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“Understanding Integration: Perspectives of Primary Care Behavioral Health among Family
Medicine Residents and Faculty”

by

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Thesis submitted to the Faculty of the
Health Professions Education Graduate Program
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DEDICATION

This thesis is dedicated first and foremost to my family, my incredibly supportive wife, Jennifer, and my children, Audrey, Jackson, and Connor, who have endured additional hours away from them, late nights, and crazy schedules, all while keeping me centered and focused on what I value – using psychological science to make the world a better place. In addition, this thesis is the outgrowth of my academic career, which would not have been possible without my research family, my first mentors, Dr. Mitch Prinstein and Dr. Annette La Greca. Thank you for creating the presage factors for this project!

~ rrl

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May 18th, 2019

ABSTRACT

Understanding Integration: Perspectives of Primary Care Behavioral Health among
Family Medicine Residents and Faculty

Ryan Richard Landoll, Ph.D., 2019

Thesis directed by: Ronald M. Cervero, PhD, Associate Director for Remote Campus
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Purpose: This thesis uses the 3P (presage, process, product) model for
interprofessional education to explore the educational curriculum on primary care
behavioral health (PCBH) in family medicine residency programs.

Methods: Using a scoping review to establish a sensitizing framework, this thesis
employs template analysis of a case study approach using a series of semi-structured
qualitative interviews.

Results: There is considerable variability in training in PCBH and more broadly
in behavioral health in family medicine residencies. The value of such training is clearly
recognized, but themes such as availability of resources, faculty development and
integration, and intentionality of curriculum, have impact on the overall educational
program.

Conclusions: This work establishes several key concepts for further evaluation
and study in PCBH in family medicine residencies. Programs seeking to integrate and

improve their PCBH training may consider focusing on intentional curriculum development using a well-integrated and trained behavioralist. More formal program evaluation of PCBH curriculum in particular is also needed.

TABLE OF CONTENTS

LIST OF TABLES.....	x
LIST OF FIGURES	xi
CHAPTER 1: Introduction	1
Background	1
Theoretical Framework: The 3P Model.....	3
Purpose and Research Questions	4
CHAPTER 2: Training the Doctors: A Scoping Review of Interprofessional Education in Primary Care Behavioral Health.....	7
Abstract	7
Introduction.....	8
Method	10
Results.....	14
Presage: Learner and teacher characteristics, learning environment	14
Process: Content, methodology, and design.....	15
Products: Examining outcomes	16
Discussion	16
CHAPTER 3: Primary Care Behavioral Health in Family Medicine Residencies: A qualitative study of lessons learned from a large healthcare system	32
Abstract	32
Introduction.....	34
Method	36
Sample	37
Data collection.....	38
Data analysis.....	38
Results.....	39
Educational Content	39
Educational Methodology	39
Educational Barriers and Facilitators	40
Discussion	41
CHAPTER 4: Discussion.....	52
Presage: Setting the Conditions for Primary Care Behavioral Health.....	52
Process: Training in Primary Care Behavioral Health.....	53
Product: Evaluating Primary Care Behavioral Health Education.....	54
Military Relevance.....	54
Limitations	55
Conclusions.....	55

REFERENCES	57
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LIST OF TABLES

Table 1. 3P Model applied to Family Medicine Residencies	17
Table 2. PCBH Scoping Review Article Summary	32
Table 3. PCBH Scoping Review Articles	33
Table 4. Presage Factors	40
Table 5. Process Factors	41
Table 6. Product Factors	42
Table 7. Educational Content Codes.....	45
Table 8. Educational Methodology Codes.....	47
Table 9. Educational Barriers and Facilitators.....	49

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LIST OF FIGURES

Figure 1. Scoping Review Article Selection Process.....**Error! Bookmark not defined.**

CHAPTER 1: Introduction

BACKGROUND

While primary care has remained the de facto mental health service delivery environment in the United States, there has been concern about the ability to fully staff primary care to meet these demands (14). Many patients seen in primary care do not subsequently access the mental health resources that are recommended - in the military nearly half of those individuals referred for specialty care do not make their first appointment (32). As such, there has been considerable promise demonstrated from the use of integrated and embedded behavioral health professionals that are available directly in primary care (18; 39; 45)

Integrated behavioral healthcare has been associated with improved access to care, improved health outcomes, higher patient satisfaction and decreased healthcare costs (18; 39; 43; 45; 67). However, there has also been a recognition that these models of care delivery require a shift in the perspective and practice patterns of behavioral health professionals (12). As a result, several training programs have been designed to meet this need - including focused psychology internship training (13), continuing education opportunities (40), and consulting services (66). Despite the focus on training behavioral health consultants to practice in this role, both underutilization in certain contexts and lack of qualified providers more broadly remain a concern – as an example, 61% of Air Force facilities with a PCBH clinic have an unbooked rate over 50% (2; 12).

To this end, programs have begun to explore training other members of the integrated primary care team in this primary care behavioral health (PCBH) delivery model. This includes training focused on psychiatric nurses (3), behavioral health

assistants (44), and family physicians (27). Interestingly, while training for nurses and assistants have focused on defining their role within an integrated healthcare team, training for family physicians has focused on developing their skills to function in a similar manner to that of the behavioral health consultant, rather than defining their role within the team (27, 74). Absent from these training programs has been a strong consideration of the role of interprofessional education (IPE). This is unsurprising, given that literature on IPE has also been limited by a dearth of research on the links between IPE and collaborative behavior. As such, the likelihood of strong investment in IPE opportunities outside of specialized niche training programs is significantly decreased (21).

Although the IPE literature is robust and growing, much like that of the literature on PCBH, there is limited literature that examines IPE within the PCBH service delivery model. The literature that exists shows considerable promise, not only in shaping physician attitudes (13), but also health outcomes such as depression (39). It is reasonable to consider that explicit IPE training in PCBH may improve team functioning, IBHC utilization, and ultimately patient health. However, this literature is limited to small scale projects within specific Family Medicine or Internal Medicine residency programs, without large scale evaluation (27; 74; 55). Furthermore, specific to a military population, there has been no examination of these training experiences within the Military Health System (MHS). This is a significant limitation, as the MHS has been a pioneer of PCBH, operating a PCBH program for two decades and remaining a leader in PCBH innovation, service delivery, and training (18; 44; 45; 67) The current research program proposes to first systematically examine the literature for examples of primary care behavioral health

training in an interprofessional training environment among both military and civilian healthcare settings and secondly, to create case studies of DoD-sponsored Family Medicine residency programs. The goal of the literature review will be to establish an operational framework for the case studies.

THEORETICAL FRAMEWORK: THE 3P MODEL

To navigate the complexity of educational models and factors which influence them, we will utilize the 3P model to inform our qualitative analysis and focus this program of research. A recent review of the IPE literature more broadly, uses the “3P” model to understand IPE research and its association with a wide variety of outcomes (63). The 3P model focuses on three components that represent the context, educational milieu and outcomes, labeled as *presage*, *process*, and *product* factors (63). Process factors explore how learning occurs (e.g., do residents have choice in the behavioral health didactic curriculum during residency?) and product factors focus on the outcomes of the training program (e.g., resident satisfaction, competency evaluations, or patient health measures). Although all three are important, given the nascency of our understanding of DoD-sponsored Family Medicine programs, the current study will focus on the pre-existing conditions of training, considered the *presage* factors. Table 1 summarizes theorized 3P components within Family Medicine training programs.

Using the 3P model, as above presage factors have been categorized by learner characteristics, teacher characteristics, and the training environment (63). This includes attitudes and beliefs about behavioral health and interprofessional education. To understand how these attitudes and beliefs shape the learning environment, the more general psychological literature may be informative. There is an emerging approach in

medical education that borrows from the broader literature on behavioral change as a sensitizing framework (72). In essence, it can be helpful to draw parallels between psychotherapy and education - for example, where therapy places emphasis on the idea of a “therapeutic alliance,” or the relationship between patient and provider, it may be helpful to explore the “educational alliance,” or the relationship between the teacher and learner (72). In fact, the use of psychological language has permeated other aspects of IPE and is likely to be relevant as a sensitizing framework for analysis in this study. For example, earlier research on stereotyping disconfirmed the notion that prejudice can be reduced by “mere contact” with the out group (4), and highlighted a focus on “superordinate goals” (a term emerging from psychological research that represents goals shared across group membership) (69). Research in education suggests that a focus on superordinate goals may bind IPE experiences (57), and it is anticipated that similar psychological concepts may be relevant in exploring presage factors in a residency environment. Much like the therapeutic alliance in psychotherapy requires an understanding on the provider’s own personal context as it shapes perceptions around transference and countertransference (19), understanding how the learner and teacher perceive one another and their own previous training represent critical presage characteristics which may shape their ability to subsequently engage in the later process and products of learning.

