Psychiatry in General Practice

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Abstract

Mental illnesses and substance use disorders are responsible for an enormous amount of disability and mortality on their own, but even more so indirectly through poor health decision-making. In the Western world, much of the health burden stems from chronic conditions including obesity, hypertension, diabetes, and heart disease. These primarily result from chronic behaviors including unhealthy diet, lack of exercise, poor sleep habits, and substance use. Behind these are often depression and anxiety. These problems exist despite ready access for most people to medical, and to a lesser extent, mental health care. In the rest of the world, access to mental health education and resources can be much more limited, or even absent. Globally, only a small fraction of general practice patients are properly identified, diagnosed, or treated for mental health conditions. Due to the vast shortage of specialty mental health providers worldwide, primary care providers have become the de facto mental health providers for the last several decades, despite lacking the education or support needed to properly do so. It has been agreed upon for decades that in order to improve patient care, decrease cost, and increase patient satisfaction, a total system redesign is needed. The system needs to shift toward whole person or patient-centered care. The principles of collaborative and integrated mental health care have been crafted over many years in order to specifically solve for these problems. Multiple international organizations have demonstrated that these new care delivery systems can be adapted to, and effective in, just about any location in the world. In order to apply these innovations, though, primary care providers across the world need more training in psychiatry, and psychiatry providers, in general medicine. Through a growing body of innovative programs in general practice, there is now the opportunity to do so. Highlighted training programs in the United State include the University of Washington, Yale, and the Universities of California at Davis and San Francisco. Organizations include the Agency for Health Research and Quality, the Institute of Medicine, the American Academy of Psychiatry Residency Training Directors, and the Association for Medicine and Psychiatry in America. Internationally, work by the World Health Organization, the World Organization of Family Doctors, the Programme for Improvement of Mental Health Care, and the Emerging mental health systems in low and middle-income countries research consortium are examined.

Keywords

Integrated mental health · Primary care psychiatry · Collaborative care · Whole person care · Evidence-based · Measurement-based · Patient-centered · Care manager · IMPACT · AIMS Center

Introduction

It is necessary to look back at delivery in decades past in order to understand the current state of psychiatry in general practice. During that time, articles and research can be found intermittently, separated over time and location, most frequently from

the United States, Britain, the Netherlands, and Australia. The overwhelming theme of these publications is that primary care providers needed more training in mental health, in all locations, to better manage the symptoms of the patients they were seeing every day. More recently, textbooks and other training material have begun to be published with increasing frequency in these same countries, with increasing contributions by India and Asia. Training programs have also begun to arise internationally, although the vast majority of the publishing and educational innovation has occurred in the United States most recently. Although the Journal of the American Medical Association published articles on the subject as early as 1935, in 1978 a major event in organizational healthcare took place which would pave the way for the expansion of collaborative and integrated care worldwide. At that time, in Kazakhstan, the leaders of the International Conference on Primary Health Care made the Alma Alta Declaration. This stated:

> Health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right and . . . the attainment of the highest possible level of health is a most important world-wide social goal.

As physicians, their focus was to find a path to well-being for patients by whatever means necessary. They agreed to focus care on the person and not the disease. This approach highlights the idea that not only are all aspects of health important, but that they are necessary building blocks of a healthy world. It goes on to call for all governments, regardless of politics or conflicts, to work together in the goal of global mental and physical health. The authors who ratified the declaration hoped that it would be the first step toward achieving health for all by the year 2000. In 2008, the World Health Organization (WHO) revisited this topic and assessed what progress had been made. The focus of the WHO is the health of all people, and their responsibility is to highlight methods by which this might be achieved:

> Our common humanity compels us to respect people's universal aspiration for a better life, and to support their attainment of a state of complete physical, mental and social well-being. With integrated primary care, the substantial global burden of untreated mental disorders can be reduced, thereby improving the quality of life for hundreds of millions of patients and their families.

At that time, they released a 200-page report on the various applications of the integrated care model in a study of vastly different populations across the globe. These results were very positive and increased the number of patients successfully treated by orders of magnitude in the very areas with the most desperate need. The WHO describes in increasing detail the recipe for successful whole person care delivery in involving integrated care (Lardieri et al. 2014).

> [Integrated care] results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution

to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization.

In much of the Western world, the growing health burden stems from chronic diseases such as diabetes and heart disease which are worsened by health characteristics like obesity and hypertension. These are directly linked to ongoing health behaviors such as unhealthy diet, lack of exercise, poor sleep habits, and nicotine and alcohol use. In 2013, the Agency for Healthcare Research and Quality (AHRQ) began to describe specific new goals of care but also an outline of how these might be achieved (Peek and the National Integration Academy Council 2013). The focus was on data and systems redesign. Concepts now familiar to many began to come to light, including the collaboration of mental and physical health providers, systemization of care, cost control, and the focus on the patient and not the illness. This statement also highlights the absolute interdependency of the different aspects of health and the futility of attempting to address them separately. In the 2014 Psychiatric News article "Which Flavor of Integrated Care?" Jürgen Unützer of the Advancing Integrated Mental Health Solutions (AIMS) center restates and elaborates on these concepts into a lean recipe for care delivery (Unützer 2014): "Based on principles of effective chronic illness care, collaborative care focuses on defined patient populations tracked in a registry, measurement-based practice and treatment to target."

One of the cornerstones of this work is the Improving Mood and Providing Access to Collaborative Treatment (IMPACT) studies (https://uwimpact.org). In this now landmark study, the University of Washington (UW) demonstrated the results of decades of work in integrated and collaborative care. From 1998 to 2003, in a randomized, controlled trial, including 450 primary care providers and eight healthcare organizations across five USA states enrolled 1801 older adults with depression and followed them for 2 years (Unützer et al. 2001). They were offered usual care including referral and antidepressants, the control arm, or the IMPACT model of care. This included universal screening for depression, stepped care, behavioral care management, and a consulting psychiatrist. The program demonstrated early and sustained reductions in depression by up to 50% in study participants, in addition to greater patient and provider satisfaction, medical and pain improvements, and reduction in cost. Unützer goes on to say that "as researchers, we are reminded to think not only about the 'numerator,' the patients who come to see us, but also the 'denominator,' those who do not engage in care." Rather than treating only the presenting complaints of patients, this approach suggests looking deeper to the underlying causes. Now, with most citizens of the USA receiving at least some medical care, there is the unique opportunity to identify them in a less vulnerable state. Maybe this is a depressed woman coming in for her annual pelvic exam, the commercial truck driver presenting for his workplace physical examination, or the patient with alcohol abuse presenting with symptoms of a heart attack. Patients must first be identified in order to properly diagnose and treat them effectively. This requires universal screening of common health issues, including depression, as well as routine measurement of clinical outcomes. To this approach is added the use of evidenced-based treatments.

When held up next to the current, unequal, nonadherent, nonengaged, inaccurate, nonmetric, nonevidence-based system, it is clear that there was much work to be done. At the core of this divide is the concept of "whole-person" care. All providers need to consider the population, not only the individual person, the single illness, the organ, or vital sign. A marriage of services is needed, with the mental health system focusing more on the physical, and the physical health system more on the mental. The Substance Abuse and Mental Health Services Administration (SAMHSA) in the USA frequently refers to collaborative care as "rediscovering the neck" of medicine, connecting the long-divorced head and body.

Part 1: The Evolution of Whole Person Care

Health Behavior, Workforce Shortages, and Collaborative Care

In the population, there is a 5–10% prevalence of major depression, with up to three times that having significant sub-syndromal symptoms. In hospitalized patients, this number is as high as 25% (Barkin et al. 2000). Patients who have chronic medical illnesses have even higher risks of mental illnesses and their complications, including depression and suicidal ideation (Druss and Pincus 2000). In addition, mental illnesses, substance use disorders, and psychosocial factors can significantly complicate other medical illnesses. Seventy percent of all health care visits are generated by psychosocial factors (Lurie 2009). Mental illnesses, such as major depressive disorder, are associated with increased disability, reduced adherence to medical treatments, and worsened medical outcomes (Katon 1996). And, 75% of patients with depression present physical complaints as the reason they seek care (Unutzer et al. 2006). Medical outcome studies reveal that depression results in more functional impairment than chronic diseases such as diabetes, arthritis, and angina. Seven of 10 of leading causes of death have a psychological and/or behavioral component, including heart disease, cancer, stroke, chronic lower respiratory disease, accidents, diabetes, and suicide (Lurie 2009). Patients with schizophrenia die up to 10 years earlier than matched controls, and those with all forms of severe mental illness die up to 25 years earlier (Parks et al. 2018). Early identification and effective treatment of mental disorders and other psychological factors affecting medical illness can dramatically reduce the costs, disability, and suffering associated with medical illnesses.

However, many people who suffer from mental illnesses and substance use disorders are not properly diagnosed and never receive effective treatment. There are many factors that contribute to this unfortunate reality, including lack of awareness of mental illness, limited availability of effective treatments, ineffective screening, inadequate access to treatment, and the stigma against mental illness. New systems like collaborative care, medical and health homes, and integrated mental health services are designed to address these problems. The educational gaps are being filled by teaching preventive medicine to psychiatric physicians, as

well as primary care psychiatry to medical providers. Furthermore, a large number of thought and education leaders are now being trained in a number of combined dual-degree residency programs such as internal medicine- or family medicine-psychiatry.

Due to the vast shortage of specialty mental health providers, the primary care doctors have become the "de facto" mental health providers in much of the world, in decades past. Unfortunately, in the USA, only around 50% of patients with depression are recognized in the primary care setting. And, only 20–40% of these patients demonstrate recovery after 12 months. This is despite the fact that these services are providing 70–90% of the prescription medications for depression, and 10–30% of all Americans are on these medications.

