



# The Primary Care Behavioral Health (PCBH) Model: An Overview and Operational Definition

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## Abstract

The Primary Care Behavioral Health (PCBH) model is a prominent approach to the integration of behavioral health services into primary care settings. Implementation of the PCBH model has grown over the past two decades, yet research and training efforts have been slowed by inconsistent terminology and lack of a concise, operationalized definition of the model and its key components. This article provides the first concise operationalized definition of the PCBH model, developed from examination of multiple published resources and consultation with nationally recognized PCBH model experts. The definition frames the model as a team-based approach to managing biopsychosocial issues that present in primary care, with the over-arching goal of improving primary care in general. The article provides a description of the key components and strategies used in the model, the rationale for those strategies, a brief comparison of this model to other integration approaches, a focused summary of PCBH model outcomes, and an overview of common challenges to implementing the model.

**Keywords** Primary Care Behavioral Health (PCBH) model · Integrated primary care · Behavioral health consultation · Primary care · Patient-Centered Medical Home · Integrated care models

## Introduction

Interest in the integration of behavioral health services into primary care settings has been rapidly expanding over the past two decades. This expansion has been accompanied by service delivery model development (e.g., Babor et al., 2007; Collins, Levis Hewson, Munger, & Wade, 2010; Robinson & Reiter, 2016; Strosahl, 1998; Unutzer et al., 2002), a growing research base (e.g., Archer et al., 2012; Beehler, Funderburk, Possemato, & Dollar, 2013; Kessler, 2015; Peek, Cohen, & deGruy, 2014), alterations to healthcare policy and financing (e.g., Ader et al., 2015; Brown Levey, Miller, & deGruy, 2012; Monson, Sheldon, Ivey, Kinman, & Beacham, 2012),

and shifts in training program curricula and competencies (Blount & Miller, 2009; Dobbmeyer et al., 2016; Hall et al., 2015; McDaniel et al., 2014; Strosahl, 2005). These interlinked domains need ongoing development to ensure the future success of integrated primary care behavioral health efforts. The foundation of this work relies on clear articulation of service delivery model components in order to develop, implement, and evaluate service delivery model policy, training, and research that is consistent and replicable across providers and settings.

The Primary Care Behavioral Health (PCBH) model of service delivery has been described in a number of publications (e.g., Freeman, 2011; Gatchel & Oordt, 2003; Hunter, Goodie, Oordt, & Dobbmeyer, 2017; Robinson & Reiter, 2016; Serrano, 2015; Strosahl, 1996, 1998, 2005). The model has been implemented across the United States (U.S.) in large healthcare systems such as the U.S. Veterans Health Administration (VHA; Kearney, Post, Pomerantz, & Zeiss, 2014) and the U.S. Department of Defense (DoD; Hunter, Goodie, Dobbmeyer, & Dorrance, 2014); in community health organizations such as Cherokee Health Systems (Freeman, 2011; Kanapaux, 2004) and in various other settings, such as family medicine residency programs (Hill, 2015), university health centers (e.g., Funderburk, Fielder,

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DeMartini, & Flynn, 2012; Sadock, Auerbach, Rybarczyk, & Aggarwal, 2014), and homeless clinics (Ogbeide, Buck, & Reiter, 2014). The model has also been the subject of a growing number of research publications and training initiatives (e.g., Dombeyer et al., 2016; Hunter, Funderburk et al., 2017).

Nevertheless, there remains confusion in the literature and professional community regarding core goals, tenets, and strategies of this model. For example, PCBH model research articles do not always use consistent terminology or include the same model components (Hunter, Funderburk et al., 2017), which contributes to difficulty understanding and comparing outcomes. One reason for this inconsistency may be the lack of a clear, concise definition of the model. While many publications have provided lengthy descriptions, such as an entire book (e.g., Robinson & Reiter, 2016; Serrano, 2015) or book chapter (e.g., Freeman, 2011; Strosahl, 2005), none contain a concise definition that might be used to promote a consistent understanding of the model. In addition, the published descriptions of the PCBH model have typically focused on explaining the application of the model without making a clear connection to any sort of overarching population health management strategy.

Thus, the purpose of this article is to provide a succinct overview of the PCBH model of service delivery, one that concisely defines the model and outlines components and strategies from various PCBH model publications, and then unifies them under a clear theoretical framework. This represents the first attempt to incorporate disparate viewpoints and information on the model into a concise and coherent whole. We begin with a definition and explanation of the model, including a description of the process used to construct the definition and outline the model's core components. This is followed by the rationale for the core components and strategies for facilitating their implementation; a brief discussion of how this model compares to other integration approaches; a focused summary of PCBH model outcomes; and an overview of common challenges to implementing the model. Some of these topics are also reviewed in more depth in other articles in this special journal issue.

## Definition Development Process

### Selection of Source References

To construct a concise definition, we began by developing a list of published descriptions of the model, which we refer to here as “source references.” We opted against using a standard literature search to find source references for a number of reasons. First, prior experience conducting PCBH literature searches revealed difficulty identifying sources with sufficient detail regarding the model of integration used (e.g.,

research papers with insufficient model description), as well as inconsistent use of the term “PCBH” (which has not always been used in descriptions of this model, and has also been applied to other integration approaches). Additionally, most of the detailed writing commonly accepted to be about the PCBH model has been in books or book chapters, which do not appear in a literature search.

We therefore developed the list of source references by first reviewing the reference lists of two texts that are both recent and commonly associated with the PCBH model (Hunter, Goodie et al., 2017; Robinson & Reiter, 2016). References from these two texts were selected as possible source references if their focus was on describing a model, as opposed to reporting results of an empirical study (without sufficient content for a useful model description), and if the model was described as a “consultation” model, a unique identifier that distinguishes the PCBH model from other approaches. In an effort to ensure that the selected references were describing a similar integration approach, we ultimately included as source references only those that referred to, or were referred to by, at least one of the other source references as an approach consistent with their own. In other words, this process produced a list of source references that emanated from two texts commonly associated with the PCBH model; that described in detail an integrated care model, specifically a consultation model; and that clearly recognized a connection with other source references on the list. Eight source references resulted: Freeman, 2011; Gatchel & Oordt, 2003; Hunter, Goodie et al., 2017; Robinson & Reiter, 2016; Serrano, 2015; Strosahl, 1996, 1998, 2005.

### Selection of Model Components

For composing a first draft of the definition, we next developed a list of model components. For a starting point, we used the “GATHER” acronym detailed in Robinson and Reiter (2016), because it provided a clear initial list of components to consider, in one of the most recent texts describing the model. In that acronym, “G” is for a “Generalist approach”; “A” is for “Accessibility”; “T” is for “Team-based”; “H” is for “High productivity”; “E” is for “Educator”; and “R” is for “Routine”. These terms are explained in detail later in this paper. We then reviewed the source references to determine the degree to which these components matched the descriptions of the model found in the source references. That review showed that the GATHER components were implied or named specifically by all or by a majority of the source references as a part of their integration approach. No additional components were apparent in other source references. Table 1 shows which components map to which source references.