PURPOSE AND RESEARCH QUESTIONS

Based on the theoretical and conceptual frameworks described above, this thesis work is intended to build understanding of the educational training in PCBH that occurs in Family Medicine residencies. To start, this thesis will summarize the existing literature

in the field by identifying key themes within the context of the 3P framework. Next, we will explore in more detail the current state of process factors within Department of Defense sponsored Family Medicine residencies. Ultimately, the goal is to inform areas where there may be gaps and potential ways to address those gaps in training. It is expected that this may in turn inform future literature and research in how to improve the functioning of interprofessional teams in PCBH. To do so, this Master's in Health Professions Education (MHPE) thesis addresses several research questions:

- 1) Based on the literature and using the 3P model as a framework, what are the current practices in Family Medicine residency training on the topic of primary care behavioral health, particularly in reference to interprofessional training? (See Chapter 2).
- 2) How do the 3P process factors exist in the current PCBH training practices in Family Medicine residency programs, particularly in reference to IPE training? (See Chapter 3).
- 3) How does an understanding of these presage, process, and product factors inform future directions in education and training within PCBH? (See Chapter 4).

Table 1. *3P Model applied to Family Medicine Residencies*

3P Model	Components	Examples
Presage	Learner Characteristics Teacher Characteristics Environment	Previous education, attitudes/beliefs about behavioral health/interprofessional education Physical space, presence of dedicated behavioral consultant, size of the residency
Process	Content Teaching Method	Curriculum topics Didactic instruction, role-play, active learning, observational learning
Product	Reactions Modifications of Attitudes Acquisition of Skills Behavior Change Organizational Change Patient Outcomes	Satisfaction Attitudes towards mental health Patient communication abilities Referral rates Clinic utilization General health, individual utilization

CHAPTER 2: Training the Doctors: A Scoping Review of Interprofessional Education in Primary Care Behavioral Health

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Human and Animal Rights No animal or human studies were carried out by the authors for this article.

Informed Consent For this type of study, formal consent is not required.

ABSTRACT

Primary Care Behavioral Health (PCBH) is a model of integrated healthcare service delivery that has been well-established in the field of psychology and continues to grow. PCBH has been associated with positive patient satisfaction and health outcomes, reduced healthcare expenditures and improved population health. However, much of the education and training on PCBH has focused on developing behavioral health providers to practice in this medical setting. Less attention has been paid to physician team members to support and practice within an integrated environment. This is problematic as underdeveloped physician team members may contribute to low utilization and attrition of behavioral health consultants. A scoping review was conducted to examine the training of physicians in this domain since 2006. Twenty-one studies were identified, predominantly in Family Medicine training programs. Although PCBH training was generally well-received, more program evaluation, formalized curriculum and faculty development are needed to establish best practices.

INTRODUCTION

Over the past decade, the interest and growth of integrated healthcare programs continues at a remarkable pace. Interest in integrated care is driven by support of large professional associations (e.g., the American Psychological Association) (52), the reality of growing healthcare demands (26), and shortage of health service providers (29). Integrated healthcare has shown its ability to meet these unique challenges (34).

Primary Care Behavioral Health (PCBH) is one particular model of integrated care. While PCBH programs can vary, recently there have been several key components identified. These include a team-based biopsychosocial approach using Behavioral Health Consultants (BHCs), who are trained behavioral health providers (typically psychologists, although other behavioral health professionals serve as BHCs). BHCs operate in a primary care setting, focusing on providing just-in-time care (usually via a “warm handoff”) that is brief and solution focused (typically 15-30 minutes and generally no more than 4-6 visits) (64).

The PCBH model has been shown to be an effective model of healthcare delivery, assessed on a variety of outcomes. PCBH has shown benefits for both provider and patient satisfaction (45; 67), changes in provider attitudes (17), changes in provider behavior (17) and ultimately changes in patient health, access, and healthcare costs (47).

However, despite the success of PCBH, there continue to be challenges to implementation. One of the largest organizations to utilize PCBH is the Department of Defense (DoD), and they have been utilizing PCBH since 1997. A recent review of the history of DoD PCBH highlighted the challenges with ensuring regular access to BHCs as wars in Afghanistan and Iraq increased the operational tempo and deployment cycle of behavioral health providers, limiting their availability in primary care settings (35).

Recently, the DoD has been successful in hiring civilian providers to meet the demand; however, attrition and utilization of BHCs remains a concern in some areas, particularly small treatment facilities (46). These challenges mirror concerns noted in civilian healthcare settings surrounding the sustainability of PCBH programs (65).

Given the success and longevity of PCBH, there have been considerable efforts invested in the training and development of BHCs. As such, there has emerged well-defined training programs and a competency-based education system for BHCs (25). There has been the ability to quantify a BHCs fidelity to specific models of PCBH that are used to evaluate and refine individual programs (7). Yet, despite this considerable effort to standardize and evaluate training of behavioral health providers, very little has been systematically done to prepare other members of this team-based care approach. There exist some recommended competencies for physician colleagues, nurses, and healthcare leaders (65) and behavioral health care education is considered a key priority for primary care providers (16). However, little is known about the state of graduate medical education (GME) more broadly, including other primary care specialties as it relates to interprofessional education (IPE) in behavioral health. The literature on IPE has recently made a strong argument that the success of IPE programs hinges upon the engagement of physicians in healthcare teams (15); as such, it is essential to explore the training physicians receive in practicing within this integrated care model.

In exploring the learning space within the field of interprofessional education, there has been a movement to characterize several crucial elements. One theoretical model for doing so is the 3P model (63). The 3P model focuses on three components that represent the context, educational milieu and outcomes, labeled as presage, process, and

product factors. Presage factors focus on the antecedent conditions of learning (e.g., previous attitudes and experiences of the learner, faculty development, and the environment of care). Process factors explore how learning occurs (e.g., do residents have choice in the behavioral health didactic curriculum during residency?) and product factors focus on the outcomes of the training program (e.g., resident satisfaction, competency evaluations, or patient health measures).

To begin to answer this critical question, we conducted a scoping review of PCBH training in GME. A scoping review differs from a systematic review in that it seeks first to outline and identify the state of a given literature in a timely manner and is best suited to areas of research that are relatively new and for which systematic data may be difficult to obtain or quantify (48). Given the current state of this field, this selection was most appropriate and is consistent with a recent review of program evaluation of PCBH (34).

METHOD

This scoping review was conducted consistent with the framework outlined by Arksey and O'Malley (5), expanded upon by Levac, and colleagues (48) and Daudt, van Mossel, and Scott (23). To begin, we considered the research question within the context of the literature on PCBH and IPE. Our goal was to answer the broad question: What are the existing IPE programs on PCBH? Scoping reviews are iterative in process (23), thus as we reviewed the literature on IPE, we identified the 3P model outlined by Reeves and colleagues (63) as a guiding framework for our analyses. As we were particularly interested in capturing details on education and training, we chose to focus on specific programs as opposed to broader surveys of learners on the attitudes and perceptions of

either PCBH or IPE. Recognizing that the field has only recently developed a consensus definition of PCBH compared to other integrated care models (64), we also chose to include a broad range of integrated care programs, provided they met at least one of the identified components of PCBH (described below).

With assistance from a medical librarian, in December 2017, the following key terms were searched in MEDLINE via PubMed: “Internship,” “Residency,” “Behavioral Health,” “Mental Health,” “Psychiatry,” “Psychology,” “Behavioral Medicine,” “PCBH,” “Cooperative Behavior,” “Education,” “Interprofessional Relations,” “Integrated,” “Intraprofessional,” “Cooperative Care,” “Primary Health Care,” “General Practice,” “Family Medicine,” “Internal Medicine,” and “Pediatrics.” Parallel searches were conducted in PsycINFO, CINAHL, Scopus, and ERIC in consultation with a medical librarian and results were reviewed along with known articles identified by the authors as potentially relevant to ensure complete search criteria. Results were limited to English-language articles, published between 2006-2017, to focus on programs relevant for today’s healthcare landscape.

Consistent with recommendations for scoping studies by Levac and colleagues (48), we built a team for this scoping review to provide critical expertise for the research question from multiple perspectives. This include a psychologist, who is an expert on primary care behavioral health, along with a family physician with extensive practice in integrated care, a medical educator with expertise in interprofessional education and a medical educator with expertise in qualitative methods and conducting knowledge syntheses. The title and abstracts for these 581 articles were analyzed by the lead author (RL) to determine if they fit the inclusion and exclusion criteria. The inclusion criteria

initially was as follows: journal articles in the past 10 years which reviewed an interprofessional education program in a medical primary care residency that practiced some form of integrated behavioral health care (Level 3 or higher as determined by CIHS framework) (30). The initial inclusion criteria were intentionally broad. Although PCBH models are fully integrated and consistent with CIHS Level 5, the description of integrated primary care practice models can vary in the literature. Thus, in order to avoid missing potentially relevant articles, inclusion criteria were iteratively refined after the initial search. Three authors (RL, RC, LM) met and resolved any disagreements on initial inclusion by consensus. The lead author (RL) then reviewed all full-text articles using a similar iterative process to narrow the research question and refine model identification, consistent with recommendations for scoping reviews (23; 48).

