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## Introduction

Many terms are used to describe the incorporation of mental health care in primary care settings including collaborative care, primary care behavioral health, embedded care, and co-located care. Peek and colleagues developed a lexicon that defines integrated behavioral health (IBH) as “the care that 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” [1]. In addition to treating mental health needs of patients in primary care, especially those with chronic conditions, IBH addresses stress-related physical illness, behaviors contributing to unhealthy lifestyles, adherence issues, coordination of care, and ineffective use of emergency and hospital-based health care services. The authors of the lexicon created a

“family tree” of interrelated terms that describe the integration of behavioral health and primary care (Fig. 33.1).

The IBH movement gained momentum in the late 1980s due to growing recognition that a fragmented, siloed system of care, where the care of the body and the mind are artificially separated, was not meeting the needs of patients, especially those with chronic conditions. Almost half of adults and more than a quarter of adolescents experience a mental illness or substance use concern at some point in their lifetime [2–4]. The COVID-19 pandemic has intensified psychological distress with 30–50% of the general population experiencing anxiety and 34–48% experiencing depression, a more than threefold increase compared to prior to the outbreak [5–7]. Chronic stress related to fear, social isolation, and losses (i.e., jobs, social activities, meaningful life events, and deaths) has likely contributed to the increase in the number of people experiencing mental health distress during the pandemic.

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### Illustration: A family tree of related terms used in behavioral health and primary care integration

See glossary for details and additional definitions

#### Integrated Care

Tightly integrated, on-site teamwork with unified care plan as a standard approach to care for designated populations. Connotes organizational integration involving social & other services. "Altitudes of integration: 1) Integrated treatments, 2) integrated program structure; 3) integrated system of programs, and 4) integrated payments. (Based on SAMHSA)

#### Patient-Centered Care

"The experience (to the extent the informed, individual patient desires it) of transparency, individualization, recognition, respect, dignity, and choice in all matters, without exception, related to one's person, circumstances, and relationships in health care"—or "nothing about me without me" (Berwick, 2011).

#### Coordinated Care

The organization of patient care activities between two or more participants (including the patient) involved in care, to facilitate appropriate delivery of healthcare services. Organizing care involves the marshalling of personnel and other resources needed to carry out required care activities, and often managed by the exchange of information among participants responsible for different aspects of care" (AHRQ, 2007).

#### Shared Care

Predominately Canadian usage—PC & MH professionals (typically psychiatrists) working together in shared system and record, maintaining 1 treatment plan addressing all patient health needs. (Kates et al, 1996; Kelly et al, 2011)

#### Collaborative Care

A general term for ongoing working relationships between clinicians, rather than a specific product or service (Doherty, McDaniel & Baird, 1996). Providers combine perspectives and skills to understand and identify problems and treatments, continually revising as needed to hit goals, e.g. in collaborative care of depression (Unützer et al, 2002)

#### Co-located Care

BH and PC providers (i.e. physicians, NP's) delivering care in same practice. This denotes shared space to one extent or another, not a specific service or kind of collaboration. (adapted from Blount, 2003)

#### Integrated Primary Care or Primary Care Behavioral Health

Combines medical & BH services for problems patients bring to primary care, including stress-linked physical symptoms, health behaviors, MH or SA disorders. For any problem, they have come to the right place—"no wrong door" (Blount) BH professional used as a consultant to PC colleagues (Sabin & Borus, 2009; Haas & deGruy, 2004; Robinson & Reiter, 2007; Hunter et al, 2009).

#### Behavioral Health Care

An umbrella term for care that addresses any behavioral problems bearing on health, including MH and SA conditions, stress-linked physical symptoms, patient activation and health behaviors. The job of all kinds of care settings, and done by clinicians and health coaches of various disciplines or training.

#### Patient-Centered Medical Home

An approach to comprehensive primary care for children, youth and adults—a setting that facilitates partnerships between patients and their personal physicians, and when appropriate, the patient's family. Emphasizes care of populations, team care, whole person care—including behavioral health, care coordination, information tools and business models needed to sustain the work. The goal is health, patient experience, and reduced cost. (Joint Principles of PCMH, 2007).

#### Mental Health Care

Care to help people with mental illnesses (or at risk)—to suffer less emotional pain and disability—and live healthier, longer, more productive lives. Done by a variety of caregivers in diverse public and private settings such as specialty MH, general medical, human services, and voluntary support networks. (Adapted from SAMHSA)

#### Substance Abuse Care

Services, treatments, and supports to help people with addictions and substance abuse problems suffer less emotional pain, family and vocational disturbance, physical risks—and live healthier, longer, more productive lives. Done in specialty SA, general medical, human services, voluntary support networks, e.g. 12-step programs and peer counselors. (Adapted from SAMHSA)

#### Primary Care

Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community. (Institute of Medicine, 1994)

Thanks to Benjamin Miller and Jürgen Unützer for advice on organizing this illustration

**Fig. 33.1** Family tree of related terms used in behavioral health and primary care integration [1]. From: Peek CJ and the National Integration Academy Council. *Lexicon for Behavioral Health and Primary Care*

*Integration*: AHRQ Publication No. 13-IPOO1-EF. Rockville, MD: Agency for Healthcare Research and Quality. 2013. Available at <http://integrationacademy.ahrq.gov/sites/default/files/Lexicon.pdf>

## Meeting the Need in Primary Care

Despite growing behavioral health problems, the majority of individuals with behavioral health disorders do not receive treatment [4, 8, 9]. The reasons for this are complex and include underdiagnosis, stigma about receiving mental health treatment, perceived and real cost barriers, lack of knowledge on how to access care, and a shortage of behavioral health providers [10]. Many individuals may not seek treatment from a behavioral health professional (BHP) but are comfortable visiting their medical provider, making primary care practices well poised to identify behavioral health treatment needs. Twenty percent of primary care visits are behavioral health related [11–13], 59% of psychotropic medications are prescribed by primary care clinicians [14], and many patients with depression who do seek treatment reach out to their primary care provider first. As a result, primary care is the de facto mental health system [15]. This is widely recognized and the American Academy of Family Physicians recommends co-location of behavioral health services in primary care settings and has issued principles for integrating behavioral health into Patient-Centered Medical Homes (PCMH) [16, 17]. The Institute of Medicine (IOM), Agency

for Health Care Research and Quality (AHRQ), Patient-Centered Primary Care Collaborative [18], and the 2021 National Academies of Sciences, Engineering, and Medicine report *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care* [19] have endorsed IBH as a critical element in the transformation of our current health care system.

## Interplay of Emotional and Physical Health

Behavioral health disorders, especially depression and anxiety, are among the top five chronic conditions contributing to overall health care costs in the United States [20], and mental illness ranks first in global disease burden in terms of years lived with a disability [21]. Individuals with mental illness have higher rates of chronic disease including cardiovascular disease, asthma, diabetes, and cancer, resulting in a life expectancy up to 30 years less than adults without serious mental illness [22] and a mortality rate that is 2.2 times higher than the general population [23]. Many chronic conditions, such as diabetes, pain, headache, cardiac conditions, and gastrointestinal problems, are impacted directly and

indirectly by emotional well-being and behavioral issues. Integrating behavioral health care into a primary care setting increases the opportunity for patient engagement in his or her own health care and skill building focused on health behavior change.

### Reducing Stigma in Mental Health

The stigma around mental health is a significant barrier to care as people fear being labeled and judged [10]. Only 57% of adults without behavioral health concerns and 25% of adults who have behavioral health symptoms believe that people are sympathetic toward individuals who have mental illness [24]. Stigma toward individuals with mental illness is prevalent among medical students and other health care providers [25]. Seventy percent of individuals with behavioral health concerns would not access services in a behavioral health treatment organization that is separate from their primary source of medical care [26]. When behavioral health treatment is integrated into primary care, the stigma of receiving mental health care may be reduced.

### Health Care Disparities and Access

IBH is particularly salient in meeting the needs of racial and ethnic minority groups, including Black and African American, Latinx, Asian, and indigenous populations, as significant behavioral health disparities for minoritized populations persist [27–29]. Rates of behavioral health diagnoses vary among racial and ethnic groups, but overall, the need is high and worsened by the COVID-19 pandemic [30]. Disparities in access to and treatment of behavioral health conditions in people living in marginalized communities lead to fewer referrals to appropriate behavioral health services [31, 32], and those services are less likely to be located in the communities or delivered by providers from diverse backgrounds [33, 34]. Disparities reflect the deeply imbedded societal inequities in the United States including factors such as underinsurance, underemployment, housing and school segregation, and discrimination. Behavioral concerns among minority youth often result in disciplinary action from schools or incarceration rather than treatment [35].

IBH can address many of the barriers to care that people in marginalized communities experience. Standardized screening in IBH clinics may identify behavioral health needs of racial and ethnic minorities that were previously missed or ignored by health providers. Co-locating physical and behavioral providers in the same space may reduce the burden placed on patients to find transportation and time to attend multiple visits at separate clinics. IBH delivered in

primary care can be an entry point to behavioral health intervention and may destigmatize treatment when delivered as part of a total plan of health care.

Disparities also exist in access to behavioral health care in rural communities [36]. The lack of trained behavioral health clinicians, in particular providers that prescribe and manage psychotropic medication, is significant. In rural US counties, 47% of people do not have access to a psychologist and 65% do not have access to a psychiatrist [37]. IBH can increase access to mental health treatment in rural communities through telepsychiatry and collaborative care [38, 39].