**Table 1** PCBH model components contained in source references

	Freeman (2011)	Gatchel and Oordt (2003)	Hunter, Goodie et al. (2017)	Robinson and Reiter (2016)	Serrano (2015)	Strosahl (1996)	Strosahl (1998)	Strosahl (2005)
<b>Components</b>								
Generalist	X	X	X	X	X	X	X	X
Accessible	X	X	X	X	X	X	X	X
Team-based	X	X	X	X	X	X	X	X
High productivity	X	X	X	X	X	X	X	X
Educator <sup>a</sup>	X			X	X	X	X	X
Routine	X	X	X	X	X	X	X	X
<b>Core strategies</b>								
Focused visits	X	X	X	X	X	X	X	X
Consultant	X	X	X	X	X	X	X	X

<sup>a</sup>Varied interpretations and/or emphases among the source references

### Production of the Initial Definition Draft

The six key components in Table 1 provided the foundation for the definition. To produce a more comprehensive definition, we augmented the components with core strategies involving the use of focused visits and a consultative care framework. While these two strategies are described in all of the source references, we provided our own interpretation of some specifics because such detail is often missing or conflicting in the source references. For example, source references do not consistently describe the circumstances for referring a patient to specialty care, so we provided our own interpretation of that. We also provided an over-arching population goal for the model. The goal expands on the population framework emphasized in early source references (Gatchel & Oordt, 2003; Strosahl, 1996, 1998). While all of the source references describe the PCBH model as a “population health approach,” there have been varied interpretations of that term and often limited details about it. Thus, we included our own interpretation of the population health goal of the model.

### Subject Matter Expert (SME) Selection

The above process produced a definition draft that contained components and core strategies common to the source references, along with some specifics and an over-arching population health goal that represented the authors’ best interpretation of the model. For feedback on this first draft of the definition, we incorporated review comments from 15 subject matter experts (SME) known for their expertise in the PCBH model. Each SME had current or past leadership in a primary care organization using a model built around all or most of the common components and at least one publication regarding a model with the common components.

A subset of the 15 SMEs were lead authors on at least one article in the current special journal edition on the PCBH model; this subset of eight (including the three authors of this paper) was asked to provide a second review (see next section). The list of SMEs is not likely exhaustive for all persons who would meet such criteria, but did have representation from each of the main sectors of primary care delivery in the U.S. (i.e., community health, commercial health, family medicine residencies, VHA, and DoD). The SMEs were told that a singular definition of the PCBH model was being constructed for publication, and that their feedback would be used primarily to determine and refine the common components and strategies as well as the main goal of the PCBH model; the feedback was also used to modify wording of parts of the definition.

### Production of the Final Definition

In the second SME review process, there was unanimity among the experts with respect to the components and goal of the model, but a number of wording changes were suggested. The lead author followed-up individually with SMEs as needed to clarify suggestions. The revised draft of the definition was then sent for further review to the subset of eight SMEs who are lead authors in this special journal edition. Some final wording changes were recommended but no further substantive changes were suggested or made to the common components or main model goal based on this second round of reviews.

### Definition of the PCBH Model

The following definition of the PCBH model resulted from the process described above:

The PCBH model is a team-based primary care approach to managing behavioral health problems and biopsychosocially influenced health conditions. The model's main goal is to enhance the primary care team's ability to manage and treat such problems/conditions, with resulting improvements in primary care services for the entire clinic population. The model incorporates into the primary care team a behavioral health consultant (BHC), sometimes referred to as a behavioral health clinician, to extend and support the primary care provider (PCP) and team. The BHC works as a generalist and an educator who provides high volume services that are accessible, team-based, and a routine part of primary care. Specifically, the BHC assists in the care of patients of any age and with any health condition (Generalist); strives to intervene with all patients on the day they are referred (Accessible); shares clinic space and resources and assists the team in various ways (Team-based); engages with a large percentage of the clinic population (High volume); helps improve the team's biopsychosocial assessment and intervention skills and processes (Educator); and is a routine part of biopsychosocial care (Routine). To accomplish these goals, BHCs use focused (15–30 min) visits to assist with specific symptoms or functional improvement. Follow-up is based in a consultant approach in which patients are followed by the BHC and PCP until functioning or symptoms begin improving; at that point, the PCP resumes sole oversight of care but re-engages the BHC at any time, as needed. Patients not improving are referred to a higher intensity of care, though if that is not possible, the BHC may continue to assist until improvements are noted. This consultant approach also aims to improve the PCP's biopsychosocial management of health conditions in general.

### PCBH Model Core Components and Strategies

In this section, we discuss the components in more detail, and describe strategies BHCs and primary care staff may use to facilitate specific components. For each component, we suggest strategies described in the source references or other sources. In the interest of space and readability, we do not cite the relevant source references for every strategy; however, if we describe a strategy not from the source references, we do provide the citation for it.

### G is for Generalist Approach

Though not always defined in the source references, the model definition presented here states that being a “generalist” means a BHC engages with patients of any age and with any sort of biopsychosocially influenced health condition. Examples of such conditions include mental health or substance misuse problems (of any severity and chronicity); chronic disease (e.g., diabetes, hypertension); preventive care needs (e.g., tobacco cessation, healthy eating); social and sub-diagnostic problems (e.g., child behavior problems, domestic violence); and medically unexplained symptoms (e.g., chronic fatigue, chronic dizziness). Seeing patients of any age means a BHC engages with pediatric, adult and older adult patients with these conditions, or any other health concern influenced by biopsychosocial factors.

### Strategies for a Generalist Approach

The primary strategy suggested in the source references for seeing patients of every age and condition is acceptance of any referral request from a PCP. That is, BHCs may encourage PCPs to involve them in the care of patients whose health is being compromised by biopsychosocial factors in any way, without regard for severity of the problem. In certain circumstances an effort may also be made to link the patient with specialty mental health. In hopes of standardizing this practice, we suggest here that this be done only when the patient: needs emergency psychiatric care; fails to improve in response to care from the PCP and BHC; the patient specifically requests specialty mental health care; or needs specialty mental health assistance, as requested by the PCP (e.g., for medication guidance or some condition the PCP feels warrants additional resources). In this manner, patients are not screened out of a BHC visit on an a priori basis. Rather, the goal is to attempt to treat patients first with the primary care team, only referring to specialty care in the circumstances noted above, after consultation with the BHC. This approach recognizes that the ability to predict behavior change and treatment response is quite poor; i.e., even patients with chronic problems may suddenly make changes with minimal or even no assistance (Aderka, Nickerson, Boe, & Hoffman, 2012; Bryan et al., 2012; Prochaska, DiClemente, & Norcross, 1992; Strosahl, Robinson, & Gustavsson, 2012), and so should not be presumed to always need specialty care. This approach also helps ensure that the specialty care system is reserved for the patients who most need it.

### Clinical Example Illustrating a Generalist Approach

Dr. Johnston, a BHC in an integrated family medicine clinic, began her day by meeting with a parent of a 5-year old with

hyperactivity. Next, she saw a new mother experiencing symptoms of depression, then worked with a young adult for tobacco cessation, and then met with an older adult who recently lost his partner. The day continued with several appointments focused on helping patients better manage chronic pain, diabetes, and asthma, and a patient with chronic mental illness who had recently discontinued his psychotropic medication. In coordination with the PCP, Dr. Johnston planned follow-ups with each of these patients, but also helped the new mother with depression obtain an appointment with specialty mental health because she was not improving. In addition to further examples in the source references, Hunter et al. (2014) illustrate the generalist component in their description of a “morning in the life of a BHC” (p. 393).

### A is for Accessibility

In the model definition presented here, “accessibility” means that the BHC aims to see all patients on the same day the PCP requests help. Typically, a BHC is engaged via a “warm hand-off” (described below). Being easily accessible to PCPs for curbside consultations (brief, informal case discussions and consultations with PCPs for both general questions and specific patient needs) and to other team members (for assisting with various tasks related to biopsychosocial services), is also recommended in source references.

