The Integration of Psychology in Emergency Medicine

Krina S. Patel

A Dissertation Submitted to the Faculty of

The Chicago School of Professional Psychology

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Psychology in Clinical Psychology

Wendy Schiff, PhD

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Krina S. Patel

2020

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Dedication

To my Ba (e.g., grandmother in Gujarati), Bapuji (e.g., grandfather in Gujarati), my family, and all of the dedicated working professionals in the healthcare system.

Abstract

The Emergency Department (ED) is a critical part of the health care system, providing a wide range of services to a diverse patient population. There are many challenges and demands on this service. These challenges include meeting the needs of patients presenting with various psychological and behavioral issues, both as primary presenting problems and as those comorbid to medical problems. However, while other healthcare settings have moved toward the integration of mental health providers to treat their patients from a biopsychosocial perspective, such a model has not been widely developed and implemented in the ED. The proposed dissertation will review the literature on prevailing models of emergency medicine and the challenges faced in EDs related to patient psychosocial functioning. The dissertation will review models of psychosocial integration in other medical settings, such as primary care, and consider possible implications for integrating mental health into emergency medicine. Clinical recommendations and suggestions for future research will be presented.

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Chapter 1: Introduction

The Emergency Department (ED) is an integral part of the health care system where it provides services to a diverse patient population. There were 141.4 million emergency department visits in 2017 (Rui & Kang, 2017), which was an increase from previous years. Of that number, 11.2 million or 7.9% resulted in hospital admissions, and 1.9% of these visits were transferred to a different (psychiatric or other) hospital. The ED faces many challenges and demands on these services. These include meeting the needs of patients presenting with psychological and behavioral issues, both as their primary presenting problem and those comorbid to their medical concerns, while at the same time being required to manage limited resources. Of the 43.6 million adults in the United States, 18.1% have mental, behavioral, or emotional disorder (Weiss et al., 2016). Individuals with mental health conditions are estimated to die 8.2 years earlier than the average general population (Schmidt et al., 2018). Other health care settings have moved toward the integration of mental health providers to treat their patients from a biopsychosocial perspective. However, while mental health care providers do consult to treat patients in crisis, there is typically little integration of those providers into patient care in the ED.

The number of patient visits to EDs involving mental health disorders has been increasing in recent years, from 17.5% of visits in 2006 to 25.6% in 2011 (Capp et al., 2016). In 2013, depression, anxiety, or stress were the most common mental health issues presenting to the ED, followed by substance use disorders (SUDs), psychosis, and bipolar disorder (Weiss et al., 2016). These problems are considered potentially avoidable if they were adequately managed in outpatient care or through behavioral health interventions. However, these preventable ED visits

are twice as likely to lead to hospital admissions compared and further contribute to overcrowding and boarding issues.

Other research has suggested mental illness accounted for almost 50% of frequent ED users, and subsequently, these groups have higher rates of morbidity, mortality, and medical costs over time (Niedzwiecki et al., 2018). In a 2017 report by the Agency for Healthcare Research and Quality, the number of ED visits increased more than 44% for mental health and substance use-related issues, with it growing four times the rate (AHRQ, 2018). Thus, mental health symptoms potentially increase an individual's likelihood of becoming high utilizers of the ED (Jiang et al., 2017). Individuals with at least one primary psychiatric visit to the ED were 4.6 times more likely than those without a visit to be classified as high utilizers of health services overall (Ngo et al., 2018). Moreover, individuals with a primary psychiatric visit had significantly more ED visits than non-psychiatric high utilizers (Ngo et al., 2018). Unfortunately, there have been limited resources to treat these psychosocially complex issues that may be contributing to medical conditions.

Further, behavioral health conditions further complicate an individual's mental well-being and place them at risk for utilizing the ED (Hayes et al., 2016). The current healthcare system does not adequately meet the needs of individuals with chronic health conditions, which influence their ability to carry out their daily activities. Approximately 60 to 70% of individuals with a mental illness are more likely to have co-occurring medical conditions such as cardiovascular disease, diabetes, chronic respiratory, and infectious disease (Schmidt et al., 2018). Further, mortality rates were 1.2 to 4.9 times higher in behavioral health populations compared to the general population (Schmidt et al., 2018) and were due to conditions such as

heart disease, cancer, cerebrovascular disease, chronic respiratory, acute lung infections, and diabetes.

High need patients - defined as individuals with three or more chronic conditions and functional limitations - face extreme challenges, including increased spending, access to care, and worse patient care (Hayes et al., 2016). Individuals with a behavioral health condition utilize the ED 27% more than the average individual, and on average, 35% of these individuals spend more on paid home health care days (Hayes et al., 2016). Other evidence suggests that approximately one-third or 34% of adults with a behavioral health condition remained at the top 10% of spending over the past two years. Given that a majority of behavioral health conditions remain undiagnosed and untreated, this provides a further argument for the need for psychologists in the ED.

Boarding is defined as the length of stay (LOS) in the ED greater than 4 hours after medical clearance and is normally awaiting placement to another facility (Ngo et al., 2018). Boarding of patients with behavioral health issues is a major challenge the ED faces, especially for individuals requiring psychiatric care and results in other organizational challenges. This problem has contributed to the overcrowding and lack of sufficient resources the organization faces (Ngo et al., 2018). Given that EDs are poorly equipped at handling mental health, boarding also contributes to the insufficient quality of care, poor patient and provider satisfaction, and loss in hospital revenue (Ngo et al., 2018). Behavioral health issues have been particularly affected by boarding due to the national decrease in psychiatric inpatient facilities and lack of community-based resources (Ngo et al., 2018). Thus, better health care integration can possibly improve the quality of care provided to vulnerable populations and individuals with complex mental and medical conditions.

To consider how the treatment of co-morbid behavioral health conditions and mental health issues in the ED can be improved, subsequent chapters will focus on specific challenges experienced in this facility. These include issues related to overcrowding, medication management and adherence, burnout, and healthcare utilization for psychiatric issues. The dissertation will also address current mental health and behavioral health services utilized in the ED and provide a literature review of the various models of healthcare integration, specifically in integrated primary care. These include co-location collaborative model, primary care and behavioral health (PCBH), federally qualified health centers (FHQCs), community health centers within a PCBH setting, the department of defense, blended model, and patient-centered medical homes (PCMH). The dissertation will devise a theoretical model of integration for the ED by drawing upon evidence from previous findings of healthcare integration. Concluding, the dissertation will identify barriers to implementation, including billing and insurance-related issues, and a propose mechanism to overcome these challenges. Finally, the dissertation will address future areas of research and propose a pilot study for future implementation. This goal of the dissertation is to be used as a guideline and a theoretical model for the integration of psychologists in the ED.

Chapter 2: Emergency Medicine

Emergency Medicine includes four processes (e.g., triage, testing and evaluation, handoffs, and admitting) that are important in determining the direction and quality of patient care (Eisenberg et al., 2005; Roscoe et al., 2016). Patients are typically triaged using the Emergency Severity Index (ESI), developed by ED physicians Richard Querex and Davis Eitel in the U.S. (Gilboy et al., 2012). The goal of this tool was to prioritize the urgency of treatment for patient conditions by asking such questions such as "who should be seen first?" and "how long can each patient safely wait?" Other factors, such as what resources are necessary to move the patient to a final disposition (admission, discharge, or transfer) are also taken into consideration when assessing a patient. The ESI also determines resources that may be needed for less acute patients (e.g., diagnostic tests and procedures).

The ESI is a five-level triage algorithm that categorizes ED patients by evaluating both the patient acuity and resources needs. The triage nurse initially assesses the acuity of the patient. If the patient does not meet acuity level criteria (ESI 1 or 2), then the triage nurse further evaluates the expected resource needs to help determine a triage level (ESI level 3, 4, or 5). There are four decision points depicted in the ESI algorithm that are critical to the accurate and reliable application of the ESI: (a) does this patient require immediate life-saving intervention?, (b) is this a patient who shouldn't wait?, (c) how many resources will this patient need?, and (d) what are the patient's vital signs? Although the ESI is the gold standard for triage assessment, it fails to take into consideration cognitive, behavioral, and emotional deficits that may be seen in patients suffering from a mental health issue and primarily prioritizes patients with a medical complaint (Zun, 2016).

Once patients are triaged, they are initially assessed by a nurse and then evaluated by a provider (e.g., physician, physician assistant, or nurse practitioner). Typically, ED physicians do not medically evaluate the patient until they are placed in a room (Pines et al., 2011). Providers evaluate the patient and place orders for various imaging and testing depending on their symptom presentation. The provider must wait for results which are then evaluated to determine a diagnosis and treatment plan for the patient. Providers may also request consults from other departments such as cardiology, surgery, psychology, and psychiatry. Patients are either discharged, boarded, or admitted to inpatient after their testing and evaluation are complete.

The current model of the Clinical Practice of Emergency Medicine provides three core competencies for Emergency Medicine (Hockberger et al., 2001). The model has three components: (1a) assessment of patient acuity, (b) outline and descriptions of tasks that are performed in an emergency facility, and (c) listings of common conditions and disease presentations which are used to determine appropriate diagnostic tests and therapeutic interventions. The model outlines the important information and skills needed to treat patients in the ED by board-certified physicians. However, clinical emergency medicine can be practiced in both rural and urban EDs, urgent care clinics, and other settings that may require emergency medical services (EMS).

Challenges in Emergency Medicine

Presently, the ED faces many challenges to its operations. These issues include overcrowding, frequent and recurrent visits, long wait-times, visits related to substance misuse, overdose, treatment of chronic health conditions, acting as primary care for the uninsured, medication management, low acuity problems, burnout, triage, staffing insufficiencies, and

inadequate training. Such challenges and issues presenting to the ED have a wide range of effects on quality of treatment, satisfaction, and cost.

Overcrowding is a major obstacle facing EDs, making it difficult to meet the timely needs of all patients requiring emergency care (Salway et al., 2017). Over 50% of hospital emergency departments are at or over capacity. Between 1990 and 2009, the number of hospital-based ED visits in non-rural areas decreased by 27% while at the same time, the number of ER visits increased by 44% (Barish et al., 2012). The median length of visit was 4.3 hours for admitted patients and 2.3 hours for discharged patients (Horwitz et al., 2010). Alternatively, the median discharge time for ED patients was between 4 to 6 hours. Furthermore, researchers found that less than one fifth of EDs were able to treat at least 90% of their emergent or urgent patients (those triaged to be treated in an hour or less) within an hour; only half kept the ED visit shorter than 6 hours for at least 90% of their admitted patients. Lengthy waits may contribute to further physical and psychological distress.

Overcrowding may be partly attributable to uninsured patients seeking non-emergency care in the ED, where they cannot be turned away (Salway et al., 2017). EDs are also commonly challenged by frequent and recurrent visits by the same repeat patients, sometimes called "frequent fliers" (LaCalle et al., 2013). Such visits account for approximately 25% of all ED visits and contribute to overcrowding (LaCalle et al., 2013). High ED utilization frequent fliers are also likely to be uninsured, adding a financial strain on the system. However, many non-urgent visits are made by patients who do have insurance but seek out care in the ED for non-urgent reasons rather than seeing their primary care physician (PCP; Searing & Cantlin, 2015). It was estimated that about 13.7% of insured adults visited the ED compared to 12.2% of uninsured adults in 2013. Such patients may visit the ED because their PCPs may not have same day

appointments available, they are unable to attend their appointments due to conflicts in their normal working hours, and/or they believe the ED may have access to more testing, specialists, and other services.

Thus, a small number of patients may end up utilizing large amounts of ED resources (Beck et al., 2017). Studies have suggested that approximately 4.7% of frequent users accounted for nearly a quarter (24.4%) of all admissions. Notably, the most common clinical diagnoses found in high-frequency users were substance use and abuse, psychosis, and personality disorder. ED providers attempt to meet the medical demands of these patients while also addressing the psychosocial issues but are limited by their scope of practice and the resources available to them. Improved psychosocial and behavioral interventions around issues such as medication adherence could improve outcomes for these frequent flier patients.

In addition to overcrowding and high utilizers, triage is another common issue seen in the ED (Jeffries, 2019). The purpose of triage is to sort patients quickly to the ED by their severity and illness and operationalize their needs (Ashour & Okudan Kremer, 2016). However, providers will inaccurately triage patients according to placement rather than prioritizing based on severity (Jeffries, 2019). Triage can also be difficult due to the chaotic environment (Innes et al., 2013). Prioritization of patients and treatment is directly linked to patient safety, especially when there is a delay in overcrowding (Ashour & Okudan Kremer, 2016; Cooper, 2004). Many factors, such as patient age, gender, and pain level information, are not explicitly incorporated in the ESI logarithm (Ashour & Okudan Kremer, 2016). Even though it is known that many contextual factors are involved in making an accurate decision, the specific contextual factors are not known. This provides another challenge in the triage and placement of patients. Decision-making differences are based on the nurse's experience, knowledge, and intuition (Andersson et

al., 2006; Ashour & Okudan Kremer, 2016). Furthermore, there is very little consistency among triage systems and their ability to triage fewer acuity patients. The Emergency Medical Treatment and Labor Act (EMTALA) of 1986 requires Medicare-participating hospitals to provide appropriate medical screening examination (MSE), stabilization treatment based on the hospital's capability and capacity, and appropriate transfer of unstable patients to another medical facility.

Alongside this, education and training are key factors in managing patients with a mental illness (Innes et al., 2013). However, many studies indicate that ED staff are not prepared to care for MH issues (Innes et al., 2013; Kerrison & Chapman, 2007) and this results in lack of management in the ED when caring for these individuals. It was found that focused education related to MH issues allowed physicians to be more comfortable in treating patients with MI (Innes et al., 2013; Marciano et al., 2012).

In fact, medication management and nonadherence are another common challenge faced by the ED and often results in patient admission. Patients are considered adherent to a medication when they take the prescribed agents recommended by a healthcare provider and agreed to by the patient (Luga & McGuire, 2014). In the US, half of all adults have at least one chronic disease, and the percentage of Americans taking at least one prescription medication increased from 38% from 1988-1994 to 49% from 2007-2010 (Luga & McGuire, 2014; National Center for Health Statistics, 2013). Approximately 30% to 60% of hospitalizations are due to poor adherence to prescribed medication (Heaton et al., 2013). In a recent study, more than 20% of nonadherence related visits resulted in hospital admissions compared to 12.4% of visits unrelated to nonadherence. Patients with Medicaid had a greater frequency of nonadherence-related visits, which accounted for approximately 36.5% of visits compared with those with

private insurance (19.5%). In addition, an estimated 29% of nonadherence related visits resulted from a mental health disorder (e.g., schizophrenia, affective psychosis, neurotic disorder, and depressive disorder).

The problem of medication adherence is exacerbated when patients are unable to refill their prescription within 24 hours of discharge from the ED for common medical conditions such as hypertension and diabetes, often due to cost (Davis et al., 2012). This may result in a cycle of patients returning to the ED when symptoms worsen as a result of not having medication, increasing the financial strain on the service. It has been estimated that between $100 billion and $300 billion of avoidable health care costs attributable to nonadherence in the US annually. This represents 3% to 10% of total US health care costs (Benjamin, 2012; Luga & McGuire, 2012). Although medication nonadherence results in substantial healthcare costs, there are also implications in increased risk for adverse effects, physician frustrations, misdiagnoses, and unnecessary treatment and exacerbation of disease of fatality (Bosworth et al., 2011).

Inadequate staffing levels in hospitals are linked to increased mortality and poor patient experiences (Berwick, 2013; Recio-Saucedo et al., 2015). Due to the demands that patients require, and the increased number of patients seen in a 24-hour time period, establishing safe staffing levels in the ED is difficult. For example, staffing issues among nurses is associated with patients leaving before being seen or treated (Recio-Saucedo et al., 2015). In addition to this, lower staffing was associated with worse outcomes. As nursing delays continue to accumulate, this equates to longer wait time, procedures, and discharge education (Ramsey et al., 2018). In fact, increasing nurse staffing has actually been associated with increased revenue and decreased left without being seen (LWBS) rates (Ramsey et al., 2018). Despite this, nursing turnover,

changes due to overtime rules, and lengthy hiring processes are other factors that contribute to shortages in the ED.

An added challenge in the ED is the risk of staff burnout. Burnout is defined as the combination of emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment that produces decreased effectiveness at work (Lu et al., 2015). A review of the literature reveals that burnout among ED physicians may be over 60% (Lu et al., 2015; Shanafelt et al., 2012). Despite this, physicians report they spend an additional 10 hours a week at work than they are scheduled to work, and approximately 40.1% of physicians do not believe they have enough time allotted to them for their personal life (Shanafelt et al., 2012). Physician burnout is a critical issue as it may compromise patient care. Suboptimal care leads to greater frequency in (a) early admission and discharge of patients, (b) lack of communication and discussion around different options and questions patients might have, (c) increase in ordering of tests, (d) lack of treatment for pain, (e) lack of communication regarding handoffs, and (f) lack of communication with other staff members around plans (Shanafelt et al., 2012).

Another challenge in the ED is the number of patients being seen for psychiatric problems. The number of patients presenting to the ED for a psychiatric complaint has increased by 50% since 2006 (Weiss et al., 2016; Zeller, 2018). The Federal Emergency Medical Treatment and Active Labor Act categorizes psychiatric emergencies as equivalent to medical emergencies such as trauma or cardiac arrest. Therefore, they have the same legal requirements for prompt evaluation and stabilizing treatment. Although community resources are available, such as mental health urgent care centers and crisis intervention programs, most do not accept patients that are acutely agitated, actively suicidal, have a history of violence, are presently intoxicated orin withdrawal, or have comorbid medical issues. Since many patients experiencing

these symptoms are excluded from community resource centers, they go to the ED for treatment. Psychiatric patients in the ED contribute to overcrowding increasing wait times and demands on the ED staff and are particularly challenging and high risk to treat (Boudreaux et al., 2016; Wharff et al., 2011). According to Weiss et al. (2012), patients receiving mental health care spend more than 11 hours in the ED.