Escalating workforce shortages are another component in this failing health equation. The world population is growing rapidly, and with a geriatric population outpacing all other demographics, there will be nearly one in five residents aged 65 and older by 2030 in the USA alone. Between 2010 and 2050, the US population is projected to grow from 310 million to 439 million, an increase of 42% (U.S. Department of Commerce Economics and Statistics Administration 2010). With this growth comes an expanding need for care with a diminishing set of resources. And, despite the reputation for innovation, the USA is currently ranked last in quality of care outcomes in nearly every category of health delivery in the developed world, despite care being ranked as one of the most expensive globally (Davis et al. 2014). The largest current danger is the increase in population with the reciprocal drop in medical workforce. Fewer and fewer new college students attend medical school, and only around 5% specialize in psychiatry. In the USA, about 1000 new doctors begin psychiatry residencies each year (Hauer 2015). The current provider network is rapidly aging with 48% of psychiatrists in 2015 already over 60 years of age. The Department of Health and Human Services has identified roughly 4000 health professional shortage areas for mental health. As of September of 2016, the Henry J. Kaiser Foundation reported that there were 4454 shortage areas in the USA, with an average of 48% needs met. They calculate that 2772 providers were needed to shore up the deficits to a minimally staffed level.

A shortage in mental health providers is a global issue as well, exacerbated by maldistribution and unequal access to services affecting people in all income levels. The WHO's Mental Health Atlas 2014 reports that nearly half of the world's population lives in a country where there is less than one psychiatrist per 100,000 people (Robeznieks 2015). In high-income countries, this number is closer to one per 2000. A major factor is that global spending on mental health is still very low. Low and middle-income countries spend less than two dollars per capita per year on mental health, whereas high-income countries spend more than 50 (Robeznieks 2015). And, the majority of spending is going to mental hospitals, which serve only a small proportion of those who need care. Although greater in absolute numbers, the number of social workers, therapists, and clinical psychologists show similar trends. These numbers are no more attractive in other parts of the world. Training more mental health providers in the traditional method will neither satisfy the current need nor keep pace with growing needs of population growth.

Table 1 History of collaborative care advances

Year	Organization	Advance
1960s	American Academy of Pediatrics	Centralized records
1978	World Health Organization at Alma Ata	Primary provider centered care
1996	Institute of Medicine	Named "medical home"
2001	Institute of Medicine – "Crossing the Quality Chasm"	Focus on measure of care quality
2003	World Health Organization – "Achieving the Promise"	Increase collaboration between medical and mental health providers
2006	Institute of Medicine	Increase collaboration between organized medicine and government
2008	World Health Organization – Report on Integrated Care	Study of planning, implementation, and success
2010	Patient Protection & Affordable Care Act	Federal funds promised

Adapted from Amiel and Pincus (2011)

For decades, collaborative and integrated cares have been proposed as solutions to many of these diverse problems. Although only gaining widespread acceptance recently, there has been a long and systematic movement toward these new modes since the 1960s, in the USA (Table 1). There is a broad language used in medical literature to expresses the concepts of collaborative care. This includes terms such as medical-mental health integration, collaborative care, shared care, co-located care, primary care behavioral health, integrated primary care, primary care psychiatry, and behavioral medicine. It has increasingly been agreed upon that collaborative care is that which involves mental and physical health teams sharing information and/or location, and that integrated care involves a deeper and more complete sharing of data, responsibility, and workflow.

The Patient Centered Medical Home and Chronic Disease Health Home

It has become necessary to develop a new strategy for patient care that redefines the used goals, methods, and solutions. For this, a more deliberate and sound organizational framework must be constructed (Table 2). The five principles of collaborative care have been crafted over many years in order to conceptualize solving the problems of limits in funding, manpower, and education (Amiel and Pincus 2011). If the first problem is patient needs not being met, a patient-centered focus can be applied. Rather than trying to connect geographically, economically, and philosophically siloed services, they can be brought to the patient in the care environment in which they are already seen. To cope with limited resources, a population focus can be used, applying ongoing data tracking to allow for more targeted use of resources. Unclear treatment goals can be avoided by using agreed upon terminology

Table 2 Five principles of collaborative care

Problem	Principle of care	Solution
1. Patient treatment needs not met	Patient-centered	Collaboration
2. Resources limited	Population-based	Data tracking
3. Unclear treatment goals	Measurement-based	Concrete goals
4. Ineffective treatment	Evidence-based	Data and research driven
5. Inconsistent quality	Accountable	Tracked and reimbursed

Adapted from AIMS (2014)

and measurement-based goals. The problem of ineffective and outdated treatments can be addressed with a focus on evidence-based research. Inconsistent quality can be better achieved with accountability of the providers and organizations through treatment and outcomes data with agreed upon reimbursement strategies based on care quality.

Effective patient identification can be achieved by systematic screening, diagnosis, assessment, and documentation using validated tools. This screening should include both physical and mental metrics including vital signs, depression, and labs such as blood sugar, lipids, and medication blood levels. Engagement in the integrated care program can be done by introducing patients to the concept of the care team, and to the individual team members when needed. Evidence-based treatment can be provided through a problem specific treatment plan, including patient and family education, primary care prescribed psychotropic medications, and use of time-limited evidence-based counseling. Frequent reassessment with changes or adjustments to treatment plan at least every 30 days is necessary to avoid the pitfalls of inadequate treatment response. Systematic follow-up is necessary to monitor treatment responses and side effects. This, again, can be supported by a case management team using a population-based registry, reaching out proactively to patients who are non-adherent or disconnected from care. Relapse prevention plans are used when care has been both completed. Case management teams engage and support family members, coordinate providers, and to track screenings, labs, imaging, and referrals. Systematic case review and consultation is needed to identify those patients most in need of intervention. Through weekly psychiatric caseload review, patients can be discussed and treatment plans can be rewritten. Program oversight and quality improvement is the final component of the system. More often than not, the incentives that have been proposed are shared financial risk and reward for improved patient care and outcomes. When discussing collaborative and integrated care, it is important to understand that the concepts can be applied in many different ways. The conventional siloed model includes geographically and functionally separate primary care, specialty medicine, and mental health care. These teams are often in different locations, with different policies and procedures, and refer to each other only when necessary, or not at all. A key new model of care is the Patient Centered Medical Home (PCMH), which includes the primary care team as well as a case management component (Table 3). This case management team helps to assess, follow, and link the primary care patient to specialty medical or mental

Table 3 Comparing models of collaborative care in the United States

Care type	Standard	Patient centered medical home	Chronic disease health home
Organization	Siloed/fragmented	Enhanced primary care	Enhanced disease care
Population	All patients at all ages	All patients at all ages	Specific chronic conditions
Home	Any	Based in primary care	Based in condition home
Support	None	Case management	Case management
Coordination	Referral	Specialists coming in/coordinated	Primary care or another specialist coming in/coordinated
Financing	Many payers	Many payers if accredited	Federal (Medicaid) only

health care, either on site or through off-site collaboration. A related model is the Chronic Disease Health Home (CDHH) or Specialty Medical Health Home (SMHH), which focuses care on a medical specialty population (e.g., chronic lung disease, diabetes, or heart failure) and includes the same case management team (Table 3). In this case, the collaboration is with primary care as well as other specialty care. Of note, the specialty care at the center of the SMHH/CDHH can, in some circumstances, be a psychiatric specialty clinic. An example of this could be the community health center serving the chronic severely mentally ill. In both examples, the primary or specialty care is augmented by the principles of collaborative care including the addition of the case managers who perform outreach, social work, and patient education.

With all of these diverse and overlapping care systems, one might ask "where my home should be?" The answer is: "wherever you are." Wherever the most central and frequent treatment takes place is where the patient should be seen. This could include a primary, specialty medical, or psychiatric clinic. If the health needs are very basic, then likely the best place to receive care would be in the primary care setting. If the physical and mental health needs are few, a standard model of care may be adequate. Here is where primary prevention takes place for higher functioning patients. If the patient has additional mental health needs then they can either be referred "out," or even better, referred "in" if the office has integrated mental health. If the health needs are chronic and at least moderately complex, a PCMH may be a better option, bringing collaborative specialty and mental health care into the office. This way referrals and transfers can be done with the assistance of a case or care manger. This is secondary prevention where illness may have already taken hold, but prompt treatment can limit the damage. If the health needs are chronic, severe, or highly complex, a SMHH/CDHH might be more appropriate for care. This is a system more in line with tertiary prevention, which is designed to limit morbidity and mortality. This model might be best for patients with chronic and persisting organ disease, like heart, liver, lung, or kidney failure. In these cases, mental health can either be collaborative (on or off-site) or integrated (on-site). The Four Quadrant Clinical

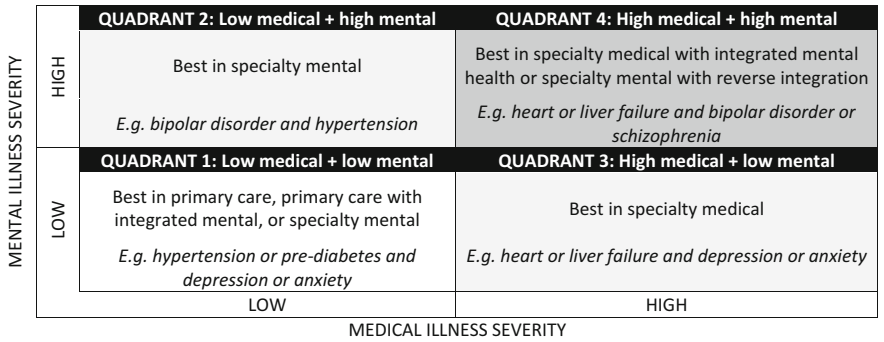

Fig. 1 The four quadrant clinical integration model. (Adapted from Behavioral Health/Primary Care Integration and the Person-Centered Healthcare Home 2009)

Integration Model can be an excellent reference to how this system fits together (Fig. 1).

One excellent example of a PCMH is the TEAMcare model (https://aims.uw.edu/teamcare), which, like the IMPACT program, was developed at the UW (McGregor et al. 2011). This trial is the culmination of more than 25 years of collaboration between the UW and Group Health, a subsidiary of Kaiser Permanente, to improve care for patients with chronic diseases in the primary care setting. The project provided a model for comprehensive, cost-effective services designed to treat the whole person by breaking down costly care silos in addressing multiple medical and behavioral health conditions. It has already successfully implemented in over 30 health settings throughout North America and serves as a "ready-to-implement" model for PCMH and Accountable Care Organization (ACO) programs. Within 10–15 sessions TEAMcare care managers, backed by a case review team, can make lasting changes in patient health behaviors.

