comprehensive analyses of existing research studies are presented. The section is organized by the setting within which the integrated care model is implemented: outpatient primary care, outpatient mental health care, or inpatient. A final section discusses evidence for specific interventions.

Outpatient Primary Care Setting

An example of a study using integrated care in an older population was the Primary Care Research in Substance Abuse and Mental Health for Elderly (PRISM-E) study. It compared integrated care (co-located mental health [MH] and substance abuse providers in primary care) to enhanced specialty referral for depression, anxiety, and alcohol use problems in adults ages 65 and over. The integrated model resulted in more patient engagement (i.e., increased MH and substance abuse visits) than in the enhanced specialty referral model. However, there were no significant differences in clinical outcomes between the two models and the outcomes were similar to those achieved in usual care [12].

The largest trial of the collaborative care model for people with depression was the Improving Mood and Promoting Access to Collaborative Treatment (IMPACT) study. A large number of research studies have replicated this model in various settings and diverse populations. They have confirmed the initial IMPACT results showing it leads to improved outcomes for adults with depression. The same positive results have been obtained from research trials using this model with people who have panic disorder and generalized anxiety disorder, bipolar disorder, and Alzheimer's disease. These models have shown they are cost-effective compared to usual care and have been implemented in diverse health care settings [21].

An analysis was conducted of the Washington State Mental Health Integration Program (MHIP). It showed improvement in clinical outcomes after implementation of the program. The problem with the study was the lack of randomization, and thus, one cannot conclude the program and associated pay for performance incentive was causally related to the improved outcomes found in the study [23]. A recent evaluation of people in MHIP found that one-third of patients were not screened for substance use. Among those who screened positive, about two-thirds were not referred to substance abuse treatment [24].

The Partners in Care study evaluated two different quality improvement programs for people with depression who received care in managed primary clinics. One program facilitated medication management and the other facilitated psychotherapy. Patients were followed for close to 10 years in various parts of the study. Both programs used a collaborative care model, but clinics and clinicians were not told what to do and were encouraged to follow their own goals. Research findings confirmed that modest quality improvement programs, such as these, can decrease the burden of depression and improve clinical outcomes and quality of life. Although the programs were cost-effective from a societal perspective, they did increase overall direct health care costs. The programs, especially the psychotherapy one, reduced disparities in health outcomes for racial and ethnic minority groups. While the main effects on quality and health outcomes were gone after 10 years, there were still some indirect effects as reflected in reduced long-term depression and barriers to care [25].

Most studies have focused on improving depression outcomes alone. However, a large randomized trial involving 14 different primary care clinics was conducted to determine if care management for multiple conditions would improve medical outcomes and depressive symptoms in a primary care setting among patients with major depression and comorbid poorly controlled diabetes, coronary heart disease or both. Nurses used motivational interviewing techniques and coaching to help patients set goals for medication adherence and self-care. A psychiatrist, primary care physician and psychologist supervised them. Once patients achieved targeted levels, a maintenance plan was put in place. The intervention included proactive follow-up by nurse care managers working closely with clinicians. They ensured integrated management of medical and mental health illnesses. This study used individualized treatment regimens guided by treat-to-target principles. Results showed this intervention improved significantly not only the depressive symptoms but also comorbid diabetes and/or coronary heart disease [26].

An example of research on programs in the VA system was the St. Louis Initiative for Integrated Care Excellence (SLICE) study. It provided a seamless integration of services using a collaborative care model. A study of this initiative found it increased access to mental health care in the VA primary care setting. However, it is not clear that clinical outcomes were improved by this intervention [27].

A trial in rural VA clinics using telehealth services, a stepped-care approach for depression treatment, collaboration among primary care providers and mental health clinicians and a nurse care manager showed it was effective in improving days free from depression but more expensive than urban, collaborative care interventions for depression. The increased costs were most likely due to the increase in the amount of services. Although effective in decreasing the number of days with depression, this outcome was not statistically different from usual care [14].

Review of research studies on outpatient integrated care models shows they almost always use a designated care manager to manage depression but not all health problems. Many models attempt to enhance patient engagement in the care process. However, rarely do they actually have patients complete self-help exercises, and psychotherapy is rarely used as an intervention. Systematic follow-up of patients to monitor clinical outcomes or medication adherence is common as well as formal stepped-care protocols for those not responding to treatment. All models include a mental health specialist who is available for consultation but involvement of this clinician and their level of expertise vary. Some use co-located services at the primary care site and some have used telemedicine technology. Models differ on who assumes primary decision making with some using coordinated decision making practices and others allowing the primary care clinician to make decisions. The results do not show any effect by level of integration on outcomes but are positive for response and remission when the level is not considered (i.e., collapsed into one). Yet results are not consistent [16]. Some studies have shown integrated care models can reduce absenteeism from work and increase productivity with annual savings from the cost of loss work [28].