Across the United States, patients often struggle to access behavioral health treatment due to a lack of awareness or unavailability of resources within their community and payment barriers. A common access point to the complicated US health care system is via primary care, making it strategically poised to facilitate both medical and behavioral health care. Individuals needing behavioral health care may be more likely to consider behavioral health services when provided in the context of a primary care practice where the setting and providers are familiar.

### Improving Continuity of Care

In traditional care settings, primary care clinicians and behavioral health providers may have different treatment goals for the same patient and may have limited communication with each other due to logistical issues and strict state confidentiality laws governing behavioral health care. Integrated care allows for continuity and collaboration on treatment plans for patients since communication within a team is not limited by state confidentiality laws in the same manner as between practitioners who are not in the same practice.

### Improving Outcomes at Reduced Cost

A significant proportion of patients have chronic comorbid behavioral and physical health conditions resulting in 60–75% higher total medical health care costs than the general population [40, 41]. Integrating care reduces total health care costs and improves outcomes for patients and providers, which will be discussed later in this chapter.

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### Models of Integrated Behavioral Health Care

There are a multitude of ways that practices integrate behavioral health care including co-located care, consultation models involving telepsychiatry or web-based services, the primary care behavioral health model, and team-based col-



COORDINATED KEY ELEMENT: COMMUNICATION		CO-LOCATED KEY ELEMENT: PHYSICAL PROXIMITY		INTEGRATED KEY ELEMENT: PRACTICE CHANGE	
LEVEL 1 Minimal Collaboration	LEVEL 2 Basic Collaboration at a Distance	LEVEL 3 Basic Collaboration Onsite	LEVEL 4 Close Collaboration Onsite with Some System Integration	LEVEL 5 Close Collaboration Approaching an Integrated Practice	LEVEL 6 Full Collaboration in a Transformed/ Merged Integrated Practice
Behavioral health, primary care and other healthcare providers work:					
In separate facilities, where they:	In separate facilities, where they:	In same facility not necessarily same offices, where they:	In same space within the same facility, where they:	In same space within the same facility (some shared space), where they:	In same space within the same facility, sharing all practice space, where they:
<ul style="list-style-type: none"> <li>» Have separate systems</li> <li>» Communicate about cases only rarely and under compelling circumstances</li> <li>» Communicate, driven by provider need</li> <li>» May never meet in person</li> <li>» Have limited understanding of each other's roles</li> </ul>	<ul style="list-style-type: none"> <li>» Have separate systems</li> <li>» Communicate periodically about shared patients</li> <li>» Communicate, driven by specific patient issues</li> <li>» May meet as part of larger community</li> <li>» Appreciate each other's roles as resources</li> </ul>	<ul style="list-style-type: none"> <li>» Have separate systems</li> <li>» Communicate regularly about shared patients, by phone or e-mail</li> <li>» Collaborate, driven by need for each other's services and more reliable referral</li> <li>» Meet occasionally to discuss cases due to close proximity</li> <li>» Feel part of a larger yet non-formal team</li> </ul>	<ul style="list-style-type: none"> <li>» Share some systems, like scheduling or medical records</li> <li>» Communicate in person as needed</li> <li>» Collaborate, driven by need for consultation and coordinated plans for difficult patients</li> <li>» Have regular face-to-face interactions about some patients</li> <li>» Have a basic understanding of roles and culture</li> </ul>	<ul style="list-style-type: none"> <li>» Actively seek system solutions together or develop work-a-rounds</li> <li>» Communicate frequently in person</li> <li>» Collaborate, driven by desire to be a member of the care team</li> <li>» Have regular team meetings to discuss overall patient care and specific patient issues</li> <li>» Have an in-depth understanding of roles and culture</li> </ul>	<ul style="list-style-type: none"> <li>» Have resolved most or all system issues, functioning as one integrated system</li> <li>» Communicate consistently at the system, team and individual levels</li> <li>» Collaborate, driven by shared concept of team care</li> <li>» Have formal and informal meetings to support integrated model of care</li> <li>» Have roles and cultures that blur or blend</li> </ul>

**Fig. 33.2** A standard framework for levels of integrated health care: six levels of collaboration/integration. (Reprinted with permission from the SAMHSA-HRSA Center for Integrated Health Solutions)

laborative care management. The different models fall on a spectrum of integration (from co-location of care to fully integrated engagement of a team of providers), program structure (from very loose to highly structured using treatment protocols and clinical measures to evaluate clinical effectiveness), and intensity of behavioral health services offered (from screening and brief intervention to ongoing therapy and psychiatry services). The Substance Abuse and Mental Health Services Administration (SAMSHA) provides a useful framework of six levels of integration to facilitate meaningful dialogue about service design and research (Fig. 33.2) [42]. Popular behavioral health integration models are described below.

### Co-located Behavioral Health

On the most basic level, integrated care may involve physically co-locating a behavioral health professional (BHP) in a primary care setting. These models may embed different types of BHPs (e.g., licensed therapists, psychologists, social workers, psychiatrists, and psychiatric nurses) and may utilize a variety of practice patterns, including long-term psychotherapy, short-course psychotherapy, targeted interventions (i.e.,

weight management, diabetes management, tobacco cessation, etc.), consultation or diagnostic services, or psychopharmacology management. The level of integration can vary greatly from practice to practice, but there is likely at least some degree of regular communication and collaboration between BHPs and medical team members. Co-location allows for shared services essential to care, such as scheduling, staff, and medical records, with ample opportunity to consult and coordinate care for difficult-to-treat patients [42].

Co-location of a BHP results in higher patient-reported quality of life scores [43–45], reduced treatment costs to patients [44, 46], increased patient and provider satisfaction [44, 47, 48], decreased appointment wait time [44, 49, 50], and reduction in referral rate to specialty behavioral health care [51]. Co-located behavioral health contributes to a reduction in depression severity in an integrated care setting [45]. Available evidence suggests there are no effects on patient physical functioning, patient social functioning, or hospital admission rates [45].

Co-located behavioral health is popular, due to the relative ease of implementation, low overhead costs, low financial risk, and success in meeting behavioral health needs of patients. However, providers and administrators should not overlook the limitations of co-located models, including

varying degrees of integration, other unaddressed barriers to access, the limited evidence base, and the lack of a population health approach, which may limit the impact to the overall patient panel.

## Primary Care Behavioral Health

Primary Care Behavioral Health (PCBH) is a team-based primary care approach to behavioral health problems and health conditions that are influenced by biopsychosocial factors [52]. A behavioral health consultant (BHC) is incorporated into the primary care team and works with patients of all ages with mild to severe health conditions. The BHC meets patients in a timely manner, often on the day of referral, is fully integrated into the biopsychosocial care provided by the entire primary care team, works with a large proportion of the clinic patients, and provides education and consultation to the primary care clinicians [52, 53]. BHCs typically provide short (15–30 min), focused interactions with patients and utilize techniques aimed at improving specific symptoms and/or functional limitations. To maintain accessibility while serving a high proportion of a practice population, follow-up interactions are limited, with a primary care provider (PCP) resuming sole care of a patient as soon as possible with re-engagement as indicated or if needed higher levels of behavioral health services are unavailable or declined by the patient [52].

The PCBH model has been implemented in a variety of primary care settings, including large systems, such as the US Veterans Health Administration [54] and the US Department of Defense [55], as well as in systems that serve economically disadvantaged populations, such as Federally Qualified Health Centers, community health organizations, primary care training clinics, and homeless clinics [52, 56–58]. The PCBH model has high rates of patient satisfaction and leads to improvement in Global Behavioral Health assessment of function at work or school [53]. Six studies using pre- to post-treatment designs (including one randomized control trial (RCT)) have examined specific symptom outcome measures using validated tools and have shown improvement in anxiety, depression, PTSD, sleep, tobacco use, and weight loss [59–64]. Other data suggest that the model may reduce referrals to specialty behavioral health [51, 65] and change antidepressant prescribing patterns by the team PCPs [51, 65, 66]. Patients who received care through PCBH had fewer preventable inpatient hospitalizations compared to those receiving medical treatment only [67].

The PCBH model depends on the integration of well-trained behavioral health professionals into the BHC role, which can be challenging for many nonphysician behavioral health professionals and may require “retraining” in certain

aspects of the work [68]. The generalist approach of primary care that treats patients across the lifespan may be uncomfortable for many BHCs, whose training may be limited to pediatrics, adult, or geriatric care. Further, the role of consultant may be unfamiliar for professionals who lack training or exposure to such a model or have never worked or trained in a medical setting [69]. Hence, the BHC role requires the adoption of a unique professional identity [68, 70]. Tools that teach the core competencies necessary for BHCs can be useful in retraining [69]. Other training initiatives for the BHC role include academic programs (graduate and certificate programs), community-based training, and self-study resources.

Financial challenges can limit implementation of the PCBH model. Specifically, the lack of reimbursement for same-day visits is a barrier that is especially relevant to this model. Some payers do not reimburse for behavioral health visits conducted on the same day as primary care visits, limiting the ability to generate revenue in a model that emphasizes immediate availability [71]. Further, given the relatively brief nature of individual visits, reimbursement for such visits is typically lower, if there is any reimbursement available at all [72]. Thus, in fee-for-service models, the PCBH model may not be directly self-sufficient. However, there is some evidence that incorporation of a BHC into a primary care practice can actually increase overall revenue through increased PCP efficiency [73]. Further, some financial risk can be mitigated through utilization of value-based or accountable care payment models that recognize the return on investment that can be achieved through behavioral health integration.