The TEAMcare focus is on patients with chronic illnesses. This approach was founded on the basis that 48% of population has chronic condition, including 87% of federally insured (Medicare) beneficiaries (McGregor et al. 2011). And, almost half of these people with chronic conditions have more than one. Disease management interventions that focus on single conditions including diabetes, coronary artery disease, or depression have been shown to improve control of that individual condition, but are often ineffective in overall health and quality of life improvements. By taking into account the most chronic, disabling, and interdependent problems in an organized fashion, the whole patient can be treated more effectively (Shojania et al. 2006). One way to do this is to focus on enhancing management of patients with natural clusters of diseases. Coronary heart disease and diabetes have similar guideline-level recommendations and often co-occur. Additionally, both these disorders are associated with a high prevalence of coexisting depression, which adversely affects disease control and outcomes.

This patient-centered intervention is integrated into primary care by applying one treatment approach across all three chronic illnesses. Disease-specific treatment

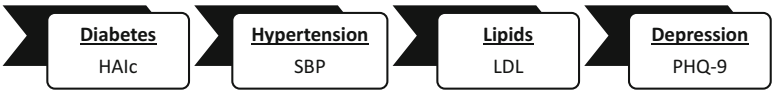

Fig. 2 Patient-centered medical home sample dashboard. *HAIc* hemoglobin A1c, *SBP* systolic blood pressure, *LDL* low density lipoprotein, *PHQ-9* patient health questionnaire-9 question

recommendations combined Group Health evidence-based guidelines with the treat-to-target program for diabetes from the Kaiser Care Management Institute (McGregor et al. 2011). This multispecialty treatment team was made up of a diverse variety of members. The primary care providers lead the care, prioritize treatment goals, and direct overall treatment. The specially trained nurse care managers educated and coached patients in management of both medical and mental health. Specialist consultants, including psychiatry and medical specialties like cardiology and endocrinology, provided weekly caseload review. Monitoring is organized around a symptom dashboard, which is used to track diabetes, hypertension, lipids, and depression (Fig. 2). The assessment of depression included liberal use of the Patient Health Questionnaire (PHQ-9) and initial depression history. Antidepressant treatment was based on a simple sequence of medications commonly used in primary care. Tailored approaches to enhancing self-care strategies, medication adherence, pain, smoking cessation, physical activity, healthy eating, and insomnia were employed. Building on the prior IMPACT studies, brief counseling interventions like Behavioral Activation and pleasurable activity scheduling were also used.

At one year, patients with the TEAMcare intervention were significantly less depressed than controls and also had improved levels of blood glucose, low-density lipoprotein cholesterol, and systolic blood pressure. The team estimated that the 2-year intervention saved $1224 per patient, on average. This is for patients whose medical care costs health care systems approximately $10,000 per year, said Katon et al. (2012).

Part 2: Integrated Mental Health

Another augmentation that can be brought into these health centers is the idea of Integrated Mental Health (IMH), which can be added to basic care or to the enhanced PCMH or CDHH models (Table 4). This is defined as not only the addition of a collaborative team but one that adds both colocation and shared workflow for mental health. In this case, there are no referrals to mental health, because mental health is already involved one way or another with the care of all patients. This includes the stepped-care concept where patients doing well will likely not come into contact with the mental health component of the team but will still be screened and followed as a part of the population. If there are escalated needs, the primary care provider can reach out directly to a case or mental health care manager for support, or directly to the psychiatrist for more acute needs (Fig. 3). In this way, all patients are

Table 4 Transforming basic primary and specialty care to collaborative and integrated care

Base care	Augmentation	New title	Care model
Primary care	Case manager	Patient-centered medical home	Collaborative
	Mental health care manager and consulting psychiatrist	Primary care with integrated mental health	Integrated
	Case manager, mental health care manager, and consulting psychiatrist	Patient-centered medical home with integrated mental health	Integrated
Specialty medical care	Case manager	Chronic disease health home	Collaborative
	Mental health care manager and consulting psychiatrist	Specialty medical care with integrated mental health	Integrated
	Case manager, mental health care manager, and consulting psychiatrist	Chronic disease health home with integrated mental health	Integrated

Case manager: usually a clinical social worker working in a medical setting that assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet the client's health and human service needs
Mental health care manager: a counselor, clinical social worker, psychologist, or psychiatric nurse, working in primary care, who coordinates the medical and mental health care providers, performs brief case management, and administers brief psychotherapy
Consulting psychiatrist: on- or off-site psychiatry consultant who works with the medical team, principally through the mental health care manager, to provide consultation, education, direct patient care, and service oversight

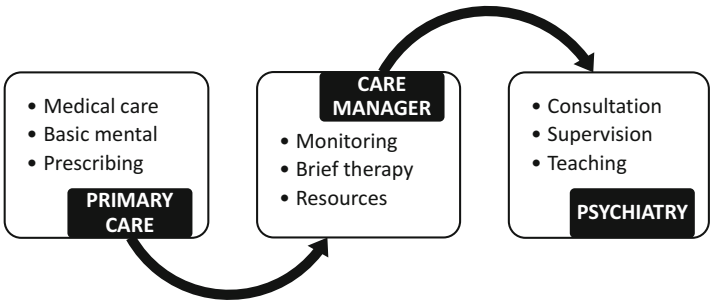

Fig. 3 Roles on the integrated team

shared, but their proportion of time with any component of the team is based on their particular mental, physical, and social needs (Table 5). The Mental health care manager (MHCM), also known as a behavioral health care manager or just "care manager," is a core concept in this model. This role can be taken by a medical assistant, counselor, social worker, psychologist, or psychiatric nurse. The care manager is embedded in the primary care clinic, where they coordinate the medical

Table 5 Roles on the integrated mental health/integrated care team

Primary care provider	*Complex biological problems, mild-moderate psychosocial*
Traditional primary care and prevention	
Focused mental health history from outlines	
Writing psychiatric meds from algorithms, and adjusting if not responding	
Providing basic medical and mental health education/resources	
Consulting care manager or psychiatrist if case is complex or initial treatment fails	
Mental health care manager	*Complex social problems, mild-moderate biopsychological*
Patient education/resources/linkage	
Supporting medications written by primary care	
Evidence-based brief counseling/therapy	
Tracking behavioral health symptoms	
Relapse prevention plan when patients have improved	
Reporting to provider when patients fail to improve	
Consulting psychiatrist	*Complex psychological problem, mild-moderate biosocial*
Program support, oversight, and evaluation	
Clinical supervision to care manager	
Ongoing training of primary care providers in psychiatry	
Consulting with primary care and care manager	
Consulting or co-following with primary care only after initial treatment attempts fail	
Direct patient consultation to most complex/difficult patients ($\leq$10%)	

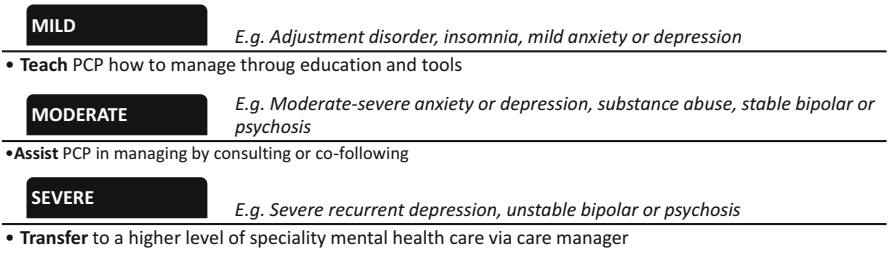

Fig. 4 Integrated team role by acuity

and mental health care providers, perform brief case management, and administer brief psychotherapy. As acuity increases, the IMH team takes an increasingly dominant role in patient care (Fig. 4). This allows for the PCP to continue seeing patients while the more complex, and time consuming, mental health needs are addressed.

Levels of Integration

While the AHRQ consensus panel provided much-needed agreement as to the functions and supports necessary for "true integration," the reality is that many attempts at integrated behavioral health care fall short of this ideal. In fact, most attempts at integration start as something less than full integration and only achieve

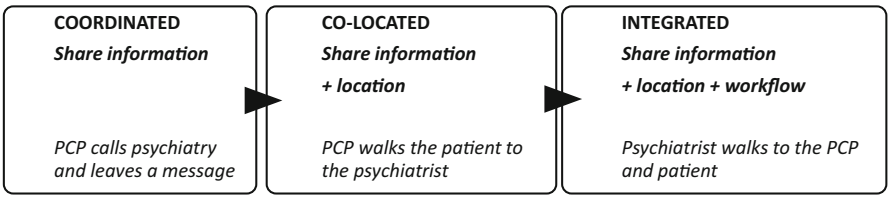

Fig. 5 Levels of mental health integration. *PCP* primary care provider

ideal integration with considerable time and effort. In a 1996 article, Doherty et al. (1996) proposed five levels of integration of mental health services into primary care. However, since that article, there have been many different adaptations that seem to conflict with each other to some extent. Heath et al. (2013) have proposed a standard framework for levels of integrated healthcare that realistically describe the continuum, recognize the merits of each level, and challenge health systems to aspire to higher levels of integration, whenever possible (Leigh and Streltzer 2015; Fig. 5).

Coordinated Care:

Level 1: *Minimal Collaboration*: Behavioral health and primary care providers work at separate facilities, have separate systems, and rarely communicate. When attempts at communication do occur, they are usually based on a particular provider's need for specific information about a mutual patient. Many referrals between practices are unsuccessful. This is the system historically, and currently, present in most private medical and psychiatric offices.

Level 2: *Basic Collaboration at a Distance*: Behavioral health and primary care providers maintain separate facilities and systems, but view each other as resources and communicate periodically about shared patients. Behavioral health is viewed as specialty care. Referrals between practices may or may not be routinely successful.

Colocated Care:

Level 3: *Basic Collaboration Onsite*: Behavioral health and primary care providers are colocated in the same facility but may or may not share the same practice space. Providers still use separate systems, but communication becomes more regular due to close proximity. Referrals usually still occur at this level but have a higher likelihood of success because of proximity. Providers may feel like they are part of a larger team, but the team and how it operates are not clearly defined, leaving most decisions about patient care to be done independently by individual providers. In some cases, this can lead to the illusion of integration, without many of the benefits. This is the system in place in some large organizations like Kaiser Permanente (https://healthy.kaiserpermanente.org), the Veteran's Administration (VA) (www.va.gov), and many teaching hospitals. Movement is steady towards at least this level of coordination in many large organizations.