Mental Health Services in the Emergency Department

Despite the rise in psychiatric emergencies, psychological services in the ED are limited at this time. Only 16% of emergency physicians report having access to an on-call psychiatrist ("Waits for care and hospital beds growing dramatically for psychiatric emergency patients," 2016; Zeller, 2018). Although medical professionals are trained to work with patients presenting with mental health issues, their primary objective is to treat their symptoms and address their medical needs. They have little training in emergency psychiatry (Zun, 2016). Often, patients presenting with psychiatric symptoms are delegated to emergency psychiatrists, social workers, or psychiatry teams that are involved with the stabilization and treatment of violent behavior (Baraff et al., 2006; Chakravarthy et al., 2013). There are three basic models of mental health service delivery in emergency care: the psychiatric consultant seeing patients in the medical ED, specially trained and dedicated staff, and the stand-alone psychiatric emergency services (PES; Zeller, 2010). Most often, psychiatrists provide consultations on psychiatric emergencies, but many systems also employ psychologists, advanced registered nurse practitioners, social workers, or marriage and family therapists. There are also a number of brief intervention programs that allow consultation and brief interventions to place in the ED treat a variety of issues.

Brief Interventions

Brief intervention (BI) and brief therapy techniques are important in the treatment of chronic mental health and medical conditions such as substance use problems. BI provides clinicians with the tool to help motivate clients to start or stop a specific activity, act as methods to stop or reduce specific behaviors, and to remain compliant with treatment. A well-established program is the US Substance Abuse and Mental Health Services Administration (SAMSHA) Screening, Brief Intervention, and Referral to Treatment (SBIRT) program that screens individuals for substance use risk. As an initiative to increase awareness, and provide a preventative measure, SBIRT programs are federally funded and implemented through grant recipients (Bray et al., 2017). SBIRT contains three major components that include screening (e.g., assessment of risky substance use through standardized screening tools), BI (e.g., psychoeducation, motivational interviewing, feedback, advice), and referral to treatment (e.g., individuals in need of additional services are referred to based on screening; Bray et al., 2017). A systematic review examining the effectiveness of SBIRT in the ED in reducing alcohol use disorder (AUD; Barata et al., 2017) found the use of targeted BI in the ED showed a small reduction in alcohol use in low and moderate drinkers, a reduction in the negative consequences of use (e.g., injury), and a decline in ED repeat visits for adults and children 12 years of age or older. Therefore, suggesting that a BI has short-term effects in reducing at-risk drinking and acts as a preventative measure for future use. Please see Table 1 for the SBIRT Program Matrix Components.

Table 1

SBIRT Program Matrix Components

Table 1 SBIRT Program Matrix components.

SBIRT services
- Risk factors, instruments, approaches/procedures, administration modalities
  - Pre-screening
  - Screening
  - Brief intervention
  - Brief treatment
  - Referral to treatment
  - Added services

Performance sites
- Type of medical setting
  - Emergency department/trauma center
  - Hospital in-patient
  - Ambulatory/out-patient clinic
- Urban versus rural location
- Organizational receptivity

Provider attributes
- Personal characteristics
- Clinical training
- Educational attainment
- Counseling experience
- Self-efficacy
- Treatment philosophy

Patient/client populations
- Risk status
- Demographic characteristics
- Patterns of alcohol and other substance use
- Legal status
- Physical and mental health
- Treatment experiences

Management structure and activities
- Evidence-based protocols
- Provider selection/hiring
- Pre-service and in-service training
- Coaching and staff evaluation
- Program evaluation and dissemination
- Facilitative administrative supports, systems interventions and sustainability planning

Note: Retrieved from Del Boca, F. K., McRee, B., Vendetti, J., & Damon, D. (2017). The SBIRT program matrix: A conceptual framework for program implementation and evaluation. *Addiction, 112,* 12-22. doi:10.1111/add.13656

Another systematic review also examined the efficacy of non-pharmacological brief interventions in the emergency department to reduce incidence and severity of behavioral disturbances (e.g., threatened aggression that is perpetuated in the workplace against healthcare providers; Edward et al., 2018). Non-pharmacological behavioral interventions for violent behavior as it relates to substance use and intimate partner violence indicated some feasibility in the ED. However, the lack of research, improvements in communication, physical limitations (e.g., lack of safe space), and skills among ED staff continue to remain barriers to implementation.

Brief interventions have also been implemented in treating health related issues such as hypoglycemia. Hypoglycemia is one of the most common reasons individuals with diabetes seek medical attention in the ED (Brackenridge et al., 2006; Keller-Senn et al., 2017) and account for approximately 97,648 annual emergency visits between 2007 and 2011. Of these individuals, approximately one third were hospitalized (Geller et al., 2014; Keller-Senn et al., 2017). Individuals presenting to the ED with hypoglycemia are often considered medical emergencies and require comprehensive treatment from all professionals. Therefore, patients might be able to reduce their risk with adequate education, self-management strategies, and support groups. BI's are proposed and encouraged to help alleviate some of the burden and costs associated with treatment (Keller-Senn et al., 2017; Wei & Camargo, 2000).

To consolidate the literature regarding the benefits of BI for hypoglycemia related conditions, Keller-Senn et al. (2017) conducted a systematic review. The review identified a number of behavioral intervention's that were used, such as education, cognitive behavioral techniques, problem-solving, and supportive counseling. Other relevant aspects of BI include oral discussion, negotiations, and encouragement. A number of factors need to be taken into

consideration despite some of the findings. It would be beneficial if future research focused on the efficacy of BI as it relates to hypoglycemia. Healthcare professionals and other ED staff have to remain up to date with the knowledge, training, and skills to adequately provide BI. This requires time, energy, and additional resources. The main objective in providing BI to this patient population is to enhance and promote behavior change but motivating the patients to be aware of the various facets of the health.

BI has also been implicated in the treatment of chest pain, a secondary complaint following panic disorder. Approximately 50-90% of patients presenting to the ED primarily complain of chest pain and are often diagnosed with non-cardiac chest pain (NCCP; Bahr, 2000; Lessard et al., 2012). NCCP can result from underlying panic disorder or anxiety, which is found in approximately 24-70% of non-cardiac patients (Dammen et al., 2004; Lessard et al., 2012). Moreover, PD is 4 to 13 times more likely to occur in non-cardiac chest pain than the general public (Kuijpers et al., 2007; Lessard et al., 2012). Individuals with NCCP then ruminate and believe their cardiovascular and physical symptoms are dangerous; therefore, increasing the likelihood they will seek emergency services. Due to inadequate treatment available, PD tends to have a chronic course (Fleet et al., 2003; Kessler et al., 2006; Lessard et al., 2012) which results in high utilization of health care resources, especially in the ED (Lessard et al., 2012; Zane et al., 2003), and contributes to the development of other psychiatric disorders (Lessard et al., 2012; Roberge et al., 2005).

A couple of studies have examined the efficacy of BI in individuals with panic attacks, and the use of CBT-based interventions for individuals presenting to a medical setting. Lessard et al. (2012) examined the efficacy of psychological interventions in individuals presenting to the ED with PD and treated by NCCP. In this study, 58 patients with PD were assigned to a one-

session CBT-based panic management intervention (PMI), a seven-session CBT intervention, or usual care (Lessard et al., 2012). The PMI was initiated within 2 weeks of the ED visit and lasted for 2 hours. The psychologist conducted the session by first providing education about chest pain, panic attacks, agoraphobia, and explaining other factors that contribute to the development of anxiety, and cognitive restructuring techniques and other coping strategies. The 7-week CBT session was also initiated within 2 weeks of the ED visit but consisted of seven 1-hour bi-weekly individual sessions by the psychologist. During this time, similar strategies to the PMI were used in addition to exposure to physical sensations related to the panic symptoms as well as in-vivo exposure. Both PMI and CBT intervention group resulted in significant reductions in PD severity compared to usual care, although there was no difference between the two after additional analysis. Despite the lack of randomization, baseline differences, and self-report outcome measures, both versions of CBT treatment are efficacious and hold promising findings in alleviating PD and NCCP symptoms. Not only does this study provide support for offering brief interventions for NCCP related to PD symptoms, but other interventions can be adopted for other comorbid health and mental health conditions. Brief interventions help improve the well-being of patients, overall physical and psychological functioning, providing accessible and appropriate treatment, and reducing the strain on the ED (Lessard et al., 2012).

Blow et al. (2017) examined BI targeting drug use in adults presenting to a low-income urban ED. In this randomized controlled trial, patients were assigned to three treatment groups: computer-delivered BI, therapists delivered, computer-guided BI, and enhanced usual care. Participants were re-randomized to either an adapted motivational enhancement therapy (AMET) booster or enhanced usual care (EUC; Blow et al., 2017) at three months. AMET incorporated elements of motivational interviewing to reinforce the participants choice and to enhance change.

Despite small effect size, the use of therapist and computer-delivered BI had significantly reduced marijuana use without any beneficial effects from the booster. This finding provides further evidence to the effects of BI intervention delivered by a therapist and guided by a computer in drug use among adults seeking emergency services.

Integrated Care

In contrast, Australians EDs have introduced and increased the number of mental health clinicians (Innes et al., 2013). Mental health clinicians can be mental health nurse liaisons, senior consultant psychiatrists, psychiatric registrars, occupational therapists, social workers, and psychologists. These clinicians work on interdisciplinary teams to provide patient-centered care by advocating for health promotion, providing education, and actively participating in research. Wand and Fisher (2006) also outline the foundation and role of mental health nurse practitioners (MHNPs) in New Wales, Australia (Wand & Fisher, 2006). Data suggest that MHNP were able to see 75% of MI presentations within an hour of triage.

The role of mental health liaison nurses (MNLN) in EDs in Sydney, Australia, has also been reported (Wand et al., 2015). MNLNs provide direct clinical support to patients with mental health and other health problems that are receptive to treatment. MHLNs are embedded within a structured ED outpatient-based service. Their role includes early and ongoing consultation, triage, and seeing a range of undifferentiated mental health problems. In addition to assessment, the MHLN also provides therapeutic services that include coordination and referrals, and they work collaboratively with other teams such as psychiatry and social work. MHLN also provide follow up (via telephone or outpatient care) to other specialty services. They support the ED nursing and other medical staff through a close clinical relationship, education, and other mental health promotions.

The MHLN role appears to be the only model of mental health care based in the ED. The MHLN integrated mental and medical health services, reorganized and provide efficient care, provide therapeutic interventions, improved coordination of care, raised awareness, and reduced overall cost (Wand et al., 2010). The ED of Royal Prince Alfred Hospital (RPAH) in Sydney, Australia, adopted the MHLN role to nurse practitioners (MHNP). Similarly, to nurse liaisons, MNHP provides clinical care for individuals with mental and other health-related problems who may benefit from psychological interventions. MHNP are readily available for triage and consultations, as well as provide outpatient-based services as an extension of their existing role. This means that patients returning to the ED are followed up by the MHNP and is a way to reduce the wait time for individuals following up for mental health concerns. The services primarily concentrated on individuals with undifferentiated mental health problems and incorporated time-limited interventions. These interventions emphasize psychoeducation around mental health, provided solution-focused strategies, and offered referral to other specialty services in the community (Wand et al., 2010).

Three distinct phases were involved in developing this outpatient service. Phase one involved the justifications and feasibility for the MHNP outpatient services (Wand et al., 2010). The authors conducted an extensive literature review and conducted two separate focus interviews to determine the feasibility of the project. Interviewees consisted of physicians, MHNP, consultation-liaison psychiatrist, and a nurse manager. Providers identified barriers to implementation, such as government directives on mental health service delivery and the needs of the patients and the public. Despite these barriers, providers also acknowledged the importance of providing timely, accessible, and preventative mental health care services. The second phase of the model worked to refine the proposed model by consulting with an advisory

panel. The panel discussed specific issues regarding the target population, organization, development considerations, evaluation and outcome, and interference with overall health services. The third phase was structured around the implementation and pilot evaluation. This began by designing pamphlets and posters to inform referrers and participants of the services. ED staff were also informed about the services in addition to finalizing protocols. They primarily provided services to individuals at risk for a mental health condition (e.g., anxiety or panic), suicidal ideation, self-harm, emotional disturbances, and substance misuse.

Data was collected and pooled from a patient database. Descriptive data such as patients seen in the outpatient, presenting problem, waiting times for follow-up appointment, number of follow up sessions and interventions provided, and other referrals made were included. Patients were also given the K-10 measure of psychological distress (Kessler et al., 2002), the General Self Efficacy Scale (Schwarzer & Jersulem, 1995), the Client Satisfaction Tool (Bear & Bowers, 1998; Wand et al., 2010), and an interview was conducted to get a better understand of the patients' perceptions of how their mental health needs were met in the ED.

Preliminary findings suggested that MHNP generated 33% of follow-up appointments from patients initially seen in the ED. Specifically, feedback from patients was positive and provided insight into specific aspects of the program that was helpful such as support and encouragement received, perception of being listened to and understood, quality of information and health education provided, accessibility and flexibility of appointment times, and overall standard of care. Several factors contributed to the successful implementation of the model, such as reframing the role of MHNP as a complement to the team rather than a competition with specialized care appealed to the process. Furthermore, evaluating, developing, and implementing the model was a key initiative for building a strong foundation for the project and obtaining

support from all beneficiaries. Other factors that contributed to the success of the initiative was the ED's ownership, high visibility of the service, the ease for referral for ED staff, and accessibility for the patients. It could be hypothesized the proximity of the service not only raised awareness but increased the likelihood referrals were made by ED staff. Therefore, it provided a valuable in-house referral service for patients during after-hours and holidays. The therapeutic value in increased follow-up appointments can be attributed to the therapeutic relationship between the MHNP and the patient as well as providing alternative access to mental health expertise. This study revealed important methodologies, organizational demands, and development of future programs that might look to incorporate a mental health consultant or psychologist in the ED.

Mental health services in Australian ED's can vary in their design and operation. Wand et al. (2015) aimed to expand upon the role of the nurse in the ED by evaluating a nurse practitioner (NP) led extended hours mental health liaison nurse (MHLN) service (Wand et al., 2015). Services took place at the Royal Price Alfred Hospital (RPAH) in Sydney, Australia. Services provided were led by MHNP and three equivalent MHLN recovering the ED for 16 hours (morning and evening shifts), 7 days a week. The aim of the study was to understand factors that expedite access to mental health assessment and therapeutic interventions in the ED through the use of NP-led extended hours of MHLN in a timely fashion. By allowing NP-led MHLN on the team allowed for early assessment, therapeutic engagement, and enhanced communication and coordination of care. MHLNs were able to immediately respond to the individuals that's were anxious, agitated, and distressed. This decreased the likelihood that patients would leave before seeing a provider. Moreover, providers and other staff acknowledged the unique skill set

provided by MHLN, and therefore, became more confident in referring patients to the MHLN and other referral services.

In the evaluation of patient evaluations on MHLN services in the ED (Wand & Schaeken, 2006), telephone interviews were conducted over the course of 24 months. Participants were first asked about their wait time, then asked about their perceptions of the MHLN role in the ED, their involvement in decisions for follow up care in the community, the effectiveness of services received during their visit, and were provided with an opportunity to expand on their experience. According to the electronic information system employed in the ED, MHLNs were able to see 40% of presentations in the ED within the hour of triage and increased to 75% during business hours (Wand, 2004; Wand & Schaeken, 2006). In addition, 98% of patients felt their experiences in the ED, and the MHLN role was positive and felt they were treated with respect (Wand & Schaeken, 2006) and 85% responded that follow-up plans were discussed. In addition, 86% of participants felt involved in their care, and that adequate follow up arrangements were made with them prior to discharge. Therefore, suggesting the importance of the MHLN role or a similar role in the ED for comprehensive care. The therapeutic relationship is important, and patients highly value human interaction and connectedness. Although the sample size was small, using well-defined measures to assess patient satisfaction, adequate assessment of MHLN skills and therapeutic services, and other methodological issues, the collaborative services provide promising evidence for integrated care in the US EDs.

Similarly, Mental Health Liaison Services (MHLS) in the United Kingdom (UK) are located in some EDs and are staffed 24 hours a day by a team of mental health professionals, including psychiatric liaison nurses and psychiatrists (Beck et al., 2017). Initially, patients are referred for this type of service by their provider or nurse at any time during their visit to the ED

if they are assessed as needing mental health input and management. In the UK, closures of large psychiatric institutions have led to the expansion of community-based services which seek to minimize hospitalization and increase home-based treatment (Hepworth & McGowen, 2014). In order to minimize the effects of reduce bed availability and cost of inpatient care, the Rapid Assessment Interface and Discharge (RAID) Model (Hepworth & McGowen, 2014; Parsonage & Fossey, 2011) was developed to improve the utility of existing mental health liaison services to meet the needs of older adults and provide services to assess general medical and mental health problems.