### Strategies for Promoting Accessibility

A warm hand-off is the most commonly mentioned process in the source references for engaging a BHC in patient care, though not all mention it and the descriptions of the process that do exist vary (as do the processes used in the real clinical world). The process we recommend begins when the PCP identifies a biopsychosocial concern in the current visit and requests BHC assistance. The BHC responds immediately, receiving a brief patient history and referral concern from the PCP before being introduced to the patient by the PCP in the exam room. The BHC then arranges to meet with the patient on the same day to start addressing the concerns. Sometimes the patient is seen immediately, other times there might be a wait, but the model’s goal as described in source references is always to have a patient visit that same day. (Note the goal might not be reached if the patient is unable to stay, but the point is to structure the service with same-day access as a goal). An effective warm hand-off may increase the patient’s receptivity to seeing the BHC and communicate to the patient the BHC’s role in seamless, team-based care. Of course, warm hand-offs also eliminate the problem of “no-shows” for the initial BHC appointment (assuming

the patient is seen for a visit on the same day as the warm hand-off).

The source references also all emphasize the use of focused visits to promote accessibility. These are visits that are briefer than the traditional hour-long psychotherapy visit. The scheduled length of BHC appointments is universally described in the source references to be 30 min, with the caveat that not all actually last 30 min because so many are not pre-planned but rather worked-in throughout the day (see Hunter et al., 2014, in addition to source references). Similar to how a PCP and other clinical staff operate in primary care, the actual time spent in a visit flexes up or down based on the patient’s needs, the schedule needs of all involved, and other unique factors on a given day. The use of 30-min appointment slots allows BHCs enough flexibility to assist the team and patients in various ways, and for various lengths of time, throughout the day. To further facilitate same-day access, the BHC’s scheduling template may include a mix of same-day (sometimes called “open access”) appointments along with a smaller number of scheduled follow-up appointments each day. Patients can be worked in for a visit at any time during the day, but having some appointments reserved for same-day access can make it easier for the BHC to flex the schedule to adapt to the needs of the day.

Use of a “consultant” rather than a “therapist” approach to planning follow-up visits also helps maintain access. All of the source references emphasize the consultant framework for the BHC’s work. There are many differences between the “therapist” and “consultant” approaches (Strosahl, 2005, gives an especially detailed summary), but from an access standpoint the use of a consultant approach helps avoid filling the BHC’s schedule with the same small group of patients repeatedly. A “therapist” in specialty care typically assumes the role of mental health care provider for the patient, and therefore plans to follow patients until they improve to the point of remission. This can result in frequent and/or prolonged follow-up visits with patients, which decreases access for other patients. By contrast, the role of a “consultant” is not to follow patients to remission, because the consultant is not the main provider of care; the PCP is the main provider of care. As a consultant, the BHC’s main role is to help the PCP, by following patients along with the PCP until they are starting to improve and have a clear plan in place for continued improvement. Once patients reach this point, the consultant’s role is complete, although if the patient’s condition worsens or new problems arise, the consultant may be re-engaged in care. Use of this consultant follow-up framework helps ensure visit slots are always open for new patients. The behavioral health provider in the PCBH model is typically called a “behavioral health consultant” because of the use of this follow-up framework.

### Clinical Example Illustrating Accessibility

Ms. Gomez arrived for an appointment with her PCP for newly diagnosed hypertension. They discussed factors that can influence hypertension and treatment strategies for managing it. Ms. Gomez was reluctant to start a medication, but was open to making some changes in her diet and the ways she was managing a stressful relationship with her daughter. The PCP talked some with Ms. Gomez about these issues, and then asked the medical assistant to find the BHC for a warm hand-off with Ms. Gomez. The medical assistant knocked on the BHC's door; the BHC was with a patient but excused herself to step out for the interruption. The medical assistant showed the BHC to the room where the PCP was wrapping up with Ms. Gomez, and the PCP introduced the two and gave an overview of Ms. Gomez's needs. The BHC explained that she needed to finish up with her current patient, but could see Ms. Gomez in about 10 min; Ms. Gomez agreed to wait. The BHC and PCP exited the room together, and stepped into another room where the PCP briefly provided some additional impressions and history. The PCP shared that Ms. Gomez had asked for a letter giving her time off work to help with the stressful situation with her daughter. The PCP asked if the BHC could help draft a letter, as appropriate, after meeting with Ms. Gomez, and the BHC agreed to do that. This scenario shows how same-day accessibility to the patient eliminated the need for Ms. Gomez to return for a separate clinic visit, and shows how accessibility to the team for helping with patient management tasks (in this case the letter) can also play out.

### T is for Team-Based

Perhaps the simplest way to understand a BHC's role is as a member of the primary care team. This is referenced in several parts of the definition developed in this article. All of the source references mention or imply this role, though they vary some with respect to how they describe it. Earlier descriptions of the model (Gatchel & Oordt, 2003; Strosahl, 1996, 1998) focus mostly on the platform for delivering brief interventions, whereas more recent descriptions (Freeman, 2011; Robinson & Reiter, 2016; Serrano, 2015) describe an expanded BHC role on the primary care team. All emphasize that the BHC is not working autonomously, but in concert with PCPs, nurses, medical assistants, and any other team members involved in service delivery.

Consistent with the more recent source references, the definition developed for this article suggests that like every other team member, the BHC's goal is to maximize the effectiveness of the primary care team for the whole clinic population. The definition states that the role of the BHC is to "extend and support the primary care provider (PCP) and team." That is, a BHC may actually be best conceptualized

as a PCP "extender." The role of an extender is to assume certain clinical care functions instead of the PCP, so that the PCP may reach as many patients as possible and work to the top of their license (Robertson, 2004). Like the nurse or diabetes educator or mid-level provider who may assist during a PCP visit, the BHC may extend the PCP visit by offering biopsychosocial interventions the PCP was unable (for whatever reason) to provide. In this section we include various team-based care strategies that can extend the reach PCPs have to their panel.

### Strategies for a Team-Based Approach

There are several PCBH model service delivery strategies that can promote team-based care. One is the *sharing of clinic resources*. The source references all discuss how BHCs use existing clinic resources to support the PCBH model service. For example, BHCs are noted to commonly use exam rooms for visits (often different exam rooms throughout the day, and always dependent on room availability) and to chart in the same medical record as other team members. They also use the same reception and scheduling staff as PCPs, and ideally are a part of the primary care budget (i.e., not a specialty mental health asset). At the same time, the source references commonly recommend that BHCs develop new resources for the clinic, such as helping build new clinical care pathways, gathering libraries of self-help educational material for the team to use with patients, or contributing new clinical tools to aid the team's care of biopsychosocial issues.

A second team-based strategy is being easily *accessible* for consultation. As noted earlier, a BHC aims to see all new patients on the same day the PCP requests help. Just as a nurse or diabetes educator may be called in during a PCP visit to help extend the PCP's care, a BHC can extend the PCP's care when assistance is desired for biopsychosocial issues. This typically happens via the warm hand-off process described earlier. Consistent with an extender role, the BHC might be called upon largely to provide the assistance that the PCP would have otherwise taken the time to do; at other times, the unique skillset of the BHC might be called upon to provide some service the PCP feels unable to provide (e.g., helping clarify a diagnosis with a complicated patient or providing more education and/or intervention than the PCP alone has the time or skillset to accomplish).

A third team-based strategy is an emphasis on *flexibly contributing* to the team. This means the BHC assists with addressing evolving clinic needs throughout the day while also managing their scheduled patient visits. This is often mentioned in the source references but is discussed in the most depth in Robinson and Reiter (2016). Those authors discuss how BHCs may help the team by fielding phone calls from patients in distress, drafting letters or forms (to

assist the PCP) for patients with biopsychosocial issues needing advocacy, and managing agitated patients in the clinic lobby. They also discuss other strategies for extending PCP access and reach. For example, patients presenting to PCPs for known behavioral concerns might be seen first by a BHC (before the PCP). The BHC can assess the patient's history and/or obtain updates, and can begin formulating recommendations for the treatment plan. This enables PCPs to then complete their visit more efficiently, leaving time for the PCP to either attend more to the needs of other patients or to spend more of the patient's visit time on other concerns. Sometimes patients are pre-scheduled for back-to-back visits with the BHC and PCP on the same day to achieve this; other times the BHC works in this assistance at the request of the PCP when the patient is with the PCP.