Next, consistent with the fourth step outlined by Arksey and O'Malley (5) ("charting the data"), we developed a data extraction sheet. We selected a recent review of the IPE literature more broadly by Reeves and colleagues (63) to provide a sensitizing framework for development of a method to analyze the programs. As described above, the 3P model outlined by Reeves and colleagues (63) focuses on presage, process, and product factors. These were defined within the context of PCBH. The lead author independently coded 10 articles which were then coded by two other authors (RC, LM) for consensus. Once consensus appeared reasonable, our fourth author and physician expert (JQ) was brought in and established consensus with the lead author. Finally, all remaining identified articles were double coded and the team met to resolve discrepancies and achieve consensus. Figure 1 outlines our review process.

For the process codes of content and educational methodology, categories were derived to simplify analysis through consensus. For example, categories of content were created to reflect disease-specific processes (e.g., diabetes, depression, autism), practitioner skills (e.g., communication, motivational interviewing), and systems-level functions (e.g., referral pathways, interprofessional roles). Programs were coded only if content was explicitly mentioned and another category was used when content was unclear or outside these identified categories. Similarly, educational methodology was categorized as didactic, observational, simulation-based, practice-based, record audit, as well as categories for other methodologies and when the methodology was unclear.

Outcomes of the educational intervention were evaluated using Kirkpatrick's model for program evaluation (38). This is a well-established framework for program evaluation and consists of four "levels:" a learners' reaction to the educational intervention (Level 1), a change in knowledge, attitudes, or skills (Level 2), a change in learners' behavior (Level 3), or a change in organizational practices or distal outcomes (e.g., patient health; Level 4). For consistency with the broader literature, we operationalized these levels using the framework outlined by Reeves and colleagues in their recent review of IPE. Consistent with our coding paradigms described above, factors had to be explicitly mentioned to be coded. In this vein, while skill-based changes in learning are considered Level 2 factors and sometimes difficult to distinguish from changes in behavior (Level 3), we agreed that changes in behavior required observation from an outside source, whereas changes in self-evaluated abilities (e.g., through surveys, logs) were Level 2 outcomes.

RESULTS

Twenty-one articles met our inclusion criteria of which 17 focused on Family Medicine residencies, 3 on Pediatric residencies and one focused on a combined Internal Medicine/Psychiatry residency program. Key features of these articles are summarized in Table 2. In regards to an IPE context, most studies described a formal IPE curriculum (n = 13); however, some explicitly described opportunities for informal learning alongside a formal curriculum (n = 5). Three programs did not describe a formal IPE curriculum, relying on informal learning opportunities among professionals. A summary of all included articles is shown in Table 3. All reflected a team-based approach to healthcare, and the majority involved an accessible BHC (n = 19) practicing as a generalist (n = 12), that was a routine part of care (n = 14), and educated patients in the biopsychosocial model (n = 14), although these elements were not always clearly identified.

Presage: Learner and teacher characteristics, learning environment

Using the 3P framework outlined by Reeves, we explored presage factors as shown in Table 4. Many of the articles provided incomplete information on the presage factors for learning. Where possible to assess, the majority did not include measures of learners' attitudes (n = 15) or abilities (n = 19) regarding either IPE or PCBH prior to the educational intervention. Of those studies that did assess learner characteristics pre-intervention, all were through the use of locally created surveys. Similarly, only 2 studies described faculty development for this model of care.

In most cases, the teacher in this model was a psychologist, although other behavioral health professionals (e.g., psychiatric, marriage and family therapists) were included as well. In roughly half of the cases (n = 12), the behavioral health providers functioning as "teachers" included IPE learners as well, sometimes with faculty oversight

and other times in either unclear supervisory relationships or with a broader focus on peer learning models. In general, there was little description of any pre-requisite training, experience, or qualifications specifically in either IPE or PCBH for teachers.

The learning environment varied across the studies, with the majority occurring in a separate outpatient clinic (n = 10), consistent with PCBH practice in a primary care setting. Some training occurred in primary care setting within a hospital or medical center (n = 8), and some had multi-site training opportunities that included both (n = 3). In about half of the studies reviewed, PCBH training was a longitudinal part of the residency curriculum (n = 12). Since many of the studies provided more qualitative descriptions of their training programs, exact numbers of residents were difficult to determine in some cases but varied considerably in size.

Process: Content, methodology, and design

Process factors shown in these reviewed programs are displayed in Table 5. Most programs included content on all three main categories (disease-specific, practitioner skills, systems-based practice), however four did not clearly specify any curricular content. For educational methodology, didactic instruction, observation, and clinical placements were used in the vast majority of cases, with other strategies being used more rarely. Community visits, bibliographic instruction and case conferences were employed in three separate studies as alternative educational strategies. Finally, studies were reviewed to see if they articulated an educational theory to guide curriculum design. While most did not explicitly mention such an intentional theory-guide curriculum design, one study referenced learner-centered teaching (74), and two focused on competency-based education strategies (13; 36).

Products: Examining outcomes

Product results are shown in Table 6. While the broader literature on PCBH has well-established outcomes across all levels described, the focus of this review was explicitly on the educational training occurring at the GME level. Seven studies identified the highest level outcomes consistent with the broader literature on the effectiveness of PCBH on distal factors such as patient health or organizational practice (e.g., 20; 47). Most studies focused on changes in learning (n = 16), with about half evaluating learners' reactions to the training (n = 13), as well as changes in behavior. When described, results were generally positive. Roughly half of the studies reviewed used survey-based instruments to evaluate outcomes (n = 12). A small percentage used other strategies, such as interviews or focus groups (n = 4), a records audit or encounter log (n = 4), or qualitatively described their programs' outcomes in the article (n = 4).

DISCUSSION

After over 20 years, the PCBH model is well-established in integrated care and has shown many benefits in many settings (34). It is important now that our research shifts not from establishing the efficacy and effectiveness of PCBH, but rather to understanding how to create and establish thriving practices. Part of this shift must include an understanding of the education and training of healthcare team members to practice in integrated care settings. Indeed, the medical education literature has advanced the idea of “situated cognition” - that our knowledge, skills, attitudes, and even abilities are “situated” within the context in which they are learned and practiced (6). Thus, it is essential that health professions learners engage in interprofessional learning environments. Improved coordination and consistency between programs that train

behavioral health professionals to provide consultative services in PCBH, and programs that train physicians and other care providers to use these consultative team members is likely to provide significant benefits for the healthcare team, and ultimately patients.

In this study, we reviewed the state of education in PCBH among physician residents. Residency is perhaps an ideal time to study IPE as it represents a key formative period of professional identity integrated with clinical practice. Our findings suggest that on the whole, physicians are open and interested in PCBH and integrated care and perceive there to be significant benefit to their clinical practice to learn related skills. This is consistent with the broader literature on PCBH that suggests it is well-received by patients, by providers, and leads to positive health outcomes (34).

However, our review also revealed some key limitations in the literature. In particular, there is either a lack of utilization, or a lack of description, of curriculum design principles and educational theory-based approaches to GME. This is inherently problematic, as medical education literature has long-established the importance of informed curriculum design to improve learning outcomes (73). A key component of informed curriculum design is systematic program evaluation (73). This is another area in which our literature review highlights an important gap. Furthermore, many of the program outcome evaluations conducted did not focus on higher level outcomes, despite the established literature on the health outcome benefits of PCBH. Finally, many of the methodological designs used to evaluate these programs were ill-defined or explained, leaving uncertainty about the quality of assessment of educational outcomes.

At this stage in the implementation of PCBH and IPE more broadly, it is time for systematic, informed curriculum design that includes well-articulated and sophisticated

program evaluation. While this can be resource intensive, it is ultimately necessary to ensure that the positive outcomes demonstrated by PCBH can be replicated. One of the consistent calls for integrated care is the recognition that our graduate education programs may be ill-prepared to develop learners to practice in these settings (76). As a result, many PCBH programs that are successful rely on heavily intensive continuing education and must contend with high turnover due to mismatch between training and expectations for BHCs (47). Ensuring an engaged and knowledgeable physician workforce can help reinforce efforts to train psychologists. In addition, there are several examples of innovative IPE learning environments, where psychologists are able to learn alongside physician colleagues (60). Careful and systematic curricular design and evaluation of these programs can then fuel broader dissemination and implementation. The field is ripe for the deployment of large scale dissemination efforts, as this current review shows individual programs have found success on implementing change within their unique microsystems.

Our review also highlights areas where PCBH education and training can be further expanded. In particular, while pediatric primary care is recognized as an important area for behavioral health prevention and intervention (54), our review found that few pediatric residency programs incorporate PCBH in their training. Given the literature consistently highlights the impact of early adverse childhood experiences on later psychopathology and development (9), early intervention is critical to reduce the mental health burden on our society. It is unclear if there are fundamental differences in pediatric primary care versus other primary care settings that would necessitate adaptation of the PCBH model, or of education and training. Further research in this area is a vital need.