A qualitative study examined how liaison nurses on a crisis team make decisions regarding admissions and how they identify effective strategies for the clients (Hepworth & McGowen, 2014). Liaison nurses primarily use basic clinical skills as they are associated with mental health nursing. These skills include listening and remaining physically present with the client, being warm, empathetic, and understanding of the client's situation. These interpersonal skills help to reduce and alleviate a patient's distress and by encouraging the use of community-based services. In addition, liaison nurses also provide problem-solving approaches and delivering complex information to clients with ease. Such skills enrich the relationship between the client and the liaison nurse. Clients can discuss their issues through a client-centered approach (Glasper & Quiddington, 2009; Hepworth & McGowen, 2014). Liaison nurses were also found to have a unique opportunity to minimize patient dissatisfaction of services by providing sufficient information. In addition, patients expected their liaison nurse to provide information that was honest, accurate, and obtained from other providers (Bee et al., 2008; Hepworth & McGowen, 2014). Similarly, to psychologists, liaison nurses challenge client's thoughts, provide room for an open discussion regarding concerns, and ensure adequate

assessment and follow up care. Even though the study primarily examined the use of therapeutic interventions and skills to manage clients that are seeking inpatient hospitalization, it provides insight to qualities and characteristics hospitals may require to help manage such clients and reduce costs where possible. The RAID model had cost savings equivalent to 3.4 and 9.5 million euros through reduced length of stay, reduced readmissions, and other diversion services (Parsonage & Fossey, 2011).

To date, Emergent Care Psychologists, PA in Pinellas Park, Florida, is the only organization that contains a group of psychologists that are contracted with medical hospitals to provide psychological consultation (Clay, 2016). This practice determines if involuntarily committed patients are safe to release in addition to medical and hospital rehabilitation, helping them manage anxiety, depression, and other mental health issues. According to Sherman C. Slone, PsyD (Clay, 2016), hospitals benefit from lower cost and better care, especially since psychiatrists do not want to work directly with them due to Medicaid or lack of insurance. Dr. Slone states that suicidal patients can end up waiting hours before being treated, which can be an expensive option. Emergent Care psychologists can meet the demands of the patients by helping to reduce behavioral difficulties such as combativeness or violent behavior. This team also addresses other issues related to anxiety, depression, and grief in hospitalized patients. For example, a provider in the intensive care unit might consult on how a patient who has a panic attack every time the physician attempts to wean them off a ventilator. The psychologist can then teach breathing techniques or provide CBT interventions to help reduce patient anxiety. In addition, these psychologists can help consult about psychotropic medications. Although the practice is demanding and places substantial pressures on the psychologist, it could allow psychologists to practice more interventions and make a significant change.

There are a number of advantages consultants, liaisons, a licensed therapist, or other trained mental health care professionals can provide (Oliver, 2015). This includes, but is not limited to, medical screenings for organic causes of the patient's psychiatric illness, which are treated in the same ED setting, so there are less stigma and delays in treatment, and it is a low-cost option. However, there are a number of disadvantages to this type of service as well: (a) Patients will go through long periods of waiting before receiving treatment from a mental health consultant; (b) the consultants decision is limited to either admission for hospitalization or discharge and therefore, they are unable to adequately assess improvement; (c) the ED is not designed for long term psychiatric treatment; (d) the high activity level and fast paced environment work against addressing mental health crisis; (e) the medical instruments and sharp objects make the ED may be an unsafe environment for patients presenting with self-harm and suicidal ideation; (f) staff may treat patients poorly as a result of their bias and perception that patients with a mental illness are inappropriate for that setting; (g) patient safety is compromised due to inadequate staffing and therefore, providers may seek to use restraints; (h) providers may not respect the consultant if they are not a psychiatrist; and (i) impartiality may be a concern if the psychiatrist is from an inpatient facility.

In conclusion, EDs in the United States function using a well-established model of medical care but currently face a number of significant challenges. These challenges include overcrowding, frequent and recurrent visits, lengthy wait-times, visits related to substance misuse and overdose, uninsured patients using the ED for primary care, medication mismanagement, burnout, and limited mental health services in the EM. There are emerging examples of mental health integration in EDs in Australia and the United Kingdom. The next

chapter will examine other models of integration and the medical settings in which they implemented.

Summary

The ED faces a number of challenges such as overcrowding, frequent and recurrent visits of high utilizers, and physical constraints that decrease optimization of flow. Overcrowding and frequent utilizers are individuals that are seeking treatment due to nonmedication adherence or medication mismanagement issues. Therefore, patients and the uninsured will go to the ED to have their basic primary care needs met. As a result of overcrowding, patients often experience long wait times and delay treatment. This decreases patient satisfaction and safety. The ED also experiences issues with triage, where staff will place patients based on availability rather than acuity. This can be largely attributed to a lack of education and variability in triage skills of both medical and mental health issues. Poor triage has been linked to increased totality and poor patient experiences. As a result of poor triage, patients may leave before being seen. An added challenged to the ED is also staff burnout and inadequate staffing. Providers often report experiencing emotional exhaustion, depersonalization, and a reduced sense of perusal accomplishment that decreased productivity. Burnout and lack of staffing among staff can lead to other issues related to patient treatment, efficacy, lack of communication, handoff issues, and more.

To date, there are some mental health interventions currently available in the ED, such as the role of psychiatrists. Although they reside in hospitals, psychiatrists are usually consulted for mental health crisis primly present in the ED. However, once the psychiatrist has completed their assessment and consulted with the attending physician, they will leave. However, it takes a

significant amount of time before the psychiatrist may be available to see the patient, and often, it may be the psychiatric resident who is primarily treating mental health concerns.

Brief interventions and brief therapy techniques that have been employed in the ED to help reduce problem behaviors and increase compliance with treatment. An example of this is the well-established program, SBIRT led by SAMSHA. It is a federally funded program to increase awareness and provide preventative measures to reduce risky substance use. Other non-pharmacological treatments have been implemented to reduce violent behavior as it related to substance use and intimate partner violence. Brief interventions have also been shown to be effective in treating conditioned related to hypoglycemia and non-cardiac chest pain.

Interestingly, Australian EDs have introduced mental health clinicians to provide integrated care. For example, MHLN provides direct clinical support to patients with mental health and other health-related problem, and are embedded in the ED. They play a role in consultation, triage, assessment, and provide follow up care. Similarly, MHNP also provides the same services in addition to brief intervention, psychoeducation, and solution-focused strategies. The role of MHLN and MHNP have increased follow-up care, provided access to unique care, increased patient and provider satisfaction, improved patient safety, and decreased cost associated with ED utilization.

To date, the Emergent Care Psychologists in Pinellas Park, Florida, is the only private organization that provides contracted care to medical hospitals for consultation regarding involuntarily committed patients. They also help to treat symptoms related to depression, anxiety, and other mental health issues. These group of psychologists may also implement CBT, breathing, and psychoeducation in treating chronic health conditions or provide medication

consultation, among other things. They are unique in that they provide low-cost care for patients with Medicaid or lack of insurance.

Although brief interventions and the role of mental health clinicians in the ED have shown significant improvements in patient care, there is still limited information regarding other models present in the United States. Specifically, there is no model present that has embedded psychologists the ED to provide both mental and medical health concerns. The next chapter will focus on other models of integration, specifically in primary care, to inform a future model.

Chapter 3: Health Care Integration

There has been increasing interest in integrated health care in the United States, particularly in the primary care setting. There is significant evidence in the literature regarding integrated health care in primary care and evidence supporting its efficacy. Similarly, the model might be efficacious in the ED; however, there are not many presently available. It is useful to consider various models of integration as a useful model for the ED.

Integrated Primary Care

Mental health care concerns have been found to account for approximately 60-70% of primary care visits, often presented as comorbid with or contributing to physical symptoms (Cummings et al., 2009). This finding contributed to increased integration of mental health providers into the primary care setting. Between 2012 and 2014, there were an estimated 30 million direct mental health-related office visits made by adults 18 years and older (Cherry et al., 2018). Psychiatrists provided care at 55% of these office visits, primary care physicians at 32%, and other specialists at 13%. Individuals who experience greater psychological and medical symptoms utilize more medical services at greater rates and in greater frequency than individuals with acute or less severe symptoms (Chiles et al., 2006) resulting in more associated costs.

There is evidence that integrating mental health services into the primary care setting reduces costs. Researchers have found that when behavioral health interventions in primary care are implemented, there is a 16% reduction in the overall medical costs for individuals diagnosed with mental health disorders (Blount et al., 2007; Chiles et al., 2006). Individuals who did not receive behavioral health treatment increased their overall cost of treatment by an average of 12.3% compared to those who did receive treatment. Healthcare integration can reduce costs by increasing compliance with a medical regime and/or lifestyle changes, decrease the frequency of

consultations, lower re-admission rates, and requiring fewer prescriptions and fewer costly referrals.

There are various models of health care which incorporate mental health services. In particular, it is important to note the distinction between collaborative care and integrated care since they are sometimes used interchangeably. Collaborative care is when behavioral health care is provided in the primary care setting but generally functions independently (Collins et al., 2010). In this model, patients are receiving care from both the specialist and their physicians who are working closely together. This can fall on a continuum of coordinated care, co-located, or integrated. In contrast, integrated care involves behavioral health providers functioning as part of the primary care office. In integrated models, behavioral health care is part of primary care, and patients perceive it as a routine part of their healthcare. Specifically, there are eight models of integrations across a variety of settings that include improved collaboration, medical provided behavioral health care, co-location, disease management, reverse co-location, unified primary care and behavioral health, primary care behavioral health, and collaborative system of care.

Co-location Collaborative Model

A co-located collaborative model involves the use of specialty mental health clinicians that provide services at the same site as primary care (Collins et al., 2010). In this model, psychologists provide services within the same site as primary care (Collins et al., 2010). Although this model is not fully integrated, it still allows for specialty mental health to be available within the same space for referrals. However, this model usually services individuals with less acute and severe mental illnesses. Evidence suggests there is better patient outcomes associated with co-located substance abuse treatment and primary care (Collins et al., 2010; Craven & Bland, 2006) and is associated with the offset in medical care costs.

The Veterans Affairs Health Care Network of Upstate New York (or the Veterans Integrated Service Network; VISN 2; Funderburk et al., 2010) is an example of a co-located collaborative model in which behavioral health services are fully integrated into primary care. Behavioral health providers (BHP) help PCPs identify and help treat behavioral health concerns in that setting. These issues can range from addressing mental health concerns such as depression and anxiety to providing health psychology interventions (e.g., medication compliance, pain management). The role of BHPs is unique in this setting because not only do they meet with patients for brief sessions, they also have open scheduling where PCPs can schedule patients for consultation or be available for a curbside consultation.

For example, PCPs can ask the BHP what the best way would be to motivate a patient to adhere to their medication or ways to intervene psychosocially. It allows for a flexible and collaborative approach in best meeting the demands of the patient. Approximately 48% of PCPs referred patients to BHPs for a mental health issues (e.g., depression, anxiety, and posttraumatic stress); 33% of PCPs used BHPs for acute issues (e.g., suicidal ideation and psychosis); and 17% used BHPs for psychotropic medication management. Funderburk et al. (2011) expanded their previous research by looking at what types of problems BHPs are seeing and treating, and the types of interventions BHPs were using. BHPs were integrated into the primary care setting across five Veterans Affairs Healthcare Networks of Upstate New York and four VA Medical Centers (Albany, Buffalo, Canandaigua, Syracuse) and one outpatient clinic (Rochester). BHPs helped providers identify the needs of the patient and treated behavioral health concerns.

A retrospective chart review was conducted for patients that had an initial visit with the BHP in the primary care clinic from June 1, 2004, to June 1, 2005 (Funderburk et al., 2011). The evaluations selected for review were different than a classic comprehensive assessment. These

assessments were brief, focused, and information was obtained if it related to the presenting symptoms. The most common diagnoses seen across all patients was depression and anxiety disorders with occasional symptoms related to PTSD. In addition, non-prescribing BHPs used patient education for their diagnosis, symptoms, and the treatment of their disorder in addition to medication education. They also use various therapeutic techniques such as supportive therapy, behavioral activation, cognitive techniques, and various relaxation techniques to address psychosocial issues that patients have that are interfering with their medical regime. Even though BHPs utilized various clinical interventions, the focus was primarily on the assessment of symptoms related to the DSM-IV diagnostic criteria. Assessments were also completed by routine screening measures mandated for all veterans for depressions (e.g., Personal Health Questionnaire – 2), problems with drinking (e.g., Alcohol Use Disorders Identification Test-Consumption), PTSD (e.g., Primary Care PTSD Screen), and military sexual trauma. BHPs were also provided with a manual to be utilized during the brief session. This manual served to guide BHPs administering an intervention as well as a tool for the individuals to use during treatment.

Despite some of the strengths, the study has a number of limitations that should be addressed. Since the sample size consisted of individuals primarily attending the VA primary care clinics in VISN2, and these individuals were primarily male, the results may not be generalizable to other populations or settings (Funderburk et al., 2011). The clinics were also located in urban areas that have more access to onsite community mental health resources than rural communities, which also limits the generalizability of the findings. Future studies may wish to examine the utility of a collaborated care model in urban and rural community clinics. Moreover, the data was obtained from the BHP charts and were entered into the electronic medical records. Therefore, the information may not be an accurate reflection of what happened

in the session even though it provides some relevant information. Another important aspect of the study to take into consideration was the types of interventions used during treatment. Many of the interventions utilized and that were recorded in the charts were not empirically-based, and so modifications were made to provide brief treatment.

Even though BHPs provide treatment that is targeted and effective, a limited number of studies exist that examine the effectiveness of a collaborative care model. A previous randomized controlled trial compared the effectiveness between a doctor office collaborative care (DOCC) and enhanced usual care in a pediatric care setting (EUC; Kolko et al., 2014; Yu et al., 2017). The DOCC model integrated individualized behavioral health services with primary care providers in eight pediatric practices across Pennsylvania. Children (n = 321) between ages 5 to 12 years were randomly assigned to either treatment group and were followed from 2007 to 2012. In the DOCC, the intervention was delivered in a minimum of six and maximum of 12 individual and joint family sessions, within 6 months' time period.

In the model, care managers (CM; Kolko et al., 2014; Yu et al., 2017) provided services such as brief screening, assessment, and psychoeducation (e.g., managing stress, promoting positive behavior, and home programs, anger control, and social skills) regarding the child's behavioral condition. Their role is similar to the role of BHPs in the classic co-located collaborative model discussed earlier. The psychiatrist provided consultation on diagnostic related issues and treatment, whereas the mental health clinicians (e.g., social workers, licensed professional counselors with master's degrees) in primary care were trained as case managers to screen and treat behavior problems, ADHD, and anxiety using evidenced-based guidelines and that was consistent with the principles of chronic care model. Furthermore, care managers also collaborated with pediatricians and families using interdisciplinary communication, access to

personalized and evidenced-based psychosocial interventions. On the other hand, the EUC group received only screening, assessment, and brief psychoeducation. Individuals were also referred to a specialty mental health provider in the community if necessary.

The implementation of the DOCC trained by CMs improved service access, child and caregiver participation, and treatment completion (Kolko et al., 2014; Yu et al., 2017). Counseling, medication management, and collaboration with PCPs also became widely available through the DOCC. Furthermore, the DOCC showed significant reductions in the severity of behavior problems, hyperactivity, internalizing problems, and consumer satisfaction compared to the EUC. The model was also associated with improvements in provider implementation outcomes such as greater treatment involvement, competency/effectiveness, and ADHD medication management. Although the DOCC model showed an overall improvement in children's behavior, parenting outcomes, satisfaction, the cost-effectiveness was not determined.

Yu et al. (2017) expanded the study to examine the cost-effectiveness in care delivery during the 6-month intervention phase and costs of community mental health services in the pre- and post-treatment. Although intervention costs were higher than the EUC group, the cost per patient treated was lower for those treated through the DOCC. Community mental health costs for DOCC was also significantly lower at 6-month intervention as well as 6- and 12-months post-intervention. All of the findings indicate that collaborative care is clinically useful and is also a cost-effective option compared to EUC for treating children with behavioral problems.

The study documented the costs of implementing the DOCC model, specifically as an evidenced-based integrated care model in pediatric primary care (Yu et al. 2017). Since the data analyzed was retrospective data, it took a significant amount of time (e.g., 2 years) to obtain informed consent and claims data. Additionally, the sample size may not be generalizable

because it did not include uninsured or Hispanic children. Even though the costs of mental health services were observed; it is not clear how the collaborative care model affects broader health care costs such as medical and pharmaceutical costs.

However, a randomized controlled study (Siaw et al., 2017) used a multidisciplinary collaborative approach to treat patients with diabetes with just physicians, pharmacists, nurse educator (e.g., self-care and basic foot and eye screening), and dietician (e.g., dietary counseling, carbohydrate counting, healthy food choices, and weight management). Patients met regularly with the team every 4 to 6 weeks via face-to-face or phone calls. Check-ins were conducted to educate patients and provide interventions as necessary. Patients' blood glucose levels (HbA1c) levels decreased by 0.8% compared to the control group. The intervention group also had a larger reduction in mean HbA1c levels compared to the control group. Patients reported positive outcomes, less diabetes-related distress, and greater satisfaction with treatment.

Furthermore, the multidisciplinary team helped reduced the workload of physicians by completing some of their work. By doing so, physicians were able to spend more time with other acutely ill patients that may require more time and attention. This has implications on the total costs incurred by the patients. The total diabetes-related outpatient cost incurred per patient at 6 months was 15% less in the collaborative care than usual care. Similarly, another study showed a 7.8% to 21.9% reduction in total direct care costs with diabetic patients in an outpatient setting over the course of 2 years (Gerber et al., 1998; Siaw et al., 2017). Moreover, the model demonstrated cost savings of $91.01 per patient which is comparable to another study that found savings to be $84.00 per patient in the United States (Monte et al., 2003; Siaw et al., 2017). These low medication costs were attributed to the care provided by the multidisciplinary team. Although improvement in diabetes management and cost savings were demonstrated by a

multidisciplinary team that primarily relied on checking and psychoeducation, a similar model could incorporate the use of psychologists in managing such problems.