Level 4: *Close Collaboration with Some System Integration*: There is closer collaboration among primary care and behavioral healthcare providers due to colocation, and there is the beginning of integration in care through some shared systems. A typical model may involve an embedded behavioral health practice, where the primary care front desk schedules all appointments and the behavioral health provider has access and enters notes in the medical record. As professionals have more opportunity to share patients, they have a better basic understanding of each other's roles. Some of the more progressive Kaiser and VA services are functioning at this level.

Integrated Care:

Level 5: *Close Collaboration Approaching an Integrated Practice*: There are high levels of collaboration and integration of behavioral and primary care providers. This system begins to function as a true team, with frequent personal communication. The team actively seeks system solutions as they recognize barriers to care integration for a broader range of patients. Some issues may not be readily resolved, but providers understand the different roles team members need to play and they have started to change their practice and the structure of care to better achieve patient goals.

Level 6: *Full Collaboration in a Transformed/Merged Practice*: The highest level of integration involves the greatest amount of practice change. Extensive collaboration between providers has allowed old system cultures to blur into a single merged practice. Providers and patients view the operation as a single health system treating the whole person, and this "whole person" principle is applied to all patients, not just targeted groups (Heath et al. 2013). This is the least common level of care and is seen in centers that have focused on improving health care delivery like Yale, UC Davis, UCSF-Fresno, the University of Washington, and the various sites involved in the IMPACT study.

Is Integrated Care Effective?

Integrated care has consistently demonstrated excellent results in a variety of settings in both the improvement of mental health and substance abuse outcomes, but also medical illnesses as well. An analysis of 37 randomized studies of integrated mental health in the United Kingdom found significantly improved outcomes at 6 months, and evidence of longer-term benefit for up to 5 years (Gilbody et al. 2006). Integrated and collaborative care has now been tested in more than 80 randomized, controlled trials. It leads to better patient outcomes, patient/provider satisfaction, and reduction in cost, achieving the "Triple Aim" of health care reform (Unützer 2014). The IMPACT model of depression care, described above, is one of the most cited successes for the integration of mental health care in to the primary care setting. In this 1998–2003 study, the care model is shown to more than double the effectiveness of depression treatment in primary care, with a decrease in cost by half. At 12 months,

Table 6 Seven components of integrated care

1. *Patient identification and diagnosis* Screen, diagnose, assess, and document using validated tools
2. *Engagement in integrated care program* Introduce collaborative team, and track patients using a registry
3. *Evidence-based treatment* Problem specific treatment, education, psychotropic medications, and therapy
4. *Systematic follow-up* Monitor response and side effects, reaching out to patients as needed
5. *Communication and care coordination* Engage family, coordinate providers, and facilitate referrals
6. *Systematic case review and consultation* Psychiatric caseload review, and increased care for challenging patients
7. *Program oversight and quality improvement* Administrative and clinical support, outcomes tracking, and incentivized pay

Adapted from AIMS (2014)

about half of the patients receiving IMPACT care reported at least a 50% reduction in depressive symptoms, compared with only 19% in the usual care. The IMPACT patients experienced more than 100 additional depression-free days over a 2-year period than those treated in usual care. Furthermore, even 1 year after the program was discontinued, benefits of the intervention persisted (Unützer et al. 2002). Additionally, adding integrated services added $250 per patient to overall costs but saved $500 in additional medical costs (Katon 1996). The integrated approach seems to work with patients of all ages. Results suggest that reductions in drinking can also be achieved (Table 6).

Other conditions, such as somatization, are earlier on the research trajectory. The potential for other mental health conditions, such as PTSD, have yet to be systematically studied, but early results appear promising (Butler et al. 2008). The new delivery method also shows benefits for severely depressed patients with suicidal ideation who are seen more quickly and delivered to more acute care in a timelier fashion (Kripalani et al. 2010). Another program was completed in 2006 in Texas through St. David's Community Health Foundation, at People's Community Clinic and Lone Star Circle of Care (Leigh and Streltzer 2015). Both clinics provide primary care to "safety-net" populations. Again, an improvement is seen in 58% of patients, who experienced a 50% or greater reduction in their depression scores. This outcome far exceeds the 28% estimates for what was expected with usual care alone and even exceeded the 40% goals for collaborative care. Additionally, emergency room and primary care provider visits declined significantly in the follow-up period, shifting integrated care patients from "heavy" to "average" utilizers. Globally, the patients report significantly better overall health, less pain, and more energy.

Whereas it has been amply demonstrated that integrated and collaborative care is effective, it must be demonstrated that each individual program is so. Intrinsic to this type of work is the need for personalization, evaluation, and quality improvement. In order to determine whether a particular program is effective, defined metrics are

Fig. 6 Overlap of skillsets in integrated care

required. For an IMPACT model integrated mental health service, there are a set of 57 different markers that can be evaluated. Many of these align with the agreed upon components of care required to define a true IMH service (Fig. 6). These fidelity measures are used to determine how close the program adheres to the original model as well as help create benchmarks to determine implementation and success in reaching goals:

Depression Screening: 75% of patients will have documentation of annual screening for depression with the PHQ-2 or similar screening measure

Diagnosis: 75% of patients who have a positive screen will receive a structured depression assessment (e.g., PHQ-9) to help confirm a diagnosis of depression within 4 weeks of screening

Initiation of Treatment: 75% of patients diagnosed with depression will have initiated treatment (antidepressant medication, psychotherapy, or ECT) or attended a mental health specialty visit within 4 weeks of initial diagnosis

Measurement of Treatment Outcomes: 75% of patients treated for depression will receive a structured clinical assessment (i.e., PHQ-9) of depression severity at:
Baseline: within 2 weeks prior or after treatment initiation
Follow-up: within 8–12 weeks following treatment initiation
Continuation: within 3–6 months following treatment initiation

Adjustment of Treatment Based on Outcomes: 75% of patients treated for depression with a PHQ-9 score of $\geq$10 at follow-up will receive an adjustment to their depression treatment (e.g., change in antidepressant medication or psychotherapy) or attend a mental health specialty consult within 8–12 weeks of initiating treatment

Symptom Reduction: 50% of patients treated for depression will have a decrease of >50% in depression symptom levels from baseline as measured by the PHQ-9 or similar quantifiable measure and a PHQ-9 score <10 within 6 months of initiating treatment

Part 3: Training the Physician Workforce

Educating our physician workforce has always been a struggle. There have never, and will never, be enough highly educated practitioners to care for the worlds ill. As discussed, there is nowhere where this is truer than in mental health and primary care. Although far more dramatic in developing nations, the shortages are present even in the wealthiest industrialized nations. Although, it is in countries like the

United States and Great Britain where many of the books are written with which the world is educated. The following is only a partial list of textbooks published on primary care psychiatry in the last 40 years by date, county, and publisher:

1981: Behavioral Problems in Childhood: A Primary Care Approach (Grune & Stratton/Australia)
1989: Patient, Physician, Psychiatrist: Assessment of Mental Health Problems in Primary Care (Drukkerij Van Denderen/Netherlands)
2003: Where There Is No Psychiatrist: A Mental Health Care Manual (RCPsych Publications/Great Britain)
2003: Massachusetts General Hospital Guide to Primary Care Psychiatry, Second Edition (McGraw-Hill Professional/U.S.A)
2004: Ten Minutes for the Family: Systemic Interventions in Primary Care 1st Edition (Routledge/Great Britain)
2004: WHO Guide to Mental and Neurological Health in Primary Care (CRC Press/Great Britain)
2004: Psychiatry for Primary Care Physicians 2nd Edition (American Medical Association Press/U.S.A)
2007: Psychiatry Essentials for Primary Care 1st Edition (American College of Physicians/U.S.A.)
2009: Primary Care Mental Health 1st Edition (RCPsych Publications/Great Britain)
2009: The Primary Care Toolkit: Practical Resources for the Integrated Behavioral Care Provider 2009th Edition (Springer/U.S.A.)
2009: Lippincott's Primary Care Psychiatry (LWW Publishing/US.A.)
2011: Psychiatry in Primary Care: A Concise Canadian Pocket Guide (Centre for Addiction and Mental Health/Canada)
2017: Integrating Behavioral Health and Primary Care 1st Edition (Oxford University Press/Great Britain)
2017: Mental Disorders in Primary Care: A Guide to Their Evaluation and Management (Oxford University Press/Great Britain)

Training Primary Care Residents in Psychiatry

For decades, the primary workforce for the most severely and chronically ill patients in the United States, and elsewhere, has been the medical trainees: medical students, residents, and fellows. These residents, so called because in yesteryear "resided" in the hospital, work long hours for 3–10 years with the most disadvantaged and afflicted populations while learning the trade of medicine. What this translates to is the residents managing the bulk of the medical and psychiatric care for the uninsured, undocumented, and government-funded populations. This patient population, more than any other, demonstrates the highest rates of physical, mental, and substance use disorders. They are large in number and often fundamentally lacking in inner/emotional, or external/economic, resources to support their general well-being and medical care.

Historically, the primary care and obstetrics and gynecology (OBGYN) trainee has been trained by organized organ and disease specific lectures, focusing on form, function, and dysfunction of each system. Where this works well for understanding the pathology of a particular organ, such as the kidney or heart, it does not address the more global issues around the higher order problems that might be at play. Just as an organ disease can be diagnosed and treated, so can diseases of the organism, society, and population be diagnosed and treated. And, by treating early, broadly, and equally, diseases at any level can be addressed. An educated, housed, supported, and productive member of society is less likely to abuse drugs and alcohol, ignore health-related behaviors, and will seek treatment early in the course of illness. What this means for primary care providers is that they need a much better education in prevention rooted in health behavior. They need more education in mental health and substance use disorders, as it is these that lead to the difficult to treat illnesses that plague Western society: obesity, diabetes, hypertension, heart attack, stroke, cancer, and suicide. The task is to teach primary care providers how to see their patients as more than a collection of diseased organs and to understand that managing their motivation, education, and cooperation is more important than waiting for their organs to fail. This is where the emerging field of primary care psychiatry fits in.