While our review represents an important step forward in charting the emerging field of physician training in PCBH, there are limitations to consider. Many programs implement educational interventions without publishing them in the broader literature; thus, it is possible there are many other GME programs exploring this topic that we were not able to review. Additionally, there is still a question as to where in the educational lifecycle the most appropriate place is for IPE (15; 56); as such, it may be important to consider training at the pre-doctoral or post-residency level. Finally, as this field is emerging, we were not able to perform a more comprehensive systematic review as much of the published literature did not describe in sufficient detail the educational process. We hope this article is a call to encourage broader dissemination in this area of important innovations and in doing so, also provides an educational framework for reporting findings to improve utilization of best practices in this critical area.

Figure 1. *Scoping Review Article Selection Process*

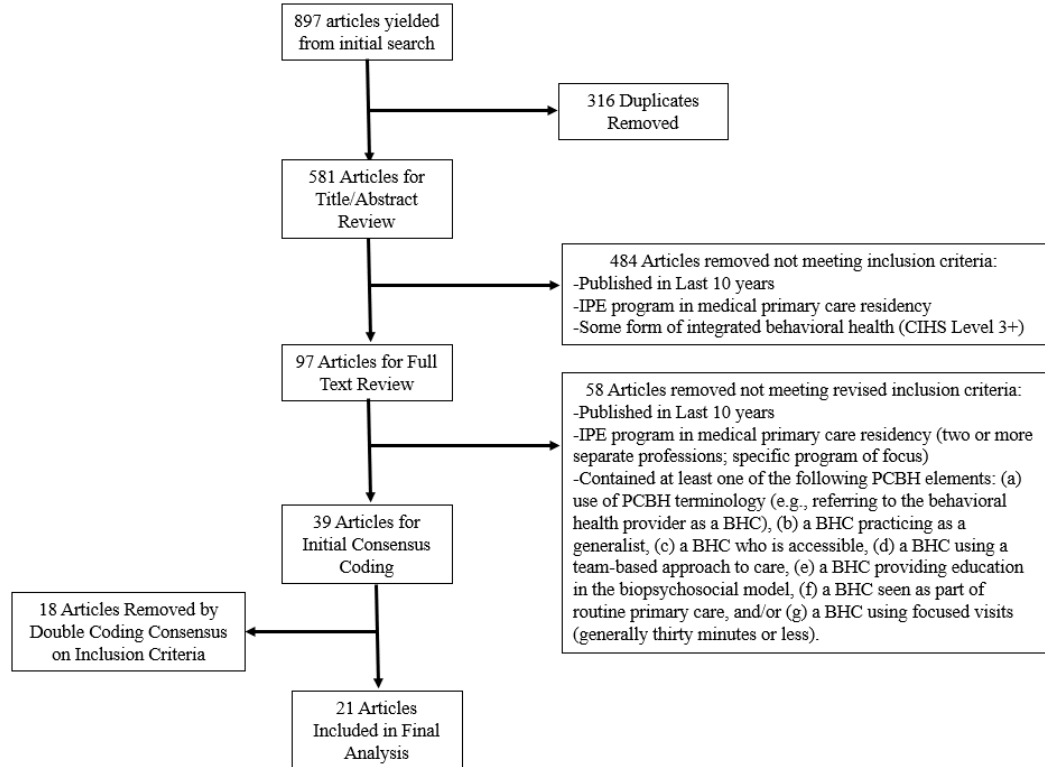


Table 2. *PCBH Scoping Review Article Summary*

Time Period	
2006-2010	4
2010-2014	7
2014-2018	10
Countries	
USA	19
Canada	2
Medical Specialty	
Family Medicine	17
Internal Medicine	1
Pediatrics	3
Psychiatry	1 ^a
Funded ^b	
Departmental	5
Private Foundation	2
State or Provincial	3
HRSA	4
Not Identified	8
Analysis Type ^c	
Quantitative	14
Qualitative	16
Mixed	1
Behavioral Health Specialty	
Psychology	15
Psychiatry	3
Social Work	2
Master's Level Therapist	4
Nursing	4
Not specified	2

Notes. ^aPsychiatry included in joint Internal Medicine program, ^bSome can have multiple funding sources, ^cStudies coded if intentionally mixed, otherwise could include both quantitative and qualitative methods

Table 3. *PCBH Scoping Review Articles*

Author/Year	Medical Specialty	Behavioral Health Specialty	Analysis Type	Funding	PCBH Elements	Educational Methodology	Summary
Porcerelli, Fowler, Murdoch, Markova & Kimbrough (2013)	FM	Psychology Externs	Quant Qual	Dept	Terminology, Generalist, Accessible, Team-Based, High Volume, Routine, Biopsychosocial	Didactic, observation, practice-based	Dedicated health psychologist faculty working in a fully integrated clinic. Uses shared curriculum, precepting, and instruction. Outcomes include learner reactions and knowledge and skills assessed via self-report
Upshur & Weinreb (2008)	FM	Not specified	Quant	Foundation	Accessible, Team-Based, Biopsychosocial	Unclear	Focused primarily on a care management nursing model to improve depression adherence. Outcomes included reaction to services as well as attitudes and behaviors towards disease process (depression).
Triana, Olson, & Trevino (2012)	FM	Not specified	Qual	Not stated	Generalist, Accessible, Team-Based, Biopsychosocial	Didactic, observation, simulation, practice-based, curriculum project	Thoughtful, planned curriculum focused on motivational interviewing. Outcomes were limited is description but incorporated into competency evaluation for residents.
Kawamura, Mylopoulos, Orsino, Jimenez, &	Pediatrics	Psychology Interns	Qual	Foundation	Team-Based	Didactic, observation, simulation	Program focused specifically on communicating diagnosis of autism using simulation based learning with pediatric residents

McNaughton (2016)							and psychology interns practicing together. Outcomes included learner reactions, changes in attitudes, skills and behaviors conducted through observation and interview.
McLeod, Laclair, & Kenyon (2011)	Family Medicine	Not stated	Quant Qual	HRSA Residency Training Grant	Accessible, Team-Based, Biopsychosocial, Routine	Didactic, observation, practice-based	Training program that utilized interdisciplinary group appointments for centering during pregnancy where residents practiced alongside a counselor. Outcomes assessed by survey and faculty observation and included positive review of program as well as improvement in facilitation skills.
Berge et al. (2017)	Family Medicine	Licensed Marriage and Family Therapists (including trainees)	Quant	State Dept of Health	PCBH Terminology, Generalist, Accessible, Team-Based, High-Volume, Routine, Focused Visits	Practice-based	Described establishing PCBH clinic in residency setting through robust clinical pathways and screening tools. Outcomes were organizational focused (e.g., clinic throughput).
Blount, DeGirolamo, & Mariana (2006)	Family Medicine	Psychology Fellows	Qual	HRSA, Departmental, other grants	PCBH Terminology, Generalist, Accessible, Team-Based,	Observation, Practice-Based	Focuses on development of a Primary Care psychology fellowship for psychology, which includes Family Medicine residents conducting dual interviews. Outcomes are

					Biopsychosocial, Routine		primarily observational and focus on improved resident conceptualization of the biopsychosocial model and the appropriateness of behavioral health consultations.
Bluestein & Cubic (2009)	Family Medicine	Psychology Interns	Quant Qual	HRSA GPE grant	PCBH Terminology, Generalist, Accessible, Team-based, High volume, Biopsychosocial, Routine, Focused Visits	Didactic, observation, practice-based	Describes a psychology internship training program specifically in primary care that incorporates inpatient and outpatient Family Medicine. Outcomes were assessed via survey and observation and included positive perception of program as well as content knowledge tests.
Boland, Scott, Kim, White, & Adams (2016)	Family Medicine	Counseling Psychology Students	Mixed	Institutional	Team-Based	Didactic, Observation, Simulation, Audit, Practice-Based, Other (Community Visits)	Focused interprofessional education program involving a one-week training with an interdisciplinary team. Outcomes assessed via survey and journaling in a pre-/post- design and found positive reaction to program and increased self-assessment of team-based skills and competencies.

Delbridge, Zubatsky, & Fowler (2017)	Family Medicine	Medical Family Therapists (including trainees)	Quant	Not specified	PCBH Terminology, Generalist, Accessible, Team-based approach, High Volume, Biopsychosocial, Routine, Focused Visits	Observation, Practice-based	Describes two training programs where learners practice side by side in a PCBH model. Outcomes assessed by survey and medical residents reported perceived patient improvement and responsiveness of behavioral health providers. Practice patterns suggested particular success in reaching disadvantaged populations.
Hill (2015)	Family Medicine	Psychology	Quant Qual	Not stated	PCBH Terminology, Generalist, Accessible, Team-based approach, High Volume, Biopsychosocial, Routine, Focused Visits	Didactic, observation, practice-based	Describes placement of PCBH clinic within Family Medicine residency programs. Outcomes assessed via survey found that vast majority of residents trained in this model viewed it positively and self-rated desire to work in similar practice settings in future.
Hoover & Andazola (2012)	Family Medicine	Psychology (Counseling and Prescribing; including trainees)	Qual	Not stated	PCBH Terminology, Generalist, Accessible, Team-based approach, Biopsychosocial, Routine, Focused Visits	Didactic, observation, practice-based	Describes an interprofessional residency training environment using PCBH with both counseling and prescribing psychology trainees. Outcomes not assessed or described, however, unique aspect of incorporating prescribing psychologists is emphasized.