The PCBH model depends on the efficient utilization of the skills of the BHC. Barriers to this include hesitation to interrupt patient visits to involve BHCs and low productivity due to limited consultation, which limits the impact on the patient population [74]. This could be due to inadequate BHC training or cultural challenges that prevent adequate integration of the BHC into the clinic workflow and treatment team [69].

## Screening, Brief Intervention, and Referral to Treatment

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is a comprehensive, integrated public health approach to early intervention and treatment for people at risk for or currently afflicted with substance use disorders [75]. The components of the intervention include (1) universal **Screening** for substance use, (2) delivery of **Brief Interventions** to those individuals with low to moderate risk of harm, and (3) **Referral** to treatment services for individuals with more serious signs of substance use and resultant

serious harms. The basis of the intervention comes from the trans-theoretical change model [76] and motivational interviewing [77] which work together to identify an individual's readiness to change and assist them in making movement toward healthy, adaptive responses related to substance use. The model aligns with the 5 A's approach to behavioral counseling adopted by the US Preventative Services Task Force (Ask, Advise, Assess, Assist, and Arrange) [78].

Universal screening is typically accomplished using evidence-based tools to detect risky alcohol and other substance misuse. These tools include the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) [79] and the Drug Abuse Screening Test (DAST), which screens for any substance use other than alcohol [80]. Additional tools are available for specific populations, as well as for children and adolescents. After screening, those determined to be at risk of harm from substance use are provided brief intervention and/or are referred to treatment. Interventions are short (5–30 min in duration), semi-structured discussions to raise awareness of substance use and increase motivation to avoid, reduce, or discontinue harmful use of substances [75, 81, 82]. There are variations in the duration, the number of conversations or meetings, and the structure and nature of the interventions. Successful brief interventions incorporate six elements captured in the acronym FRAMES: **F**eedback on behavior and consequences, **R**esponsibility to change placed on the patient, **A**dvice to change from the provider, **M**enu of options to bring about change, **E**mpathy from the provider, and **S**elf-efficacy for change engendered in the patient [81, 83].

The SBIRT model in primary care prevents or reduces the serious long-term harms associated with heavy alcohol use, including automobile accidents, arrests, incarcerations, work absences, and other societal costs [82]. The efficacy of SBIRT targeting use of other substances is suggestive of benefit, but less clear [81].

Despite the potential benefits of SBIRT in primary care settings, the intervention is underutilized [84]. Barriers to use include challenges with implementation of screening, inadequate reimbursement for the service, limited education on substance use disorders among health care professionals, and inconsistent use of the tools necessary for the intervention [75, 84]. Successful implementation of SBIRT into primary care must include training and education of key stakeholders, utilization of strategies to support clinicians (such as reminders in electronic health records and task shifting), and regular reporting to summarize program data [84]. Strategies that address patients, professionals, and organizations are more effective than strategies that only address individual health care professionals [85]. More intensive implementation strategies are associated with greater efficacy in primary care [86]. There should be fidelity to the core features of the SBIRT model, but flexibility in the

peripheral components of the intervention (who performs the screen, whether it is done in person or electronically, duration of the intervention, etc.) may lead to greater success.

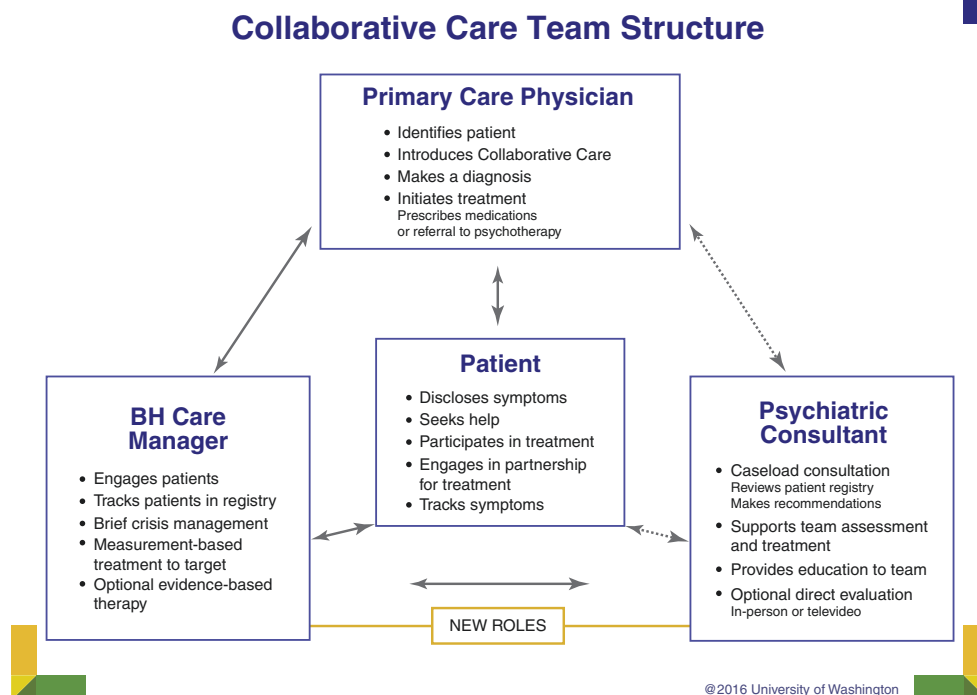
## The Collaborative Care Management Model

The collaborative care management model (CoCM) is one of the most widely studied integrated care models and is based on the principles of Wagner and colleagues' chronic care model [87]. Developed at the University of Washington, CoCM involves caseload-focused psychiatry consultation supported by a behavioral health care manager. It is a dynamic model of care that improves access to behavioral health care, enhances communication between team members, and provides consultation with psychiatrists.

Expert consensus has identified four essential elements of CoCM including care that is (1) patient-centered, (2) population-focused, (3) measurement-guided, and (4) evidence-based [88]. The model is team-based and includes the patient, the primary care provider (PCP), a behavioral health care manager, and a consulting psychiatrist (Fig. 33.3). The care manager role may be fulfilled by a social worker, nurse, psychologist, or other mental health professional. The PCP identifies patients for treatment, retains the primary treatment relationship with the patient, prescribes medications, collaborates with the care manager, and is ultimately responsible for treatment decisions. The care manager conducts comprehensive behavioral health assessments; creates a patient-centric treatment plan; provides brief, evidence-based behavioral interventions (motivational interviewing, problem-solving therapy, brief cognitive behavioral therapy, behavioral activation, etc.); actively engages the patient through frequent outreach; and coordinates care among team members. The care manager meets regularly (typically weekly) with the psychiatric consultant to review challenging cases and systematically monitors patient progress using evidence-based tools and a patient registry. The psychiatric consultant documents treatment recommendations, provides education to the care manager and PCP, and is available to consult as needed with team members. Generally, the psychiatric consultant does not examine the patient directly, but rather develops treatment recommendations based on information documented in the medical record and verbal and written communication from team members. This indirect method allows the psychiatric consultant to be involved in a larger number of cases than they would be able to see in traditional face-to-face visits. Some CoCM models add additional team members, including psychologists, clinical pharmacists, or specialty care physicians.

As a population health model, registries are used in CoCM to track patient progress and outreach efforts to ensure that no one "falls through the cracks." Treatment progress and

**Fig. 33.3** Collaborative care model. (Reprinted with permission from the University of Washington)



response is closely followed using standardized illness-specific measures such as the Patient Health Questionnaire-9 (PHQ-9) for depression and the Generalized Anxiety Disorder-7 (GAD-7). Regular review of the registry by the care manager and the psychiatrist allows for dynamic treatment recommendations, with timely adjustments to treatment plans [89]. The goal in CoCM is to *treat-to-target*, meaning that treatment is continuously modified until specific outcome measures are achieved [90]. The DIAMOND CoCM program, for example, considers a depression response as a 50% or greater decrease in PHQ-9 score from baseline at 6 months, and remission is defined as a PHQ-9 score of less than 5 at 6 months [91]. Typically, if the patient has not had at least a 50% improvement in symptoms using a validated measure, the treatment plan is modified every 10–12 weeks [92]. When patients do not respond to treatment, the care manager facilitates any needed referrals and treatment with other resources, such as community mental health centers and substance use treatment centers. In addition to treatment response, other metrics are monitored in collaborative care models including process measures such as access times, cost savings, resource utilization (e.g. emergency room visits and hospitalizations), and caregiver and patient satisfaction [92].

Historically, CoCM models were disease-specific, focusing commonly on depression and anxiety. For example, the initial randomized controlled trial (RCT) of CoCM, the Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) trial, targeted treatment of depression

in older adults and demonstrated up to three times higher rates of depression response and remission with CoCM compared to usual primary care treatment [92]. In addition, CoCM resulted in greater patient and provider satisfaction, higher rates of antidepressant and psychotherapy use, greater patient-reported quality of life, and lower rates of health-related functional impairment, with a reduced total cost of care and a return on investment of \$6.5 for every \$1 spent, predominantly through reductions in utilization of emergency and inpatient medical care [93]. Subsequently, over 90 RCTs have confirmed the effectiveness of CoCM for depression [94], as well as other behavioral health conditions including anxiety [95, 96], post-traumatic stress disorder [97], substance use disorders [98, 99], ADHD [100], and bipolar disorder [101, 102]. In addition, CoCM improves comorbid chronic physical health conditions in individuals with concurrent disease including diabetes [103], hypertension [103], cancer [104], obesity [105], and HIV [106]. CoCM is also effective in treatment of socioeconomically disadvantaged populations [107, 108], rural populations [38, 109], and racial and ethnic minorities [110]. Finally, while the initial CoCM model emphasized physically embedding care managers within primary care clinics, fully remote, virtual care management and psychiatric consultation models are as effective as physically co-located CoCM programs [109, 111].