A fourth team-based care strategy is the routine use of *mutually developed and reinforced care plans*. In contrast to a specialty mental health service in which the typical therapist works mostly autonomously, a BHC's role is to develop a treatment plan in conjunction with the PCP, with both PCP and BHC taking into consideration one another's impressions and plan. When patients are seen for follow-up, the BHC may help facilitate adherence to the PCP's plan just as the PCP reinforces the BHC's plan. This level of team care is enhanced by frequent, routine care discussions between the PCP and BHC, and an awareness by both of what is happening with the patient's care. All of the source references emphasize this practice.

The use of biopsychosocial *clinical pathways* constitutes another team-based strategy. Pathways promote routine involvement of the BHC in the care of patients through the use of formal clinic workflows that specify who provides what care, at what point, and for how long, for patients with certain conditions (Ignatavicius & Hausman, 1995). Pathways could be simple, for example, stating that any patient with a high score on a depression inventory receives a warm hand-off to the BHC. Pathways might also be complex, with various actions recommended for different team members, including the BHC. Clinical pathways are commonly mentioned in the source references.

Finally, team-based care is also facilitated in the PCBH model by routinely having the BHC engage in clinical *behaviors consistent with those of PCPs*. The source references all discuss how practices such as working out of exam rooms, documenting visits in the same medical record, and seeing patients for focused visits throughout the day can lead patients and the primary care team to view the BHC as a regular team member. Being perceived by patients as a trusted primary care team member may help break down stigma and decrease patient resistance to BHC services.

## Clinical Example Illustrating a Team-Based Approach

Mr. Baker was a patient in an integrated primary care clinic that recently implemented a clinical pathway to improve team-based care of depression. When Mr. Baker arrived for a PCP appointment, he was screened for depression by the medical assistant. The results of the screen suggested possible depression, which was communicated to the PCP. The PCP conducted a further assessment of depression and started Mr. Baker on an antidepressant medication. Consistent with a PCBH model clinical pathway, she also completed a warm hand-off to the BHC for further functional assessment and a detailed self-management plan. During the warm hand-off, the PCP also suggested that the BHC, instead of the PCP, see Mr. Baker back for a 2-week follow-up; this was a strategy commonly used in the clinic in order for patients to receive the recommended 2-week follow-up for a new antidepressant prescription without sacrificing access to the PCP for other patients. The PCP gave Mr. Baker instructions for how to take the medication over the next month, and noted that he could contact her anytime with questions or concerns.

At the follow-up appointment, the BHC assessed Mr. Baker's adherence to the PCP's treatment plan, reassessed depressive symptoms and functioning, and worked with the patient on the self-management plan they had developed for mood management. Mr. Baker said that he was taking the medication, but that he was having problems with a dry mouth and wondered if the medication could be the cause. Per the usual team-based practices in the clinic, the BHC tracked down the PCP before ending the visit to briefly ask her about Mr. Baker's dry mouth. She stated the medication could be the cause; she advised the BHC to tell Mr. Baker to continue the medication if he could tolerate the dry mouth (explaining that it would likely resolve soon) and to call her or see her sooner than planned if unable to tolerate it. The BHC passed these instructions along to Mr. Baker, who did agree to continue the medication for now and to call or come in sooner if needed.

## H is for High Productivity

Seeing a high patient volume is the aim for BHCs. Rather than seeing 5–7 patients per day (as might be typical in a specialty mental health clinic), many BHCs aim to see 10–14 patients per day. The exact productivity goal might mirror the productivity expectations for PCPs in the clinic. For example, if a PCP uses 15-min appointments and is expected to average 20 patients per day, a BHC using 30-min appointments might be expected to average 10 patients per day. As discussed earlier, BHCs may adjust the length of any given visit based on the demands of the day and the needs of the patient (similar to PCPs, who may spend less than

the scheduled time with a less complex patient, but more time than scheduled with other patients). Additional research is needed to better understand ideal patient volume, taking into consideration variables such as clinic size, location, and composition of the patient population.

Relatedly, the model definition presented here emphasizes the importance of the BHC reaching a large percentage of the clinic population. That is, the goal is not only for the BHC to complete a large number of patient visits but also for those visits to include many different patients. (An approach in which the same patients are seen for numerous follow-ups would be more typical of a specialty mental health approach [i.e., psychotherapy] and is not consistent with the PCBH model.) While there is no commonly accepted goal for what percentage of a clinic's population to engage, as a general rule a population consisting of a healthier patient cohort might require less penetration than one with a less healthy cohort.

### Strategies for Achieving High Productivity

The same strategies described in source references for promoting accessibility also help to promote high productivity. That is, the use of focused visits (scheduled for 30 min), a schedule template that makes it easier to work in patients during the day, and use of a consultant approach to follow-up all help facilitate a higher patient volume.

Productivity is also helped by minimizing the no-show rate for follow-up patients. Strategies suggested for minimizing no-shows include scheduling follow-ups on the same day as a PCP follow-up (if applicable), substituting telephone follow-ups for in-person visits (for patients who have a pattern of no-shows, or have known barriers to in-person visits), and including the BHC's patients on the clinic's appointment reminder calls.

Clinical pathways, mentioned earlier as a strategy for achieving team-based care, can also help increase productivity. A pathway typically includes routine screening, which identifies new cases for clinical pathway services. As a result, more patients may be referred to the BHC. For example, depression clinical pathways typically begin with universal depression screening; in a clinic using the PCBH model, a warm hand-off to the BHC could be included as a step in the pathway for patients who screen positive on the screening measure (see the case example in the above section on team-based care). Another example includes the Screening, Brief Intervention, and Referral to Treatment (SBIRT) pathway commonly used in primary care (Babor et al., 2007). The SBIRT pathway is a preventive care protocol in which brief behavioral interventions are provided to patients who screen positive for risky, but not yet problematic, substance use. The SBIRT pathway could include a warm hand-off to the BHC of any patient who screens

positive for risky substance use (Sullivan, Tetrault, Braithwaite, Turner, & Fiellin, 2011).

Another strategy suggested for increasing BHC productivity is routine BHC inclusion in specific PCP clinical visits. This may be particularly helpful for wellness-oriented visits, which involve a significant amount of patient education and behavior change recommendations. For example, the BHC might be included in well-child checks, to complete some of the anticipatory guidance (e.g., Burt, Garbacz, Kupzyk, Frerichs, & Gathje, 2014); and/or in Medicare wellness exams for older patients, to complete the cognitive screen or help with end-of-life planning. Unlike clinical pathways, which focus only on a certain condition and trigger BHC involvement only when specific conditions are met, this strategy incorporates the BHC into every PCP visit of a certain type.

### Clinical Example Illustrating Strategies for High Productivity

Dr. Smith had been working as a BHC in his clinic for several months. Although referrals from PCPs steadily rose over his first 2 months, he still had several appointments each day that were going unfilled. Dr. Smith asked the clinic manager for assistance. First, they obtained metrics about the most frequent diagnoses given at PCP visits in the prior 6 months. They discovered that several of the most common PCP diagnoses involved significant biopsychosocial components, but these were not often referred to Dr. Smith. One of these conditions was obesity. Dr. Smith had only seen a handful of patients for this problem. Dr. Smith and clinic leadership developed an obesity pathway in which patients with an elevated BMI would be routinely offered a warm hand-off to Dr. Smith. (Because so many patients have an elevated BMI, they decided to start with just those who were seeing the PCP for a wellness check). In addition, Dr. Smith began scheduling follow-ups with patients on the same day as a PCP follow-up if possible, to reduce his no-show rate which was a bit higher than other BHCs in their system. These strategies combined to give a significant boost to Dr. Smith's patient volume.