Kane & Manning (2015)	Family Medicine	Psychology	Qual	None	Accessible, Team-Based, Biopsychosocial, Focused Visits	Didactic, observation, audit, practice-based	Collaborative care model focused specifically on depression treatment. Outcomes have not been formally assessed but informal feedback suggests program is well-received by both patients and residents and that residents feel it improves their self-rated knowledge and skill competencies.
London, Watson, & Burger (2013)	Family Medicine	Psychology (including trainees)	Qual	Illinois Childrens Healthcare Foundation	Accessible, Team-Based, Biopsychosocial	Didactic, observation, practice-based	Describes the implementation of an integrated care program in a pediatric setting with a focus on universal behavioral health screening and consultation as needed. Outcomes are not formally assessed by reported positive patient perception and enhanced screening and referral.
Martin (2017)	Family Medicine	Psychology	Qual Quant	Not stated	PCBH Terminology, Generalist, Accessible, Team-based, Biopsychosocial, Routine	Didactic, observation, practice-based, Other (bibliographic work)	Describes family medicine residents completion of a required primary care behavioral health rotation with various educational methodologies. Outcomes assessed via pre-/post-survey revealed non-significant attitude change towards behavioral health. Suggestion for more intentional curriculum design and evaluation given null results was made.

Pisani, LeRouz, & Siegel (2011)	Pediatrics	Psychology Fellows	Quant Qual	T32	Generalist, Accessible, Team-Based, Biopsychosocial, Routine	Didactic, observation, audit, practice-based	Describes an integrated behavioral health program that was intentionally designed with regards to curriculum. Outcomes include a wide range of sources focused on improving patient access, increased resident comfort and skill with behavioral health, and program sustainability.
Porcerelli, Fowler, Klassen, Murdoch, Thakur, Wright, & Morris (2013)	Family Medicine	Psychology (includes trainees)	Quant	Not stated	Generalist, Accessible	Didactic, observation, audit, practice-based	Describes training program focused on dual interviewing. Outcomes assessed via encounter log included increased with dual interviewing with additional residency years, however, differential practice patterns regarding assessment and intervention emerged between medical and psychology trainees.
Possis, Skroch, Mallen, Henry, Hintz, Billig, & Olsen (2016)	Internal Medicine, Psychiatry	Psychiatry, Psychology, Social Work (includes trainees)	Quant Qual	Not stated	PCBH Terminology, Generalist, Accessible, Team-based, Biopsychosocial, Routine	Didactic, observation, practice-based	Described a Primary Care Medical Home (PCMH) Integration brief immersion training for all learner types. Outcomes assessed via survey and increased attitudes and knowledge regarding PCMH.

Ragnunanthan, Frosch, & Solomon (2017)	Pediatrics	Not specific	Quant	Aaron & Lillie Straus Foundation	Accessible, Team-based, Routine	Practice-based	Comparison study where residents who trained in an integrated training clinic versus those who were not were survey on self-perceived referral patterns and attitudes towards availability of behavioral health. Outcomes assessed via survey found that residents trained in an integrated care model reported greater self-perceived access and referral.
Swenson et al. (2008)	Family Medicine	Psychiatrist, Psychology Advanced Practice Nurse, Psychologist, Social Work	Quant Qual	Ontario Ministry of Health	Generalist, Accessible, Team-Based, Routine	Practice-based	Describes the SHARE program which utilizes a multi-disciplinary behavioral health to practice as consultants at 2 medical centers. Outcomes assessed via surveys and focuses groups found positive view of program and high utilization.
Williamson, Major, Ulzen, Rubin, & Fotopoulous (2016)	Family Medicine	Psychiatry, Psychology	Qual	University of Alabama	Accessible, Team-Based, Biopsychosocial, Routine	Didactic, Observation, Practice-Based, Case Conference/ Staffing	Describes FM PGY-2 rotation through consultation clinic in positive terms for increasing comfort with d/o and collaboration

Table 4. *Presage Factors*

Learner Characteristics

Medical Specialty	
<i>Family Medicine</i>	17
<i>Pediatrics</i>	3
<i>Internal Medicine/Psychiatry</i>	1
Assessment of Prior Learner Attitudes?	
<i>Yes</i>	6
<i>No</i>	15
Assessment of Prior Learner Skills?	
<i>Yes</i>	2
<i>No</i>	19

Teacher Characteristics

Behavioralist Specialty	
<i>Psychologist</i>	15
<i>Social Worker</i>	2
<i>Psychiatrist</i>	3
<i>Master's Level Counselor</i>	4
<i>Nurse</i>	4
<i>Not Specified</i>	2
Behavioral Health Learners Present ^a	
<i>Yes</i>	12
<i>No</i>	8
Explicit Faculty Development Described	
<i>Yes</i>	2
<i>No</i>	19

Environment Characteristics

Training Setting	
<i>Clinic</i>	10
<i>Hospital/Medical Center</i>	8
<i>Both</i>	3
Longitudinal Training	
<i>Yes</i>	12
<i>No</i>	9
Number of Sites	
<i>1</i>	14
<i>2-5</i>	6
<i>Greater than 5</i>	1

Table 5. *Process Factors*

Educational Topics

Disease-specific processes	14
Practitioner skills	16
Systems-based practice	12
Not Specified	4

Educational Methodology

Didactic	15
Observation	17
Simulation	3
Record Audit	3
Practice-Based	19
Other	5
Unclear	1

Curriculum Educational Theory

Present in Design	3
Absent in Design	18

Table 6. *Product Factors*

Outcomes Assessed ^a	
Reactions (Level 1)	13
Attitudes/Knowledge/Skills (Level 2)	16
Behavior Change (Level 3)	10
Organizational Practice/Patient Care (Level 4)	7
Assessment Methodology	
Survey	12
Observation/Description	6
Interviews/Focus Groups	5
Other	5

Notes. ^aUsing Kirkpatrick's Levels (Kirkpatrick, 1994)

CHAPTER 3: Primary Care Behavioral Health in Family Medicine Residencies: A qualitative study of lessons learned from a large healthcare system

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ABSTRACT

Background and Objectives. Primary Care Behavioral Health (PCBH) is a service delivery model of integrated care linked to a wide variety of patient and system outcomes. Despite these positive findings, considerable challenges with provider training and attrition have been noted. While training for the behavioral health providers themselves is well-established, little is known about how to train physicians to work efficiently within integrated teams.

Methods. Qualitative template analysis of five case studies was conducted to chart the educational processes related to PCBH in family medicine residencies in the Military Health System using the 3P model, an authoritative framework for interprofessional education. Thirteen individuals (program directors, behavioral and non-behavioral faculty, and residents) from five programs completed 30-45 minute semi-structured interviews.

Results. A wide variety of educational content on PCBH (e.g., treatment for depression, clinical referral pathways, patient-centered communication) was covered across all residencies, primarily using a mix of didactic and practice-based placements. Resource allocation was seen as a critical contributor to educational quality. Participants also reported variability in the degree to which integrated behavioral health providers were incorporated as residency faculty. Programs that more fully incorporated behavioral

health providers as residency faculty reported more intentional curriculum development and healthcare systems-level content.

Conclusions. Behavioral health is clearly valued in family medicine residencies; however, incorporation into the curriculum is inconsistent. More intentional and integrated curriculum accompanied faculty development and integration of behavioral health faculty. Future research should evaluate if this greater faculty development and integration results in different educational or healthcare outcomes.

INTRODUCTION

Primary care has remained the de facto mental health service delivery environment in the United States, as nearly half of those individuals referred for specialty care do not make their first appointment (32). As such, there is a clear need to deliver high quality behavioral health care, and considerable promise demonstrated from the use of integrated and embedded behavioral health professionals that are available directly in primary care (34). However, efforts at integration have been slowed by many factors which challenge the formation and effective functioning of interprofessional teams. This has resulted in workforce retention challenges (46) and may be a key contributor in the epidemic of physician burnout (68). In order to effectively address behavioral health concerns in primary care, it is important to examine not only service delivery models, but how healthcare team members are trained within those systems.

Broadly speaking, integrated behavioral health care has been associated with improved access to care, improved health outcomes, higher patient satisfaction and decreased healthcare costs (34). While interest in integrated behavioral health care has increased dramatically in the past decade, the history of integrated care goes back much further – with small pilot programs and individual examples described as early as the 1960s and large managed care organizations showing great interest in expanding this delivery model in the 1990s.⁵ One such program that has been well studied is the Primary Care Behavioral Health (PCBH) model, which has been practiced on a large scale most notably in the MHS for over 20 years (34; 35). The PCBH model is patient-centered, and one in which a behavioral health professional serves as a consultant to a physician-led team. This consultant provides behavioral health services that are routine, accessible, and high volume, while practicing as a generalist in a biopsychosocial framework (64).