A recent comprehensive analysis of existing randomized controlled trials of collaborative care for depression and anxiety concluded it is associated with significant improvement in depression and anxiety outcomes compared to usual care. These benefits were found for results up to 2 years. While initial studies suggest depression improvement and cost savings persist for up to 5 years, there are not enough existing studies to conclude the benefits extend beyond that period of time. Collaborative care increases the use of antidepressant and antianxiety medications. It is more effective than usual care in terms of improving mental health and physical health quality of life and patient satisfaction. However, research to date does not show collaborative care to be more effective in adolescents with depression. It appears to be more effective than feedback alone but given the lack of comparison studies with consultation-liaison or enhanced referral, it is not possible to conclude if the latter are as equally effective. In addition, there has been variation in the intensity of the intervention (number of visits) and the comparative intervention, usual care, has not been well defined [29]. The positive outcomes found in the USA have been replicated in several European countries.

A report on analysis of interventions to improve treatment engagement among patients from underserved racial-ethnic communities who have mental illness found the collaborative care model was the only approach that appeared effective for depression in these populations. Important components that appear to have contributed to improved outcomes were the use of patient preference to choose treatment, use of a care manager and psychiatric consultation. For those with schizophrenia, an adapted form of multi-family groups (MFGs) improved medication adherence in Mexican-American populations and appeared to improve clinical outcomes in the same population. For those with mixed diagnoses a mobile crisis team improved attendance at outpatient appointments. Telephone-based motivational interviewing may also improved attendance at outpatient sessions in certain racial and ethnic minority populations [15].

Randomized trials of collaborative care interventions for depression in elderly populations have shown such interventions were more effective in reducing suicidal ideation and depressive symptoms in depressed older patients. Such improvements may be the result of increased treatments (medications and psychotherapy). It was unclear if the communication component between providers was critical for improving outcomes. Outcomes did not appear to be influenced by comorbid medical disorders. These interventions appear to be safe and readily accepted in older population groups [30].

Outpatient Mental Health Setting

The above studies are concerned with improving behavioral health care in outpatient medical settings. However, there have been few studies of integrated medical services in community mental health centers. There is some evidence that co-locating primary care providers in public mental health settings and integrating programs of medical and mental health care increases access, continuity and coordination of care for those who have SMI. These models of care have been shown to reduce health disparities in health care. However, using enhanced referrals from the public sector to appropriate medical services have not shown evidence of improving care [31]. Primary care providers are less likely to follow-up people with SMI for their physical and mental health problems [32].

One study of integrated care in a mental setting was the Primary Care Access, Referral, and Evaluation (PCARE) study. It was a randomized trial of a medical care management intervention for people with SMI treated in community mental health settings. Nurses served as care managers and provided patient education, logistical support for obtaining primary care services and enhanced activation in health care by using motivational interviewing techniques. The study found improvements in health status at 2 years compared to usual care and demonstrated a cost offset for medical services. Unfortunately, it was not financially sustainable under the reimbursement conditions at the time, i.e., the lack of funding for services for many of the patients once grant funds ceased [33].

A recent review of interventions to improve cardiovascular risk factors in those with SMI did not find any studies of peer and family support interventions to address elevated CVD risk, or any that specifically addressed elevated lipids. The outcomes reported by studies were primarily metabolic and few reported physical function and overall CVD risk (e.g., Framingham index) [34].

Inpatient Setting

There have been few controlled trials of traditional hospital models of consultation services. These studies have shown low rates of consultation and usually for those who had urgent psychiatric problems. However, it appears that proactive case identification can lead to higher rates of consultation and reduced average total hospital length of stay [35], although this work needs to be replicated. Inpatient models that focus on liaison efforts with the mental health clinician show high satisfaction among team members, but there is a lack of support for effectiveness in improving clinical outcomes. Active care management models in hospital settings that identify and manage those with high needs for care have been implemented in some European countries and found to reduce hospital length of stay and improve quality of life [18].