Other models of integration have focused primarily on the comorbid nature of depression, anxiety, and cardiovascular issues in health care settings. The Screening Utilization and Collaborative care for more efficient treatment of depression (SUCCEED) was telephone-delivered collaborative care consisting of pharmacotherapy or CBT over 12 weeks compared to enhanced usual care (as notified by physicians of elevated depressive symptoms). Depression symptoms were measured PHQ-9, 12-item Short Form Health Survey (SF-12), HADS-A, and the cognitive symptoms of depression (CPFQ). Interventions led to significantly greater improvements in depression, mental health-related quality of life, anxiety, and cognitive depression symptoms at 6 and 12 weeks. At 6 months, the interventions also led to significantly greater reductions in cardiac symptoms than enhanced usual care (Huffman et al., 2018; Huffman et al., 2011a; Huffman et al., 2011b).

The Management of Sadness and Anxiety in Cardiology (MOSAIC; Huffman et al., 2013; Huffman et al., 2014) was another study developed to manage depression and anxiety disorder in individuals that are specifically high risk for cardiac issues. This study was a single-blind randomized controlled trial (RCT) that compared low-intensity collaborative care (CC) intervention to EUC. Primary care management and three psychiatrists delivered the intervention. Patient cases were discussed in weekly meetings, and cardiologists provided consultation regarding specific health-related issues. The CC program is based on four components: (a) consultation with the psychiatrist upon enrollment to discuss clinical diagnosis, prior treatment, and other preferences well as prioritization of treatment where interventions were recommended to treat disorders simultaneously (e.g., use of SSRIs). Treatment was

prioritized if specific treatment targeting a single disorder was warranted and depending on which disorder was most distressing to the patient; (b) patients were provided psychoeducation around anxiety, depression, and other relevant disorders as it related to their cardiac disease; (c) providers were informed of the treatment, diagnosis, and relevant recommendations; and (d) patients who were recommended psychotherapy were provided by the CM and through manualized workbooks for depression, GAD, and PD. Given the positive effects of CBT on individuals with depression and cardiac issues, it was the primary modality that was used by CM. A combined approach of utilizing the workbook and phone session was provided. Participants were required to meet with the CM at least a minimum of 6 sessions, and additional sessions were determined collaboratively with the treatment team. A 15-30-minute follow-up phone call was scheduled by the CM within 2 weeks of discharge to assess symptoms, provide support, maintain engagement, and monitor for adherence and side effects if a medication was recommended. Additional phone sessions were scheduled and provided in intervals to ensure compliance.

A number of assessments were provided to measure symptoms of depression, anxiety, and functional capacity. This includes the PHQ-9, HADS-A, the Duke Activity Status Index, and the Medical Outcomes Study Specific Adherence Scale, respectively. The Medical Outcomes Study Specific Adherence Scale was used to measure self-reported adherence to health behaviors, and the Health-Related Quality of life (HRQoL; both physical and overall) alongside cardiac readmissions. The CC model was associated with adequate treatment, significant improvements in cardiac remissions, as well as an overall improvement in functioning at 24 weeks (Huffman et al., 2014). Moderate effect sizes were observed on both the interventions for mental HRQoL, depression, and function and CC depression intervention. This suggests that the

CC intervention treatment can effectively treat mental health symptoms (e.g., depression) and comorbid behavioral health outcomes. The CM was able to coordinate the care of three psychiatric conditions with a wide range of cardiac issues. This finding has broad implications on other settings that attempt to address and treat both behavioral health and mental health symptoms. Aspects of this model can, therefore, be utilized in other settings such as the ED.

Although the study was novel in its specificity of treatment and behavioral health interventions, there are a number of limitations that should be addressed that could inform other models of integration. The study primarily occurred in an academic medical setting, and the participant demographic was primarily Caucasian. The homogeneity of the sample results in limitations in the generalizability and alludes to the difficulty in predicting the applicability to other populations, especially since depression and anxiety are being treated for those with comorbid cardiac issues. Even though the CM clinicians were highly trained, the number of patients receiving CBT was low. These further limits the data available on the efficacy of the model. Finally, effects were not found on medical outcomes such as adherence or readmissions note even though prior trials showed improvements in adherence and physical symptoms after the intervention was complete (Huffman et al., 2011b; Huffman et al., 2014).

The co-located collaborative care model is unique to primary care and offers consultation services for patients, physicians, and other treatment members. Even though it is not a fully integrated model, it looks to address less acute and severe mental illness. Despite this, services for specialty mental health are still available for referral services. Moreover, the role of BHPs is available for consultation, assessment, psychoeducation, and brief treatment to patients suffering from comorbid mental and medical health issues. The co-located collaborated care model has proven to be effective in several settings such as the Veterans Affairs, primary care, and

community outpatient clinic. Despite the model's positive results, there are several challenges in implementing it. Therefore, other models of integration, such as the Primary Care and Behavioral Health (PCBH), have been developed to overcome the challenges in co-located collaborative care.

Primary Care and Behavioral Health (PCBH)

The primary care and behavioral health (PCBH) model is widely accepted and has been used as a basis for other models of integration (Reiter et al., 2018). The primary goal of this model is to improve services to the entire clinical population by enhancing the team's ability to manage such problems. In this model, the behavioral health consultant (BHC) provides additional support to the PCP and the treatment team. The BHC educates patients, provides accessible services to a high volume of patients, and is part of the routine care found in primary care. BHC makes themselves available for both PCPs and patients on a day-to-day basis. They share the same space as the provider, work with a large clinical population to educate their patients using various assessment and intervention skills, and they provide follow up care. The BHC provides focused interventions that are approximately 15-30 minutes in duration to address specific concerns.

This model has shown to improve patient satisfaction, functioning, and symptomatology (Hunter et al., 2017). Patients have reported higher satisfaction with a BHC after a 30-minute appointment compared to a 60-minute visit with a specialty mental health provider (Hunter et al., 2017). Thus, patients are more likely to be involved in their health care decision making. Other findings suggest that referrals for mental health services dropped by 50% and the rate of PCPs prescribing antidepressants dropped by 29% (Brawer et al., 2010; Hunter et al., 2017). The PCBH model has also reduced the cost of inpatient hospitalizations. Instead, there was increased

revenue due to the warm hand-offs, seeing more patients by double-booking, and treating more walk-ins (Gouge et al., 2016; Hunter et al., 2017).

The PCBH model and the role of BHCs help patients target primary mental and medical health related issues (Sandoval et al., 2018). For example, BHCs can help alleviate the pitfalls of depression by providing additional assessment around the behaviors that trigger and maintain symptoms of depression, and individualizing treatment to optimize health (e.g., behavioral activation, cognitive therapy strategies, mindfulness, and value-based behavior change). Patients may also prefer implementing cognitive-based approaches and improve without medication. Therefore, augmenting cognitive approaches with medication supplements can increase the likelihood of successful treatment outcomes. BHCs also provide interim services to bridge the gap while patients await their first specialty appointment.

The PCBH model plays an important role in reducing the negative outcomes of the opioid epidemic and in the management of chronic and persistent pain. Many individuals continue to seek a reduction in their pain intensity after treatment with the PCP has ended (Henry et al., 2017; Sandoval et al., 2018). Instead, BHCs can provide behavioral interventions such as Focused Acceptance and Commitment Therapy (Kanzler et al., 2017; Sandoval et al., 2018) to help encourage the individuals to think about their pain in a different way. In response to alcohol misuse, a routine measure known as Screening, Brief Intervention, and Referral to Treatment (SBIRT; Agerwala & McCance-Katz, 2012) can be completed by BHCs to assess for risky drinking behaviors and providing early intervention and treatment. Again, BHCs can provide cognitive behavioral techniques, action plans, drinking diaries, stress management, and problem-solving to help mitigate drinking behaviors.

The PCBH model also allows for continued treatment in providing initial and preventative measures for obesity seen in primary care. Often, PCPs do not have the time or resources to address areas of additional concerns of the patient. This includes planning a weight loss goal, improving diet and nutrition, monitoring physical activity, and addressing barriers to change. BHCs availability can help patients with their weight loss and maintenance to successfully be targeted with behaviorally based treatments.

Insomnia is another area of concern that can be addressed in a PCBH model. For example, the brief behavioral treatment for insomnia (BBTI; Troxel et al., 2012) is a four-appointment treatment using the core components of stimulus control and sleep restriction. Its efficacy has been demonstrated in treatment with older adults with insomnia (Buysse et al., 2011; Sandoval et al., 2018). In addition to providing behavioral interventions for health-related issues, BHCs can identify and provide treatments related to psychological or emotional trauma. They can also provide trauma-informed care, address training needs, treatment conditions, and policy revisions.

On the other hand, there are many patients presenting to primary care with medically unexplained symptoms (MUS). This is defined as frequent and intense physical symptoms without an identifiable cause of the illness (Hubley et al., 2014). Patients presenting to primary care with MUS are often high utilizers of primary care, incur multiple medical visits a year, and have recurrent symptoms (e.g., headache, pain, insomnia, dizziness, or fatigue). The estimated costs for patients with MUS exceed $250 billion a year nationally, even after controlling for psychiatric and medical comorbidities (Hubley et al., 2017; Kroenke, 2006). However, the PBCH model and integrated care can provide treatment to individuals with MUS.

A primary care consultation model intervention for chronic medical symptoms (iCMS) for MUS was evaluated for feasibility and acceptability (Hubley et al., 2017). A treatment session included two BHP consultations and one joint session with the PCP. Assessments were conducted at baseline, post-treatment, and at 3 months follow up. Overall treatment consisted of three sessions that focused on eliciting patients' perspective, developing treatment goals, and establishing a unified treatment plan in collaboration with the PCP. Specifically, the BHP helped the patient create a narrative of their experiences in the first session. This was outlined by examining the details of their life events, physical symptoms, medical treatments, psychological distress, beliefs, and lifestyle behaviors. The patient was allowed to communicate their narrative in a non-judgmental atmosphere, which also established a working alliance between the patient and the BHC.

The second session focused on goal development and clarifying the understanding of the patient's narrative. These case conceptualizations are used to explain the relationship between life events, symptoms, and behavioral response (e.g., body-focused attention as considered a form of rumination and is conceptualized by avoidance behaviors). By doing so, BHPs can pay particular attention to the negative reinforcements and avoidance behaviors. Evidenced indicates feasibility and support for the development of a primary care consultation model for individuals with MUS. Since a number of patients seek services for MUS in the ED, these findings could be extrapolated in implementing parts of the model in the ED. Patients were also satisfied with the intervention and treatment outcomes, and in improvements with their physical functioning. This indicates the importance of understanding and empathizing with a patient's difficulties, even if symptoms cannot be explained.

The PCBH model has promising support for improving medically related symptoms and behavioral health problems such as insomnia, weight management, and substance use. The PCBH is widely implemented in various healthcare systems such as the Veterans Health Administration (VHA), Department of Defense (DoD), Federally Qualified Health Centers (FQHCs), and private health care systems (Possemato et al., 2018). In order to better understand the PCBH model, studies in each of these areas will be examined.

Federally Qualified Health Centers (FQHCs)

One system that has implemented a unified PCBH model is the Cherokee Health Systems (CHS), which is a federally qualified health center (FQHC) that provides integrated behavioral health and primary care over twenty-two sites (Collins et al., 2010). FQHCs are outpatient clinics that qualify for specific reimbursement under Medicare and Medicaid. In addition to services that individuals receive in primary care, they also have available treatment for serious mental illness (e.g., case management, day programs, and substance abuse services).

The Community Health Center in Connecticut is another FQHC that provides co-located PCBH services. An interdisciplinary team shares the workspace, and they meet daily to review the patient treatment plans. A warm handoff is conducted in person, between the members of the healthcare team, in front of the patient (and family if present; AHRQ, 2018). A warm handoff in which physicians directly introduce the patient to the behavioral health clinic.

Two New Jersey FQHCs (Trenton and Lakewood; Budde et al., 2017) used the CHS's model of integration. Specifically, BHCs (either a Licensed Clinical Social Worker or Psychologist) were integrated into primary care. Behavioral health intervention services were provided for chronic disease management and psychiatric disorders on same-day visits. Overall, patients receiving services from CHS had lower clinic costs, specialist utilization, and hospital

visits compared to other regional providers. Similarly, to other integrated care settings, BHCs were granted access to patient electronic medical record to screen, assess, and document. To accommodate all personnel involved in BH, the clinic workspace was rearranged to allow for more room. BHC's provided brief assessments (10-20 minutes), consults, and determined if the patient would benefit from brief interventions (e.g., CBT or a higher level of care) after being seen.

Despite the promising effects of the PCBH model in the FHQCs, the clinics faced a number of barriers to integrations. Funding and accreditation policies were difficult to navigate due to the lack of unified assessments and screening for general medical issues. Specifically, the clinics remained cautious of the basic structure, workflow, and other legislative proceedings (e.g., New Jersey regulations shy against housing BH services in primary care). Furthermore, patients were encouraged to schedule a follow up for a "warm handoff" to alleviate the burden of payment costs patients receive for same-day services. Even though the structure of this model was similarly developed to other co-located models, restructuring and regulation of the space was necessary to accommodate for the integration (e.g., physical space, hiring, billing, check-in procedures, and appointment flow). The integration also required strong leaderships and foundational understanding of general principles of integration, knowledge of reimbursement, and an overall understanding of the clinic's population, culture, and workflow.

Even though the PCBH model shows promising effects, there is limited information regarding the cost-savings of such services. Dopp et al. (2018) examined the cost-savings of pediatric PCBH services. The data was primarily extrapolated from FHQCs that employed behavioral health procedures in a pediatric, family practice, and women's health clinic. Again, the model utilized by the FHQC was PCBH where behavioral health providers worked alongside

primary care providers to see patients in the same exam room, chart in the same records, and engage in informal consultations. Participants were allocated to either treatment group or determined being an episode of care. An episode of care (EOC) was defined as a behavioral health visit that occurring one or more times and with less than 90 days between consecutive days. Patients who presented to the primary care office for checkups, pain, infections, obesity, and immunizations and were identified as having immediate behavioral health concerns, engaged in a "warm handoff" to the BHC for services. Patients were non-randomly assigned to a full-time behavioral health employee (BHE) or doctoral trainees based on availability. The sessions included child or parent evidenced-based interventions such as brief CBT (e.g., psychoeducation, relaxation training, sleep hygiene, behavioral activation, exposure therapy, and parent management training) and follow-up appointments were scheduled as necessary. Modest savings in medical cost-offsets were found, with a return of $1.16 per dollar spent on PCBH services at a FHQC. There were also monthly savings of $9,424 spent to reduce health care charges over the period after a behavioral health visit, compared to the group that completed a PCBH episode of care during the training year (e.g., $38 monthly per patient). These findings indicate that services delivered through PCBH are cost-effective and show promising savings in a pediatric care setting.

The PCBH model also has important implications for ED care utilization (Serrano et al., 2018). Data were retrospectively reviewed from the electronic health system (EPIC Systems) collected from four medical homes in Madison, Wisconsin (e.g., Access Community Health Centers – South and Eat, Wingra Access Family Medical Center, and Northeast Family Medical Center). Similar to other models, BHCs function as consultants to the PCP, develop treatment plans that address the psychosocial needs of patients, engage in follow-up care (e.g., 104 visits

annually), and are in a co-located space. A significant reduction in ED visits to primary care was found in the Wingra Clinic compared to the Northeast Clinic when the PCBH model was implemented in one of these FHQCs. These improvements in ED utilization were also sustained. However, results were difficult to compare since no other clinics in the area provided the same high-speed services. This is suggestive that there is a need for further research to determine if the PCBH has other improvements for the ED. FHQCs have implemented the PCBH model in a number of clinics and provides evidenced in for improvements in behavioral health concerns as well as health care utilization. Such findings can also be observed in community centers.

Community

The PCBH model has also been implicated in various primary care community centers. For example, the PCBH model has been utilized in primary care centers in southwest Sweden (Angantyr et al., 2015). The model was used to determine the effects of symptoms and functions of anxiety and depression, as well as the degree of satisfaction with the PCBH model in primary care. Patients had an initial visit that was 30 minutes in length and consisted of a brief introduction to treatment. Screening then took place after the initial visit, where it solely focused on the patient's mental health concerns. A functional analysis was completed by the consultant following the screening. The consultant provided feedback with the intent to increase the clients understanding of their problems. Oral or written feedback was also provided to inform the treatment team (e.g., physician, nurse, or other healthcare professionals) of possible recommendations and changes to the plan. Psychoeducational interventions were also often provided to address client concerns.

Follow-up sessions were scheduled as necessary to examine the compliance of the patient as well as determining any other adjustments. Similarly, to the MOSAIC study (Huffman et al.,

2013; Huffman et al., 2014), a number of measures were used to assess treatment outcomes. For example, HADS (Zigmond & Snaith, 1983) was used to determine anxiety and depression, the Duke Health profile (DUKE; Parkerson, 2002) was used to assess health-related quality of life in relation to primary care, and the Client Satisfaction Questionnaire (CSQ; Attkisson & Zwick, 1983) was used to assess client satisfaction within primary care and nursing. Finally, the client's perceptions of psychology consultation (CPPC) was developed and used to examine the individuals' perceptions of psychology consultations. Results suggested that symptoms, level of functioning, and patient satisfaction improved with PCBH service care delivery. Given the low depression and anxiety levels prior to intervention, the model primarily focused on prevention. This aspect of the model could be used to develop something similar in the ED. Rather than treating symptoms after they have become unmanageable, preventative measures can help alleviate some of the burden and stress symptoms may bring.