Despite its well-established evidence base, implementation of CoCM is not widespread. Several barriers to implementation exist, largely due to cultural, structural, and



financial challenges. Cultural barriers include acceptance of the model by leadership and clinical staff, as CoCM may represent a paradigm shift in a primary care practice's approach to behavioral health treatment. Structural challenges include appropriately trained staff to serve as care managers, contracting with a psychiatrist who is comfortable and familiar with the model, incorporation of a patient registry, and clinic workflow changes that facilitate CoCM. The largest barriers are financial, as care management programs often are not cost-neutral in traditional fee-for-service billing. Despite studies that show the cost-effectiveness of CoCM to health systems [93, 112–114], some systems are reluctant to take on the additional expense of care managers and psychiatric consultants whose work is not directly compensated. Despite the introduction of billing codes by the Centers for Medicare and Medicaid Services (CMS), utilization remains limited [115, 116] due to a variety of factors including spotty payment of these billing codes by private and public payers, workflow changes, documentation, and monitoring burden required to utilize the codes [117]. Substantial effort is necessary to make CoCM a cost-neutral model in a fee-for-service payment paradigm [117]. Ongoing refinement of the model is underway with several resources available through the University of Washington Advancing Integrated Mental Health Solutions (AIMS) Center [118], the Safety Net Medical Home Initiative [119], the Substance Abuse and Mental Health Services Administration [120], and the American Psychiatric Association [121].

## Implementation Strategies and Considerations

Several resources can help facilitate the development and implementation of an IBH program within a primary care setting:

- The *Integration Playbook*, an online, interactive guide for integrating behavioral health in ambulatory care developed by the Academy for Integrating Behavioral Health and Primary Care (part of the Agency for Healthcare Research and Quality (AHRQ): <https://integrationacademy.ahrq.gov/playbook/about-playbook>).
- *The Organized, Evidence-Based Care: Behavioral Health Integration Guide* and the *GROW Pathway Planning Worksheet* [122] developed by the Safety Net Medical Home Initiative are available online at <http://www.safetynetmedicalhome.org/change-concepts/organized-evidence-based-care/behavioral-health>
- *Quick Start Guide to Behavioral Health Integration* developed by SAMHSA-HRSA Center for Integrated Health Solutions: <https://www.thinglink.com/channel/622854013355819009/slideshow>
- SAMHSA also has a general listing of other integration tools available on their integrated behavioral health care website: <http://www.samhsa.gov/children/behavioral-health-care-integration-resources>
- The Advancing Integrated Mental Health Solutions (AIMS) Center through the University of Washington focuses on the Collaborative Care Model and has trainings, online resources, and virtual “office hours” providing consultation for organizations: <https://aims.uw.edu/>

Translating and introducing IBH models, developed and evaluated as part of RCTs, to community primary care practices can be challenging. The Advancing Care Together (ACT) program and the Integration Workforce Study (IWS) examined methods for integrating care within “real-world” primary care settings [123–130]. By longitudinally studying the implementation approaches within primary care practices and behavioral health agencies over several years, ACT and IWS showed that successful integration must include changes in organizational processes and interprofessional relationships. Challenges common among the practices were categorized into four themes—(1) engaging leadership and culture change, (2) workflow, (3) access, and (4) tracking and using data in meaningful ways. Common key characteristics of successful integration include support and vision from influential leadership, a focus on vulnerable populations, community-wide collaborations, team-based care including the patient and family, data-driven decisions, and diverse funding streams [131]. The following sections outline the considerations for an IBH program.

## Mission and Vision

To guide the transformation process, practices must commit to a shared mission and clear vision for the integration of care. The population to be served should be clarified such as whether all adult patients are screened for depression versus only screening and treating high-risk/high-utilizing patients. The scope of care the practice is prepared to offer should also be clarified.

## Staffing and Training

Strong interdisciplinary teams committed to mutual respect, collaboration, and a shift from the traditional hierarchy of medical practice is necessary for the success of IBH. Primary care clinicians and behavioral health professionals benefit from understanding each other's different training and perspectives which can synergize to create an integrated team that provides excellent patient care.



Behavioral health professionals must learn to adapt traditional assessment and therapy models to brief, solution-focused interventions with limited time spent on assessment. BHPs also need to function outside of the traditional 50-minute hour and consider intervention strategies that work within the busy pace and workflow of a medical practice. This can be a substantial cultural shift for behavioral health providers. A foundation in the interplay of physical illness and emotional well-being, knowledge of common chronic health care conditions, and knowledge of medical culture is also essential for BHPs to be successful in primary care settings [132]. The American Psychological Association Interorganizational Work Group on Competencies for Primary Care Psychology Practice has delineated six competency domains with associated essential components for behavioral scientists practicing in primary care [133]. These include competency in science related to the biopsychosocial approach, research and evaluation, leadership and administration, interdisciplinary systems, advocacy, and practice management. Additional clinical skills in assessment, intervention, clinical consultation, and supervision and teaching are also essential. Although more training is now available for BHPs in integrated care models, finding providers able and eager to work in primary care settings continues to be a challenge [126].

Primary care clinicians need to be able to screen patients for common behavioral health concerns (i.e., depression, anxiety, substance use issues) and recognize variations in signs and symptoms of behavioral health concerns across the life spectrum. Without standardized screening processes, depression, for example, goes undetected in greater than 50% of primary care patients [134]. Also, PCPs need to consider when and how best to involve a BHP in a patient's care. This includes developing strategies for effectively introducing the BHP to the patient and communicating needs efficiently to the BHP [135].

As new staff join the team, orientation and training should help them understand the goals, processes, and cultural expectations involved in integrated care. This can involve shadowing different members of the team, reviewing training manuals that describe the mission and vision, and reviewing the standardized protocols and workflows that support IBH. These efforts solidify an organization's conceptualization and commitment to IBH. Ongoing education and mentoring further facilitates the maturation of a truly integrated care system [126].

## Workflow

As practices develop their model for IBH, attention needs to be paid to workflow. Developing standardized practice protocols facilitate clarity and process consistency. These protocols should cover screening, team communication

expectations, treatment guidelines, and referral considerations. Practices need to consider what behavioral health screening to use, the frequency of use, who will be screened, and which staff will administer and score the screening tools. Having a systematic approach to screening helps to identify patients needing service as well as inform the practice on population-based behavioral health needs. Practices will need to decide on the behavioral health needs that are feasible to address, however. Full population-based screening for many behavioral health problems could easily overwhelm the resources available to respond to the identified needs.

Commonly used screening tools in primary care settings include the PHQ-2, PHQ-9, and Edinburgh Postnatal Depression Scale to screen for depression. The GAD-7 scale is often used to screen for anxiety disorders and the post-traumatic stress disorder (PTSD) checklist for the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-V, PCL-5), screens for trauma impact. The Alcohol Use Disorders Identification Test (AUDIT), CAGE (Cut down, Annoyance, Guilt, and Eye-opener) questions, and Drug Abuse Screening Test (DAST) are used to screen for substance use concerns. Many of these tools have modified versions appropriate for use with adolescents. The Modified Checklist for Autism in Toddlers-Revised (M-CHAT-R) is used for screening for autism spectrum disorders. Tools such as the Ages and Stages Questionnaire and Parents' Evaluation of Developmental Status (PEDS) milestone questionnaires are used to assess achievement of expected developmental milestones. These tools are designed for the patient or a parent to complete rather than the provider. This is an important consideration, given that provider ratings can be biased and may miss the worsening of symptoms [136]. Tools need to be reliable and sensitive for the population, easy for patients to complete, and simple for staff to score and interpret. These tools must be available in the moment and useful in clinical decision making. Protocols should be developed regarding how often the measure is administered and what results indicate that treatment is effective versus needing to be modified.

## Workspace Design

Practices need to consider the logistics of workflow and usage of space. Having workspace for behavioral health team members centralized so that the BHP is visible and easily accessed by all practice members facilitates real-time communication and the integration of behavioral health care. Shared or centralized workspace also increases the likelihood of "curbside" consultations and the development of robust interpersonal working relationships.

## Schedules

The design of the schedule for the BHP will influence his or her availability and flexibility regarding patient needs. The ability to quickly access the BHP at the time of need greatly impacts the success and level of integration. In some models, the BHP has no scheduled follow-up visits outside of a return visit with the PCP. In other models, the schedule has a mix of available consultation times interspersed with brief scheduled follow-up appointments, usually 20–30 min, which are aligned with the clinic schedule. Time for making follow-up phone calls for outreach and treatment monitoring is needed for practices that implement a population management approach.