Table 13.2 Evidence for interventions to improve behavioral health in primary care

Intervention	Evidence
Screening	Limited effects on outcomes, especially if no capacity to manage disorder
Education/training	No evidence for improved clinical outcomes; educational outreach visits may improve prescription practice
Treatment guidelines	Adherence to guidelines may improve outcomes in some settings but not consistent when used alone
Specialty referral	No evidence this alone improves outcomes; patients most often do not attend appointments
Tracking outcomes	May be helpful but need clear management plan to change treatment if improvement is not occurring
Patient-centered care	Engagement of patients in care appears to improve outcomes
Collaborative care	With components listed in Table 13.1, strong evidence for improving outcomes for depression and anxiety in primary care

Evidence for Specific Interventions

It would seem obvious that screening for mental disorders in primary care, educating primary care providers to provide the correct treatments for mental disorders, and the use of evidence-based guidelines with available consultation from mental health experts would all be important contributors to improving clinical outcomes for people seen in the primary care setting. Yet research studies have failed to show any of these individually lead to improved outcomes for patients with mental disorders seen in primary care settings. There is no evidence that screening, education and training of primary care providers, use of practice guidelines or co-location of services alone, i.e., without collaboration, are effective. However, research does support involvement of patients in treatment decision-making and the use of collaborative care models. These collaborative care models use principles of chronic disease management such as establishing and sustaining effective communication and collaboration between primary care and mental health providers. Care managers facilitate collaboration and support systematic diagnosis, outcomes tracking, and adjustment of treatments based on clinical outcomes (i.e., stepped care). Thus, high coordination of care, shared responsibility for the patient and higher levels of communication among team members seem to be important components. This does not mean that specific interventions may not be critical—just not apparently when used alone [27]. A summary of these findings is presented in Table 13.2.

Limitations of Research

Although research shows integrated care, especially collaborative care, can lead to improvement in clinical outcomes, there are limitations in the way prior studies were conducted. These limitations do not negate these research findings but emphasize the need for caution when interpreting results, especially if using them to change practice or inform policy decisions. Recognition of these limitations helps us understand what questions remain unanswered about the effectiveness of integrated care, what aspects are relevant to a particular setting, and what improves the design of future research studies.

Many studies have been conducted at single sites and have not tested in underserved areas across the USA. This restricts the ability to generalize findings outside the sites studied. Given the lack of diverse multiple sites in prior studies, it is not possible to generalize findings for collaborative care in populations outside the USA or Europe. In addition, the length of the studies has restricted the ability to show long-term effects (i.e., beyond several years). Many studies have controlled what services are available and the likelihood of people doing the same in the real world is less likely. For example, one can increase available appointments to specialists but there is no guarantee people will keep those appointments and many specialists have heavy case-loads already. Most studies are in outpatient settings and it is unclear what may work best for inpatient settings. This is particularly critical for uninsured and underserved populations who are not likely to seek services until they require hospital treatment.

The vast majority of studies have focused on addressing the problem of depression alone or other common mental health conditions found in primary care settings. The majority of studies addressed depression uncomplicated by other mental health comorbidities, e.g., substance use, or medical comorbidities. Very few have addressed the problem of providing general health care services in public mental health clinics to address the needs of people who have severe mental SMI and comorbid medical problems. No studies have addressed models that incorporate treatment of people with SMI and complex cases into primary care clinics. This limits the ability to generalize findings to complex patients with comorbid conditions.

In many cases, external resources covered the costs of the additional personnel and extra time spent with patients. Many sites volunteered, so it is unclear how well these models will work in typical settings with limited funding for extra personnel.

There are problems in studies of collaborative care with the way in which patients are allocated to collaborative care or routine care. This allocation is not always free of bias. In addition, many patients do not complete follow-up or provide information about their outcomes. The mean effect for collaborative care estimated in comprehensive analyses of randomized trials, although significant, is modest by current convention. This effect is less than some important comparison treatments such as cognitive behavior therapy when evaluated in contexts other than primary care. However, the benefits of collaborative care are similar to other treatments (CBT) when delivered in primary care settings and the benefits do seem to endure over time [29].

In addition there has been little systematic research to understand the etiology of the increased rates of medical comorbidity and early mortality among patients with psychiatric disorders, e.g., depression and cardiovascular mortality in the post-myocardial infarction period. More work is clearly needed in these areas as well.

Future Needs

Consistent nomenclature is needed to better compare studies. Better conceptual and theoretical models and improved research methods would improve study designs. Further research would be useful if it could identify a specific active component in collaborative care or whether all components are needed. In addition, it is unclear which elements might be modified or adapted without changing effectiveness. Exploration of the moderators and mediators of the effects of collaborative care might provide useful information on how current models might improve effectiveness through greater attention to these active ingredients and better targeting of patient populations likely to benefit.