In order to move the health system forward, a new approach to care delivery must be put into place. An enhancement is needed of the already mandated training for family practice and pediatric physicians, and the establishment of a new educational requirement in internal medicine and OBGYN. The Accreditation Counsel for Graduate Medical Education (ACGME), which guides medical resident training, is currently revising requirements in psychiatry to better address these discrepancies, but this has not yet been embraced as robustly by other specialties. That being said, several governing organizational bodies, like the American Psychiatric Association (APA) and Association for Medicine and Psychiatry (AMP), have begun work in earnest to develop mass training for these new modes of care delivery and integration of skills. Although there are many dual-degree programs currently in the United States, to be discussed later, there are only a small handful of academic centers at the forefront of integrated mental health and collaborative care skills training.

In 2006, Dr. Hoyle Leigh surveyed 1365 directors of accredited residency training programs in a broad range of medical specialties (Leigh et al. 2006). A majority of the programs were very dissatisfied with the quality of their behavioral health training. The dissatisfaction rates for OBGYN, Internal Medicine, Pediatrics, and Family Medicine were 92%, 71%, 85%, and 41%, respectively. In 2014, a group from Michigan State University (MSU) proposed a possible model for training medical residents in mental health (Smith 2014). They described that a "quantum change" was necessary in the way doctors are educated. The idea was to find a way to educate medical residents in mental health during all 4 years of their education so that they would be adequately prepared to address the psychosocial needs of their patients after graduation. Their program began with a 1-month psychosocial rotation focused almost exclusively on interviewing techniques. The program was expanded by teaching learners to triage the psychosocial needs of patients ranging from "non-distressed" to "moderately to severely stressed." These ideas cover the broad range

from normal treatment adherence and health concerns to major depression, panic disorder, and psychosis. The team sites the rich literature collected by the Society of Teachers of Family Medicine (STFM) and The World Organization of Family Doctors (WONCA). The expanded curriculum builds on a successful program in Germany where residents spend up to 80 hours per year focused on mental health training. The subjects from the German study were cognitive-behavioral treatment, personal awareness, medically unexplained symptoms, and mental health conditions. The four-step model used at MSU involved diagnosis and doctor-patient relationship, basic treatment principles, mental health care, and personal awareness. These skills are learned and practiced both in a classroom setting, but also in special mental health clinics in the same primary care sites where the learners see their regular patients.

Two interrelated training programs in primary care psychiatry currently exist at the University of California at Davis (UCD) (www.ucdmc.ucdavis.edu/psychiatry/), in Sacramento, and the affiliated University of California at San Francisco Fresno Medical Education Program (UCSF Fresno) (www.fresno.ucsf.edu/psychiatry/) in Central California. At Davis, the Train New Trainers (TNT) Primary Care Psychiatry Fellowship was begun, and in Fresno, an IMPACT model clinic paired with a TNT training program for family medicine residents. In the last few years, the AIMS center has also allied with the APA and several academic institutions to begin training a generation of providers in this new and effective methodology. The University of Washington offers the first ever integrated mental health fellowship for psychiatrists.

Advanced Mental Health Training in Family Medicine Residency

Many family medicine residents have specific training programs allowing for enhanced training in certain areas of interest within the breadth of family medicine. This can be done in one of three ways: area of concentration, specialty track, or fellowship. These are of increasing intensity and organizational formality. An Areas of Concentration (AOC) provides a common framework around which residents, program directors, and faculty may design additional training that is above and beyond the core training in family medicine. An AOC is a program designed for an individual resident and should not be confused with a "Focused Program" or "Track." An example of a university that offers multiple AOCs is the University of Pittsburg (http://stmargarets.familymedicine.pitt.edu/). There they offer an AOC program in sports medicine, geriatrics, international health, academic leadership, OB/women's health, hospitalist medicine, and behavioral health. UCSF Fresno (www.frenso.ucsf.edu) began offering a 200-hour AOC in primary care psychiatry in 2017, in conjunction with the Davis TNT Fellowship. The participants follow the fellowship curriculum, but with additional weekly supervision, a scholarly project, and at least one 1-month long elective in primary care psychiatry. Each AOC is, by definition, individually designed to fit the needs of the particular resident.

Middlesex Hospital Family Medicine Residency Program (http://middlesexfmrp.org/about-the-program/tracks-of-excellence) in Middletown, Connecticut, offers what they title "Tracks of Excellence." These are offered in maternal/child, palliative medicine/geriatric, global and community health, integrative medicine, academic and leadership, hospitalist, and behavioral medicine tracks. The Medical University of South Carolina Department of Family Medicine (http://academicdepartments.musc.edu/family_medicine) offers seven unique training tracks including academic medicine, geriatrics, global health, hospitalists, sports medicine, women's health, and behavioral medicine. The University of Minnesota (http://familymedicine.umn.edu/education-training/fellowships) offers a unique primary care behavioral health fellowship, which provides 2 years of training on the integration of behavioral health and primary care. The fellowship prepares fellows to provide integrated behavioral health services within primary care setting.

UCSF Fresno Training Program

The UCSF Fresno Departments of Psychiatry (www.fresno.ucsf.edu/psychiatry) and Family Medicine (www.fresno.ucsf.edu/family-and-community-medicine/) now offer extensive training in mental health with an intensive AOC program in primary care psychiatry. This program began in 2013 with the creation of the integrated mental health service. The care delivery was modelled on the IMPACT program from UW, including the use of screening, stepped care, and the addition of a care manager and consulting psychiatrist. The primary care psychiatry training program was based loosely on the Lippincott text of the same name, and then later modified to include components of the TNT program. In the first 18 months of the program PHQ-9 scores decreased by 36% in all clinics (family, medicine, pediatrics, and OBGYN), and by 62% in family medicine (Hersevoort 2015). After 3 years, the family medicine residents saw a 50% increase in their examination scores in behavioral health (Hersevoort 2016).

The content of the program mirrors the UC Davis TNT program and is composed of a combination of didactic trainings, tailored texts and treatment tools, and scheduled supervision to discuss clinical material. Whereas the Fresno program has less didactic time, it is a much larger experiential clinical experience which is spread across the medical student, primary care, and psychiatry resident training. In addition to the teaching and mentorship, the residents have the opportunity to call (in real time) on the consulting psychiatrist and care manager. They also rotate formally through the integrated mental health clinic within their department. This means that the residents in family medicine, internal medicine, pediatrics, and OBGYN can actually phone the mental health team and receive advice during their routine care of patients. Simpler cases can be managed on the phone, but more complex cases may need an immediate consultation for safety, medication, psychotherapy, or case management.

The formal rotation includes patients that are being co-followed by the integrated mental health service and have either been referred from a brief encounter or have

been evaluated in clinic prior. These patients have mental health needs that have been deemed to be too difficult to manage from a distance or by phone and yet not so severe that that they cannot be managed in a primary care setting. These training teams typically consist of one psychiatry attending, one senior level psychiatry resident, a medical student, and one or two primary care residents in their first or second year of training. The trainees use a structured interview tool to prepare the case for brief formal presentation before seeing the patient on their own. During pre-rounds, the team can make recommendations on aspects of the interview to focus on and consider possible obstacles, as well as directions for possible treatment based on the chart review. The trainees will then see the patient on their own, or with another more senior trainee, and present their findings to the team. After another brief discussion and highlighting what was learned, the plan is enacted and the attending and trainee provide the patient with prescriptions, educational handouts, therapy referrals, and often other medical referrals.

The result of this collaboration is better care with better outcomes. Illnesses that were thought to be psychological by the primary care doctor can sometimes turn out to be medical. Major overlap in symptoms such as pain, sleep, and daytime sedation are treated. Streamlining of medications is also a possibility when you have experts from two fields actively involved. "Many birds with one stone" is a motto of the service. With a fragmented system involving multiple specialties, a patient might be on a sleep aide, an antihypertensive, and an anxiolytic for PTSD, whereas an alpha blocker like prazosin might treat all three. Another important collaborative care strategy is for the treatment of chronic pain. A medication like gabapentin can be used for not only neuropathic pain but also for anxiety, sleep, restless legs, tremor, and alcohol craving. Under the right circumstances, a medication like venlafaxine can treat anxiety, depression, neuropathic pain, hot flashes, ADHD, and migraines. Unfortunately, there is the dark side of this principle where something like a tricyclic antidepressant (e.g., amitriptyline) can be used for anxiety, depression, pain, and sleep but with the possibility of daytime sedation, constipation, weight gain, arrhythmia, and even death in overdose. Thus, not only the training, but also the supervision is needed.

Another emergent property that occurs in the integrated primary care clinic setting is that of cultural enrichment. Primary care residents trained in these settings begin their practice of outpatient medicine in a context where they are not only familiar with, but skilled in, this model. They gain mastery over the use of mental health screening tools, care managers, and psychiatry in situ rather than at the other end of a blind referral. These providers will move into practice better trained and expecting a system of better and more complete care than in generations past. They will be less willing to tolerate the fragmented practice of medicine and become champions of improved care delivery and training. Even more powerful is the experience of the medical student. For them, their first experience of care will be from a multispecialty/multidisciplinary team, all working together to monitor and manage the patient's complete care. The UCSF Fresno program hosts two innovative longitudinal teaching programs including the Longitudinal Integrated Fresno Experience (LIFE) program (http://www.fresno.ucsf.edu/medical-student-programs/life-program/) with

UC San Francisco, and the UC Merced San Joaquin Valley Programs in Medical Education (PRIME) (www.ucdmc.ucdavis.edu/mdprogram/sjvprime/) in collaboration with UC Davis. These students may, in the same week, see the same patient through the four different lenses of family medicine, internal medicine, neurology, and psychiatry.

LIFE and PRIME Programs

The LIFE program is a fully integrated 6 month clinical clerkship provided for UCSF medical students in their third year. The goal of the program is to provide medical students with educational experiences which adapt to the changing healthcare delivery systems, underserved populations, evolving health information systems, and increase focus on patient-centered illness models. This clerkship was designed to address the core competencies for family and community medicine, internal medicine, neurology, and psychiatry. The overarching goal of the program is to expose students to the unique blend of rural and urban underserved patient population that exists in the Central Valley of California. The students will be expected to gain an appreciation of the socioeconomic diversity of the area and the impact this can have on health care delivery.