## Communication

Clear communication processes are essential for the success of IBH. Communicating impressions and treatment plans through the shared electronic health record (EHR) has the advantage of being easy, reducing duplication of documentation, and data consolidation. It should be clear where within the EHR the BHP will document, such as within the same note as the physician or a separate note. There should be strategies on how to communicate and collaborate on shared treatment plans. Standardized templates for documenting care can facilitate communication among team members. There are some challenges with shared EHRs and most EHR systems are not designed with behavioral health care documentation standards and regulations in mind. Practices may need to create processes that ensure clear communication within the EHR that is accessible, meaningfully enhances patient care, and meets regulatory and billing requirements for medical and behavioral health care. An additional consideration for documentation of behavioral health care within an integrated and shared EHR is how to maintain standards of confidentiality and privacy that in some states are stricter than federal Health Insurance Portability and Accountability Act (HIPAA) privacy rules.

To facilitate integrated team care it is helpful to have a standard process that defines what should trigger a provider to provider “warm handoff” and what should be communicated during the handoff. Interdisciplinary pre-clinic huddles where the team meets to review the clinic schedule and identify possible patient care needs in advance help organize the day. Complex care team meetings also improve care for the patient and foster collaboration and ongoing training for team members. Finally, it helps to have an understanding among team members regarding the practice of care professionals interrupting each other, particularly when care team members are providing service to other patients.

## Practice Improvement

Registries to track patients and monitor program metrics are critical elements in IBH models. Successful programs use data and quality metrics to respond to patient needs and enhance the overall program. As practices systematically collect patient-level data tied to behavioral health and other outcomes, they must consider how to use and manage the information. Some EHR systems have the ability to access data over time (i.e., PHQ-9 scores, GAD-7, HbA1c, blood pressure, etc.) and can collate this into reports that measure and track patient-specific health targets. This data can be used to monitor individual treatment response, identify patients who have not been engaged in care for a specified period of time, and inform and evaluate practice change efforts. Data is powerful and it is important to have adequate infrastructure to use the data. The practice must decide what data to track, at both individual and population levels, what information should be aggregated, and who will run, interpret, and act on the reports. In practices without EHR systems that can access and report data, tracking patient data is challenging.

An important step in designing an IBH program is the determination of metrics that show whether the program is effective and valuable. These measures should include patient-oriented outcomes, patient and staff satisfaction scales, and costs. While definitions of effectiveness and value may vary from practice to practice, standardized measures allow comparisons across practices which facilitate the process of continuous quality improvement. Practices or programs that perform well on outcome measures can inform other practices. In addition, having a structured continuous quality improvement plan protects against the natural process whereby systems slowly revert to old patterns of care.

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## Future Directions and Trends

No one IBH model is likely to address every local population’s needs and ongoing innovation and creativity is needed. While the data supporting the effectiveness of IBH continue to grow, one of the limitations with much of the literature is that the outcome studies have focused on specific diseases (depression and anxiety) in specific populations (e.g., older adult populations). Future research must examine IBH models that address multiple comorbidities, behavioral health concerns that occur across the life spectrum (children, adolescents, perinatal, etc.), and diagnoses that fall on the more debilitating end of the spectrum such as schizophrenia and bipolar disorders. In addition, we need to expand our understanding of how IBH models can be adapted to engage and meet the needs of culturally diverse populations and how these models can complement other population health mod-

els of care (i.e., chronic care management and programs to address social determinants of health). The development of flexible, stepped care approaches that address changing mental health treatment needs of individuals and access to diverse resources in the practice and community are essential for successful integration of behavioral health.

The future of integrated care depends on adaptability and innovation in terms of implementation. The COVID pandemic, for example, accelerated the adoption of virtual care via telecommunications via video and phone. Research is showing that patients value this form of care [137] and that treatment outcomes are comparable to in-person care [110, 138, 139]. The federal government, state Medicaid programs, and private insurers have all expanded coverage for telehealth during the COVID-19 public health emergency. Most insurance companies also cover telehealth services, often including behavioral telemedicine. Advocacy is needed to continue reimbursement for tele-behavioral health beyond the public health emergency and to ensure that virtual behavioral health care is treated with fiscal parity with in-person care and parity with virtual medical care. Hybrid models that include in-person, phone/video-based, and asynchronous interventions will help address the diversity of behavioral health needs based on the population, community, and resources.

IBH can be a mechanism to address long-standing health and behavioral health disparities among individuals from marginalized racial and ethnic groups if delivered using culturally informed methods [140, 141]. Unfortunately, training providers in culturally appropriate techniques and adapting IBH interventions to the needs of diverse communities has lagged. IBH teams of the future need to be trained to practice as culturally competent providers of care.

Family consultations, family therapy, and parenting training are rarely described in studies on integrated primary care programs [142]. Given that the discipline of family medicine represents a substantial portion of primary care practices, future IBH models should consider how to keep the “family” in IBH.

Future studies should also examine how enhanced resiliency and self-engagement in chronic disease management may improve outcomes and satisfaction while reducing overall health care costs. Most IBH models focus on moderating the impact of emotional distress that is already present. Integrating resiliency models such as mindfulness-based stress reduction, peer support, and chronic disease self-management may help to improve outcomes for an even broader array of patients.

Finally, integrated care must be financially sustainable. Value-based payment models may address the financial limitations of IBH delivered in clinics with fee-for-service visits in which only the PCP receives a billable encounter and other team members are paid for as over-

head. Bundled payment mechanisms, like those developed for CoCM, demonstrate the importance of incentivizing team-based care models. Focusing on payment for teams rather than providers may be a pathway for sustainability [19]. CMS encourages innovation and integration of behavioral health as a means of providing whole-person care, which will improve outcomes while reducing overall costs [143].

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## Summary

The integration of behavioral health and primary care is transformative and can help achieve the quadruple aim of better health, better patient experience, lower costs, and improved physician experience [144, 145]. It is especially important for patients with chronic diseases and can complement the management and treatment of often complex and serious medical conditions. The growing recognition of the biopsychosocial interplay in chronic disease ensures that behavioral health will remain critical in the care of patients and there is no more apt place to reach them than in the primary care setting.

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## References

1. Peek CJ. *Lexicon for behavioral health and primary care integration: concepts and definitions developed by expert consensus*. Rockville, MD: Agency for Healthcare Research and Quality; 2013.
2. Kessler RC, Wang PS. The descriptive epidemiology of commonly occurring mental disorders in the United States. *Annu Rev Public Health*. 2008;29:115–29.
3. Merikangas KR, He J-P, Burstein M, Swanson SA, Avenevoli S, Cui L, et al. Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication—Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry*. 2010;49(10):980–9.
4. Substance Abuse and Mental Health Services Administration. *Key substance use and mental health indicators in the United States: results from the 2019 National Survey on Drug Use and Health*. Department of Health and Human Services; 2020.
5. Salari N, Hosseini-Far A, Jalali R, Vaisi-Raygani A, Rasoulpoor S, Mohammadi M, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Glob Health*. 2020;16(1):57.
6. Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general population: a systematic review. *J Affect Disord*. 2020;277:55–64.
7. Ettman CK, Abdalla SM, Cohen GH, Sampson L, Vivier PM, Galea S. Prevalence of depression symptoms in US adults before and during the COVID-19 pandemic. *JAMA Netw Open*. 2020;3(9):e2019686.
8. Park-Lee E, Lipari RN, Hedden SL, Kroutil LA, Porter JD. *Receipt of Services for Substance Use and Mental Health Issues Among Adults: results from the 2016 National Survey on Drug Use and Health*. CBHSQ Data Review. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2017.