Practically speaking, this generally means short-term, solution focused, brief encounters designed to look and feel in many ways like other primary care appointments. Training competencies for behavioral health care professionals in this model have been well-established and some family medicine physician training programs provide exposure to this model by training family medicine physicians to function independently as behavioral health consultants. However, there is less focus on broader training on how family physicians can work with and leverage these behavioral health assets as part of their healthcare team.

Thus, there is a gap in our understanding of how to build an effective integrated healthcare team as not all members of that team are educated and trained in this model. In fact, there is evidence to suggest that different healthcare team members perceive different barriers to behavioral health care as well as perceived utility of care (45). Although the Accreditation Council for Graduate Medical Education (ACGME) Milestones recognize the critical role behavioral health plays in Family Medicine and behavioral faculty are a mainstay of residency training programs (1), there is little systematic understanding of training in integrated behavioral health service delivery models (42). A recent scoping review identified that while a large number of training programs in Family Medicine, as well as Internal Medicine and Pediatrics, include interprofessional training in behavioral health, there is little formal identification of service delivery models or intentional curriculum on healthcare team integration (42). This is a critical gap, as education and shared goals are key aspects of building successful healthcare teams (22). Graduate medical education represents a crucial time point in this exploration and training, and Family Medicine residencies in particular are well-suited

for this exploration given their emphasis on biopsychosocial contributors to health.⁷ Thus, the current study seeks to explore the current state of training in integrated behavioral health care within Family Medicine residencies. To guide our exploration of interprofessional education (IPE), one of the leading models of IPE, the 3P Model (63), was utilized.

The 3P model focuses on three components that represent the context, educational milieu and outcomes, labeled as *presage*, *process*, and *product* factors (63). Presage factors focus on the preconditions of training (e.g., what previous attitudes do learners come in with, or what faculty development has been given). Process factors explore how learning occurs (e.g., do residents have choice in the behavioral health didactic curriculum during residency?) and product factors focus on the outcomes of the training program (e.g., resident satisfaction, competency evaluations, or patient health measures). A scoping literature review revealed that tracking outcomes in this area was limited and previous training in PCBH in UME is also lacking. Thus this study was focused primarily on understanding the educational *process* regarding PCBH within Family Medicine residencies. A qualitative approach was selected as the most appropriate methodology to allow rich contextual themes to emerge which may otherwise be missed.

METHOD

Using a constructivist approach, we conducted a series of 13 qualitative interviews. Our research team included a PCBH expert behavioralist, two experts in medical education, including one in curriculum design and another in qualitative methodology, and an experienced Family Physician who is an expert military healthcare leader.

Sample

We chose to explore PCBH within military-sponsored Family Medicine residencies for several reasons. One, the MHS has a long standing tradition of practicing PCBH, thus, it provides a glimpse into how training programs might exist within the “ideal” state of PCBH implementation, thus not confounding implementation with integration. Two, as a closed healthcare system, there is more standardization across practices, whereby key differences which emerge may be particularly informative. Three, although civilian healthcare settings may not have the history of integration or the standardization across diverse settings, findings from the MHS have been shown to provide critical insight across the healthcare landscape in other areas of study, in part by limiting extraneous variables (45; 47).

Participants were identified and recruited by the lead author between January 2017 and January 2019 using purposive sampling of practice sites to ensure diversity across all military services. Participants included Program Directors, Behavioral and Non-Behavioral Family Medicine Faculty, and Residents of Department of Defense (DoD)-sponsored Family Medicine Residencies. Five sites, which were treated as individual cases, were selected for inclusion in the current study to ensure each service branch was represented along with a focus on geographic diversity. Each case was created by conducting an interview with stakeholders from a single site with a focus on perspective across the different types of individuals involved in Family Medicine Residency Training in PCBH (Program Director, Behavioral and Non-Behavioral Faculty, and Residents).

Data collection

RL conducted a 30-45 minute in-depth semi-structured interview with each participant via phone. The interview guide is attached in Appendix A and was developed as part of a broader exploration of perceptions on integrated care in family medicine residencies. At the conclusion of the interview, participants provided additional participant suggestions for each case using a snowball sampling technique. Thirteen individual interviews were conducted across the five residency training sites selected. Although saturation of themes was achieved with the first four residency sites, an additional site was recruited to ensure representation across all three military medical services in case there were service specific training differences which emerged. This additional case did not yield new themes, but reinforced the conclusion that saturation had been reached. Additionally, within each case, while each stakeholder had some unique perspectives, there was a large degree of convergence, suggesting that the behavioral health curriculum was consistently identified and understood within the residency program.

Data analysis

Interviews were transcribed and analyzed using a template-driven approach (49) based on the 3P model as an orienting framework. Consistent with template analysis, codes were iteratively revised starting from the framework of a recent scoping review in this area (42). All authors participated in the coding process and agreed on final coding. Forty percent of the cases were coded by all authors in an iterative format and subsequently discussed until overall agreement was reached. The remaining cases were

coded primarily by the lead author. The Uniformed Services University Institutional Review Board approved this protocol.

RESULTS

Participants described the curriculum associated with primary care behavioral health within their residency program. Using a coding scheme informed by the 3P model and refined by a recent related scoping review (42; 63), we focused on defining the educational content, methodology and looked for evidence of intentional curriculum development. We also evaluated barriers and facilitators of the educational process.

Educational Content

Broadly, educational content was grouped into four categories: disease-specific processes (e.g., diabetes management, depression, anxiety), practitioner skills (e.g., communication, motivational interviewing, consultation), systems-level functioning (e.g., clinical pathways, interprofessional roles), as well as other content that did not fit within these identified categories. Examples for each primary code and associated subcodes is shown in Table 7. Across all sites, there was a wide range of PCBH-related content covered. It was not always clear within the explicit context of integrated care (as opposed to general behavioral health), but represented attempts to ensure a wide breadth of curricular content. While professionalism was a common theme endorsed across Diprograms, many programs also highlighted provider wellness and resilience as a component of this curriculum.

Educational Methodology

We identified 5 educational methodologies: didactic, observational, simulation, records audit, action/practice-based, while also allowing for categorization as other or

unclear. Examples of primary codes and subcodes are shown in Table 8. While there was similarly a variety of educational methods employed, didactics and placement based learning was predominant and usage of simulation and audit methodology was not reported. Furthermore, placement-based learning was often cited as the primary means for learning specifically about PCBH practices, although this was often less intentional and structured than other methods employed.

In regards to intentionality of the curriculum, there was considerable variability. While every site demonstrated some thought and intentionality to behavioral health curriculum as a whole, some sites focused more on behavioral health more broadly (e.g., “So [the behavioralist faculty] tries to do a needs assessment at the beginning of the year and then creates basically kind of a master topic list from that” [Program Director 1] or “[The behavioralist faculty] does have a loose curriculum across year but much of it a little more personal for them and where he's trying to help them find their path I suppose” [Program Director 4]). Others had more clearly intentional curriculum development that involved iterative evaluation (e.g., “I put it together, and then I had the staff psychiatrist who was working in the mental health department give her two cents as well as the residency program director and other providers take a chop at it as well” [Behavioralist 5]). Finally, in regards specifically to training in the PCBH model, this was more lacking at sites (e.g., “There's no formal training that they receive” [Family Medicine Faculty 4])

Educational Barriers and Facilitators

In addition to coding elements of the educational process, codes on educational barriers and facilitators were developed. In many cases, the same underlying principle was identified as a barrier in cases when it was absent and facilitator in cases when it was

present. Thus, these codes were combined and are shown with subcodes and illustrative examples in Table 9. Primary themes that emerged was staffing— having a consistent individual who filled the role of providing PCBH related content. In addition to the presence of a dedicated individual to teach PCBH principles, their integration within the residency program was another noted theme. In some cases, they were considered part of the faculty, had leadership support, were readily available and approachable and in other cases, they were additional clinical staff the residents interacted with but were not considered faculty. In the latter cases, those programs tended to have less formal intentional curriculum and relied more heavily on action-based placements but without as much evaluation and understanding of the impacts of learning by working alongside integrated behavioral health assets. To a lesser extent, the educational background of the behavioral practitioner, the time within the academic curriculum, and provider stigma and comfort with noted as themes. Finally, although not across all sites, physical space limitations and other infrastructure was noted as playing a role in the effectiveness of the PCBH-focused curriculum.

DISCUSSION

Qualitative analysis of family medicine residencies revealed an overall respect for and recognition of the importance of behavioral health in primary care. Across all military services, there was a clear effort and intent to include a wide variety of behavioral health content. There was a less explicit and specific focus on integrated care and the specific care delivery model practiced within the DoD, but systems-level factors were still addressed at several points. Another content area that emerged as an important focus across medical education due to heightened rates of physician burnout⁴ is that of

wellness and resilience. Interestingly enough, training in primary care behavioral health was often conflated with wellness and resilience curriculum programming. This aligns with literature suggesting that increased integration promotes teamwork and wellbeing amongst healthcare team members (77).