Sadock et al. (2014) also conducted a preliminary evaluation of behavioral health services to patients that were referred to Ambulatory Care Clinic (ACC) at the Virginia Commonwealth University Health System (VCUHS) Medical Center in Richmond as well as to understand how these services impact overall patient outcomes. Specifically, high-frequency behavioral health problems such as smoking rates, weight management, sleep quality, chronic pain, anxiety, and depression in urban and rural populations were tracked. Patients were referred for psychological services at an on-site training clinic by their physicians, and services were provided by doctoral graduate students and counseling psychology students. Since the service providers and physicians share the same office, it facilitated a smooth warm handoff. Services were completed in the same exam room, and charting was completed in the electronic medical record to include specific recommendations.

Brief questionnaires were administered at the beginning of the visit, regardless of the patients presenting symptoms. They were administered the Generalized Anxiety Disorder (GAD-7; Spitzer et al., 2006), PHQ-9 (Spitzer et al., 1999), the Short-form McGill Pain Questionnaire (SF-MPQ; Melzack, 1987), and the Insomnia Severity Index (ISI; Morin, 1993). A brief and focused intervention through a patient-centered approach to identify problem areas, treatment goals, and other issues was completed after the initial assessment. The intervention was not standardized due to the complexity of each individual's problem. However, the interventions administered were accepted evidence-based brief interventions for depression, anxiety, insomnia, smoking cessation, weight loss, pain management, and other target areas (Armstrong et al., 2011; Cuijpers et al., 2009; Goodie et al., 2009; Eccleston et al., 2009; Roy-Byrne et al., 2009; Soria et al., 2006; See Table 2 for a more comprehensive list of interventions). Follow up appointments were scheduled if additional interventions were necessary. Again, session notes were completed in the electronic medical record using a standardized format and the note included the purpose of the referral, a primary and secondary focus of the session, assessment score, summary of the session, plan for follow-up, and recommendations.

Table 2

Comprehensive List of Evidenced-Based Approaches by Visit Focus

Table 1 Typical interventions by visit focus

Problem areas	Interventions
All problem areas	Introduction of services
	Psychoeducation
	Supportive counseling
	Self-monitoring
	Goal-setting
	Problem solving
Depression	Play Your Cards Right (Lang, Norman, & Casmar, 2006)
	Behavioral Activation (Hopko, Lejuez, Ruggiero, & Eifert, 2003)
	Cognitive Behavioral Therapy (CBT) (Cully & Teten, 2008)
	Interpersonal Intervention (Cully & Teten, 2008)
	Assertiveness Training (Cully & Teten, 2008)
Anxiety	Relaxation Training (i.e. deep breathing, progressive muscle relaxation, guided imagery) (Cully & Teten, 2008)
	Graded Exposure (Barlow, Farra, & Cohen, 2002)
Pain	Introduction to the Gate Control Theory Activity (Keefe & Somers, 2010)
	Pacing and Behavioral Activation (Keefe & Somers, 2010; Kerns, Sellinger, & Goodin, 2011)
	Relaxation Training (Keefe & Somers, 2010; Kerns et al., 2011)
Smoking/ substance	Stimulus Control (Penberthy, Wartella, & Vaughan, 2011)
	Urge Surfing (Penberthy et al., 2011)
	Motivational Interviewing (Britt, Hudson, & Blampied, 2004)
Insomnia	Sleep Restriction (Rybarczyk, Lund, Garroway, & Mack, 2013)
	Stimulus Control (Rybarczyk et al., 2013)
	Sleep Hygiene (Rybarczyk et al., 2013)
Weight loss	CBT (Cully & Teten, 2008)
	Motivational Interviewing (Britt et al., 2004)
	Stimulus Control (Cully & Teten, 2008)
Medication adherence	CBT (Cully & Teten, 2008)
	Motivational Interviewing (Britt et al., 2004)

Note: Retrieved from Sadock, E., Auerbach, S. M., Rybarczyk, B., & Aggarwal, A. (2014). Evaluation of integrated psychological services in a university-based primary care clinic. *Journal of Clinical Psychology in Medical Settings, 21,* 19-32. https://doi.org/10.1007/s10880-013-9378-8

Behavioral health services and participation in psychology services were associated with decreased levels of anxiety and depression. Psychology services suggest promising findings for changes in smoking cessation, weight loss, and insomnia. Despite improvements in outcomes and its utility in the treatment of complex biopsychological issues, there is no guarantee for full or partial remission. Due to this, policymakers and other health care beneficiaries are hesitant to invest when there is minimal research around health outcome improvements. Furthermore, chronic and more severe patients may benefit from attending a specialty mental health clinic that could provide intensive treatment (Knowles, 2009; Sadock et al., 2014). The idea is that brief treatment serves as a placeholder for the worsening of symptoms and disease progression, as well as a placeholder for long term care. Like the MOSAIC Study (Huffman et al., 2013; Huffman et al., 2014), it is a preventative measure and a protective factor from disease progression. Despite positive improvements in some areas, patients did not report seeing improvements in their chronic pain. However, the treatment for chronic pain is multidimensional and complex, and careful consideration of psychosocial factors is warranted (Sadock et al., 2014; Younger et al., 2009).

There are a number of limitations in this study that can inform future research and an integrated model in the ED. The absence of a control and comparison group made it difficult to evaluate the treatment gains by primary care psychologists. Although this could be done by comparing the present sample to a nonrandom sample, it requires delaying treatment and raises ethical concerns. Providing assessments at the beginning of the sessions was also challenging as problems manifested tenfold during the process. Moreover, patients tended to overreport their symptoms, especially if they were seeking disability. This inflates the sample and creates a bias. Progress is also difficult to assess if patients do not wish to engage in follow-up and so, treatment

resolutions are not adequately captured in the results. Despite some pitfalls of the study, the instruments used were standardized and allowed for behavioral change to be measured. The model also allowed for graduate students in training with opportunities to practice and develop their skills to utilize in future practice. More importantly, this study highlights the implications of determining where brief interventions can be utilized in integrated models. Other organizations, such as the Department of Defense, has also utilized the PCBH model.

Department of Defense

The Department of Defense (DoD) serves approximately 9.7 million active duty members, service members, and their families through military treatment facilities and other locally managed regional networks (Hunter et al., 2014). Of the 9.7 million, approximately 3.3 million receive services through primary clinics. These patients and families are suffering from a number of mental health concerns. Patients are significantly more likely to engage in specialty mental health care after having contact with an integrated behavioral health provider (Davis et al., 2016; Ogbeide et al., 2018). However, information on integrated primary care availability and how it improves access for patients is lacking. Ogbeide et al. (2018) examined if patients would seek specialty mental health care in the absence of integrated care by focusing on low-income primary care clinics compared to military treatment clinics. Individuals at a low-income family medicine residency clinic in South Texas completed a survey packet that contained a demographic information sheet, patient satisfaction tool, and best practices adapted from Robinson and Reiter (2016). Participants (n = 539) from the three military treatment facilities were given identical questions to the primary care clinic. Approximately 24% indicated that they "would not" or "probably would not" attend a specialty mental health clinic if a PCBH was not available compared to the 15% that indicated they are "uncertain." Furthermore, evidence

suggests a positive correlation between receiving PBCH services and the likelihood of receiving specialty treatment in the military sample.

A sample of veterans who received PCBH services in a Northeastern VHA highlighted functional concerns with sleep, energy, motivation, concentration, pain, anger, and stress management (King et al., 2019). Between 53 to 93% of participants reported their functional concerns to a BHP whereas 56 to 81% stated they would like to eventually discuss their concerns with a mental health professional (King et al., 2019). This further provides evidence that PCBH services are acceptable in such instances and provide patients with an established platform of care (King et al., 2019; Possemato et al., 2018). Since concerns are not limited to clinical issues but rather other life problems, the PCBH models play an important role in providing patients with referral assistance and links to community resources (e.g., addressing unemployment and financial stressors; King et al., 2019). King and colleagues suggest that future research would benefit from focused development and evaluation of interventions that cross-cut diagnostic categories to improve personal functioning, to provide measures that are capable of capturing functional outcomes, as well as promoting the use of standardized measurements to supportive adaptive decision making. The same developments will be useful when developing an integrated model in the ED. Specifically, the PCBH plays an important role in reaching individuals who may not seek specialty mental health if it was not available in primary care.

PTSD is a common mental health issue seen in the active military that is both debilitating and costly. Approximately $4.0 to $6.2 billion of U.S. dollars over the course of two years have incurred due to the conflicts in Iraq and Afghanistan (Cigrang et al., 2017; Tanielian et al., 2008) Although prolonged exposure (PE) is an effective treatment for PTSD (Cigrang et al., 2017; Foa et al., 2005; Foa et al., 2009), stigma (Sharp et al., 2015), concerns about the negative impact

(Britt et al., 2015), and distrust of mental health services (Brown & Bruce, 2016) all serve as barriers to receiving treatment. Even though the PE protocol is a manualized treatment (8 to 15 sessions, 90 minutes in length), it can be limiting for individuals that are on active duty, have family obligations, or other work-related responsibilities. As a result, behavioral health providers are limited in their time to treat individuals for the full length. So, many of these individuals go to their primary care for treatment.

The DoD and the Veterans Affairs (VA) have implemented the PCBH into family medicine and primary care clinics. Treatment for PTSD by BHCs are inconsistent, and there are limited studies that compare it to other clinical practices (Cigrang et al., 2017; Possemato et al., 2011). In order to address the need for focused psychotherapeutic treatments for PTSD in primary care, Cigrang et al. (2017) developed a brief Prolonged Exposure for Primary care (PE-PC) treatment protocol. The treatment protocol is only four sessions and 30 minutes in length that was developed to be utilized by BHCs in PCBH. Cigrang et al. (2011) found PE-PC treatment reduced symptoms related to PTSD and depression after treatment. These improvements were also maintained at 6- and 12-months follow-up (Cigrang et al., 2015; Cigrang et al., 2017).

Cigrang et al. (2017) expanded on this study by comparing PE-PC treatment to a minimal contact control group (MCC) receiving four, 5 to 10-minute phone calls with the BHCs over a 4 to 6-week period in active duty personnel seeking help for PTSD symptoms. Active military members (n = 67) who have been previously deployed were referred to BHCs during two clinical care routines at two military service treatment facilities in San Antonio. Participants were excused if they had a substance use history and if they were currently receiving trauma-focused care. Participants completed a number of measures such as the PTSD Checklist (PCL; Weathers

et al., 1993) to determine a correct diagnosis for PTSD, the PHQ-9 to assess depression levels, the Behavioral Health Measures (BHM; Bryan et al., 2014; Cigrang et al., 2017; Kopta & Lowry, 2002) to determine distress and life functioning, as well as the PTSD Symptom Scale, Interview Version (PSS-I; Foa et al., 1993) to determine PTSD symptoms. Eligible patients were block randomized to either treatment group.

The PE-PC was drawn from the PE model of emotional processing (Cahill & Foa, 2007; Foa et al.,1993) and was designed to fit it within the context of four sessions, each 30 minutes in length. In addition to completing the PCL measure, they also completed activities from the "Confronting Uncomfortable Memories" workbook for homework (Cigrang et al., 2011; Cigrang et al., 2015; Cigrang et al., 2017). The workbook required participants to write a narrative accounting their deployment that was associated with the greatest level of current distress and preoccupation. They also completed emotional processing questions such as "how has this event change what you think about yourself?" Once the trauma narrative was completed, participants rated their distress level (SUDS) before and after the writing exercise and were also required to read their answers at least 30 minutes a week. The BHC reviewed participants SUDS rating, discussed habituation, acknowledged the participant's efforts, and discussed any problems that may have raised during sessions two through four. The remainder of each appointment was devoted to processing emotional trauma (e.g., review of exposures and the patient's thoughts and emotions related to the exposures as well as how that impacts the beliefs about themselves and the world of the trauma). In the fourth session, participants were encouraged to discuss their perceptions of treatment and to identify whether a referral to specialty mental health clinic would be necessary. Participants assigned to the MCC group were asked not to engage in additional

trauma-focused care during the 6 weeks but instead were contacted once a week by the BHC over the phone to provide support for approximately 5-10 minutes.

Individuals allocated to the PE-PC showed significantly more improvement than the MCC group and exhibited significant improvements across all five outcome measures with a medium to moderate effect sizes. The prevalence of PTSD symptoms in the PE-PC reduced significantly from 59% to 37% posttreatment. Individuals from the MCC group who wished to enter the PE-PC group after the treatment also improved significantly across all five outcome measures with a medium effect size. In addition, treatment was found to be effective at 6 months follow up with a medium to large effect size. This is evidenced by a 37% reduction of treated patients that met criteria for PTSD at 6 months follow up.

PE-PC is effective in treating PTSD and co-occurring symptoms in a PCBH model. This was found to be effective for both immediate and delayed intervention for those in the MCC group that waited 4 to 6 weeks. Treatment gains were also maintained at 6 months follow up further suggesting the effectiveness of treating PTSD in primary care. Despite improvements, it would be ideal if the model facilitated a hand-off to a mental health clinic for partial responders or non-responders. This would ensure all patients are receiving the necessary follow up care. Treatment for PTSD holds promise, especially in integrated behavioral health services since it does not separate itself from their mental health record. It is less stigmatizing than specialty mental health; however, various factors, such as military ranking, plays a role in motivation to seek treatment. For example, higher-ranking individuals may perceive it to be riskier to seek mental health treatment and so, receiving treatment in primary care becomes more acceptable (Brown & Bruce, 2016; Cigrang et al., 2017). The PE-PC treatment gains also reflect improvements and recovery in symptoms after treatment has ended, especially as it related to

improvements from a brief protocol. A brief intervention provides patients with an opportunity for early intervention when symptoms are less severe. Addressing symptoms at early points of contact frees up time and resources for specialty care to focus on patients that need more time-intensive services (Bower & Gilbody, 2005; Cigrang et al., 2017; Possemato, 2011). This can further translate into cost-savings for both the clinic and the individuals seeking treatment.

Although the RCT was novel in that it provided brief trauma-focused care, participants were only limited to the US Air Force. So, their trauma may be different than those in a ground combat role. As noted earlier, the stigma around receiving care in higher ranked officers may also limit the generalizability to only lower-ranking servicing members. Therefore, it would be beneficial if an additional study was completed to include a more diverse military sample.

The PCBH model has also been utilized within the United States Air Force for over 15 years and has demonstrated positive health and patient satisfaction. A pilot study expanded on previous research and aimed to determine patient satisfaction of the PCBH model compared to "in garrison" traditional settings (Landoll et al., 2017). A retrospective review of surveys completed by participants (n = 516) across the Air Force military treatment was compared to noncombat facilities. Patient satisfaction was significantly higher in the PCBH model compared to normal treatment. Even though it is unknown which models of care are most-effective in such settings, treatment for in garrison treatment are consistent with treatment outcome in noncombat settings. Perceptions of better health in deployed environments can be attributed to a number of factors. Nevertheless, the PCBH model was received to be more rewarding, satisfying, and appears to be an appropriate model of care to meet the needs of individuals in a deployed environment. This model further demonstrates opportunities for more research in the suggested areas.

Despite the positive findings for the PCBH model, the low-response rates in the in-garrison treatment may limit the generalizability of the findings even though satisfaction was reported across various settings. Given that the study limited its setting to single deployments also limits the generalizability. Therefore, future research might benefit by directing its focus on including both military and civilians' remote populations (e.g., rural practice settings). Overall, the study provides empirical evidence for a model of care that is unique to a military setting.

Within the military setting, the PCBH model has even been adopted in military settings to provide Marriage Checkup (MC) in an integrated primary care clinic. Due to the stress and trauma military individuals experience, it is important to manage and maintain supportive relationships. For example, relationship distress is associated with depression, substance, lower physical health functioning, and work role impairment (Cordova et al., 2017; Whisman & Uebelacker, 2006). Other studies suggest that distressed relationships have an impact on direct duty performance during deployment (Carter et al., 2015; Cigrang et al., 2015; Cordova et al., 2017). Relatively few couples seek out services that are effective in treating distressed couples despite recent advances in tools to foster healthy relationships (Cordova et al., 2017; Snyder & Halford, 2012). Counseling becomes underutilized when couples do not wish to participate in couples' therapy before their relationship dissolves. For example, approximately 67% of Airmen in distressed relationships reported making use of couples counseling returning from deployment (Cordova et al., 2017; Snyder et al., 2016). There is room for improvement in helping couples deal with the struggles of their marriage in primary care. Traditional couples' therapy can be difficult to access and are associated with barriers such as time, money, stigma, and availability.

The Behavioral Health Optimization Program (BHOP; Air Force Medical Service, 2013; Cordova et al., 2017) is another model of PCBH that has integrated into primary care and

allocated resources to providing services to distress couples. Previous studies demonstrated that BHOP services improved recognition and early interventions of behavioral health services, enhance collaborated care and management of patients with behavioral health concerns, and increase access to mental health services for all parties. This includes improvements in triage within specialty mental health and reduced stigma associated with seeking mental or behavioral health treatment (Bryan et al., 2009; Cigrang et al., 2015; Cigrang et al., 2006; Cordova et al., 2017; Goodie et al., 2009). The BHOP includes Integrated Behavioral health Consultants (IBHCs) that are similar to BHCs in primary care. Their role is to provide additional support, consultation, and conduct functional assessments of targeted problems (Hunter et al., 2009).