9. Walker ER, Cummings JR, Hockenberry JM, Druss BG. Insurance status, use of mental health services, and unmet need for mental health care in the United States. *Psychiatr Serv*. 2015;66(6):578–84.
10. Mochari-Greenberger, H, Pande, RL. Barriers to Behavioral Health Care: Consumer Insights Reveal Low Engagement and Unmet Needs Persist. 2018. [https://www.ableto.com/wp-content/uploads/2018/10/AbleTo\\_Barriers-to-Behavioral-Health-Care\\_WhitePaper.pdf](https://www.ableto.com/wp-content/uploads/2018/10/AbleTo_Barriers-to-Behavioral-Health-Care_WhitePaper.pdf).
11. Center for Disease Control and Prevention. Percentage of Mental Health-Related Primary Care Office Visits, by Age Group—National Ambulatory Medical Care Survey, United States, 2010. 2014. p. 1118.
12. Olfson M, Kroenke K, Wang S, Blanco C. Trends in office-based mental health care provided by psychiatrists and primary care physicians. *J Clin Psychiatry*. 2014;75(3):247–53.
13. Olfson M, Blanco C, Wang S, Laje G, Correll CU. National trends in the mental health care of children, adolescents, and adults by office-based physicians. *JAMA Psychiatry*. 2014;71(1):81–90.
14. Mark TL, Levit KR, Buck JA. Datapoints: psychotropic drug prescriptions by medical specialty. *Psychiatr Serv*. 2009;60(9):1167.
15. Kessler R, Stafford D. Primary care is the de facto mental health system. In: Kessler R, Stafford D, editors. Collaborative medicine case studies. New York, NY: Springer; 2008. p. 9–21.
16. American Academy of Family Physicians. Mental health care services by family physicians (position paper). 2011. <http://www.aafp.org/about/policies/all/mental-services.html>.
17. Working Party Group on Integrated Behavioral Healthcare, Baird M, Blount A, Brungardt S, Dickinson P, Dietrich A, et al. Joint principles: integrating behavioral health care into the patient-centered medical home. *Ann Fam Med*. 2014;12(2):183–5.
18. Nielsen M. Behavioral health integration: a critical component of primary care and the patient-centered medical home. *Fam Syst Health*. 2014;32(2):149–50.
19. National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Care Services; Committee on Implementing High-Quality Primary Care. Implementing high-quality primary care: rebuilding the foundation of health care. Robinson SK, Meisnere M, Phillips RL, McCauley L, editors. Washington, DC: National Academies Press (US); 2021.
20. Loeppke R, Taitel M, Haufle V, Parry T, Kessler RC, Jinnett K. Health and productivity as a business strategy: a multiemployer study. *J Occup Environ Med*. 2009;51(4):411–28.
21. Vigo D, Thornicroft G, Atun R. Estimating the true global burden of mental illness. *Lancet Psychiatry*. 2016;3(2):171–8.
22. Hert DE, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, et al. Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*. 2011;10(1):52–77.
23. Walker ER, McGee RE, Druss BG. Mortality in mental disorders and global disease burden implications: a systematic review and meta-analysis. *JAMA Psychiatry*. 2015;72(4):334–41.
24. Centers for Disease Control and Prevention (CDC). Attitudes toward mental illness—35 states, District of Columbia, and Puerto Rico, 2007. *MMWR Morb Mortal Wkly Rep*. 2010;59(20):619–25.
25. Chiles C, Stefanovics E, Rosenheck R. Attitudes of students at a US medical school toward mental illness and its causes. *Acad Psychiatry*. 2017;41(3):320–5.
26. Kessler RC, Demler O, Frank RG, Olfson M, Pincus HA, Walters EE, et al. Prevalence and treatment of mental disorders, 1990 to 2003. *N Engl J Med*. 2005;352(24):2515–23.
27. Sanchez K, Chapa T, Ybarra R, Martinez ON. Eliminating health disparities through culturally and linguistically centered integrated health care: consensus statements, recommendations, and key strategies from the field. *J Health Care Poor Underserved*. 2014;25(2):469–77.
28. Ida DJ, SooHoo J, Chapa T. Integrated Care for Asian American, Native Hawaiian and Pacific Islander Communities: a blueprint for action: Consensus Statement and Recommendations. Department of Health and Human Services, Office of Minority Health. 2012. p. 43.
29. Huang H-C, Liu S-I, Hwang L-C, Sun F-J, Tjung J-J, Huang C-R, et al. The effectiveness of Culturally Sensitive Collaborative Treatment of depressed Chinese in family medicine clinics: a randomized controlled trial. *Gen Hosp Psychiatry*. 2018;50:96–103.
30. McKnight-Eily LR, Okoro CA, Strine TW, Verlenden J, Hollis ND, Njai R, et al. Racial and Ethnic Disparities in the Prevalence of Stress and Worry, Mental Health Conditions, and Increased Substance Use Among Adults During the COVID-19 Pandemic—United States, April and May 2020. *MMWR Morb Mortal Wkly Rep*. 2021;70(5):162–6.
31. Kugelmass H. “Sorry, I’m not accepting new patients”: an audit study of access to mental health care. *J Health Soc Behav*. 2016;57(2):168–83.
32. Garb HN. Race bias and gender bias in the diagnosis of psychological disorders. *Clin Psychol Rev*. 2021;90:102087.
33. Lasser KE, Himmelstein DU, Woolhandler S. Access to care, health status, and health disparities in the United States and Canada: results of a cross-national population-based survey. *Am J Public Health*. 2006;96(7):1300–7.
34. Santiago CD, Miranda J. Progress in improving mental health services for racial-ethnic minority groups: a ten-year perspective. *Psychiatr Serv*. 2014;65(2):180–5.
35. Marrast L, Himmelstein DU, Woolhandler S. Racial and ethnic disparities in mental health care for children and young adults: a national study. *Int J Health Serv*. 2016;46(4):810–24.
36. Kirby JB, Zuvekas SH, Borsky AE, Ngo-Metzger Q. Rural residents with mental health needs have fewer care visits than urban counterparts. *Health Aff (Millwood)*. 2019;38(12):2057–60.
37. Andrilla CHA, Patterson DG, Garberson LA, Coulthard C, Larson EH. Geographic variation in the supply of selected behavioral health providers. *Am J Prev Med*. 2018;54(6 Suppl 3):S199–207.
38. Powers DM, Bowen DJ, Arao RF, Vredevoogd M, Russo J, Grover T, et al. Rural clinics implementing collaborative care for low-income patients can achieve comparable or better depression outcomes. *Fam Syst Health*. 2020;38(3):242–54.
39. Renn BN, Johnson M, Powers DM, Vredevoogd M, Unützer J. Collaborative care for depression yields similar improvement among older and younger rural adults. *J Am Geriatr Soc*. 2021;70(1):110–8.
40. Kathol RG, McAlpine D, Kishi Y, Spies R, Meller W, Bernhardt T, et al. General medical and pharmacy claims expenditures in users of behavioral health services. *J Gen Intern Med*. 2005;20(2):160–7.
41. Shen C, Sambamoorthi U, Rust G. Co-occurring mental illness and health care utilization and expenditures in adults with obesity and chronic physical illness. *Dis Manag*. 2008;11(3):153–60.
42. Heath B Jr, Reynolds K, Romero PW. A standard framework for levels of integrated healthcare. Washington, DC: SAMSHA-HRSA Center for Integrated Health Solutions; 2013.
43. Callahan CM, Kroenke K, Counsell SR, Hendrie HC, Perkins AJ, Katon W, et al. Treatment of depression improves physical functioning in older adults. *J Am Geriatr Soc*. 2005;53(3):367–73.
44. van Orden M, Hoffman T, Haffmans J, Spinhoven P, Hoencamp E. Collaborative mental health care versus care as usual in a primary care setting: a randomized controlled trial. *Psychiatr Serv*. 2009;60(1):74–9.
45. Elrashidi MY, Mohammed K, Bora PR, Haydour Q, Farah W, DeJesus R, et al. Co-located specialty care within primary care practice settings: a systematic review and meta-analysis. *Healthc (Amst)*. 2018;6(1):52–66.