The San Joaquin Valley PRIME initiative is a collaboration between UC Davis School of Medicine, UCSF Fresno, and UC Merced, to train the next generation of San Joaquin Valley physicians. It is the latest addition to the University of California's innovative programs to increase the diversity of the medical profession and remedy the uneven distribution of physicians in California. PRIME focuses on meeting the needs of distinct regions or populations through specialized coursework, structured clinical experiences and clinical training under the supervision of experienced local practitioners. Graduates of PRIME gain the knowledge and understanding needed to effectively guide health policies and become community leaders. They will go on to become important patient advocates, technologically adept clinicians and life-long learners. Graduates also will enhance the health of their communities by increasing access to clinical care and improving quality of care. Other PRIME programs are in place at Universities of California at Irvine, Los Angeles, and San Diego.

Train New Trainers Primary Care Psychiatry Fellowship

The TNT program began in 2016 at UCD and expanded in 2017 to UC Irvine (UCI). The goal of the program is to train providers already in practice, who may not have benefited by the recent advances in educational curriculum. The program is an intensive year-long clinical education certificate program for primary care trainees and providers (e.g., internal medicine, family medicine, emergency medicine, neurology, physician assistant, nurse practitioner, psychiatric nursing) who wish to receive advanced training in psychiatry. The primary goal of the fellowship is to

provide teaching and mentorship in the area of primary care psychiatry. Trainees will learn how to complete an efficient psychiatric interview in the busy primary care or medical setting. They will also be trained to effectively diagnose and treat commonly encountered psychiatric conditions such as: mood, anxiety, psychotic, and substance use disorders. Most importantly, these trainees will learn how to teach these principles to their primary care colleagues.

The fellowship is the first in the world to provide intensive, yearlong training in primary care psychiatry. It fits well with UC Davis' strong tradition of linking psychiatry and primary care in medical education, including two combined residency programs: one in internal medicine and psychiatry and the other in family medicine and psychiatry. The program offers a recipe to follow for medical schools and residencies throughout the USA and the world. The faculty is uniquely and completely composed of either dual-boarded physicians, or psychiatrists who work full time at the interface of medicine in psychiatry in integrated, collaborative care, or in psychosomatic medicine services.

Through more than 50 hours of individualized case-based mentorship and classroom teaching and discussions, dozens of physicians, nurse practitioners, and physician assistants are learning to conduct psychiatric interviews and then diagnose and treat mood, anxiety, psychotic, and substance misuse disorders. They also gain insight for knowing when to proceed with treatment and when a psychiatric referral is essential, such as a case of schizophrenia or high suicide risk. The curriculum includes:

- Two multi-day conferences
- Twice per month (live) case-based discussions and patient interviews with a focus on integrated primary care psychiatry
- At least 1 hour per month of individualized (in person or teleconferenced) mentoring sessions with a faculty member
- A minimum of 40 hours of continuing medical education will be included as part of the fellowship tuition

Classes begin in January and coincide with the first weekend conference. The second weekend learning session will take place in the early fall. The first weekend session is held concurrently with a Primary Care Psychiatry Update CME conference, which is open to the public and co-sponsored by the California Psychiatric Association. Registration for both learning sessions is covered as part of the fellowship tuition. TNT fellows takes part in some of this larger conference but will also use meeting space to have small group supervision with faculty. The first conference is a crash course in mental health skills and the second conference is a mid-year augmentation of skills already learned that includes motivational interviewing, behavioral activation, and brief cognitive behavioral therapy as applied to the primary care setting. The second conference is mostly interactive giving the fellows larger roles in the teaching and learning process.

The TNT curriculum was developed by the UC Davis family medicine, internal medicine, and psychiatry faculty. The primary text for the fellowship and conference

is Lippincott's Primary Care Psychiatry. This text, which is part of the Primary Care Series, helps family practitioners, internists, nurse practitioners, physician assistants, and mental health practitioners understand, diagnose, and effectively treat the most common psychiatric problems seen in the primary care office setting. The text contains chapters on depression, anxiety, psychosis, substance disorders, eating disorders, personality disorders, and unexplained physical symptoms. Other special topics such as geriatric psychiatry, sleep disorders, suicide, and violence risk assessment, and cultural considerations are also included. Pre, midpoint, and post-testing will be used to measure changes in practice patterns and general knowledge in primary care psychiatry. Upon completion of this training, fellows will receive a certificate of completion from the UC Davis Department of Psychiatry and Behavioral Science. To date, the fellowship and conferences, the TNT program has trained more than 300 primary care providers in the fundamentals of primary care psychiatry and it continues to grow.

Training Psychiatry Residents in Collaborative and Primary Care Skills

Collaborative Care Skills

Like the training of primary care residents in collaborative care, the training of psychiatry residents is also in early stages. A report by the APA in 2015 discussed the state of training for medical students and psychiatry residents and recognized that there is little direct experience for medical students in this emerging field (APA 2015). Some notable exceptions are the longitudinal training programs discussed above, which will follow patients through many different specialties but not always in fully integrated clinics. Other programs offer brief electives. Psychiatry residencies, on the other hand, are further along. According to the study, there are high rates of integrated care rotations available, although primary as electives for senior residents. Many of these rotations are located with The Veteran's Administration (VA) and Federally Qualified Health Centers (FQHCs). Less than half of the respondents offered didactics (Reardon et al. 2015).

A study by Anna Ratzliff and Jurgen Unützer examines the educational needs of the integrated care psychiatrist in teaching the skills they practice. They describe three primary roles of these providers: clinical consultant, clinical educator, and a clinical team leader. This education primarily includes teaching during clinical consultations but can also include handouts, scheduled trainings, and educational meetings (Ratzliff et al. 2015). This highlights the need for both formal didactics in medical and primary care education and clinical training experiences for psychiatry residents. There also appears to be a divide in how different subjects are covered based on the overlap of skills involved (Fig. 6). For instance, common mental disorders like depression and anxiety can be addressed by all integrated team members including the primary care provider, psychiatric consultant, and care manager. More specialized issues like dementia, traumatic brain injury, and medical monitoring of risk factors are better managed by the physician teams. More specialty

mental health disorders like bipolar, psychosis, and personality disorders are better managed by the mental health providers.

Two somewhat different training programs in primary and collaborative care skills for the psychiatrist currently exist. These are the UW Integrated Mental Health Fellowship and the UC Davis Integrated Medicine and Psychiatry (IMAP) curriculum. Washington has the distinction of hosting the Advancing Integrated Mental Health Solutions (AIMS) center, where the IMPACT study was done. Due to the current overwhelming need to train physicians in the leadership and development of the system of care, this fellowship is focused on research and systems development. "The Integrated Care Fellowship offered at the University of Washington Department of Psychiatry and Behavioral Sciences is a unique opportunity to learn how to provide integrated care through the delivery of consultation to non-mental health settings (such as primary care), provision of tele-psychiatry, and leadership to improve systems of care" (Integrated Care Fellowship 2016).

This fellowship offers five positions per year, including a combination of clinical experiences, training in integrated care implementation, and integrated care scholarship. The fellowship is focused on developing both clinical and leadership skills to deliver population mental health, in contrast to the classic individual approach of medicine. Furthermore, there is an emphasis on how to leverage psychiatric expertise through working with other providers in both multilevel and specialty teams. Fellows will have the opportunity to develop integrated mental health services and also work in community mental health settings, delivering and/or developing systems to provide primary medical care. The 1-year fellowship includes a combination of clinical experiences, training in integrated care implementation, and integrated care scholarship.

Another extremely forward-thinking program has been developed at Yale University, by Doctors Barkil-Oteo and Huang. Their report titled "Teaching Collaborative Care in Non-Collaborative Settings" outlines a detailed didactic curriculum which is now available on the AADPRT website (Barkil-Oteo et al. 2015). This curriculum has been paired with the collaborative care education program from UW to create an even more robust package. This combination is especially useful for programs without integrated care clinics yet available. To help further define the educational goals in the field, the faculty from the AIMS Center highlighted the new integrated mental health and collaborative care milestones at the 2015 AADPRT meeting. These include:

- Devises individualized treatment plan for complex presentations
- Integrates multiple modalities and providers in comprehensive approach
- Supervises treatment planning of other learners and multidisciplinary providers
- Shows knowledge sufficient to identify and treat a wide range of psychiatric conditions in patients with medical disorders
- Demonstrates sufficient knowledge to systematically screen for, evaluate, and diagnose common medical conditions in psychiatric patients and to ensure appropriate further evaluation and treatment of these conditions in collaboration with other medical providers

- Discusses methods for integrating mental health and medical care in treatment planning
- Provides integrated care for psychiatric patients through collaboration with other physicians
- Leads a multidisciplinary care team
- Demonstrates effective verbal communication with patients, families, colleagues, and other health care providers that is appropriate, efficient, concise, and pertinent
- Demonstrates written communication with patients, families, colleagues, and other health care providers that is appropriate, efficient, concise, and pertinent

Primary Care Skills

Several different large programs have taken steps to strengthen the primary care skills of their psychiatric physicians. One notable example is the VA Psychiatry Primary Care Education (PsyPCE) program which embeds primary care teams in the psychiatric services in order to consult and teach (Badre et al. 2015). Another program in development is through thought leaders in the Association of Medicine and Psychiatry (AMP) at the Universities of California at Davis, San Francisco, and San Diego, with Washington, Rush, and Duke. This is made up of the IMAP curriculum and the Preventive Medical Care in Psychiatry text (McCarron et al. 2014). This program was developed in order to address the severe medical risks in patients who are identified as having mental health problems. Both a published sample curriculum and a text and study guide in preventive medicine for psychiatrists have been developed. The reasoning behind this training is the increased morbidity of patients with psychiatric illness by non-psychiatric illness. In a 17-years study of over 80,000 patients, it was found that patients with any mental illness died 8.2 years earlier that those without, and 20–30 years earlier with severe mental illness, particularly those with comorbid substance use disorders (Parks et al. 2018). These factors were determined to be primarily due to socioeconomic factors including a higher proportion of chronic health conditions and poorer access to preventive medical services.