The Marriage Checkup (MC; Cordova, 2009; Cordova et al., 2014) is a brief relationship health intervention designed to be similar to other health checks up. The focus MC has been on overcoming barriers and on brief, strength focused, and support for couples that want to learn how to adequately manage their relationship through consultation. In the PC setting, the MC consists of three, 30 minutes meetings with the IBHC to assess the strength of the relationship, identify relationship concerns, and to provide specific and unique feedback to help couples improve the health of their relationship. The MC has shown to be effective and has also improved relationship satisfaction, intimacy, acceptance, and depression in couples (Cordova et al., 2014; Cordova et al., 2017; Hawrilenko et al., 2015).

Cordova et al. (2017) adapted the MC protocol to include questions about military-specific strengths and military-specific concerns, especially since many officials experience unique stressors (e.g., infrequency deployments, inconsistent income, and instability). Significant others were also asked to report on their thoughts regarding the individual's strengths and concerns. The purpose of the exercise was to build empathy, compassion, and to imagine the

partner's point of view. It was also used to assess maladaptive relationships and relationship narratives. The MC protocol was modified to include an assessment and feedback session in 33 minutes. Couples were asked to provide a narrative of their first meeting and impressions of one another using portions of the Gottman's Oral History (OHI; Cordova et al., 2017; Gottman, 1994) in the first session. The session identified the strengths of the relationship and attempted to create a foundation for the next steps. Identified concerns of each partner were reviewed in the second session. This was done to help "building intimacy bridges" since it is a key part of the Integrative Behavioral Couple Therapy (Cordova et al., 2017; Jacobson & Christensen, 1996). The focus is on building intimacy and emotional connection rather than using a traditional skill-building approach. The third session was a feedback session to address and review the primary concerns determined in the MC questionnaire. Finally, the last session allowed couples to celebrate their strengths, new insights, and addressing potential barriers for the future.

Couples also completed a post-treatment questionnaire at the post-treatment appointment and completed the Marriage Checkup Questionnaire (MCQ) at baseline. This was used to identify each partner's top three strengths and concerns, as well as inform IBHC through the protocol. The Marital Satisfaction Inventory-Brief Screen (MSI-B; Cordova et al., 2017; Whisman et al., 2009) is a 10-item true/false self-report screening measure to identify distress in intimate relationships which were completed at each of the appointments and one-month post follow up. For example, one item might say, "My partner often fails to understand my point of view on things" and "There are some serious difficulties in our relationship." The Quality of Marriage index (QMI; Cordova et al., 2017; Norton, 1983) is a six-item measure that assessed relationship satisfaction which was completed immediately after enrollment, after each appointment, and 1-month post-treatment. For example, participants were asked to rate their

relationship satisfaction on a Likert scale on items such as “We have a good relationship” or “My relationship with my partner is strong.” The Intimate Safety Questionnaire (ISQ; Cordova et al., 2005; Cordova et al., 2017) is a two-item measure of the degree to which a partner feels safe being vulnerable across a variety of settings. This includes emotional safety, sexual safety, safety disagreeing, safety being yourself, and safety in public. Typical items include “I feel comfortable telling my partner when I’m feeling sad” or “When I’m with my partner I feel safe and comfortable.” Other measures also included the Marriage Checkup Evaluation – Couple (MC Eval-C; Cordovaet al., 2005; Cordova et al., 2017) which is an 8-item Likert measure that assesses satisfaction with their MC and asks questions such as “Do you feel your Marriage Checkup was helpful” or “Do you feel the Marriage Checkup captured your relationship overall.” Finally, the Marriage Checkup Evaluation – Therapist (MC Eval-T; Cordova et al., 2005; Cordova et al., 2017) is a 10-item Likert scale that assesses the therapist’s satisfaction with the MC model.

Cordova et al. (2017) adapted the MC protocol to a fast-paced military setting. Significant changes from two weeks and two months were observed across all variables. This suggests the MC protocol can be adapted to three brief sessions. Partners also demonstrated statistically significant improvements in relationship satisfaction and intimacy. They reported feeling more satisfied with their relationships and having a greater sense of intimate safety. Other findings from this study indicate that brief MC interventions showed improvements that were comparable to full-length MC protocols (Cordova et al., 2014; Cordova et al., 2017). Therefore, MC can be achieved through brief treatment. The preliminary findings indicate that brief integrated marital health checkups can produce meaningful improvements in overall marital health quality despite the lack of comparison group. Furthermore, participants were more likely

to complete the checkup if they believed the checkup was a meaningful and satisfying experience, especially if they understood that the purpose of treatment is to reduce stress in active military families. Others found it an enjoyable, fun exercise, and easy to implement. Even though the outcomes of the study were found to be meaningful, there are some limitations that should be taken into consideration. The efficacy of the intervention cannot be fully determined due to the small sample size. Therefore, future studies would benefit from conducting an RCT with a larger sample size. In addition, the population primarily consisted of Air Force officers with some recruitment of Airmen, and so it is difficult to determine the generalizability of the study. However, future studies should look to incorporate participants within enlisted ranks and other populations to broaden implementation. Furthermore, the study would benefit from including physical and mental health outcomes to assess in conjunction with the MC. This will further provide evidence into the comorbid relationship between relationship stressors and health outcomes. The results are clinically meaningful, and aspects of it can be used to develop an integrated model in the ED. However, other models such as blended model combine aspects of the PCBH and CoCM. The integration of the two attempts to merge the discrepancies and address the limitations found in both models.

Blended Model

A blended model looks to combine elements of PCBH and CoCM. The PCBH addresses patients with episodic stressors, health behavior difficulties, and mild-to-moderate mental health problems. The CoCM model, on the other hand, provides psychiatric monitoring of patients who have not responded to brief treatment. A blend of the two models is preferred and has been incorporated in a variety of settings such as the Department of Veterans Affairs Primary Care

Mental Health Integration (PCMHI; Kearney et al., 2014) as well as in the Kennedy Forum as an effective model (Fortney et al., 2015).

The variability in the design of the models (Colocation of behavioral health services [CL], PCBH, and blended model [BM]), was outlined by Landis et al. (2013). They compared the provider-patient improvements and depression levels of the three models over five years at a large family medicine training site in the Southeast. Patients were enrolled in the study if they had a PHQ-9 score of 10 or more and 12 weeks of follow-up services. They were enrolled during a three-month time period that coincided with the three different integrated collaborative care models. This included patients with psychiatric illnesses such as bipolar disorder, posttraumatic disorder, drug and alcohol addiction, and anxiety disorders.

In the CL model, clinicians were available on site to provide consult and were readily available to interview patients while visiting their PCP. In the PCBH model, a BHP provided real-time consultation to patients and their PCP and the psychiatric either over the phone or onsite. In the BM, patients were granted access to BH services, real-time consultation, psychiatric backup, and care management services. Phone calls were provided to assess medication compliance, depression symptoms, and coping strategies every 2, 6, and 10 weeks. The remission rate of BM intervention improved 67% over the PCBH intervention. Symptoms also improved, though it did not reach statistical significance. However, this finding could be attributed to the small sample size. The study elaborated on the incremental improvements in treating depressed patients in primary care practice with integrated collaborative care such as introducing real-time BH consultation, psychiatric backup services, and additional CM services.

The PCBH model has been widely implemented in Oregon's Health Authorities Health System Transformation efforts (Aims Center, 2019). The Yakima Valley Farm Workers Clinic

(YVFMC), BHC, and primary care providers consult with one another to assist with issues such as depression, anxiety, substance use, sleep hygiene, smoking cessation, and situation stressors (e.g., marital discord or grief). There are twenty medical clinics in Oregon and Washington that fall under the YVFWC network that has been fully integrated BHCs. Each year, the YVFWC sees approximately 1,300 to 2,000 patients. The BHCs and primary care providers screen for depression and follow up to patients that are at least 12 years of age in these clinics. Similar to other models of integration, patients received a follow-up treatment plan if an individual screened positive. Despite the flexibility and focused intervention, a significant cost was associated with reaching a large population in addition to providing structured and intensive treatment services to high-risk patients.

HealthPoint is another network of twelve clinics in suburban King County near Seattle, WA that have combined both PCBH and CoCM in its integrated care. The Washington State Mental Health Integration Program (MHIP) hired social workers to train as behavioral health care managers in an early pilot study in 2008. This model allowed for care managers and consultants to provide collaborative care within the same clinic but for different populations. The consultant provided brief visits, which emphasized symptom management and psychoeducation, with few follow-up appointments, and provided prompt consultation and feedback to the primary care provider. On the other hand, individuals were referred to the BHC manager if they have demonstrated more complex high-risk psychological and health-related behaviors. These individuals were then enrolled in the CoCM program. They are provided with more intensive follow up and psychiatric consultation to help reach their target goals. Weekly meetings are held to discuss cases and to determine if patients are assigned to the appropriate caseload. Importantly, the consultant and manager use the same measurement-based strategies to

guide appropriate diagnosis and to treat their patients. For example, HealthPoint utilized the PHQ-9, GAD7, MDQ, PC-PTSD, and GAIN-SS. Interventions were then implemented based on the symptoms endorsed on the measures. The model is unique and provides interventions to meet the needs of a broad population.

The TEAMcare study (Celano, Healy et al., 2016; Huffman et al., 2018; Katon et al., 2012) implemented an in-person and phone-delivered "blended" collaborative care program focused on improvement of depression, physical health targets (e.g., blood pressure), and illness self-management over 12-months compared to enhanced usual care. In the EUC group, PCPs were notified about depression and poor disease control at baseline in an individual with diabetes, coronary artery disease (CAD), or both. Findings indicated the intervention group had significantly greater improvements in HbA1c, depression symptoms, SBP improvement, greater quality of life, satisfaction for depression and diabetes intervention, as well as higher rates of having one or more adjustments of antidepressants.

The Care of Mental, Physical, and Substance use Syndrome (COMPASS; Coleman, Magnan et al., 2017; Huffman et al., 2018) initiative to implement the blended TEAMCare model in 18 health center and 172 clinics in eight states to assess whether the blended care approach could be translated into the real-world settings. COMPASS care was delivered in all settings (e.g., rural, suburban, and urban settings) and to all individuals from various cultural and socioeconomic statuses. Some organizations that delivered COMPASS were paid for performance while others were reimbursements primarily through fee-for-service payments. Despite some differences, all organizations brought varied experience in caring for depression in primary care, complex care management for patients with chronic disease, systematic

performance measurement, and quality improvement. See Table 3 for a more comprehensive list of the COMPASS components.

Table 3

Components of COMPASS Collaborative Care for Depression and Uncontrolled Diabetes and/or Cardiovascular Disease

Table 1
Components of COMPASS collaborative care for depression and uncontrolled diabetes and/or cardiovascular disease

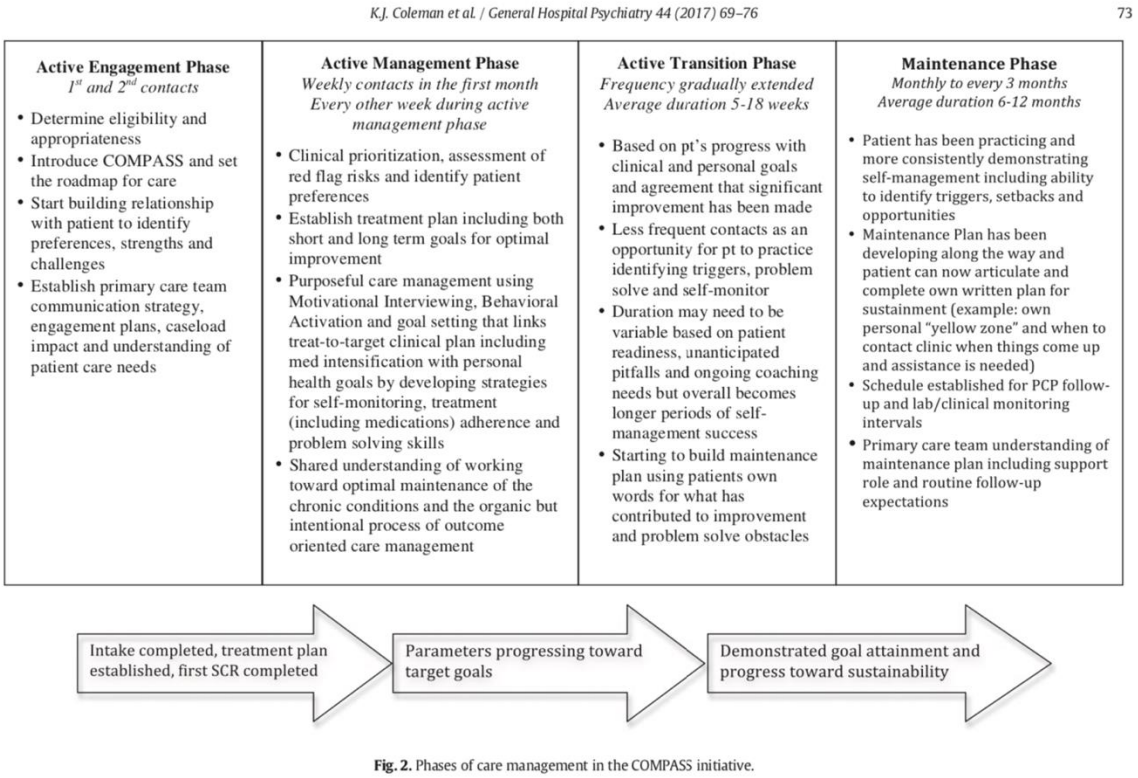
Component	Features of component
Needs and assets assessment	• Local organizational self-assessments [clinical outcomes measures/gaps, QI infrastructure and expertise, content expertise, current programs to support work and other resources available locally, leadership support and prioritization (urgency), readiness for change and other culture assessment] • Local patient and community assessment (need and readiness for this intervention, social support, prevalence of target conditions, payer interest in targeted conditions)
Intervention development	• Evidence-based agreement • Determination of key elements and areas for local adaptation, with guidance from content experts • Resources needed (electronic data monitoring, staff) • Defining new roles and training needs • Measurements (process, outcomes, fidelity) • Intersection/integration with other programs • Target population • Stakeholder engagement
Foundational structures	• Driver Diagram including Triple Aim focus • Executive Committee: oversight and final arbiter • Steering Committee: joint accountability, structured sharing of challenges, ideas • National committees/work groups: intervention, communication, evaluation, measurement and reports. All partners responsible for participation and for the deliverables for each committee. Working together for universally used documents/reports • Antitrust Agreement
A learning community	• Joint intervention development • Face-to-face training session/kickoff for national partners to build working relationships and develop a common language for collaborative care management • Local face-to-face kick-off training to understand current state, define gaps, build care pathways and workflows, understand cultural changes that need to be addressed. • Plans for change (process improvement, process mapping, etc.) • Ongoing coaching/support for implementing teams to build and maintain new skills and roles and to reach goals • Ongoing monitoring and change of the overall intervention components and strategies, based on challenges and successes identified by the medical groups and other environmental changes
Accountability	• Decision making done across all partners • Data/Measurement alignment and transparency • Outcomes sharing: best practices and challenges • Routine, standardized reporting on implementation steps • Integration into local leadership and quality improvement structure/local stakeholders • Adherence to agreed-upon intervention key components while allowing for local adaptation
Continuous quality improvement	• Locally used methodologies and capabilities (process improvement, lean) • Monitoring and feedback through coaching (standardized and locally relevant) • Process to decide and implement changes to key program components
Monitoring outcomes	• Clinical outcomes for condition improvement • Operational cost of program (start-up and ongoing) • Patient, clinician, staff satisfaction • Unintended consequences (increases in utilization due to improvements in access to care, etc.) • Secular trends in care (national recommendations, etc.)
Sustainability	• Medical group leadership support and buy-in • Creation and evidence of value to the organization • Integration into existing systems of care • Ongoing training for staff • Ongoing quality monitoring

Note: Retrieved from Coleman, K. J., Magnan, S., Neely, C., Solberg, L., Beck, A., Trevis, J., Heim, C., Williams, M., Katzelnick, D., Unützer, J., Pollock, B., Hafer, E., Ferguson, R., & Williams, S. (2017). The COMPASS initiative: Description of a nationwide collaborative approach to the care of patients with depression and diabetes and/or cardiovascular disease. *General Hospital Psychiatry, 44,* 69-76. http://dx.doi.org/10.1016/j.genhosppsych.2016.05.007

The COMPASS initiative was divided into four phases (Coleman, Magnan et al., 2017): (a) initial engagement that occurred during intake, (b) active management where a majority of the care was delivered, (c) patients were guided through the maintenance plan and transitioned out of the COMPASS initiative during the transition phase, and (d) the maintenance phase where patients were monitored for relapse and re-enrolled if necessary. See Figure 1 for a more comprehensive outline of the four phases.