### E is for Educator

As noted in Table 1, a majority of the source references mention or imply that in addition to providing good clinical care, a BHC works to make the entire primary care team more skilled, comfortable, and efficient in their work with the biopsychosocial issues of patients. Some of the source references focus mostly on improving PCP skill and comfort, while others talk more about improving the skills of the primary care team as a whole. In the model definition presented here, the goal is to help develop a primary care milieu in which biopsychosocial influences on health are



identified readily, and handled comfortably and skillfully, by all members of the primary care team.

### Strategies for Being an Educator

Much of the education BHCs provide for team members is done informally. The informal case discussion that occurs regularly with PCPs during curbside consultation provides ample learning opportunities. In addition to informal case discussion, a more formal BHC practice is to discuss each new patient with the referring PCP after the first visit, with the specific intent of fostering the PCP's biopsychosocial expertise, which is one of the other benefits that can come from such exchanges, e.g., better team-based care, and learning opportunities for the BHC regarding medical issues. All of the source references emphasize this practice. Together, these informal and formal discussions of biopsychosocial change strategies are intended to help PCPs learn intervention strategies they can use with subsequent patients.

Education also occurs in even more formal ways, through PCP and team didactics, typically in the form of focused presentations delivered by BHCs during lunchtime or staff meetings. It also occurs through dissemination of patient education handouts and materials that may be displayed in the clinic lobby or used by PCPs during visits. Part of the BHC's role is to use all of these strategies over time to improve the knowledge and comfort level of all primary care team members for dealing with the biopsychosocial concerns of patients. Additionally, BHCs provide ongoing education to all team members on the nature of the BHC's role and how team members can accurately describe the BHC's services to patients. A majority of the source references suggest these strategies and others.

### Clinical Example Illustrating a Role as Educator

After several months of working as a BHC, Dr. Brandt initiated a monthly staff education series focused on increasing knowledge, comfort, and skill in a variety of behavioral health-related topics. Trainings were brief (10 min), interactive (demonstration and role play used when possible), and integrated into the standing agenda of the monthly staff meeting. Sometimes the topics focused on skills relevant for medical assistants or nurses (e.g., how to screen patients for alcohol misuse); other topics were aimed towards PCPs (e.g., helping patients set effective goals for behavior change; improving reflective listening skills); and still others were relevant for all staff (e.g., how to explain the role of the BHC to patients; description of various ways to access the BHC). Over time, to supplement these brief trainings, Dr. Brandt offered quarterly, 45-min "lunch and learn" trainings. While PCPs took a break over lunchtime, Dr. Brandt provided skill-building training in areas such as motivational interviewing,

assessment, and management of suicide risk, and biopsychosocial components of chronic pain.

### R is for Routine

An important aspect of the PCBH model is for the BHC to be viewed by patients and staff as a routine care team member. In contrast to a specialty therapy model, in which the therapist may want to deliberately separate themselves from primary care for various reasons, the BHC must become a fully integrated team member. Not doing so places the BHC in a peripheral role with a good chance of minimizing their impact on the patient population.

### Strategies for Making the BHC a Routine Care Team Member

The source references mention various strategies for making BHC involvement routine. This starts in the warm hand-off process, with how PCPs introduce the idea of BHC involvement to the patient, and how they refer to the BHC. Most BHCs help PCPs learn to explain a BHC referral as "a regular part of how I treat this kind of problem" and to introduce the BHC as "my team member who will help me to help you." This process continues with how BHCs introduce their role to the patient in more detail after the PCP exits the warm hand-off interaction. Source references emphasize training BHCs to state in their introduction that they work in close coordination with the PCP as part of good team care.

A couple of other strategies noted in previous sections also apply here. First, clinical pathways can help ensure routine inclusion of the BHC in the care of certain conditions. Most BHCs lead the development of one or two pathways in the clinic. Second, BHCs strive to mimic the workflow of the rest of the primary care team, attending to subtleties that may influence the extent to which patients and staff perceive them to be part of the regular care team. By seeing patients in the main clinical area (often in exam rooms, perhaps even extending the PCP visit in the PCP exam room), documenting visits in the same electronic health record as the other team members, and requiring no additional paperwork in order to see a patient, BHCs present clearly as a regular primary care team member. As noted earlier, a BHC may actually be best conceptualized as a PCP "extender" who extends the PCP visit by offering biopsychosocial interventions the PCP was unable (for whatever reason) to provide, and by using the other team-based care strategies, such as the BHC meeting with the PCP's patient just prior to the patient's PCP visit; or by the patient meeting with the BHC rather than the PCP, increasing the PCP's availability for other patients on their panel.

### Clinical Example Illustrating the Routine Aspects of BHC Care

Mr. Peters attended an appointment with his PCP for diabetes management. Mr. Peters' blood glucose monitoring information revealed that he was only checking his blood glucose several times per week, rather than four times per day as recommended by his PCP. The PCP asked Mr. Peters to meet with the clinic's BHC, emphasizing that "nearly all of my patients with diabetes see the BHC for at least one visit to help develop a plan for all the changes involved in managing diabetes." Hence, he framed the involvement of the BHC as part of routine care. Because Mr. Peters could not stay to see the BHC that day, he scheduled an appointment for the following week. When he returned, he was pleased to see that he could check in with his favorite receptionist, who handled his check-in the same way he was accustomed to. He also appreciated that the BHC took him to an exam room in the same clinic, just down the hall from his PCP; he actually was able to say "hello" to his PCP, whom they passed in the hallway while en route to the exam room. The BHC's appointment was focused on diabetes management, and the BHC typed into the electronic health record in the same way as other clinic personnel. When Mr. Peters expressed some confusion about how to take one of his medications, the BHC left the room briefly to get clarification from his PCP. When Mr. Peters left, he stopped at the clinic's scheduling office to book a follow-up, just like he would for a PCP appointment. Mr. Peters confessed to the BHC that he had been a bit nervous about meeting with a psychologist, joking he had always called them "head-shrinkers," but that he found himself surprisingly comfortable in the appointment and wanted to "talk about some other important things" at his next appointment.

### Rationale for the Core Strategies of the PCBH Model

The PCBH model has different goals and strategies for managing biopsychosocial issues than any other medical or behavioral health approach. As noted in the PCBH model definition, it is a "primary care team-based approach" built specifically for primary care. This is not a model that would necessarily make sense to use in a setting other than primary care, and it involves more than merely shortened therapy visits or other tweaks to the traditional specialty mental health therapy model. The model is built on a population health approach that distinguishes it from not only a specialty mental health therapy model, but also from other primary care integration models that emphasize making mental health services available in the primary care setting for patients with certain mental health

problems. The focus of the approach is on *improving primary care services for the whole clinic population*; not for a specific condition or specific patients or a specific sub-group of the larger population. Worded differently, the goal is to make primary care better for patients seen and not seen by the BHC, and for those who have significant behavioral issues as well as those who do not. This overarching population health goal provides the foundation and rationale for the previously discussed PCBH model core components and strategies. It has been discussed to varying degrees in the source references, but is presented here for the first time in detail, in hopes of promoting an understanding of the model as a coherent whole.