46. Wiley-Exley E, Domino ME, Maxwell J, Levkoff SE. Cost-effectiveness of integrated care for elderly depressed patients in the PRISM-E study. *J Ment Health Policy Econ.* 2009;12(4):205–13.
47. Chen H, Coakley EH, Cheal K, Maxwell J, Costantino G, Krahn DD, et al. Satisfaction with mental health services in older primary care patients. *Am J Geriatr Psychiatry.* 2006;14(4):371–9.
48. Hedrick SC, Chaney EF, Felker B, Liu C-F, Hasenberg N, Heagerty P, et al. Effectiveness of collaborative care depression treatment in Veterans' Affairs primary care. *J Gen Intern Med.* 2003;18(1):9–16.
49. Ayalon L, Areán PA, Linkins K, Lynch M, Estes CL. Integration of mental health services into primary care overcomes ethnic disparities in access to mental health services between black and white elderly. *Am J Geriatr Psychiatry.* 2007;15(10):906–12.
50. Haggarty JM, Jarva JA, Cernovsky Z, Karioja K, Martin L. Wait time impact of co-located primary care mental health services: the effect of adding collaborative care in northern Ontario. *Can J Psychiatr.* 2012;57(1):29–33.
51. Felker BL, Barnes RF, Greenberg DM, Chaney EF, Shores MM, Gillespie-Gateley L, et al. Preliminary outcomes from an integrated mental health primary care team. *Psychiatr Serv.* 2004;55(4):442–4.
52. Reiter JT, Dobmeyer AC, Hunter CL. The primary care behavioral health (PCBH) model: an overview and operational definition. *J Clin Psychol Med Settings.* 2018;25(2):109–26.
53. Hunter CL, Funderburk JS, Polaha J, Bauman D, Goodie JL, Hunter CM. Primary care behavioral health (PCBH) model research: current state of the science and a call to action. *J Clin Psychol Med Settings.* 2018;25(2):127–56.
54. Kearney LK, Post EP, Pomerantz AS, Zeiss AM. Applying the interprofessional patient aligned care team in the Department of Veterans Affairs: transforming primary care. *Am Psychol.* 2014;69(4):399–408.
55. Hunter CL, Goodie JL, Dobmeyer AC, Dorrance KA. Tipping points in the Department of Defense's experience with psychologists in primary care. *Am Psychol.* 2014;69(4):388–98.
56. Kanapaux W. The road to integrated care: commitment is the key. Tennessee CMHC demonstrates promise of co-located behavioral and primary care. *Behav Healthc Tomorrow.* 2004;13(2):15.
57. Hill JM. Behavioral health integration: transforming patient care, medical resident education, and physician effectiveness. *Int J Psychiatry Med.* 2015;50(1):36–49.
58. Funderburk JS, Fielder RL, DeMartini KS, Flynn CA. Integrating behavioral health services into a university health center: patient and provider satisfaction. *Fam Syst Health.* 2012;30(2):130–40.
59. Angantyr K, Rimner A, Nordén T, Norlander T. Primary care behavioral health model: perspectives of outcome, client satisfaction, and gender. *Soc Behav Personal.* 2015;43(2):287–301.
60. Katon W, Robinson P, Von Korff M, Lin E, Bush T, Ludman E, et al. A multifaceted intervention to improve treatment of depression in primary care. *Arch Gen Psychiatry.* 1996;53(10):924–32.
61. Cigrang JA, Rauch SAM, Mintz J, Brundige A, Avila LL, Bryan CJ, et al. Treatment of active duty military with PTSD in primary care: a follow-up report. *J Anxiety Disord.* 2015;36:110–4.
62. Goodie JL, Isler WC, Hunter C, Peterson AL. Using behavioral health consultants to treat insomnia in primary care: a clinical case series. *J Clin Psychol.* 2009;65(3):294–304.
63. Sadock E, Auerbach SM, Rybarczyk B, Aggarwal A. Evaluation of integrated psychological services in a university-based primary care clinic. *J Clin Psychol Med Settings.* 2014;21(1):19–32.
64. McFeature B, Pierce T. Primary care behavioral health consultation reduces depression levels among mood-disordered patients. *J Health Dispar Res Pract.* 2012;5(2):4.
65. Brawer PA, Martielli R, Pye PL, Manwaring J, Tierney A. St. Louis Initiative for Integrated Care Excellence (SLI(2)CE): integrated-collaborative care on a large scale model. *Fam Syst Health.* 2010;28(2):175–87.
66. Serrano N, Monden K. The effect of behavioral health consultation on the care of depression by primary care clinicians. *WMJ.* 2011;110(3):113–8.
67. Lanoye A, Stewart KE, Rybarczyk BD, Auerbach SM, Sadock E, Aggarwal A, et al. The impact of integrated psychological services in a safety net primary care clinic on medical utilization. *J Clin Psychol.* 2017;73(6):681–92.
68. Serrano N, Cordes C, Cubic B, Daub S. The state and future of the primary care behavioral health model of service delivery workforce. *J Clin Psychol Med Settings.* 2018;25(2):157–68.
69. Robinson PJ, Reiter JT. Behavioral consultation and primary care: a guide to integrative services. Cham: Springer International Publishing; 2016.
70. Robinson PJ, Strosahl KD. Behavioral health consultation and primary care: lessons learned. *J Clin Psychol Med Settings.* 2009;16(1):58–71.
71. Freeman DS, Manson L, Howard J, Hornberger J. Financing the primary care behavioral health model. *J Clin Psychol Med Settings.* 2018;25(2):197–209.
72. Freeman D. The behavioral health medical home. In: Cummings NA, O'Donohue WT, editors. *Understanding the behavioral healthcare crisis: the promise of integrated care and diagnostic reform.* Routledge; 2011. p. 250–65.
73. Gouge N, Polaha J, Rogers R, Harden A. Integrating behavioral health into pediatric primary care: implications for provider time and cost. *South Med J.* 2016;109(12):774–8.
74. Miller BF, Brown Levey SM, Payne-Murphy JC, Kwan BM. Outlining the scope of behavioral health practice in integrated primary care: dispelling the myth of the one-trick mental health pony. *Fam Syst Health.* 2014;32(3):338–43.
75. Strobbe S. Prevention and screening, brief intervention, and referral to treatment for substance use in primary care. *Prim Care.* 2014;41(2):185–213.
76. Prochaska JO, DiClemente CC, Norcross JC. In search of how people change. Applications to addictive behaviors. *Am Psychol.* 1992;47(9):1102–14.
77. Miller WR, Rollnick S. *Motivational interviewing: helping people change.* Illustrated. Guilford Press; 2012.
78. Centers for Medicare and Medicaid Services. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse. 2021. <https://www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&NCALd=249>.
79. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption—II. *Addiction.* 1993;88(6):791–804.
80. Gavin DR, Ross HE, Skinner HA. Diagnostic validity of the drug abuse screening test in the assessment of DSM-III drug disorders. *Br J Addict.* 1989;84(3):301–7.
81. Young MM, Stevens A, Galipeau J, Pirie T, Garrity C, Singh K, et al. Effectiveness of brief interventions as part of the Screening, Brief Intervention and Referral to Treatment (SBIRT) model for reducing the nonmedical use of psychoactive substances: a systematic review. *Syst Rev.* 2014;3:50.
82. Kaner EF, Beyer FR, Muirhead C, Campbell F, Pienaar ED, Bertholet N, et al. Effectiveness of brief alcohol interventions in primary care populations. *Cochrane Database Syst Rev.* 2018;2:CD004148.
83. Bien TH, Miller WR, Tonigan JS. Brief interventions for alcohol problems: a review. *Addiction.* 1993;88(3):315–35.
84. Thoele K, Moffat L, Konicek S, Lam-Chi M, Newkirk E, Fulton J, et al. Strategies to promote the implementation of Screening,

- Brief Intervention, and Referral to Treatment (SBIRT) in health-care settings: a scoping review. *Subst Abuse Treat Prev Policy*. 2021;16(1):42.
85. Keurhorst M, van de Glind I, Bitarello do Amaral-Sabadini M, Anderson P, Kaner E, Newbury-Birch D, et al. Implementation strategies to enhance management of heavy alcohol consumption in primary health care: a meta-analysis. *Addiction*. 2015;110(12):1877–900.
  86. Nilsen P, Aalto M, Bendtsen P, Seppä K. Effectiveness of strategies to implement brief alcohol intervention in primary healthcare. A systematic review. *Scand J Prim Health Care*. 2006;24(1):5–15.
  87. Wagner EH, Glasgow RE, Davis C, Bonomi AE, Provost L, McCulloch D, et al. Quality improvement in chronic illness care: a collaborative approach. *Jt Comm J Qual Improv*. 2001;27(2):63–80.
  88. Dissemination of integrated care within adult primary care settings: the collaborative care model. *American Psychiatric Association & Academy of Psychosomatic Medicine*; 2016. <https://psychiatry.org/psychiatrists/practice/professional-interests/integrated-care/collaborative-care-model>.
  89. Garrison GM, Angstman KB, O'Connor SS, Williams MD, Lineberry TW. Time to Remission for Depression with Collaborative Care Management (CCM) in Primary Care. *J Am Board Fam Med*. 2016;29(1):10–7.
  90. McGough PM, Bauer AM, Collins L, Dugdale DC. Integrating Behavioral Health into Primary Care. *Popul Health Manag*. 2016;19(2):81–7.
  91. Solberg LI, Crain AL, Jaeckels N, Ohnsorg KA, Margolis KL, Beck A, et al. The DIAMOND initiative: implementing collaborative care for depression in 75 primary care clinics. *Implement Sci*. 2013;8:135.
  92. Unützer J, Katon W, Callahan CM, Williams JW, Hunkeler E, Harpole L, et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *JAMA*. 2002;288(22):2836–45.
  93. Unützer J, Katon WJ, Fan M-Y, Schoenbaum MC, Lin EHB, Della Penna RD, et al. Long-term cost effects of collaborative care for late-life depression. *Am J Manag Care*. 2008;14(2):95–100.
  94. Archer J, Bower P, Gilbody S, Lovell K, Richards D, Gask L, et al. Collaborative care for depression and anxiety problems. *Cochrane Database Syst Rev*. 2012;10:CD006525.
  95. Roy-Byrne PP, Craske MG, Stein MB, Sullivan G, Bystritsky A, Katon W, et al. A randomized effectiveness trial of cognitive-behavioral therapy and medication for primary care panic disorder. *Arch Gen Psychiatry*. 2005;62(3):290–8.
  96. Roy-Byrne P, Craske MG, Sullivan G, Rose RD, Edlund MJ, Lang AJ, et al. Delivery of evidence-based treatment for multiple anxiety disorders in primary care: a randomized controlled trial. *JAMA*. 2010;303(19):1921–8.
  97. Fortney JC, Pyne JM, Kimbrell TA, Hudson TJ, Robinson DE, Schneider R, et al. Telemedicine-based collaborative care for posttraumatic stress disorder: a randomized clinical trial. *JAMA Psychiatry*. 2015;72(1):58–67.
  98. Suzuki J, Matthews ML, Brick D, Nguyen M-T, Wasan AD, Jamison RN, et al. Implementation of a collaborative care management program with buprenorphine in primary care: a comparison between opioid-dependent patients and patients with chronic pain using opioids nonmedically. *J Opioid Manag*. 2014;10(3):159–68.
  99. Watkins KE, Ober AJ, Lamp K, Lind M, Setodji C, Osilla KC, et al. Collaborative care for opioid and alcohol use disorders in primary care: the SUMMIT randomized clinical trial. *JAMA Intern Med*. 2017;177(10):1480–8.
  100. Silverstein M, Hironaka LK, Walter HJ, Feinberg E, Sandler J, Pellicer M, et al. Collaborative care for children with ADHD symptoms: a randomized comparative effectiveness trial. *Pediatrics*. 2015;135(4):e858–67.
  101. Fortney JC, Bauer AM, Cerimele JM, Pyne JM, Pfeiffer P, Heagerty PJ, et al. Comparison of teleintegrated care and tele-referral care for treating complex psychiatric disorders in primary care: a pragmatic randomized comparative effectiveness trial. *JAMA Psychiatry*. 2021;78(11):1189–99.
  102. Kruzer K, Avery A, Lavakumar M. Collaborative care for bipolar disorder in people living with HIV. *Gen Hosp Psychiatry*. 2020;64:117–8.
  103. Katon WJ, Lin EHB, Von Korff M, Ciechanowski P, Ludman EJ, Young B, et al. Collaborative care for patients with depression and chronic illnesses. *N Engl J Med*. 2010;363(27):2611–20.
  104. Sharpe M, Walker J, Holm Hansen C, Martin P, Symeonides S, Gourley C, et al. Integrated collaborative care for comorbid major depression in patients with cancer (SMaRT Oncology-2): a multicentre randomised controlled effectiveness trial. *Lancet*. 2014;384(9948):1099–108.
  105. Ma J, Rosas LG, Lv N, Xiao L, Snowden MB, Venditti EM, et al. Effect of integrated behavioral weight loss treatment and problem-solving therapy on body mass index and depressive symptoms among patients with obesity and depression: the RAINBOW randomized clinical trial. *JAMA*. 2019;321(9):869–79.
  106. Pyne JM, Fortney JC, Curran GM, Tripathi S, Atkinson JH, Kilbourne AM, et al. Effectiveness of collaborative care for depression in human immunodeficiency virus clinics. *Arch Intern Med*. 2011;171(1):23–31.
  107. Grote NK, Katon WJ, Russo JE, Lohr MJ, Curran M, Galvin E, et al. Collaborative care for perinatal depression in socioeconomically disadvantaged women: a randomized trial. *Depress Anxiety*. 2015;32(11):821–34.
  108. Katon W, Russo J, Reed SD, Croicu CA, Ludman E, LaRocco A, et al. A randomized trial of collaborative depression care in obstetrics and gynecology clinics: socioeconomic disadvantage and treatment response. *Am J Psychiatry*. 2015;172(1):32–40.
  109. Fortney JC, Pyne JM, Mouden SB, Mittal D, Hudson TJ, Schroeder GW, et al. Practice-based versus telemedicine-based collaborative care for depression in rural federally qualified health centers: a pragmatic randomized comparative effectiveness trial. *Am J Psychiatry*. 2013;170(4):414–25.
  110. Hu J, Wu T, Damodaran S, Tabb KM, Bauer A, Huang H. The effectiveness of collaborative care on depression outcomes for racial/ethnic minority populations in primary care: a systematic review. *Psychosomatics*. 2020;61(6):632–44.
  111. Whitfield J, Lepoire E, Stanczyk B, Ratzliff A, Cerimele JM. Remote collaborative care with off-site behavioral health care managers: a systematic review of clinical trials. *J Acad Consult Liaison Psychiatry*. 2021;63(1):71–85.
  112. Katon W, Russo J, Lin EHB, Schmittdiel J, Ciechanowski P, Ludman E, et al. Cost-effectiveness of a multicondition collaborative care intervention: a randomized controlled trial. *Arch Gen Psychiatry*. 2012;69(5):506–14.
  113. Simon GE, Katon WJ, Lin EHB, Rutter C, Manning WG, Von Korff M, et al. Cost-effectiveness of systematic depression treatment among people with diabetes mellitus. *Arch Gen Psychiatry*. 2007;64(1):65–72.
  114. Jacob V, Chattopadhyay SK, Sipe TA, Thota AB, Byard GJ, Chapman DP, et al. Economics of collaborative care for management of depressive disorders: a community guide systematic review. *Am J Prev Med*. 2012;42(5):539–49.
  115. Cross DA, Qin X, Huckfeldt P, Jarosek S, Parsons H, Golberstein E. Use of Medicare's behavioral health integration service codes in the first two years: an observational study. *J Gen Intern Med*. 2020;35(12):3745–6.
  116. Brown JD, Urato C, Ogbuefi P. Uptake of Medicare behavioral health integration billing codes in 2017 and 2018. *J Gen Intern Med*. 2021;36(2):564–6.