Identification of patient-centered outcomes is critical if interventions are to reflect what people want from their health care services. This requires models of care that engage patients and involve them actively in health care decisions and system design. Such active patient involvement has been shown to improve outcomes.

Even the best collaborative care models still have large numbers of people who do not achieve complete remission of their illnesses. The positive effects of collaborative care appear to be due to increased provision of medications. This leaves little understanding of the effectiveness of increased psychotherapy or other treatments in collaborative care interventions.

More research is needed on models for use in inpatient settings. The traditional C-L models are not sufficient and many people go without adequate care. Fully integrated complexity intervention units are expensive to maintain, and it is likely they reach only a small number of people who need inpatient integrated services. Development of models that integrate services both horizontally across outpatient settings and vertically with inpatient settings might lead to better continuity of care for complex patients.

Underserved populations are more likely to suffer from inadequate health care services and more research is needed in these populations, especially for disorders not studied already. There is a particular lack of research in Asian-American and Native-American populations as well as older adults from underserved racial-ethnic groups. Studies will need to identify outcomes that are a priority for treatment recipients and relevant to diverse underserved populations.

Although integrated care is associated with better outcomes and more efficient service delivery there may be some benefit in well-coordinated services that remain based in separate locations. Co-location does not guarantee integration and integration may not guarantee favorable outcomes. Studies of effective strategies designed to improve integration are needed. How organizational capacity for integrated behavioral health translates into patient outcomes is a critical research question—i.e., how to implement to ensure improved outcomes.

There is very little research on the integration of behavioral health and primary care for substance abuse treatment services, especially for drug use disorder treatments. In addition, more research is needed to understand the effects of comorbidity and to improve the utilization of addiction interventions by health care providers.

In addition, there is a need for further research in collaborative care for anxiety, patients with depression and long-term physical health conditions, and in different age groups (adolescents and older age).

More research is needed on the effectiveness and cost savings of collaborative care models for those with SMI. There is a need to test interventions that target multiple health risk factors in people with SMI and lead to clinically significant outcomes. It is unclear what works for those with SMI and comorbid medical illnesses. More efforts should be focused on improving general health in people with mental disorders through medical services, socioeconomic support, and physical health promotion strategies if one expects to improve overall survival.

Integrated care models have focused on enhancing health care services to improve outcomes for those with behavioral illnesses. However, this may reflect a narrow approach to a complex problem. Broader community social and environmental issues may impact the use of services and stigma may inhibit people from receiving services even when they are readily available. Thus, research is needed that links public health approaches with enhanced community models to improve recognition, management and ultimately outcomes. In addition, a stronger base of research to show economic and clinical superiority of integrated care models is critical to change delivery systems and influence policy.

Without a better understanding of some of these fundamental issues, it remains unclear if integration of care or its components alone is the solution for improving health care services for people with mental illnesses or substance abuse served in different treatment settings. One needs answers regarding what exactly should be done in an "integrated" setting, how to ensure implementation, and what other interventions may be needed to improve the health of people with mental illnesses or substance abuse.

Implications for Health Care Practice and Policy

Primary care systems are not organized well to treat behavioral health disorders. Integrated care models such as collaborative care do not require primary care clinicians to take overall responsibility for identifying and treating what can be complex disorders. These models build on and integrate the strengths of primary care, e.g., incorporation of stepped care approaches used to treat other medical disorders such as hypertension; mental health specialty care, i.e., expertise in mental health treatments; and evidence-based approaches to management of chronic illnesses. There must be assurance of fidelity to the collaborative care model as there is no evidence it will be successful if all components are not followed. For primary care clinicians, it offers support in handling disorders they may not feel comfortable treating. However, they must learn to follow and respond to outcome measures that are documented for each patient and collaborate with others to initiate changes in treatment. Another important element is patient self-management, which means more effort must be put into engaging patients in making decisions in their health care. Practices will need to set up structured and well-organized clinical information tracking systems, e.g., EHRs and registries. Clinicians must move from a perspective of focusing on process of care to a focus on managing outcomes [19].

Initial models of integrated care focused on identification of depression by nurses and then providing care management. These have evolved to have psychiatrists and other specialty mental health providers supervise the care managers. In the future these might evolve to involve pharmacists and other health care professionals in the management of patients with complex treatment regimens.