*What does it mean to "improve primary care for the whole population"?* The goal of improving primary care for the whole clinic population means a BHC works to improve outcomes beyond the care of a given individual patient. Visits with individual patients are of course a central part of the BHC's day, but in a population health approach the larger goal is to raise the health of individuals by raising the health of the population. The PCBH model aims to bolster population health in two ways.

First, the model aims to strengthen primary care in general. Implementation of the model hopes to achieve outcomes such as: improved access to PCPs; more delivery of preventive care; increased PCP completion of chronic disease management activities; increased PCP job satisfaction; decreased PCP turnover; and improved PCP comfort and skills for working with biopsychosocial issues. A variety of PCBH model studies have researched this potential, finding increased PCP access, efficiency, and revenue on days in which a BHC is present (Gouge, Polaha, Rogers, & Harden, 2016); and time-saving (as well as revenue enhancing) opportunities for pediatricians when incorporating BHCs into well-child checks and behaviorally oriented visits (Burt et al., 2014; Meadows, Valleley, Haack, Thorson, & Evans, 2011). Other studies have shown improved adherence to evidence-based depression guidelines (Serrano & Monden, 2011) and more appropriate antidepressant prescribing (Brawer, Martielli, Pye, Manwaring, & Tierney, 2010; Serrano & Monden, 2011) after implementing PCBH model services. Still others have documented improved confidence and comfort among PCPs for working with biopsychosocial issues in patients (Funderburk et al., 2012; Serrano & Monden, 2011; Torrence et al., 2014). While more research is needed to sort through what this all means at the population level, the point these studies demonstrate is that the goals of the PCBH model are broader than the well-being of the individual patient alone. The goal is for patients who do not even see the BHC (and who perhaps do not even have a significant biopsychosocial issue) to benefit from the BHC's work through better functioning of the primary care clinic in general.

The second way the model attempts to improve population health is by providing low-intensity interventions to large numbers of patients with an identified problem area. Although the level of improvement in any individual patient may be less than what may have been achieved with a higher intensity intervention, the potential positive impact on the overall population may be greater. This strategy is discussed in detail by Peterson, Raj, and Lancaster (2014). They illustrate how brief interventions integrated into clinical pathways can shift care away from just that subset of patients with an identified problem, and instead, identify everyone in the population at large (e.g., all patients enrolled in a clinical practice) who might benefit from receiving a targeted evidence-based intervention.

As an example, a clinic could implement universal screening and intervention for tobacco use. Everyone seen in a primary care appointment, regardless of the problem presentation for that appointment, would be screened for tobacco use. Tobacco users would be encouraged to quit and offered an intervention if they want to quit. The BHC might be the primary intervention provider, offering services individually or in a group format. We would expect that a lower percentage of tobacco users will quit and stay quit with the lower intensity interventions that were offered (e.g., four, 30-min appointments focused on behavioral quit strategies, and relapse prevention). However, far more individuals may quit and stay quit because of the number of individuals targeted. Consequently, more of the population would quit and stay quit compared with approaches that focus on high-intensity interventions (e.g., eight, 60-min appointments that go into extensive detail on quit strategies, in-appointment practice of multiple stress management skills, problem solving, social support, and relapse prevention) that reach a smaller number of individuals (Fiore et al., 2008). Problems such as alcohol misuse, anxiety, chronic pain, depression, diabetes, insomnia, obesity, and tobacco use are all prime targets for this population health approach using evidence-based clinical pathways.

*Why focus on improving primary care for the whole population?* Primary care, when done well, has been shown to have high value. The well-known research of Starfield and her colleagues showed countries with the most robust primary care have better health outcomes, lower healthcare costs, and fewer healthcare disparities (Starfield, 1991, 1994; Starfield, Shi, & Macinko, 2005). Unfortunately, however, the U.S. has not historically been one of these countries (Starfield, 2000).

In the U.S., primary care has had limited resources to address the country's healthcare needs, even as those needs have grown. Research has shown, for example, that a PCP would need an additional 7 h per day to complete all of the preventive care that is recommended (Yarnall, Pollack, Ostbye, Kraus, & Michener, 2003) and an additional 10 h per

day to complete all of the recommended chronic disease care (Ostbye et al., 2005). The administrative burden on PCPs is already high, with the average PCP having over three dozen urgent but unpaid tasks to complete each day in addition to direct patient care (Baron, 2010). Meanwhile, the demand for primary care has grown to such an extent that 52,000 more PCPs may be needed (Pettersen et al., 2012). Burnout among PCPs has become a significant problem around the country (Bodenheimer & Sinsky, 2014).

Much of what taxes primary care actually has to do with behavior. In 1993, epidemiological researchers dubbed primary care the “de facto U.S. mental and addictive disorders service system” (Regier et al., 1993) owing to the quantity of mental health care it delivers; it is a title primary care still deserves today. When patients present to primary care for mental health concerns, visits last almost twice as long as regular acute and chronic care visits; they last even longer when behavioral issues are raised spontaneously (Cooper, Valleley, Polaha, Begeny, & Evans, 2006; Meadows et al., 2011). In addition, even patients without significant mental health problems can strain primary care with behaviors that work against efficient and effective primary care service delivery. Patients might, for example, talk excessively during visits, arrive late (and demand to be seen), and ask for more problems to be handled during a routine visit than is feasible (Bodenheimer & Sinsky, 2014; Eisner & Britten, 1999). Challenges such as these make it difficult for primary care to achieve its potential.

In response to the many challenges inhibiting effective primary care service delivery, the Joint Principles of the Patient-Centered Medical Home (PCMH) were published and endorsed by four primary care professional societies in 2007 (American Academy of Family Physicians [AAFP], American Academy of Pediatrics [AAP], American College of Physicians [ACP], & American Osteopathic Association [AOA], 2007). Although not specifically expressed in the 2007 joint principles, the PCMH concept presented an opportunity to transform care for patients with biopsychosocial presentations (Kessler, Stafford, & Messier, 2009; Pettersen et al., 2008; Rittenhouse & Shortell, 2009). Six family medicine professional societies formally recognized this opportunity when they published the Joint Principles for Integrated Behavioral Health Services in the PCMH (Baird et al., 2014).

The PCMH is intended to shift primary care from a physician-centric approach to a team-based approach, with new primary care team members extending the reach and impact of care in comparison to traditional services. There is a growing body of evidence showing primary care practices that fully implement the core principles of the PCMH experience improvements in quality of service delivery and reductions of cost, with longer PCMH implementation producing better results (Nielsen, Gibson, Buelt, Grundy,

& Grumbach, 2015). The PCMH innovation is a promising approach to getting primary care the help it needs, but it lacks a clear strategy for helping with the vast array of biopsychosocially influenced health conditions that present in primary care. The PCBH model is intended to help fill that gap in the PCMH; the core components and strategies of the PCBH model were built to align with primary care. Additionally, the PCBH model aligns with the PCMH emphasis on providing patient-centered care. Examples of patient-centered aspects of PCBH model services include a convenient and familiar location of care, easy access (often same-day), and a team-based treatment plan focused on whole-person care.

While the provision of effective care for the individual patient is obviously important, the improvement of primary care in general is also important from a population health standpoint. As the primary prevention advocate George Albee noted repeatedly, no disease has ever been eradicated by treating one patient at a time (Albee, 1999). Instead, major advances in public health have always been achieved through systems changes. PCPs will always see more patients than BHCs; they will always be the main drivers of care for the population. As such, improving PCPs' ability to work effectively and efficiently with all patients may hold the greatest promise for improving population health.