When exploring how primary care behavioral health content was delivered, findings suggested that while disease specific processes may often be taught in a didactic fashion, the majority of integrated care specific content was delivered through practice based placements. Often times, this meant working alongside a behavioral health consultant, and this may or may not have been an explicit educational objective communicated to residents. While the value was clearly recognized, it may be worth considering how explicit highlighting of this objective may further enhance the educational quality of the experience.

Finally, in exploring factors which facilitated or hampered education in primary care behavioral health, several general themes emerged. The first was resource allocation - when programs were limited by staffing or physical space, this tended to have a significant negative impact on the primary care behavioral health curriculum and the opposite was true when those resources were readily available. The second pertained to the primary instructor of the behavioral health curriculum. In some cases, this would be a behavioral health consultant who did not have a standing in the family medicine program faculty, but was essentially another clinic provider. In others, the behavioral health faculty in the residency program was not practicing in primary care behavioral health and their curriculum would focus on other behavioral health arenas. In cases where the primary care behavioral health curriculum appeared the most intentional and robust, the

behavioral health consultant who practiced PCBH was also well-integrated into the family medicine residency faculty. For programs wishing to improve curriculum in this area, this may be an important consideration. Finally, behavioral health faculty varied in their background and experience with education and curriculum development. This is an important consideration not only in selection, but also in faculty development, for these individuals within a residency program.

This study is not without limitations. For one, this study focused exclusively on military family medicine residencies. Although some of the particular examples are military-specific (e.g., certain sites employed active duty and thus were more likely to fill the position, but then had to contend with turnover associated with military re-assignment), the general principles of turnover and attrition also appear in civilian healthcare settings (70). Thus, it is reasonable that many of these concepts would apply to civilian healthcare settings, it is nevertheless important to recognize the specificity of sampling was intentional to capture perspective within military residencies.

These findings provide a critical first step in charting the nature of PCBH training within family medicine residencies. By exploring a healthcare system where PCBH has been well-established and is the ‘norm’ for care, we gain critical insight into potential best practices. Unfortunately, there was limited information on the impact of these kinds of training. While primary care behavioral health was universally respected and appreciated, there was no consistent systematic program evaluation that would help inform whether or not the additional resource investment in an intentional curriculum or faculty development, produce an appreciable change in outcomes, either within the resident, or the healthcare system. These are important future directions for research.

Ultimately, improving integration from the perspective of all healthcare team members' is likely to yield an improved patient experience, patient health, and more effective healthcare system.

Table 7. Educational Content Codes

Primary Domains	Subcodes	Examples
Disease Specific Processes		“He would have a packet of all the different antidepressants, and we would talk about the pros and the cons” [R1]
Practitioner Skills	Communication	“Really helping them to understand how they’re being perceived and non-verbal cues and appropriate language to use with patients as far as non-technical jargon and things like that.” [PD2] “They also do a communication rotation in their first year where they focus on things like agenda setting and shared decision making.” [BH3]
	Intervention	“I teach motivational interviewing.” [BH4] “Basic behavioral health interviewing techniques in modalities - Motivational interviewing, basic CBT” [PD4]
	Professionalism	“It’s really cool that they can have the experience of the [primary care behavioral health] to help them deal with some of the emotions they’re going through..bringing through scenarios if they haven’t brought it up already. I’m attracted to a patient. How do you gotta deal with that? Or there are patients coming onto me, how are you gonna deal with that?” [FM2]

Systems-level Functioning	Referral Decisions	“If we send somebody to the [integrated behavioral care provider], and maybe they feel something would've been more appropriate for a straight mental health referral outside of clinic versus potentially something that could just be managed with their own continuity clinics, that feedback is often available.” [R2] “It’s kind of like the same thing with the - we have some didactics here and there, just to remind folks or explain to the new folks, ‘Hey, we have a behavioral health person here. We have a behavioral health facilitator here. These are diagnoses that are reasonable to send to them. These are things where you can do warm transfers. These are what you can add calls for.’ So, as far as teaching them how to use those folks, that’s embedded in our system” [PD5]
	Role Identity	“On an annual basis our [integrated behavioral care provider’s] [give] training for residents and say here’s what we are here’s what we do and here’s how you use us just because they’re new blood coming in.” [PD1]
	Clinical Pathways	“We first train as a department so maybe some very overarching ideas, concepts like how do you do an annual physical for army or something like that.” [PD3]
Other	Self-care	“Personal emotional health.” [BH4]
	Emotion Handling	“So the residents learn how to deal with their emotions, they learn how to deal with mistakes” [FM2]

Note. R = Resident; PD = Program Director; BH = Behavioralist Faculty; FM = Family Medicine Faculty

Table 8. Educational Methodology Codes

Primary Domains	Subcodes	Examples
Didactic		“Having folks providing lectures” [R2]
Observation		“He helps to coordinate at least once or twice a week a video clinic for our residents in which they take a video camera into their clinic encounters and they videotape those” [PD4]
Practice-based		“So their training is basically the utilization of the [integrated behavioral health provider] when they're doing their continuity clinic and from whatever information that the [integrated behavioral health provider] is kinda generally putting out.” [FM4] “The instant you're in - you have a patient who's broken down and crying, and you're 45 minutes behind in clinic, and you can say, ‘You know, I've got someone who I think can really help you right now,’ and you can walk them over? And, say a resident comes to precept with us, and they say, ‘I don't really - I have no idea what to do with this person.’ We're like, ‘Well, let's walk him over to the [integrated behavioral health provider.’ Once they see how glorious that is for getting you back on track and taking care of the patient at the same time - like, you've not - you've gotten them to the consultant already. And then, they kind of learn, like, ‘Okay. What other things can we do?’ We learn a lot of anticipatory guidance or education that you can give: sleep hygiene, depression, and all these things, by interacting with those folks. The more you see it, the more they embed that and imprint those behaviors. And so, they get a little more confident to take care of some of those things.” [PD5]
Unclear/other	Group Discussion	“With the interns we typically meet one hour every week. And with the residents the R2's and R3's, three times monthly. We meet in small groups and most of that discussion is devoted to psychosocial aspects of patient and personal care.” [BH4]
	Home Visits	“There is also home visit that we have six video clinics and four home visits over the course of the three years” [BH4]

	Reading	“I also have we have a book that we will read through two books in a year. So we have read <i>Man's Search for Meaning</i> and for me this is more about helping them develop self-reflection skills and to sort of broaden the world.” [BH4]
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Note. R = Resident; PD = Program Director; BH = Behavioralist Faculty; FM = Family Medicine Faculty

Table 9. Educational Barriers and Facilitators

Primary Domains	Subcodes	Examples
Infrastructure	Staffing	“I know six other family medicine residency programs in the [military.] That behavioral health position like faculty or behavioral scientist, I know that I think three of them have not had one of those positions filled in the four years that I’ve done this job.” [PD4]
	Physical Space	“Which is available when everybody's working in the same clinic space.” [R2] “I think I've learned enough that on my own and I had to do it, I could do it on my own, but it's great to have them there. And I still always go get them mostly 'cause they're here, and it would be hard to justify not involving them and they're just down the hall.” [R1]
	Leadership	“It takes I think a system leadership to buy in to the idea and recruiting people who buy in to the idea who are willing to not just work in that kind of setting but hopefully model those things in their own lives to have a better understanding when they talk to people and try to sell them on ideas of incorporating all aspects of their life relating to health.” [PD1]
	Support Personnel	“I think support personnel, so you need to be able to support whatever product line or service they’re providing with – even if it’s a technician that’s dedicated full time or can understand the flow and it’s not piecemeal.” [PD2]

Integration	Faculty Status	“And our behavioralists are part of our teaching faculty, so go to all of our faculty meetings and have a very good idea of how we operate as a GME training program.” [PD2] “I’m not seen as an outsider. And I think the faculty's done a wonderful job in making sure that that is how that goes” [BH4]
	Curriculum Time	“I’m way too busy to be getting into the weeds with trying to figure out every single person's individual role and how they can assist in these efforts in integrated care.” [PD1]
Behavioralist Attributes	Approachable	“I like the fact that our psychologist comes out to our retreats and he comes to all our stuff so we get to know him on a personal level. And I think that's always great. When you get to know somebody on a personal level and they develop a friendship that way when you talk to each other about patients there's a lot more camaraderie there and isn't awkwardness.” [FM1]
	Available	“But he wasn't always here, because he was subbing for [administrator], and doing a bunch of other stuff, 'cause he had to if he wanted to stay in the [military].” [FM2]
	Education	“So I think just coming with a varied background was really helpful? But also having a strong background in mental health with – those were very helpful. And then I’m also going through a Behavioral Science Educators Fellowship this year. And so that’s helped to kind of broaden my network and kind of refine some of my teaching skills and those kinds of things.” [BH3] “I think that's a requirement; either they're working on a PhD or they have a PhD, which I think does help.” [FM2]

Note. R = Resident; PD = Program Director; BH = Behavioralist Faculty; FM = Family Medicine Faculty

CHAPTER 4: Discussion

This thesis describes a review of the existing literature of residency training in PCBH (Chapter 2). Furthermore, using the 3P model of interprofessional education, this work explores the educational process of PCBH training within military Family Medicine residencies (Chapter 3). This work provides a blueprint for the state of education in PCBH training within Family Medicine using presage, process, and product factors as a framework. Finally, this work has implications for the training and ultimately clinical practice of interprofessional teams in primary care within the Military Health System.