Integration may not be needed at all if primary care physicians provide evidence-based psychiatric care. A combination of integration and guideline adherence, using some variant of case managers and supportive health professionals, may have potential for success. When clinical outcomes and key quality indicators are routinely tracked and a substantial portion of the payment for care is tied to quality indicators, effectiveness of such programs can be improved.

Behavioral health clinicians may become concerned about a loss of autonomy and unfamiliarity with primary care practice. Behavioral health practitioners are comfortable with defined schedules and tend to select patients with specific problems. They are not accustomed to seeing a wide variety of problems, frequent interruptions for communication and providing a range of acute interventions. This will likely require clinician training and willingness to be flexible as they approach patient’s needs in an integrated system of care. In the primary care setting, treatment is often brief and problem focused on the immediate needs of the patient. However, many patients are not likely to have complex problems and can be managed in primary care settings in a collaborative model. Others will require greater behavioral health specialist involvement.

The system level problems with organization of care, financing and staffing create barriers to effective implementation of integrated care models. The use of managed care carve-outs has increased fragmentation within the system. Future models need to guarantee integration among clinicians in the inpatient and outpatient setting, including transitional care services such as intensive outpatient programs. Such models will be critical for those with the most complex cases. In the fee-for-service sector, increased case finding may generate more business but in the managed care sector it adds additional costs. Yet there may be cost offsets that lead to overall health care cost savings.

Programs and concepts contained within the Affordable Care Act, e.g., health homes and accountable care organizations, have the potential to bring together mental and physical health services. The ACA also facilitates integration by designating both addiction and mental health treatment as “essential health benefits” to be covered by health plans (including Medicaid).

Effective integrated care must be clinically appropriate as well as financially viable but fit within a broader community context. This means more attention to social and environmental influences on use of all health care services as well as attention to individual issues such as stigma that may impede access. Strategies that increase access to treatment are likely to have limited impact if they are to treatments of poor quality or limited ability to address the unique needs of different populations. We need approaches that focus on prevention efforts and managing and treating the whole person, not just specific illnesses if we are to improve mental health across the USA.

References

1. Kessler RC, Chiu WT, Dernier O. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the national comorbidity survey replication. Arch Gen Psychiatry. 2005;62:617–27.
2. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med. 2006;3(11):e442.
3. New federal guidelines seek to help primary care providers recognize and treat depression. Agency for Health Care Policy and Research (AHCPR) of the Dept. of Human Services. Hosp Community Psychiatry. 1993;44(6):598
4. Substance Abuse and Mental Health Services Administration. Results from the 2010 national survey on drug use and health: summary of national findings, NSDUH Series H-41, HHS Publication No. (SMA) 11-4658. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2011.
5. Colton CW, Manderscheid RW. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public health clients in eight states. Prev Chronic Dis. 2006;3:1–14.
6. Brown S, Inskip H, Barraclough B. Causes of the excess mortality of schizophrenia. Br J Psychiatry. 2000;177:212–7.
7. Druss BG, Rohrbaugh RM, Levinson CM. Integrated medical care for patients with serious psychiatric illness. Arch Gen Psychiatry. 2001;58:861–8.
8. Chang C, Hayes R, Perea G, Broadbent MTM, Fernandes AC, Lee WE, et al. Life expectancy at birth for people with serious mental illness and other major disorders from a secondary mental health care case register in London. PLoS One. 2011;6(5):e19590.
9. Malzberg B. Mortality among patients with involution melancholia. Am J Psychiatry. 1937;93:1231–8.
10. Wang PS, Demler O, Olfson M, Pincus HA, Wells KB, Kessler RC. Changing profiles of service sectors used for mental health care in the United States. Am J Psychiatry. 2006;163(7):1187–98.
11. Regier D, Narrow W, Rae D, Manderscheid R, Locke B, Goodwin F. The de factor U.S. mental and addictive disorders service system: epidemiological catchment area prospective 1-year prevalence rates of disorders and services. Arch Gen Psychiatry. 1993;50:85–94.
12. Bartels SJ, Coakley EH, Zubritsky C, Ware JH, Miles KM, Arean PA, et al. Improving access to geriatric mental health services: a randomized trial comparing treatment engagement with integrated versus enhanced referral care for depression, anxiety, and at-risk alcohol use. Am J Psychiatry. 2004;161(8):1455–62.
13. Young AS, Klap R, Sherbourne CD, Wells KB. The quality of care for depressive and anxiety disorders in the United States. Arch Gen Psychiatry. 2001;58:55–61.
14. Payne JM, Fortney JC, Tripathi SP, Maciejewski ML, Edlund MJ, Williams DK. Cost-effectiveness analysis of a rural telemedicine collaborative care intervention for depression. Arch Gen Psychiatry. 2010;67(8):812–21.
15. Interian A, Lewis-Fernandez R, Dixon LB. Improving treatment engagement of underserved U.S. racial-ethnic groups: a review of recent interventions. Psychiatr Serv. 2013;64(3):212–22.
16. Butler M, Kane RL, McAlpine D, Kathol RG, Fu SS, Hagedorn H, Wilt T. Does integrated care improve treatment for depression? A systematic review. J Ambul Care Manage. 2011;34(2): 113–25.
17. Wulsin LR, Wolfgang S, Pincus HA. Models of integrated care. Med Clin North Am. 2006;90(4):647–77.
18. Horvitz-Lennon M, Kilbourne AM, Pincus HA. From silos to bridges: meeting the general health care needs of adults with severe mental illnesses. Health Aff. 2006;25(3):659–69.
19. Strandberg-Larsen M. Measuring integrated care. An international comparative study. Dan Med Bull. 2011;58(2):b4245.
20. Summergrad P, Hackett TP. Alan Gregg and the rise of general hospital psychiatry. Gen Hosp Psychiatry. 1987;9(6):439–45.