## Relationship of the PCBH Model to Other Integration Approaches

The challenges of primary care, and in particular the challenges that biopsychosocial issues bring to primary care, have been well documented by many over the years. The PCBH model represents only one approach to improving the situation. A number of other approaches have also been developed, but the PCBH model emphasis on the whole population distinguishes it from each of these other approaches.

Early attempts to integrate behavioral health services into primary care typically used a co-located therapy model, essentially replicating a specialty mental health service inside the physical confines of the primary care clinic [see Blount (1998), for a description of this as well as other approaches]. The focus of this integration approach, as in the case of specialty mental health itself, was on improving care outcomes for individuals. There likely are some benefits to the primary care team more broadly in this model, such as possible improvements in collaboration between the mental health and primary care providers, but the guiding emphasis in this approach is on the individual patient.

In recent years, other integration approaches have been developed that focus on specific populations of patients. For example, SBIRT (mentioned earlier) is focused on patients with risky substance use patterns, and the Collaborative

Care model (CoCM; Unutzer et al., 2002), which grew out of the chronic care model (Wagner, Austin, & Von Korff, 1996; Wagner et al., 2001) and the IMPACT studies of the 1990s (Unutzer et al., 2002), is largely focused on patients with depression and anxiety. Both SBIRT and CoCM have a solid evidence base for improving care outcomes for individual patients, but their focus on specific conditions/populations differentiates them from the PCBH model.

For a comprehensive integration effort, some organizations actually use SBIRT and CoCM along with PCBH model services (Unutzer, 2016). The three approaches are complementary with respect to their goals and practices. As noted earlier, brief, on-demand SBIRT interventions can be provided by a BHC using the PCBH model. In the case of CoCM, the enhanced focus on medication treatment, psychiatry involvement, and longer-term registry-driven follow-up may make CoCM an excellent complement to a PCBH model service. Many patients will improve without a CoCM approach (i.e., from seeing the PCP alone or with BHC involvement), but those not improving might benefit from enrollment in a CoCM service. Given that the goal of CoCM is to improve treatment response for select conditions, while the goal of PCBH model services is more broadly focused on improving care for the whole clinic population, the two approaches can fit nicely together both in theory and practice. More research is needed, however, to understand the optimal use scenarios for combining these models. Indeed, because models are only beginning to differentiate themselves clearly in the field, little has yet been published on a comprehensive approach combining the two models (for some discussion on this topic, see Hunter & Goodie, 2010; Hunter et al., 2014; Unutzer, 2016).

## Summarizing PCBH Model Outcomes

A separate article in this issue summarized the peer-reviewed published literature on PCBH model patient outcomes and implementation outcomes (Hunter, Funderburk et al., 2017). Because this is not only recent, but also the only known published review of PCBH model outcomes, we summarize their results here. The authors categorized the outcome research into patient and implementation outcomes using Proctor et al.'s (2011) typology. Patient outcomes include patient satisfaction, changes in patient functioning and changes in symptomatology. Implementation outcomes (acceptability, adoption, appropriateness, cost, feasibility, fidelity, penetration, sustainability) are distinct from patient outcomes and related to the effects of deliberate actions to implement new practices, services, and treatments (Proctor et al., 2011).

Hunter, Funderburk et al. (2017) identified 29 studies meeting three PCBH model service delivery description

inclusion criteria. Not all included studies labeled their model of service delivery as the PCBH model; and some studies purporting to study a PCBH model were excluded because they did not meet the three PCBH model descriptors. When the published description was insufficient to determine the model of integration, lead authors were contacted and asked for a description of their study's methods. While this approach likely captured the majority of PCBH model patient outcomes studies and implementation outcomes studies, it is possible that some relevant studies were missed.

The following summarizes the primary conclusions from Hunter, Funderburk et al.'s (2017) review. For brevity, this summary comments only on outcomes that are supported by three or more studies. Other findings that may be of interest, but less thoroughly examined, are listed in the Hunter et al., article.

### Patient Outcomes

Six studies examined patient satisfaction with care, and found high levels of satisfaction with PCBH model services. Six studies also examined change in specific symptoms or behaviors, and found significant improvements in anxiety and depressive symptoms, PTSD symptoms, tobacco use, and weight change.

### Implementation Outcomes

Six studies examined PCP "acceptability" of PCBH model services. "Acceptability" is the degree that PCBH model services are agreeable, palatable, or satisfactory based on the PCP's experience with those services. High acceptability ratings were demonstrated across various dimensions and provider types. Three studies examined "adoption," which is the PCP's intent to engage in PCBH model services as designed, or "uptake" of the new services (Proctor et al., 2011). Proxy measures that served as indicators of successful adoption of PCBH model services included: fewer referrals made to specialty mental health, and significant increases in documented patient behavioral goals.

### Literature Weaknesses

Hunter, Funderburk et al. (2017) also describe several consistent methodological weaknesses that limit the strength of the conclusions that can be drawn from the PCBH model literature. A primary weakness was lack of comparison groups, with only three studies including an appropriate comparison group in the design. Especially in the case of clinical outcomes for specific patients or conditions, this makes it difficult to determine the extent to which (if at all) the addition of BHC interventions improves outcomes relative to the

usual PCP-only treatment. Other weaknesses included use of satisfaction measures without adequate psychometric data; infrequent measurement of functional change; little measurement of fidelity to PCBH model service delivery (e.g., 30-min appointment, warm hand-offs) or to evidence-based treatment delivery; and no methods used to integrate data regarding additional primary care (or other setting) treatments that may have affected patient outcomes.

### Literature Strengths

The extant PCBH model literature also has some strengths. First, the majority of data have been collected in real-world clinical environments with diverse groups of patients. Regarding diversity of patient groups, data have included samples of varied: ages and diagnoses (Bridges et al., 2015); gender (Angantyr, Rimner, & Norden, 2015); and ethnicity (Bridges et al., 2014). With regard to diversity of clinical settings, data have been collected from: family medicine settings (Bryan, Morrow, & Appolonio, 2009); pediatric services (Gouge et al., 2016); military sites (Cigrang et al., 2015); VA facilities (Brawer et al., 2010); residency programs (Hill, 2015); community health facilities (Lanoye et al., 2015); and university health centers (Sadock et al., 2014). Taken as a whole, this broad range of patients and clinical sites enhances the external validity of data pertaining to the PCBH model. In addition, a number of studies used standardized, appropriate measures to assess symptom severity. Some studies employed measures appropriate for actual use in primary care clinical settings, e.g., the Behavioral Health Measure (Kopta & Lowry, 2002). Other studies used measures employed for program evaluation purposes, e.g., the Primary Care Behavioral Health Provider Adherence Questionnaire (PPAQ; Beehler et al., 2013).

The literature also provides some benchmark data to facilitate comparison across settings, populations, and between integration approaches, by documenting treatment response rates (Bridges et al., 2015) and descriptive program information (Funderburk, Dobbmeyer, Hunter, & Walsh, 2013). In the interest of space, we have provided one reference for each of the above; see Hunter, Funderburk et al. (2017) for other examples. Finally, the studies with the strongest methodology span a wide range of outcomes. Serrano and Monden (2011) found various changes to PCP practice habits; Lanoye et al. (2015) showed a positive effect on a variety of medical conditions; and Katon et al. (1996) showed improved outcomes for a specific population (depression).

### Literature Considerations

There are a few considerations worth noting about the PCBH model literature. First, the lack of a standardized definition of the PCBH model has probably made it challenging to

research the model. For example, the infrequent use of fidelity checks in the PCBH model literature may be related to the absence (until this article) of a consistent, concise PCBH model definition. Fidelity to a model is difficult to measure when the essential components of the model have not been consistently articulated. Similarly, the lack of a consistent definition makes it difficult to establish clear research targets and build a consistent research base. Hopefully the definition outlined here will set the stage for expansion of the empirical literature on the PCBH model.