PRESAGE: SETTING THE CONDITIONS FOR PRIMARY CARE BEHAVIORAL HEALTH

The majority of training in PCBH in Graduate Medical Education occurs within Family Medicine, and to a lesser extent, Pediatrics. While one study did explore PCBH in the context of an Internal Medicine, the higher outpatient ambulatory clinic focus and biopsychosocial approach emphasized in PCBH may be particularly salient within Family Medicine. That is not to say that interprofessional behavioral health teams do not exist within Internal Medicine, or other clinical specialties, but their nature of interaction (e.g., consultation-liaison) may differ. Very little is known about learners' previous attitudes and experiences, and this will be an important future direction to understand interprofessional identity development and how that informs functioning in clinical teams.

While the literature is additionally scant on faculty development prior to PCBH training, the majority of training appears to occur in an interprofessional learning context with a psychologist as the behavioral health faculty – although the degree to which this individual is in a “faculty” role with the residency program specifically varies as well.

This helps to identify the key training environments for building interprofessional teams that will contribute to PCBH. In fact, the Uniformed Services University is an ideal setting for this training, as there are already existing models of interprofessional training between medical and psychology students (41).

Finally, in considering the environment in which PCBH training for physicians occurs, the majority (logically) takes place in outpatient clinics, often limited to single site studies. Here is where the DoD has a unique opportunity to leverage a broader training platform. Given the standardization that has occurred within PCBH training itself for behavioral health providers, a similar training modality could be explored for residency training across the Joint Force.

PROCESS: TRAINING IN PRIMARY CARE BEHAVIORAL HEALTH

Both in the broader literature on PCBH and within the DoD itself, there are already the key building blocks of the educational processes in PCBH. Family medicine residents are already exposed to a good variety and mix of behavioral health disease-specific processes, practitioner skills, and systems-level considerations. While these are not always fully integrated or intentionally designed the key elements are there. This provides a fertile ground to consider the exploration of standardized DoD training in PCBH for physicians.

The modalities employed tend to be a combination of didactic, observation, and practice-based placements, which mirror existing PCBH training for behavioral health providers. Thus, again, the process “building blocks” are there. What is further needed is intentional curriculum design. Furthermore, within DoD residency programs, stronger evidence of intentional curriculum design appear when the program is sufficiently

resourced both in terms of physical space and staff, as well as when the behavioral health preceptor is integrated closely as faculty within the residency program. This provides a model for ideal curriculum design of PCBH training.

PRODUCT: EVALUATING PRIMARY CARE BEHAVIORAL HEALTH EDUCATION

While the literature on PCBH itself is well established, there is less systematic approach to evaluating the literature on education and training in PCBH. However, the broader literature does evaluate a wide range of outcomes – using Kirkpatrick’s framework all levels of program evaluation are well-represented, with the first three being somewhat equally reviewed across the existing literature. Thus, there is a clear model of program evaluation in place from which to grow future training in PCBH.

MILITARY RELEVANCE

The initial drive for this study came from the recognition that attrition of behavioral health providers in PCBH is a huge concern for the stability of PCBH programs and continuity of care. This turnover challenge was observed both in civilian (70) and military (46) healthcare settings. Particularly within military settings, higher attrition was seen in small facilities – presumably with fewer resources. Additionally, the average length of employment was found to be around eight months – coinciding with the conclusion of formal training programs. One possibility to explain these findings is that we place a lot of expectations on our behavioral health providers – who are often learning this service delivery modality for the first time themselves – by expecting them to educate other members of their healthcare team. At smaller facilities and after formal mentorship and training has ended, the responsibility to train other staff members can be a daunting task that may increase provider burnout and ultimately turnover.

Understanding the factors that lead to attrition as well as how interprofessional education shapes PCBH teams are an important area of future research. These lines of inquiry are further supported by this thesis as there is little systematic and intentional training for physicians on how to practice alongside behavioral health providers in the PCBH model. Provider attrition in the military has a significant impact in terms of cost (e.g., forfeited investment in providers who quit), continuity of care, and developing healthcare teams that can meet the growing mental health needs of service members (28).

LIMITATIONS

This thesis has several important limitations to consider. The first is that it is likely an incomplete picture of the state of residency training in PCBH as few programs provided sufficient detail and clarity on their program to draw full conclusions about the nature of their curriculum. This study focuses exclusively on Graduate Medical Education (GME). While GME was theorized to be the appropriate developmental stage in the physician training lifecycle, it may be important to consider both earlier and later stages of physician training. In addition, the implications regarding behavioral health provider attrition were not able to be empirically evaluated by this current study. The hope is that this thesis lays the groundwork to spur further research in this area.

CONCLUSIONS

PCBH, and interprofessional practice in general is a growing part of healthcare that is consistently associated with positive health outcomes and represents the future of medical practice. In order for these interprofessional practices to grow and thrive, we must have an understanding of how to train and build interprofessional teams. As part of this, having a systematic process for designing and evaluating intentional curriculum in

the area of PCBH and interprofessional education is vital. This thesis takes an important step forward in this regard by identifying the predominant elements (e.g., occurring primarily in Family Medicine focused residencies with psychologist staff) as well as important considerations for future curriculum development that connects existing broad-based educational content and methods with intentional design and evaluation. Within DoD-sponsored residencies, there is an opportunity to leverage this across multiple sites and advance the science to larger healthcare training academic health systems.

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Appendix A: Agenda and Interview Guide for Residency Interviews

Agenda/intent statements:

Section 1. *Ask participants to define and describe ‘integrated care.’ This should include descriptions of which services are being integrated and which types of personnel (e.g., professionals, staff) are being integrated. This should include descriptions of how ‘integrated care’ is implemented based on their existing knowledge which may or may not be personal. Examples of questions may include those below, but the interviewer may also pursue emergent topics within the intent statements consistent with participant responses.*

1. Tell me about what ‘integrated care’ means to you.
2. What is being integrated?
 - a. What types of services are being integrated?
 - b. Who is being integrated?
 - c. How is this being done?

Section 2. *Ask participants specifically about integrated behavioral health in primary care. This should include descriptions about their familiarity with integrated primary care behavioral health, how this has looked in practice and the impact this has had on their own practice, patient care, professional relationships and themselves as individuals. Examples of questions may include those below, but the interviewer may also pursue emergent topics within the intent statements consistent with participant responses.*

1. Thinking specifically about integrated behavioral health in primary care, tell me about your experiences.
2. Explain to me how integrated behavioral health has ‘looked’ in your experiences.
3. How has integrated primary care behavioral health impacted...
 - a. your practice?
 - b. your patients care?
 - c. your professional relationships?
 - d. you personally?

Section 3. *Ask participants about their training in integrated primary care behavioral health. This should include descriptions about their training experiences and how this impacted their ability to work in integrated environments. It should also include descriptions about the trainers’ background and qualifications, their receptivity to trainers and challenges experienced in those trainings as well as perceived ideal training paradigms. Examples of questions may include those below, but the interviewer may also pursue emergent topics within the intent statements consistent with participant responses. For residents, follow-up questions will explicitly review whether or not these experiences have been part of their residency training and may include examples gleaned from faculty interviews.*

1. Tell me about any training you have received to work in a setting with integrated primary care behavioral health.
 - a. What have those experiences been like?
 - b. How do you feel about your ability to work in these environments as a result of this training?
 - c. What would you like to see in those experiences?
 - d. What challenges have you encountered in this training?
 - e. What challenges have you encountered in utilizing this training?
2. Tell me about the professional backgrounds of those who have provided training in integrated primary care behavioral health.
 - a. How did you feel about their background and qualifications?
 - b. What type of background and qualifications would you like to see?

Section 4. *Faculty only interviews. Ask participants about the training experience they provide for students in integrated primary care behavioral health. This should include descriptions of these experiences and perceptions of their relative value of this in the curriculum along with challenges to implementation. Examples of questions may include those below, but the interviewer may also pursue emergent topics within the intent statements consistent with participant responses.*

1. Tell me about the training experiences for residents in integrated primary care behavioral health.
2. Where do you feel this fits in the curriculum?
3. Where do you feel it should fit in the curriculum?
4. What are challenges with incorporating this into this existing curriculum?