There is clear and convincing evidence of metabolic risk in antipsychotic use and agreed upon guidelines for monitoring, yet few providers are consistently screening. Although there is some evidence that electronic solutions, like best practice prompts, may improve rates, a deeper solution is needed. This involves maintaining at least a minimum of primary care skills in psychiatric providers and moving some of the monitoring of preventable chronic illness into the mental health practice and hospital. If vital signs are taken consistently and labs ordered promptly, we will need providers that feel comfortable interpreting them and intervening. This type of care is part of "reverse integration" and focuses on the delivery medical care to psychiatry patients and is suggested to cover all 4 years of residency. This IMAP curriculum, designed in large part at UC Davis, builds from the idea that psychiatry residents do not have adequate training in general medicine to care for the needs of their patients if they arise (McCarron et al. 2015, Table 7). With the host of medical issues in

Table 7 Suggested IMAP curriculum

PGY-2
Overview of preventive medicine aspects of psychiatric care
Cardiopulmonary disorders
Endocrine/metabolic disorders
Infectious disorders
Oncologic disorders
Geriatrics
Pain medicine
PGY-3
Overview of mental health disparities and increased morbidity
Learn how to provide patient-centered care
Introduction to integrated and collaborative mental health care
Motivational interviewing in a collaborative setting
Brief psychotherapies: cognitive behavioral therapy, problem solving therapy, and supportive psychotherapy
PGY-4
Longitudinal learning in preventive medicine
Teaching and providing consultation to colleagues
Team-based learning (case-based)
Fundamentals of health behavioral change
Learning skills in advocacy for those with mental illness and comorbid health conditions

Adapted from McCarron et al. (2015)
PGY postgraduate year

mental health patients, this is less than ideal for patients that are less likely to seek out medical care on their own. Basic concepts of medical screening, behavioral change with motivational interviewing (MI), and basic chronic disease management are greatly needed. Just as a collaborative care clinic might expect the primary care doctor to screen for and treat depression, the same might be said for a psychiatrist in reverse. Initial management of hypertension, diabetes, high cholesterol, or smoking or alcohol cessation should not be outside the abilities of mental health providers. A psychiatrist should, of course, not be expected to manage persistent or severe medical illness, just as an internist would not be expected to manage persistent severe depression, bipolar, or schizophrenia. The authors propose the following recommendations for IMAP faculty development when combined-trained faculty members are not available:

- Encourage the incorporation of brief psychotherapies and motivational interviewing with most of the didactics
- Consider inviting non-psychiatry faculty members from internal medicine, family medicine, pediatrics, and obstetrics-gynecology to discuss general medical topics
- When possible, co-presenting cases with non-psychiatry faculty is ideal

- Choose course organizers with a high level of familiarity about the IMAP curriculum and mentor other faculty who wish to learn this content
- Use existing curriculum, as outlined in this article, as an educational supplement

The text to accompany the curriculum is Preventive Medical Care in Psychiatry. This is a practical guide for clinicians written for psychiatrists in training and in clinical practice, as well as other health care providers who wish to learn an evidence-based and user-friendly approach to prevent commonly encountered illnesses in their patients. The book is easy to use, with sections devoted to general principles of preventive psychiatry, cardiovascular and pulmonary, endocrine and metabolic, infectious, and oncologic disorders. It provides evidence-based approaches to care across the prevention spectrum, from primary prevention (how to keep people healthy) to secondary prevention (how to detect early signs of common illnesses), through tertiary prevention (how to prevent disability and adverse outcomes once patients develop medical problems). An example is below for diabetes mellitus screening and treatment:

- **Screen**: Yearly hemoglobin A1c (HAIc) after 45, or with body mass index of >25 and risk factors
- **Target**: Ideal = HA1c < 6, treatment goal = <7
- **Behavior**: Structured program in diet and exercise
- **Medications**: Metformin 500 twice daily for 1 week then 1000 twice daily
- **Side effects and risks**: Diarrhea or nausea (mostly in first week), do not use in renal disease or pregnancy

Training Dual-Degree Residents in Education and Leadership

Developing faculty to teach the IMAP curriculum can be challenging because of the overlap between general medicine and psychiatry. Combined-trained, double-board, or triple-board certified physicians in family medicine-psychiatry, internal medicine-psychiatry, neurology-psychiatry, or pediatrics-psychiatry-child psychiatry represent a unique and highly trained physician force (McCarron 2016). Unfortunately, there is a very limited number of combined-training programs and graduates to meet this need. Thankfully, a multi-year moratorium on the creation of new combined-specialty residencies has now ended, allowing for more of these uniquely important programs. In the last year, several new programs have begun, while others have closed. Although 95% of collaborative care is currently taught by categorical psychiatrists, there are clear roles for other physicians as well. Up to 18% of supervision was being done by dually-trained physicians in 2015 according to Barkil-Oteo presenting at AADPRT. This role is ideal for them, as they are literally boarded in both specialties and can teach and see patients in both capacities.

UC Davis Combined Internal Medicine-Psychiatry Residency Training Program

There are currently 13 combined medicine-psychiatry residency training programs in the United States which can be assessed through the AMP website (http://assocmedpsych.org/studentstrainees/residency-programs/):

- Charleston Area Medical Center/West Virginia University
- Duke University Medical Center
- Emory University
- Medical University of South Carolina
- Southern Illinois University
- National Capital Consortium Program – Walter Reed National Southern Illinois University
- Texas Tech University
- Tulane University
- University of California at Davis
- University of Iowa
- University of Kansas
- Vidant Medical Center/East Carolina University at the Brody School of Medicine
- University of Texas – Southwestern

The primary objective of the UC Davis Combined Internal Medicine/Psychiatry Residency Program is to train physicians with broad-based skills in both internal medicine and psychiatry (Table 8). Graduates from the program have expertise in areas that combine the skills and knowledge of both disciplines to effectively treat common medical conditions relating to overlap syndromes like substance abuse, somatic symptom disorders, delirium, eating disorders, mood/anxiety disorders, chronic pain, AIDS/HIV, diabetes management, and palliative and geriatric care. A strong emphasis is placed on providing comprehensive medical/psychiatric care to

Table 8 UC Davis medicine-psychiatry sample curriculum

Year	Internal medicine	Psychiatry
PGY-1	ER, GMF, ambulatory, CCU/ICU, continuity	Inpatient, forensic, emergency, PSM/ECT, addiction
PGY-2	ER CCU/ICU, GMF, neurology, continuity	Inpatient, community
PGY-3	GMF, elective, ambulatory, medicine/psychiatry, research, continuity	Outpatient, research, continuity
PGY-4	Elective, GMF, continuity	Outpatient, continuity
PGY-5	Women's health, GMF, geriatric medicine/psychiatry, medicine/psychiatry, elective, continuity	PSM, inpatient, neurology, research, elective, continuity

Adapted from McCarron (2016)
PGY postgraduate year, *CCU/ICU* cardiac care unit/intensive care unit, *ER* emergency room, *GMF* general medical floor (wards), *PSM* psychosomatic medicine (formerly consultation/liaison psychiatry), *ECT* electro-convulsive therapy

underserved patients who are often the most in need of complex care. Trainees are motivated to develop their professional interests as most graduates from the program will become experts in a subspecialized niche. Each resident will pursue a scholarly activity at the interface between their two training areas. A mentor will be assigned to each resident early in the second year of training and at least 4 weeks of protected time will be allocated for study.

Residents will have a sizeable role in the overall direction of the program. They will be encouraged to assume leadership roles internally and externally in the training program. They will have ample opportunity to participate in the development of the curriculum development and mentoring of medical students, particularly those interested in psychiatry, internal medicine, or combined training (UC Davis Combined Internal Medicine/Psychiatry Residency Program 2016). As these residents are expected to be leaders in both the fields of medicine and psychiatry, the expectations are that they will leave the program with not only treatment skills but also organizational and administrative capabilities.

Interactive Lectures:

- **1st Monday of each month: Med Psych Residency Journal Review**
  Combined residents present a recent article at the interface of general medicine and psychiatry to students, residents, and faculty
- **2nd Monday of each month: Med Psych Case Conference**
  Combined residents (excluding interns) present a grand rounds style, interactive, case-based lecture to students, residents, and faculty
- **3rd Monday of each month: Integrated Med Psych Integrated Learning Session (IMPuLSe)**
  Usually faculty driven group interviews with patients who have complex medical/psychiatric conditions
- **4th Monday of each month: Med Psych Residency Administrative Meeting**
  Core faculty and residents meet monthly for "check-in" and to discuss resident-related residency matters

UC Davis Combined Family Medicine-Psychiatry Residency Training Program

There are currently six combined family medicine-psychiatry residency training programs in the United States (https://assocmedpsych.org/studentstrainees/residency-programs/):

- University of California at Davis
- University of California at San Diego
- University of Cincinnati Medical Center
- University of Iowa
- University of Pittsburgh
- Boston Medical Center/Boston University School of Medicine

The Combined Family Medicine/Psychiatry Residency Training Program at UC Davis is one of the first in the nation. Starting in 1995, the goal of the program has been to develop a unique training experience for residents who are interested in dual board certification. The curriculum of the 5-year program follows guidelines published jointly by the American Board of Family Practice and the American Board of Psychiatry and Neurology but also includes a unique curriculum that integrates the two fields (Table 9). The objective of the program is to produce physicians with broad-based training in both specialties and also to accommodate individual residents' specific interests within these fields. As such, residents focus on outpatient community-based care of acute and chronic primary care and psychiatric illnesses from postpartum depression and attention deficit disorder to diabetes mellitus and somatoform disorders. They also become comfortable with inpatient medical care, inpatient psychiatric care, and emergency care in both fields. Graduates are eligible to sit for the board examinations of family and community medicine as well as psychiatry. Roles of graduates range from consultants in liaison psychiatry or family practice, international or rural medicine, addiction medicine or research or administration in family medicine and psychiatry (Han and Nelsen 2016).