The PCBH model developed and expanded in response to clinical and operational needs in primary care, and in advance of repeated controlled research trials. Most of the early investigations of PCBH model patient and implementation outcomes involved clinic program evaluation efforts. This contrasts with what may be a more typical research path beginning with small pilot studies followed by larger randomized controlled trials, and finally effectiveness trials to better understand implementation and outcomes outside a more controlled setting. However, the implementation successes, having been sustained now for many years in many organizations (e.g., Freeman, 2011; Hill, 2015; Hunter et al., 2014; Kearney et al., 2014), suggest the model is meeting needs; the challenge is to better understand exactly what those needs are that are being met.

Finally, worth noting is that the PCBH model does not involve the use of novel behavioral interventions. Rather, it is a new platform (with new goals) for delivering interventions, and components of interventions, that have already been found effective in other settings. Similarly, the U.S. Preventive Services Task Force (USPSTF) already recommends brief educational/counseling interventions be done in primary care for at least nine health issues (U.S. Preventive Services Task Force, 2015). BHCs clearly can help primary care teams reach these goals. For a more detailed discussion of these and other issues regarding PCBH model research, we refer the reader to Hunter, Funderburk et al. (2017).

## Implementation Challenges Unique to the PCBH Model

Integrating behavioral health services into primary care is often described as challenging, for a variety of reasons. While many challenges exist irrespective of the model used, some are largely unique to the PCBH model.

Some PCBH-specific challenges arise in the financial arena. For example, lack of reimbursement for same-day visits is a barrier largely specific to this model. The emphasis placed on accessibility in the PCBH model means that a BHC is often seeing patients on the same day as a PCP, but some payers do not reimburse for behavioral health visits on the same day as a PCP visit (Freeman, Manson,

Howard, & Hornberger, 2017). In addition, BHCs often perform tasks such as brief (15-min or less) visits, curbside consults, and preventive care, most or all of which may not be reimbursable (Freeman et al., 2017).

Finding behavioral health providers capable of (and interested in) working in the model can also be a challenge. The unique functions of primary care are not familiar to behavioral health providers trained to work in specialty mental health settings, and many are not interested in shifting away from the specialty work in which they were trained. Those who are interested must learn a number of new skills, including clinical skills for brief visits, team-based care skills, and generalist interventions for a broad variety of problems and ages. Basic understanding of psychotropic and controlled substance medications, and of medical issues that can masquerade as mental health problems, is also essential. Few graduate schools prepare students for work in the PCBH model, and few post-graduate training resources exist for this purpose. Serrano, Cordes, Cubic, and Daub (2017) discuss a wide variety of such workforce issues.

Many systems also struggle to use the BHC in the ways intended by the model (Beehler & Wray, 2012). Staff and PCPs may be reluctant to interrupt the BHC during a visit, productivity may lag behind what is expected, and referrals may skew heavily toward psychiatric conditions rather than the full gamut of issues a BHC can help with (Miller, Brown-Levey, Payne-Murphy, & Kwan, 2014). Often this results not only from insufficient BHC training but also from operational challenges in the clinic and/or insufficient training of PCPs and primary care staff regarding how to utilize the BHC (Robinson & Reiter, 2016).

Finally, several ethical issues are largely unique to the PCBH model. The team-based, highly accessible nature of BHC visits can complicate the process of obtaining and documenting informed consent (Hodgson, Mendenhall, & Lamson, 2013). In addition, many BHCs have not been exposed to the wide variety of ages, problems, and cultural backgrounds of the primary care patients they encounter (Robinson & Reiter, 2016). The family- and community-based nature of primary care also means that opportunities abound for complex multiple relationships between BHCs, primary care clinicians, and patients (Reiter & Runyan, 2013). Lastly, confidentiality concerns commonly arise, based especially on the consultative and interactive nature of team-based care, and the documentation of BHC visits in the medical chart (Hudgins, Rose, Fifield, & Arnault, 2013).

The various articles and texts referenced in this section detail not only the nature of the challenges to implementing the PCBH model, but also potential solutions. For more information on strategies for addressing these challenges, readers are advised to review the source references, in addition to the other references noted here.

## Conclusion

This article, and the special edition issue of which it is a part, is an attempt to bring consistency to the understanding and implementation of the PCBH model. The hope is that such consistency will result in more efficient and effective communication for PCBH model training, implementation, and research efforts. To this aim, we provided the first concise definition of the PCBH model of service delivery by synthesizing information from relevant publications and consulting with recognized PCBH model experts. We also attempted to embed the model within a clear theoretical framework to help clinicians and others understand the rationale and unique goals of the model.

Notably, there is not one “true” PCBH model. The definition provided here was not derived empirically, and in the end the views here represent the authors’ conceptualization and interpretation of the publications and input from the field. Use of a scientific methodology, such as a Delphi study (Hasson, Keeney, & McKenna, 2000), would have resulted in a more empirically sound definition. But given the variation with respect to the conceptualization of PCBH in the literature, we question whether such a process would have yielded a coherent definition clearly tied to a theoretical framework. Our goal was not to merely summarize the current state, but rather to present a coherent and concise conceptualization to help structure future PCBH work. Worth noting is that products derived through a non-empiric synthesis such as that used here can have a significant effect on advancing a field. For example, the seminal article on the Chronic Care Model (Wagner et al., 2001) resulted not from novel empirical research but rather from a synthesis of existing information. As the first concisely organized synthesis, that article provided a clinical and operational framework for others to apply consistently and generated a great deal of research. Hopefully the product in this paper represents a starting point to focus the field, with recognition that future refinements are expected. Such future work could actually include revisiting the definition, using a Delphi study, to determine if/how the current definition is holding up after being in use for some time.

As presented here, the PCBH model’s main goal is to enhance the primary care team’s ability to manage and treat various biopsychosocially based conditions, with resulting improvements in primary care services for the entire clinic population. The model is designed to produce robust biopsychosocial care for patients seen by the BHC, while also improving care for patients not seen by the BHC (i.e., by improving key primary care functions). It is a population health approach designed to be consistent with the practices of primary care and, consequently, the goals of the PCMH.

Conceptualized as such, this type of population approach is what distinguishes PCBH model services from other forms of integration, such as a co-located therapy approach, in which the focus is on improving care outcomes for the individual patient rather than for a population. It also differentiates the PCBH model from other population approaches to integration that focus on specific conditions (i.e., SBIRT for substance misuse, and CoCM for mood problems). We are not suggesting that the PCBH model be the only model or approach to integrating behavioral health into primary care. We are also not suggesting that the PCBH model is a “better” approach to integrated behavioral health than other approaches. The determination of the best integrated PCBH service approach for an organization ultimately must be based on the data and goals of the integration effort.

Finally, there is a growing base of PCBH model program evaluation and research, but this growth has been hampered by methodological limitations and the lack of a clear and consistent definition and understanding of the model. With rapidly expanding use of the model, happening in response to operational and clinical needs on the ground, the research base needs to similarly expand. Results to date have been promising, but are in need of replication and expansion using a cleaner research methodology and a broader array of research targets. Hopefully this article, with the first concise yet broad delineation of the model, will provide some of the tools for that important work.

**Disclaimer** The opinions and statements in this article are the responsibility of the authors, and such opinions and statements do not necessarily represent the policies of the Department of Health and Human Services, Department of Defense, or their agencies.

## Compliance with Ethical Standards

**Conflict of interest** Jeffrey T. Reiter reports consulting income and book royalties. Anne C. Dobmeyer and Christopher L. Hunter declare that they have no conflict of interest.

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