Figure 1

Phases of Care Management in the COMPASS Initiative



Note: Retrieved from Coleman, K. J., Magnan, S., Neely, C., Solberg, L., Beck, A., Trevis, J., Heim, C., Williams, M., Katzelnick, D., Unützer, J., Pollock, B., Hafer, E., Ferguson, R., & Williams, S. (2017). The COMPASS initiative: Description of a nationwide collaborative approach to the care of patients with depression and diabetes and/or cardiovascular disease. *General Hospital Psychiatry, 44,* 69-76. http://dx.doi.org/10.1016/j.genhosppsych.2016.05.007

The results indicated about 40% achieved depression responses with 24% remission as evidenced by achieving a PHQ-9 score less than 5 over a 12-month follow-up period (Coleman, Magnan et al., 2017). Approximately 23% of patients with A1C levels and 58% achieved high blood pressure control. Therefore, patients were significantly more likely to rate their depression care and overall care as "excellent" at follow up. Hundreds of thousands of dollars could be achieved through the small goals set for complex patients to accomplishment. In addition to cost savings, but this would substantially reduce the risk of many major medical events, and possibly lower the rate of mortality when viewed from a population health lens. Therefore, the blended care management model can lead to significant improvements in both mental and physical health in comorbid complex problems. Specifically, the COMPASS initiative outlines the essential elements that may be necessary to implement collaborative care in clinical settings as well as barriers that must be faced. The COMPASS initiative alludes to the importance of ongoing quality improvement in methods to further understand, adapt, and embed specific interventions in local settings.

Blended care models may be more effective and a new way of providing behavioral health services to individuals with both combined medical and psychological illnesses, and therefore, will have a larger public health effect (Huffman et al., 2018). Even though there are challenges to implementing a blended model, the COMPASS program and other programs have been able to implement it in various settings. The Advanced Integrated Mental Health Solutions (AIMS) center at the University of Washington had created a short guide for implementation. This includes: (a) completing needs assessments, presentations, and literature on the cost-effectiveness to ensuring a secure buy-in from senior leaders, (b) informed decisions regarding the inclusion of conditions, patients, and clinics, (c) what components of treatment will be

offered in it the program (e.g., medications, therapy, and outside mental health services); (d) developing role description for collaborative care team staff and hiring strategically; (e) system monitoring through centralized database and regular team meetings; and (f) developing plans to assess outcomes and to present those outcomes to stakeholders.

These guidelines can be used to appropriately to help develop and implement a similar integrated model in the ED. However, it is also important to examine an integrated model that primarily occurs in an outpatient setting, such as the Patient Centered Medical Home (PCMH).

Patient Centered Medical Home (PCMH)

A Patient-Centered Medical Home (PCMH; AHRQ, n.d.) is a model of primary care that is based on five functions: (a) comprehensive care and team-based approach to meet the demands of patients physical and mental health care needs; (b) delivering patient-centered treatment that is oriented towards the whole person; (c) coordinated care through all parts of the health care system (e.g., hospital, home health care, and community services); (d) providing accessible services by reducing wait times, enhancing office hours, and after care hours; and (e) ensuring quality and safety through evidenced based approaches, shared decision making, performance measurements, and population health management. Too ensure competency, the National Center for Quality Assurance (NCQA) developed standards for achieving a PCMH (Ackroyd & Wexler, 2014). See Table 4 for the NCQA standards and elements for PCMH certification.

Table 4

The National Center for Quality Assurance (NCQA) Standards and Elements for PCMH Certification

Table 1 NCQA standards and elements for PCMH certification

NCQA PCMH standards	Elements
Enhance access and continuity	Access during office hours and after hours, electronic access[a], continuity, medical home responsibilities, culturally and linguistically appropriate services, the practice team[a]
Identify and manage patient populations	Use data for population management[a], collect patient information and clinical data, perform a comprehensive health assessment
Plan and manage care	Implement evidence-based guidelines, identify high-risk patients[a], provide care management[a], medication management[a], and electronic prescribing
Provide self-care support and community resources	Support self-care process[a], provide referrals to community resources[a]
Track and coordinate care	Test tracking and follow-up, referral tracking and follow-up, coordinate with facilities/care transitions[a]
Measure and improve performance	Measure performance and patient/family experience, implement quality improvement report performance and data, use certified EHR technology[a]

Note: Ackroyd, S. A., & Wexler, D. J. (2014). Effectiveness of diabetes interventions in the patient-centered medical home. *Current Diabetes Report, 14,* 471. https://doi.org/10.1007/s11892-013-0471-z

In a PCMH, a patient's medical provider is primarily responsible for care and care coordination (Grumbach & Bodenheimer, 2002; Rosenthal, 2008). The team varies depending on the patient's needs. It can include specialists, midlevel providers, nurses, social workers, physical and occupation therapists, family, and community involvement (Barr, 2006; Rosenthal, 2008).

The success of PCMH depends on the ability to focus on the patient and family's needs, recruit social services, specialty medical services, and improve patents capabilities to solve problems (Lantz et al., 2007; Rosenthal, 2008). Through its core characteristics, the PCMH model has reduced health care utilization and costs, improved patient health care, and satisfaction.

In addition, the PCMH model is a link between the ED and primary care services (Adaji et al., 2018; Rosenthal, 2008). PCMH interventions reduced multiple visits for uninsured and low-income residents in Orange County (Adaji et al., 2018) while increasing virtual visits (e.g., electronic communication) for patients in Group Health in Seattle, WA (Adaji et al., 2018; Reid et al., 2013). Furthermore, the PCMH model supports the integrated behavioral health services and attempts to reduce visits and boarding issues in the ED (Adaji et al., 2018; Katon & Unutzer, 2011; Raney, 2013; Shim et al., 2012). Adaji et al. (2018) examined the impact of PCMH on healthcare utilization for behavioral health issues seen in the ED at the Mayo Clinic in Rochester, Minnesota. Members of a PCMH model were less likely be admitted to the hospital (Adaji et al., 2018) which provides evidence that PCMH decreases inpatient hospitalization for individuals presenting to the ED. Since the study primarily focused on high-utilizers of the ED with comorbid medication conditions, it emphasizes the downstream effects of PCMH on healthcare utilization in patients that primarily present to the ED.

A systematic review by Berk-Clark and colleagues, 2018 examined the elements of PCMH that were typically provided to low-income populations and its improvements on improved health outcomes and behaviors. Most PCMH core components were implemented among low-income populations and moderate improvements were observed for health outcomes related to diabetes and addiction, healthcare utilization, improvements in ED visits, and inpatient use. Patients were also more likely to follow up with their primary care for treatment. Although

the PCMH model has been implemented in various setting (e.g., FHWC and university health care system), it is costly, increases the workload on the staff like other models, and the PCMH components are not always fully reimbursed.

However, the PCMH also impacts mental health recovery (Sklar, 2016). PCMH clients were compared to clients receiving service as usual (SAU) from 2011 to 2013 in San Diego County, California. Mental health recovery was assessed overtime with the Illness Management and Recovery scale (IMR) and Recovery Markers Questionnaires (RMQ). Mental health recovery was greater in participants receiving PCMH care than SAU. This suggests a PCMH facilitates a patient's illness management to a greater degree than SAU, and that greater illness management may be what is driving enhancements in overall clinicians-reported mental health recover. However, specific aspects of PMCH may contribute to symptom management and relapse prevention such as screening, preventative care, patient guided health management, and improved access to medical records with subsequent use and contains of services (Sklar, 2016), all of which are components that can be implemented in the ED. The PCMH has potential to improve quality of health care in the United States and provides support for the use of PCMH as an alternative model for health care delivery in patients with severe mental illness. However, it is important to address the barriers to implements in the PCMH and the other integrated models described earlier.

Barriers to Implementation

As patients seek assistance for their mental health concerns in primary care, a number of strategies have been implemented to improve the quality of mental health care in general medical practice. As seen in various models, this includes screening, education, and training for primary care providers, and following treatment guidelines. Despite the success, there are a number of

clinical barriers to implementation that interfere with treatment (Sanchez et al., 2010). For example, physical complaints must be separated from mood-related complaints. Separating complaints allow providers to know what types of problems they will be handling for the appointment. Physicians primary care are limited with their training in their treatment with a mental health disorder. They require additional training and expertise over time, remaining current in the latest treatment and guidelines while providing evidenced-based research. However, stigma can continue to complicate the issues associated with treatment for mental illness. It can create attitudes and negative beliefs that contribute to the lack of communication and barrier to seek treatment with patients. Therefore, it is important for providers to work together to eliminate some of these barriers and to increase communication regarding mental health concerns.

Other barriers to implementation include system challenges which can be reflected through organizational barriers such as time of delivery to care (Sanchez et al., 2010). For example, physicians may often be constrained with time, communication, and accessibility. Since primary care visits are often brief, it can limit the time allotted for a comprehensive evaluation and follow up. Moreover, the physical separation between medical and behavioral health providers can create information sharing obstacles, hinders communication, and can generate disagreement between medical and behavioral health providers concerning who have primary responsibility. Workforce shortages can also cause significant concern, especially for those trained in care management and evidenced-based intervention. These are amplified in settings for vulnerable populations such as low-income and uninsured patients.

One of the biggest barriers for integrated care is largely financial such as funding and reimbursement. Perhaps, the greatest obstacle to treatment of mental health issues in primary

care is the lack of reimbursement for essential components of evidenced-based models of collaborative care, such as screening, consultation, and service providers (Kilbourne et al., 2004; Pincus, 2003; Sanchez et al., 2010; Unutzer et al., 2006). Federally funded community health centers used to prohibit billing for primary care medical visits and a mental health visit on the same day. Currently, PCPs are unable to bill for behavioral health services, and when they do, are reimbursed at a lower rate compared to services for physical complaints.

A survey conducted by the Hogg Foundation for Mental Health examined integration efforts in Texas (Whaley et al., 2006). Perceptions of efforts, practice strategies, and other barriers were evaluated. Even though screening strategies have been shown to increase diagnosis, improving health care outcomes, and changes in health care delivery, providers are still referring to behavioral health services off-site which present as a barrier to integration. Providers have limited training in psychiatric disorders, and thus suggests accurately diagnosing mental health disorders and engaging in complex, comprehensive assessment at training providers is limited.

Other barriers to implementing integrated care are largely concerned with organizational and financial issues, as opposed to clinical ones. The findings suggest that organizations did not struggle with issues related to a stigma, cultural, and language differences, and lack of training or awareness of evidenced-based treatment. Instead, organizational difficulties were often reported by respondents as most challenging to implement integrated care. For example, there is limited availability of practitioner's who are adequality trained in care management and over trained physicians. Even well-trained physicians with a broad knowledge of evidenced-based treatment for mental health issues are limited by the typical 15 minutes (Unutzer et al., 2006). Despite collaborative efforts in traducing care management and behavioral health specialists, physicians limited time is still a primary concern for barriers in integration.

Integrated health care is largely limited by financial issues. The lack of reimbursement for clinical care, followed by lack of reimbursement for screening services and consultation is a barrier. Currently, collaborative care models are not reimbursements by Medicare and Medicaid, especially those that involve screening and consultation (Unutzer et al., 2006). Moreover, even if improvements are found, the financial burden associated with the intervention often becomes a barrier to sustainability after grant funds have terminated (Blasinsky et al., 2006; Frank et al., 2003). Therefore, it is important for mental health professionals and providers to work with the policy makers to ensure financial barriers can also be eliminated.

Summary

Heath care integration is becoming widely accepted in the United States. There are a number of models that are being implemented and demonstrated efficacy on health care utilization, symptom reduction, patient satisfaction, cost-effectiveness, relationship status, and other outcomes.

The co-located collaborative models utilize specialty mental health clinicians in the same site as the primary care clinic. The goal of this model is to it allow for clinicians to provide services to individuals with less severe mental health illnesses even though it is not fully integrated. A co-located collaborative care model has been shown to be effective in the Veterans Affairs Health Care Network of Upstate New York (the Veterans Integrated Service Network; VISN 2; Funderburk et al., 2011; Funderburk et al., 2010), a doctor office collaborative care (DOCC) in eight pediatric care settings in Pennsylvania (Kolko et al., 2014; Yu et al., 2017), and the Management of Sadness and Anxiety in Cardiology (MOSAIC; Huffman et al., 2013; Huffman et al., 2014).

The PCBH model, on the other hand, is a fully integrated model and is the most widely used among the others. The goal of this model is to improve clinical services by incorporating behavioral health consultants to make services and treatment accessible for patients and PCP. The PCBH model and the role of BHCs help target primary mental and medical health related issues (Sandoval et al., 2018). For example, the model has been utilized during the opioid epidemic and the management of chronic pain by using evidenced-based approaches such as Acceptance and Commitment Therapy (Kanzler et al., 2017; Sandoval et al., 2018) and Screening, Brief Intervention, and Referral to Treatment (SBIRT). The model also allows for continued treatment in providing services to implement weight loss goals, diet, and nutrition psychoeducation, monitoring physical activity, and addressing barriers to change, as well as preventive measures for obesity seen in primary care. The PCBH model can also address problems with insomnia. For example, brief behavioral treatment for insomnia (BBTI) is a four-appointment treatment using the core components of stimulus control and sleep restriction. In addition to addressing most health-related concerns in primary care, the PCBH model has been implemented in various healthcare systems such as the Veterans Health Administration (VHA), Department of Defense (DoD), Federally Qualified Health Centers (FQHC), and private health care systems (Possemato et al., 2018).

A blended model combines elements of the PCBH and CoCM. HealthPoint is a network of twelve clinics in suburban King County near Seattle, WA has combined both PCBH and CoCM in its integrated care. The TEAMcare study (Huffman et al., 2018; Katon et al., 2012) implemented an in-person and phone-delivered “blended” collaborative care program focused on improvement of depression, physical health targets (e.g., blood pressure), and illness self-management that suggested greater improvements in HbA1c, depression symptoms, greater

quality of life, and satisfaction. The COMPASS initiative was an in-person and phone delivered "blended" collaborative care program that showed improvements depression, physical health targets (e.g., blood pressure) and their illness self-management for individuals with diabetes, CAD, or both. The COMPASS model outlined essential elements for a blended model and addressed some barriers to implementation.

The PCMH model is a care delivery model when treatment is coordinated through the patient's PCP to ensure adequate care is being received. PCMH is an approach to care for individual practice and has been around the longest. The PCMH model provides comprehensive care to meet healthcare needs, prevention and wellness, acute care, and chronic care through a team of care providers. The PCMH model is patient-centered and treats the individual holistically. The PCMH also coordinates care across all elements of the broader health care system, including specialty care, hospitals, home health care, and community services and supports. The coordination of care allows for individuals discharged from the hospital to transition to a medical home that will meet their needs. Furthermore, PCMH provides accessible services with shorter wait times, enhances in-person hours, around the clock telephone and electronic access to team members and other methods of communication.

All the primary care models reviewed include several common components that can be used in developing a similar model in the ED. For example, psychologists can be integrated into the ED and work alongside the providers in the same clinical settings. Psychologists can provide ad-hoc consultation for psychosocial issues, psychoeducation, trauma services, referral to specialty mental health services, or provide risk assessments for when psychiatrists are unavailable. The next chapter will propose a model of healthcare integration in the ED and identify barriers to implementation.

Chapter 4: Model of Integration

The ED is an integral part of the health care system that provides services to a diverse patient population for both medical and mental health related problems. However, the ED encounters a number of challenges including overcrowding, frequent and recurrent visits of high utilizers, and physical constraints that decrease the optimization of flow. Although there are some mental health interventions currently available in the ED including the role of psychiatrists, these professionals are not immediately available for consult, assessment, and intervention. Brief interventions and brief therapy techniques have been adopted in the ED to reduce problem behaviors, increase compliance with treatment, and enhance trust with the healthcare system. Nevertheless, there is no model to date in the United States that currently embed psychologists in the ED to address mental and medical health concerns.

This chapter will propose a model for the integration of psychology in Emergency Medicine. The proposed model will draw from the literature outlined in the previous chapter, including the integrated primary care model and the role of behavioral health consultants (BHCs). This chapter will identify the role of psychologists in the ED, setting, and evidenced-based services. Finally, this chapter will address the role of psychologists in critical debriefing, burnout, and needs assessments.

Proposed Model of Integration

Role of Psychologists

In the proposed model, the psychologist's role in the ED is integrated, collaborative, and present. Unlike psychiatrists, psychologists are not on call, but rather will work on an interdisciplinary team with the healthcare providers to consult and see a broader range of presenting problems. They will provide high volume services that are accessible and a routine

part of care. This model is similar the primary care model of integration and the role of Behavioral Health Consultants (BHCs; Robinson & Reiter, 2016). Previous models of integrated care have employed psychologists with various backgrounds (e.g., PhD, PsyD., Master's in Social Work, and Master's in Counseling) as BHCs. For the proposed model, psychologists that function as BHCs will primarily be psychologists that have acquired a PhD, PsyD, or who have a Master's in Clinical Psychology. This is an important distinction that indicate the level of education and expertise in clinical skills. Despite social work's presence in the ED, their role is to primarily aid in discharging planning or coordinate care to another facility. Similar to BHCs in primary care, psychologists will work independently in a healthcare setting as part of the ED team, and deliver a brief (15 to 30 minute), consultation-based services to patients and providers. These focused visits can address specific symptoms and enhance the functional impact by providing treatment to the most necessary concerns. Brief consultation based services have been found to reduce incidence and severity of behavioral health disturbances (Edward et al., 2018), reduce non-cardiac chest pain, help improve the overall physical and psychological functioning by providing accessible and appropriate treatment, and reducing the strain on the ED (Lessard et al., 2012). Furthermore, psychologists will provide evidence-based treatments for individuals, groups, and families with medical and mental health conditions. Depending on the referral needs, the psychologist may assess up to at least ten patients per day.

A core component of the psychologist's job will be to have the knowledge and skills to perform the services in the ED (Robinson & Reiter, 2016). This includes having a basic understanding psychotropic and other relevant medications, having excellent computer skills to work in the electronic health record, and ability to work with a diverse patient and staff population (Robinson & Reiter, 2016). Psychologists will also attend all provider and relevant

staff meetings, engage in program evaluation, assist with care coordination with outside resources, and design critical pathways for select populations (Robinson & Reiter, 2016). These duties are essential for BHCs in primary care and thus, will also be essential for psychologists working in the ED.