The combined program is a 60-month (5-year) experience coordinated jointly by the Departments of Family and Community Medicine and Psychiatry and Behavioral Sciences. Didactics for the resident mirror the categorical family medicine and psychiatry programs as well as case conferences specifically developed for combined residents. During the first 2 years of internship, the combined resident will be exposed to training in neurology, cultural psychiatry, religion and spirituality, legal

Table 9 UC Davis family-psychiatry sample curriculum

Year	Family medicine	Psychiatry
PGY-1	FM block time, cardiology, FM wards, Mather VA, medicine ICU, surgery	Chemical dependency, PSM, forensic psychiatry (inpatient), neurology (inpatient)
PGY-2	ENT, gynecology, Mather VA, newborn nursery, obstetrics, pediatric ER/AC, pediatric wards	Crisis unit, psychiatry (inpatient)
PGY-3	Emergency medicine, FM clinic, pediatrics clinic, maternal/infant care, Mather VA, night float, obstetrics	Psychiatry (outpatient)
PGY-4	Specialty clinic, FM wards, Mather VA, night float, orthopedics, family medicine/psychiatry elective, practice management	Psychiatry (outpatient)
PGY-5	Dermatology, family medicine/psychiatry elective, FM clinic, ophthalmology, practice management, sports medicine, surgery, urology, women's health	Family medicine/psychiatry elective, neurology (outpatient), PSM, psychiatry (inpatient)

Adapted from Han and Nelsen (2016)
PGY postgraduate year, *FM* family medicine, *ENT* ear, nose, and throat, *ICU* intensive care unit, *VA* Veteran's Administration, *PSM* psychosomatic medicine

issues in psychiatry, ethics, milieu therapy, empathic interviewing, psychopharmacology, and psychosomatic medicine seminars. Two 2-week blocks are spent in family medicine educational seminars where topics vary from diabetes management to mental health groups to splinting and casting.

The third and fourth year residents participates in family medicine didactics on Tuesday afternoons while on family medicine rotations and participate in psychiatry didactics while on psychiatry rotations. During the year-long psychiatry continuity rotation, the combined resident is exposed to topics such as adult case conference, cognitive therapy, cultural psychiatry, ethics, psychotherapy structure of the mind, psychotherapy supervision, behavioral therapy, geriatrics, psychodynamics of personality disorders, attention deficit/hyperactivity disorder, pervasive developmental disorders, advanced psychopharmacology, self- psychology, psychoanalytic psychotherapy, child psychiatry seminars, and child case conference.

The fifth year resident participates in family medicine didactics on Tuesday afternoons while on family medicine rotations and participate in psychiatry didactics a half day per week while on psychiatry rotations. Didactics in psychiatry include outside supervision, cultural psychiatry, gender identity, spirituality, Gestalt, neuroscience and psychiatry, literature and psychiatry, Jungian, and psychotherapy supervision. Over the 5 years of training, the combined resident is able to capture the educational experiences offered throughout the full 3 and 4 year regular curriculums in family medicine and psychiatry respectively.

Primary Care Psychiatry on the World Stage

In 2008, the World Health Organization and World Organization of Family Doctors released a 206-page report on their integration efforts, highlighting the models of education and care delivery developed across the globe (WHO 2008). They began the document by stating that integrating mental health into primary care facilitates person-centered and holistic services, both which are central to the values and principles of the Alma Ata Declaration in 1978. These projects included Argentina, Australia, Belize, Brazil, Chile, India, Iran, Saudi Arabia, South Africa, Uganda, Great Britain, and Northern Ireland. Although diverse in their locations and models of care, what these 12 projects shared were the partnering of primary care and mental health providers, collaboration during patient care, and ongoing education of the medical workforce. These models not only ensure good-quality primary and mental health care but also provide training and supervision to primary care practitioners enabling increasing competence and autonomy in managing mental disorders. Over time, primary care practitioners have become more confident, proficient, and independent, lessening the need for specialty mental health support. The report goes on to say that adequate training of primary care workers is a key requirement for these endeavors to be successful. Pre-service and/or in-service training on mental health issues is an essential prerequisite. This should include basic education on the epidemiology, diagnosis, and treatment of common mental disorders. The intimate relationship between mental and physical health and illness is also key. Training

should also include rapport building and how to speak with and educate patients and families. These skills include active listening, empathy, use of open and closed questioning techniques, and understanding nonverbal communication. Frequent practice of new skills as well as ongoing support and supervision are also essential to solidify and maintain these new skills. It should be pointed out that training non-physicians, and even non-medical personnel, are necessary in order to make up for limitations in skilled providers.

Also released in 2008, The Mental Health Gap Action Programme (mhGAP) identifies strategies to scale up mental health coverage in resource-constrained settings (WHO 2008). This report includes detailed information on an "intervention package," which includes evidence-based methods to identify and treat mental health and other neurological conditions. The report highlights that education of the workforce, the patients, and their families and communities are also essential to care. In 2013, the WHO released their "Mental health action plan 2013–2020." This included four major objectives: (1) more effective leadership and governance for mental health, (2) provision of comprehensive, integrated mental health, and social care services in community-based settings, (3) implementation of strategies for promotion and prevention, (4) strengthened information systems, evidence, and research (WHO 2013). The action plan relies on six cross-cutting principles and approaches which include: (1) universal health coverage, (2) human rights, (3) evidence-based practice, (4) life course approach, (5) multisectorial approach, and (6) empowerment of persons with mental disorders and psychosocial disabilities. This plan focuses on the development of policy, funding, and infrastructure that would allow them to happen in a broad way.

In 2015, a multi-part series talked about the tremendous economic and human cost of mental illness and described methods to improve mental health research, diagnosis, and treatment in Canada (Anderssen 2015). The series focuses on providing public coverage for psychotherapy, leveraging innovation and technology, and making sure to educate the young about mental health. Training non-physicians in psychotherapy and integrating them into primary care is one of the recommendations. The article references Britain and Australia as having both made huge investments and advances in these areas. Some of these innovations include directing primary care patients to either a form of structured self-therapy or phone or online therapy. This first tier of psychotherapy could be triggered by family doctors using routine screenings for depression and anxiety to identify need. This system could also monitor progress and direct them to more intensive care if needed.

In a 2015 Article, the World Bank described poor mental health as a major obstacle to economic development in Latin America. In response, the World Bank promoted a paired educational approach for stigma reduction and primary care access as workable solutions (Cruz 2015). By strengthening mental health care in primary care, services are made available near the people, and in their own familiar communities. It describes how the primary care team can resolve many common mental health problems, and through coordination with specialists, more complex cases can be addressed or referred out. In the last few decades in Latin America, there has been a major shift away from hospital care and increasingly toward psychosocial

service centers and the integration of mental health in primary and general health care. The key to this working, again, is by assuring that general medical staff are trained to recognize mental illnesses.

A 2011, World Psychiatry report summarizes community mental health services in the European Region consisting of 53 countries and over 886 million people (Semrau et al. 2011). It talks about the slow and uneven trend towards an increase in community-based mental health services and a decrease in institutional care. Although up to 85% of countries now report having mental health day care, access to such services varies greatly. It is described as "very limited" within some countries, especially in the Eastern parts of the region. One crucial factor in making services accessible to whole populations is the continued integration of mental health services into primary health care. This requires sufficient numbers of primary care staff, regulating their training, and organizing supervision by mental health professionals. While all countries in the European Region increasingly have these services, the extent of this varies widely. Mental health training for primary care staff is available in less than two thirds of countries and is often insufficient. The most fundamental failure is the lack of identification of the mental health symptoms through lack of screening and education of front line staff.

In 2007 in China, a broad reaching community mental health training program was collaboratively developed by the Peking University Institute of Mental Health, the University of Melbourne, and the Chinese University of Hong Kong (Liu et al. 2011). The goal was to train up multi-skilled case workers using best practice principles and education in basic knowledge and skills. By the end of 2009, 96.88 million general population in 112 cities were covered by this program, and a total of 161,800 patients were registered.

In 2014, the PRogramme for Improvement of Mental health carE (PRIME) released a report on five Low- and Middle-Income Countries (LMICs) including Ethiopia, India, Nepal, South Africa, and Uganda (Hanlon et al. 2014). The report describes the needs assessment, an implementation, and scale-up plans of mental health care in primary care and maternal health care settings. In each PRIME country, a comprehensive mental health care plan was developed, implemented, evaluated, and scaled-up. The mental health care plans were multi-faceted and targeted at health service organizations, health facilities, and the community. The WHO educational packages were used for education. A 2017 study evaluated the capabilities of implementing integration of mental health into primary health care in Ethiopia, India, Nepal, Nigeria, South Africa, and Uganda (Mugisha et al. 2017). A checklist guided by the WHO Assessment Instrument for Mental Health Systems (WHO-AIMS) was developed and was used by the Emerging mental health systems in low and middle-income countries (Emerald) research consortium. South Africa and India were ahead of the other countries. Ethiopia, Nepal, Nigeria, and Uganda were working towards developing legislation. Regarding national funding for mental health services, South Africa was the highest at 5%, and Nepal the lowest, at 0.17%. Other vital resources such as human resources and health facilities, and monitoring and evaluation systems, were also found to be inadequate in all countries.

Conclusion

Whenever a new system of care emerges, both obstacles and opportunities arise. Although the concept of collaborative care is not a new one, it has recently returned to the world of medicine with renewed vigor. It arrives supported by the strongest evidence of efficacy as well as improved patient satisfaction and cost savings. With the health systems of the world in an unprecedented state of flux, the time seems to have finally come for this approach to take hold. The world health community will need to continue to focus the limited resources and energy on the care and well-being of the whole person, through screening, education, technology, legislation, and finance. This can be done through rebuilding the care culture and training approaches. Providers need to communicate and teach each other across specialties both formally, through consultation, and informally, through curbsides, shared didactics, and case conferences. A new culture of patient-centered care needs to continue to develop through working collaboratively across specialty and organizational boundaries. The use of technology needs to be further advanced, and more effective financial redesign must be worked toward and legislated. The use of universal screening for depression, shared electronic records, and the use of telephonic or video conferencing technology all show great promise. In the United States, the Affordable Care Act of 2010 extended health insurance coverage but also aimed to improve both the quality and cost of care. The next step will be sustainability through billing and payment reform. Across the globe, organizations like the WHO have worked tirelessly to develop economic, political, and medical solutions to these same problems. Innovative care programs across the planet have demonstrated the effectiveness and feasibility of this new approach to training and care delivery. Although the struggles of developed and developing countries are quite different, they overlap in their shared limitations in access to quality mental health care for their populations. Likewise, the solutions may vary based on economic strength of different regions. Primary care mental health skills may be taught to providers of any level of training, even in a remote or rural region. Expensive residency, fellowship, and dual-degree training programs may only be accessible in places like the United States and Western Europe. What is true for all nations is that with greater collaboration, education, and organization, the people of the world will have much greater access to the fundamental human right of health.

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