21. Thielke S, Vannoy S, Unutzer J. Integrating mental health and primary care. Prim Care. 2007;34:571–92.
22. Post EP, Metzger M, Dumas P, Lehmann L. Integrating mental health into primary care within the veterans health administration. Fam Syst Health. 2010;28(2):83–90.
23. Unutzer J, Chan YF, Hafer E, Knaser J, Shields A, Powers D, et al. Quality improvement with pay-for-performance incentives in integrated behavioral health care. Am J Pubic Health. 2012;102(6):e41–5.
24. Chan Y, Huang H, Sieu N, Unutzer J. Substance screening and referral for substance abuse treatment in an integrated mental health care program. Psychiatr Serv. 2013;64(1):88–90.
25. Wells KB, Sherbourne CD, Miranda J, Tang L, Benjamin B, Duan N. The cumulative effects of quality improvement for depression on outcome, disparities over 9 years: results from a randomized, controlled group-level trial. Med Care. 2007;45(11):1052–9.
26. Katon WJ, Lin EHB, Korff MV, Ciechanowski P, Ludman EJ, Young B, et al. Collaborative care for patients with depression and chronic illnesses. N Engl J Med. 2010;363(27):2611–20.
27. Brawer PA, Martinelli R, Pye PL, Manwaring J, Tierney A. St. Louis initiative for integrated care excellence (SLI ^{2} CE): integrated-collaborative care on a large scale model. Fam Syst Health. 2010;28(2):175–87.
28. Rost KM. Improving depression treatment by integrated care. J Manag Care Pharm. 2005;11 (3 Suppl):S5–8.
29. Archer J, Bower P, Gilbody S, Lovell K, Richards D, Gask L, et al. Collaborative care for depression and anxiety problems. Cochrane Database Syst Rev. 2012;10:1–27.
30. Chang-Quan H, Bi-Rong D, Zhen-Chan L, Yuan Z, Yu-Sheng P, Qing-Xiu L. Collaborative care interventions for depression in the elderly: a systematic review of randomized controlled trails. J Invest Med. 2009;57(2):446–55.
31. Bazelon Center for Mental Health Law. Get it together: how to integrate physical and mental health care for people with serious mental disorders. Washington, DC: Bazelon Center; 2004.
32. Fleury MJ, Bamvita JM, Tremblay J. Variables associated with general practitioners taking on serious mental disorder patients. BMC Family Practice. 2009. http://www.biomedcentral.com/1471-2296/10/41. Accessed Mar 2013.
33. Druss BG, Esenwein SAV, Compton MT, Zhao L, Leslie DL. Budget impact and sustainability for medical care management for persons with serious mental illnesses. Am J Psychiatry. 2011;168(11):1171–8.
34. Strategies to improve cardiovascular risk factors in people with serious mental illness. A comparative effectiveness review. Agency for Healthcare Research and Quality. 2012. www.Effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-eports/?
35. Desan PH, Zimbrean PC, Weinstein AJ, Bozzo JE, Sledge WH. Proactive psychiatric consultation services reduce length of stay for admissions to an inpatient medical team. Psychosomatics. 2011;52(6):513–20.

Index

P. Summergrad and R.G. Kathol (eds.), *Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting*, DOI 10.1007/978-1-4939-0688-8,