117. Carlo AD, Corage Baden A, McCarty RL, Ratzliff ADH. Early Health System Experiences with Collaborative Care (CoCM) billing codes: a qualitative study of leadership and support staff. *J Gen Intern Med.* 2019;34(10):2150–8.
118. Advancing Integrated Mental Health Solutions (AIMS) Center. 2021. <http://aims.uw.edu/>.
119. The Organized. Evidence-based care: behavioral health integration guide. 2021. <http://www.safetynetmedicalhome.org/change-concepts/organized-evidence-based-care/behavioral-health>.
120. Substance Abuse and Mental Health Services Administration. Integration tools. 2021. <http://www.samhsa.gov/children/behavioral-health-care-integration-resources>.
121. Integrated Care. 2021. <https://www.psychiatry.org/psychiatrists/practice/professional-interests/integrated-care>.
122. Ratzliff A, Phillips KE, Sugarman JR, Unützer J, Wagner EH. Practical approaches for achieving integrated behavioral health care in primary care settings. *Am J Med Qual.* 2017;32(2):117–21.
123. Davis M, Balasubramanian BA, Waller E, Miller BF, Green LA, Cohen DJ. Integrating behavioral and physical health care in the real world: early lessons from advancing care together. *J Am Board Fam Med.* 2013;26(5):588–602.
124. Cohen DJ, Balasubramanian BA, Davis M, Hall J, Gunn R, Stange KC, et al. Understanding care integration from the ground up: five organizing constructs that shape integrated practices. *J Am Board Fam Med.* 2015;28(Suppl 1):S7–20.
125. Cohen DJ, Davis M, Balasubramanian BA, Gunn R, Hall J, deGruy FV, et al. Integrating behavioral health and primary care: consulting, coordinating and collaborating among professionals. *J Am Board Fam Med.* 2015;28(Suppl 1):S21–31.
126. Hall J, Cohen DJ, Davis M, Gunn R, Blount A, Pollack DA, et al. Preparing the workforce for behavioral health and primary care integration. *J Am Board Fam Med.* 2015;28(Suppl 1):S41–51.
127. Gunn R, Davis MM, Hall J, Heintzman J, Muench J, Smeds B, et al. Designing clinical space for the delivery of integrated behavioral health and primary care. *J Am Board Fam Med.* 2015;28(Suppl 1):S52–62.
128. Cifuentes M, Davis M, Fernald D, Gunn R, Dickinson P, Cohen DJ. Electronic health record challenges, workarounds, and solutions observed in practices integrating behavioral health and primary care. *J Am Board Fam Med.* 2015;28(Suppl 1):S63–72.
129. Balasubramanian BA, Fernald D, Dickinson LM, Davis M, Gunn R, Crabtree BF, et al. REACH of interventions integrating primary care and behavioral health. *J Am Board Fam Med.* 2015;28(Suppl 1):S73–85.
130. Wallace NT, Cohen DJ, Gunn R, Beck A, Melek S, Bechtold D, et al. Start-up and ongoing practice expenses of behavioral health and primary care integration interventions in the advancing care together (ACT) program. *J Am Board Fam Med.* 2015;28(Suppl 1):S86–97.
131. Grazier KL, Smiley ML, Bondalapati KS. Overcoming barriers to integrating behavioral health and primary care services. *J Prim Care Community Health.* 2016;7(4):242–8.
132. Fisher L, Dickinson WP. Psychology and primary care: new collaborations for providing effective care for adults with chronic health conditions. *Am Psychol.* 2014;69(4):355–63.
133. McDaniel SH, Grus CL, Cubic BA, Hunter CL, Kearney LK, Schuman CC, et al. Competencies for psychology practice in primary care. *Am Psychol.* 2014;69(4):409–29.
134. Mitchell AJ, Vaze A, Rao S. Clinical diagnosis of depression in primary care: a meta-analysis. *Lancet.* 2009;374(9690):609–19.
135. Martin M, Allison L, Banks E, Bauman D, Harsh J, Cahill A, et al. Essential skills for family medicine residents practicing integrated behavioral health A Delphi study. *Fam Med.* 2019;51(3):227–33.
136. Hatfield D, McCullough L, Frantz SHB, Krieger K. Do we know when our clients get worse? an investigation of therapists' ability to detect negative client change. *Clin Psychol Psychother.* 2010;17(1):25–32.
137. Bleyel C, Hoffmann M, Wensing M, Hartmann M, Friederich H-C, Haun MW. Patients' perspective on mental health specialist video consultations in primary care: qualitative preimplementation study of anticipated benefits and barriers. *J Med Internet Res.* 2020;22(4):e17330.
138. Tully PJ, Baumeister H. Collaborative care for comorbid depression and coronary heart disease: a systematic review and meta-analysis of randomised controlled trials. *BMJ Open.* 2015;5(12):e009128.
139. Woltmann E, Grogan-Kaylor A, Perron B, Georges H, Kilbourne AM, Bauer MS. Comparative effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioral health care settings: systematic review and meta-analysis. *Am J Psychiatry.* 2012;169(8):790–804.
140. McGregor B, Belton A, Henry TL, Wrenn G, Holden KB. Improving behavioral health equity through cultural competence training of health care providers. *Ethn Dis.* 2019;29(Suppl 2):359–64.
141. O'Loughlin K, Donovan EK, Radcliff Z, Ryan M, Rybarczyk B. Using integrated behavioral healthcare to address behavioral health disparities in underserved populations. *Trans Issues Psychol Sci.* 2019;5(4):374–89.
142. Martin MP, White MB, Hodgson JL, Lamson AL, Irons TG. Integrated primary care: a systematic review of program characteristics. *Fam Syst Health.* 2014;32(1):101–15.
143. CMS white paper on CMS Innovation Center's strategy: driving health system transformation—a strategy for the CMS Innovation Center's second decade. 2021. <https://innovation.cms.gov/strategic-direction-whitepaper>.
144. Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Ann Fam Med.* 2014;12(6):573–6.
145. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. *Health Aff (Millwood).* 2008;27(3):759–69.