Robinson and Reiter (2016) outline the recruiting process for BHCs in primary care. This same recruiting process can be utilized to recruit and hire psychologists in the ED. Specifically, it is recommended the department hire applicants that demonstrate a strong interest in learning. It is also recommended recruiting individuals with the following personality traits: flexible, high energy level, team player, strong interest in health and fitness, extroverted, initiative and proactive, and an interest in larger systems issues in addition to individual patient care. Figure 2 outlines six domains of BHC core competencies that psychologists will utilize in the ED. The competency domains are clinical practice skills, practice management skills, consultation skills, documentation skills, team performance skills, and administrative skill. These qualities will promote growth and enhance service delivery to all patients by creating an interdisciplinary team that is based patient-centered, communicative, and flexible.

Figure 2

Behavioral Health Competency Tool

Behavioral Health Consultant Core Competency Tool	
Competency	**Rating** 1=low 5=high
Domain 1: Clinical Practice Skills	
1. Attends to entire clinic population.	
2. Participates in preventive care.	
3. Promotes small changes in a large number of patients.	
4. Participates in development and implementation of PCBH pathways.	
5. Describes services accurately to new patients.	
6. Understands the relationship of medical and psychological systems.	
7. Uses appropriate assessment tools.	
8. Clarifies referral problem with patient and PCP.	
9. Limits assessment focus to one referral problem.	
10. Conducts brief life context interview.	
11. Conducts effective functional analysis of target problem.	
12. Combines information from life context and functional analysis interviews to create effective interventions.	
13. Offers patient a choice among interventions.	
14. Shows knowledge of best practice guidelines, ESTs.	
15. Matches interventions to patient's strengths and deficits.	
16. Uses self-management, home-based practice.	
17. Provides patient with written or printed copy of plan.	
18. Assesses patient confidence in behavior change plan.	
19. Demonstrates basic knowledge of medications.	
20. Provides groups or classes for a variety of problems (sleep, stress, lifestyle).	
21. Provides group medical visits.	

Figure 5.1 Behavioral Health Consultant Core Competency Tool

Domain 2: Practice Management Skills	
22. Uses 30-minute visits efficiently.	
23. Stays on time when conducting consecutive appointments.	
24. Completes treatment episode when improvements noted and plan is clear.	
25. Uses continuity visits.	
26. Uses flexible patient contact strategies.	
27. Assists with high-utilizers of medical care.	
28. Appropriately refers patients to groups and classes in PC.	
29. Provides PC case management strategies.	
30. Coordinates care with ACO, CCO, school, hospital or other staff not co-located.	
31. Uses community resources.	
32. Appropriately triages to specialty MH and chemical dependency.	
33. Effectively markets BHC services.	
Domain 3: Consultation Skills	
34. Focuses on and responds to referral question.	
35. Conducts effective curbside consultations.	
36. Describes interventions in transparent language to encourage PC team support.	
37. Focuses on recommendations that reduce PCP/RN visits and workload.	
38. Tailors recommendations to work pace of PC.	
39. Provides presentations to PCPs and other team members.	
40. Researches questions about BH interventions.	
41. Assertively follows up with PCPs, when indicated.	
Domain 4: Documentation Skills	
42. Writes clear, concise chart notes.	
43. Gets chart notes and feedback to PCP/RN on same day basis.	
44. Chart notes are consistent with curbside conversation results.	

Figure 5.1 (continued)

Domain 5: Team Performance Skills	
45. Understands and operates comfortably within PC culture.	
46. Understands team roles.	
47. Leaves information as to location and time of return, when away from station.	
48. Readily provides unscheduled services when needed.	
49. Provides exam room posters that help patients and PCMH team members recognize and address BH issues.	
50. Available for on-demand consultations.	
Domain 6: Administrative Skills	
51. Understands relevant policies and procedures of the BHC service.	
52. Understands and applies risk management protocols.	
53. Routinely completes all billing activities.	
Notes:	

Use a rating scale of 1 (low) to 5 (high) to assess skill competence within each of the six domains. Place rating in the "Rating" column.

Note: A BHC may use this tool for self-assessment and career development planning and/or an expert trainer or clinical supervisor may use it as part of a training and evaluation process.

Figure 5.1 (continued)

Note: Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8

Setting

Many departments do not have a designated space for psychologists; however, sharing the same space makes for an ideal situation (Robinson & Reiter, 2016). The department will provide a workstation for psychologists that will allow for formal and informal collaboration,

consultation, learning, and ongoing communication. A shared collaborative space will increase the likelihood referrals are made to the psychologist. The presence of a psychologist in the same location can evoke interest and remind the providers of their role in the department. On the other hand, the psychologists can also communicate their thoughts, concerns, and conceptualization regarding patients' psychosocial functioning (Robinson & Reiter, 2016). These interactions with the ED provider team can help destigmatize and breakdown stereotypes and further enhance the provider's understanding of psychosocial factors that contribute to a patient's current medical condition.

Similarly, to other integrated primary care models, the psychologist will assess patients in their call room in the ED. Although in other integrated healthcare settings, a separate room for therapy and intervention is available, this will not be necessary for this location. Patients in the ED can range from acute problems including multiple vehicle accidents (MVA), traumatic brain injury, cardiac arrest, and stroke to comorbid mental health problems including suicidal ideation, crisis stabilization, and substance use disorder. Other problems treated in the ED are related to pain management, diabetes mismanagement, and medication non-adherence. This is not a comprehensive list of problems seen in the ED but alludes to the complexity of concerns treated in this setting. Typically, patients are required to remain in their rooms unless they are off the unit for testing, admitted to another unit, or are being discharged home. Psychologists may be inclined to change locations due to the challenging nature of the fast-paced and chaotic environment of the ED. However, Robinson and Reiter (2016) argue it may be more beneficial to integrate within the chaos, making them more accessible to providers and other healthcare members. Given the importance of accessibility, psychologists will also communicate their availability and services to the team through emails, meetings, and newsletters.

As alluded to earlier, psychologists also play an integral role of in breaking down stigma associated with mental health in the healthcare setting (Robinson & Reiter, 2016). The intention is to have individuals, providers and patients, alter the way in which mental health is currently viewed. Thus, it may be beneficial to also include brochures, community resources, and other pamphlets about programs in the area in the exam room.

Services

Psychologists in the ED will provide two types of services based on previous models: brief consultation interventions and pathway-related services (Robinson & Reiter, 2016). In an integrated primary care setting, brief interventions typically involve three overall goals: (a) preparing the individual for their PCP visit, (b) medication assistance, and (c) care augmentation. Thus, psychologists in the ED will work to (a) enrich the patients understanding of the biopsychosocial factors that contribute to the maintenance of their problems through education, (b) medication assistance and management, and (c) care augmentation.

These three components have a number of implications for the ED. Treatment in the ED is often the first-time patients are provided information about their health and factors associated with it. The ED is a source for patients to receive education on the biological, psychological, and social factors that contribute to their problem and disease maintenance. Specifically, psychologists can provide targeted information specific to the patients presenting problem while providing them with the time to answer questions they may have.

Psychologists will also play an important role in medication adherence to related issues. A majority of patients visiting the ED are related to medication mismanagement (Heaton et al., 2013) and accounts for approximately 30% to 60% of hospitalizations (Heaton et al., 2013). Psychologists in the ED will provide additional education regarding the consequences of

medication non-adherence and work to engage patients in management strategies. They can assess for the patient's understanding of short-term and long-term consequences and provide psychoeducation about medication mismanagement. The goal of a PCBH, and similarly to the proposed ED model, is to lessen the dependency on medication treatment and find alternative ways of managing their symptoms. These interventions can have long terms effects on the patient quality of health and reducing costs related to excess healthcare utilization for non-adherence related issues. Psychologists are required to take a formal class during their academic career in psychopharmacology. The psychologist in the ED can help ensure if, and when, a medication is being used appropriately. In addition, the psychologist can provide broad recommendations for groups of psychotropic medications that would be most beneficial for the patient, depending on their needs. Table 5 identifies the common psychotropic medications administered for different illnesses including depression, anxiety, bipolar disorder, psychosis, and ADHD. However, psychologists are not recommended to manage medication, but rather provide their clinical insight and judgement into what would be most beneficial for the patient. The psychologist cannot prescribe or change medications. Rather, they will consult with the psychiatrist or attending provider to make the recommended changes.

Table 5

Classes of Psychotropic Medication

Table 4.1 Classes of psychotropic medication

Class	Use	Examples of medications
Antidepressants	Anxiety and unipolar depression	Prozac, Wellbutrin, Effexor, Zoloft, Celexa, Paxil
Mood stabilizers	Bipolar disorder	Lamictal, Depakote, lithium
Antipsychotics	Psychosis	Risperdal, Seroquel, Zyprexa, Abilify
Antianxiety agents	Immediate anxiety reduction	Buspar, Vistaril, hydroxyzine, and benzodiazepines (e.g., Klonopin, Ativan)
Stimulants	ADHD	Ritalin, Adderall, Concerta

Note: Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8

Finally, care augmentation emphasizes the patient's wellness and illness together in order to facilitate their treatment engagement and management (Gill, 2017). In an integrated primary care setting, care augmentation ensures a behavioral intervention is provided and is supplemented with treatment that is provided by the PCP (Robinson & Reiter, 2016). Similarly, this can be adapted to the ED, where psychologists also provide treatment to help augment and manage patient concerns at home. Care augmentation promotes the patients continued engagement in self-care after discharge (Robinson & Reiter, 2016). This provides an opportunity for patients to take control of their illness (Robinson & Reiter, 2016). It also offers patients the tools and resources to navigate the different parts of the healthcare system (Robinson & Reiter, 2016). This may include involving the primary support partner to help with medication management or practices skills learned in treatment. Another goal of care augmentation is to provide psychoeducation about the benefits of the proposed interventions (e.g., relaxation technique, psychoeducation, behavior change plan, outpatient resources) and using the clinical

skills to reduce resistance. This is to ensure patients are being provided with resources that help foster healthy behaviors and to ultimately reduce healthcare utilization if patients are aware of non-pharmacological approaches. Interventions may take up to 30 to 45 minutes for individuals with severe problems such as accidents, traumatic brain injury, trauma (e.g., physical, sexual, and emotional), substance use, psychiatric illness, and chronic medical conditions. Care augmentation is a patient-centered approach that involves collaboratively working with the patient to develop a plan and promote engagement in their care following discharge (Robinson & Reiter, 2016). It relies on allied health providers to advocate for patient adherence. Technology services such as the use of phones and online tools can assist in care augmentation following discharge. For example, alarm clocks can be used for medication management or event calendars to manage appointments. Other resources include self-observation records, medical literacy, tools for crisis alerts, nutrition information, and other mental health assessments and exercises (Robinson & Reiter, 2016).

Secondly, pathway services also utilize brief interventions but primarily focus on patients who share similar challenges or problems. Shared challenges might focus on prevention (e.g., families wishing to live more healthy lifestyles) or more focused on disease management (e.g., patients with multiple chronic conditions). Pathways are distinct compared to clinical guidelines. They are usually developed at the clinical level and are the result of a targeted selection of evidenced-based interventions by providers that are feasible and cost-effective.

Thirdly and unique to this model, the psychologist will provide risk assessments and crisis intervention. Specifically, psychologists in the ED will have the clinical skills and knowledge to assess for risk (e.g., suicidal ideation, homicidal ideation, safety assessment), help reduce behavioral disturbances, and provide additional insight and clinical judgment to the crisis

situation. Rather than waiting for the psychiatrist, the psychologist can also provide immediate recommendations for the crisis situation. They will consult and collaborate the with the on-call psychiatrist if necessary. Not only does this have implications on wait times, these concerns are also being addressed primarily from a patient-centered approach. Patients are more amenable to listening and engaging in treatment when their concerns are being heard.

During brief consultative interventions, the psychologist receives a referral from the provider, initiate a quick screening, and will see the patient same day. Given the high volume of patients, psychologists will prioritize the needs of the ED based on level of concern that presents psychologically. This is accomplished through a warm handoff, where physicians directly introduces the patient to the psychologist in the room, or through verbal communication. Unlike integrated primary care settings, appointments are often not scheduled in advance and will most often occur spontaneously through the day as the need arises. Therefore, it is important for the psychologists to continue communication regarding their availability to the providers. Depending on the status and acute needs of the patient, the psychologists will conduct a chart review and complete a brief intake/assessment with the patient that will take approximately 10 to 15 minutes. During this time, the psychologist will work to establish a therapeutic alliance quickly and obtain credibility and value in discussing their presenting problem. After the intake, the psychologist will determine the need for services and provide appropriate recommendations by consulting with the referring provider.

Given that a large proportion of individuals that utilize the ED, it is important to outline the need for multiple psychologists on staff per shift to disseminate the responsibilities and reduce the burden among the staff. Furthermore, the psychologists will abide by the American Psychological Association's (APA) principles and standards by providing culturally competent

care that considers the role of multicultural factors in individual patients presenting illness. Psychologists will remain an important asset to educating the providers and the healthcare team regarding issues with disease and diversity.

Evidenced Based-Interventions

The medical model views health as a state of freedom from disease (Robinson & Reiter, 2016). It encourages providers to assess symptoms and match them to a particular disease and provide interventions to help reduce symptoms specific to the illness. However, this model is a limitation since it fails to take into consideration the role of behavior problems in chronic health conditions and mental health. The benefit of psychotherapy is well known (Strosahl et al., 2012) and primarily seeks emotional reassurance and problem-solving. Brief encounters have been found to be beneficial for the client, including the client's PTSD, irritable bowel syndrome (IBS), binge eating disorders, and other mental health concerns (Strosahl et al., 2012). Thus, a different definition of health is needed as a different model for health care is needed in the ED.

The framework of BHC will be one that is similar to the PCBH model (Robinson & Reiter, 2016). According to Last (1988), the PCBH mission is "a state characterized by anatomical, physiological, and psychological integrity; ability to perform personally valued family, work, and community roles; ability to deal with physical, biological, psychological and social stress; a feeling of well-being; and freedom from the risk of disease and untimely death." This definition emphasizes the contextual factors and the patient's ability to change.

Furthermore, the psychologist will have a fundamental understanding of the role of suffering and human vitality in a patient's overall presentation (Robinson & Reiter, 2016). Although suffering may be part of the human condition, difficulty with excessive suffering can contribute to other problems. Thus, the patients can create meaningful values and connections

that help them accept the emotional discomfort and pain associated with their illness. The goal is to help patients live a more satisfying life by teaching them skills and helping them discover internal strengths that will help them overcome future obstacles. There are a number of models and approaches that can be utilized with patients regardless of their diagnosis.

Screening

Screening is a process that measures and detects signs and symptoms of a disorder before it has progressed (Talen et al., 2014). Screening measures are being implemented in integrated healthcare settings for preventative measures. The U.S. Preventative Services Task Force (Talen et al., 2014) which is now under the Agency of Healthcare Research, has provided guidelines for screening measures. Psychologists will implement and utilize screening to assess for mental health conditions and identify the area where behavioral health interventions may be required (Talen et al., 2014). Utilizing screening tools in everyday clinical practice can provide information for quality improvement and best practices (Iragorri & Spackman, 2018).

Talen and colleagues outline a comprehensive model for screening that can be embedded in the ED integrated model, as modeled in Figure 3. This includes identifying members of the team involved in the screening process, identifying conditions or situations being screened, method of screening, and level of practice reliability and standardization (Talen et al., 2014). A variety of screening tools have been utilized and shown to be effective in an integrated care setting, as shown in Figure 4. These include but are not limited to the Patient Health Questionnaire-2 (PHQ-2), Generalized Anxiety Disorder-2 (GAD-2), Post Traumatic Stress Disorder (PTSD), Women Abuse Screening Tool (WAAST-SF), and Partner Violence Screen (PVS). Despite the screening tools that are available to administer on-demand, psychologists will

play an ongoing role in the identification and development of a more efficient screening process for behaviors of interest.

Figure 3

A Comprehensive Model for Screening that can be Embedded in the ED Integrated Model

Defining clauses (In common for all integrated care)	Parameters (What might vary from practice to practice)	Questions, issues, tasks for implementing screening	Examples
HOW: A team	1. Team composition	Which team members are involved in screening? (e.g. PCP, nursing, medical assistant, care coordinator, behavioral health professional) • What are their roles/responsibilities in the screening process? • What is the necessary training for each in screening process?	PCP, medical assistant and behavioral health provider
	2. Level of collaboration or integration	How and how closely are team members to communicate about screening results and follow-up? • Coordinated: basic collaboration at a distance • Co-located: basic collaboration on-site • Integrated: shared space, systems, care plans, culture	PCP, MA and Behavioral Health provider huddle 3 times/week routinely to identify appropriate screening tools for adult diabetic patients scheduled for clinic.
With	3.		

Fig. 12.1 Questions, tasks, and examples for embedding screening effectively in practice (See Chaps. 2 and 11)

a shared population and mission	B. Life stage	What age group population is to be screened? Pre-school, School-age, Adolescents, Adults, Seniors, Life-limiting illness.	Adult diabetic patients who have established care in PCMH and are scheduled for follow-up visit
	C. People with identified conditions or situations	What are you screening for? • Mental health or substance abuse conditions. • Behavioral / emotional factors interfering with chronic illness care, e.g., diabetes, cardiovascular, asthma. • Behavioral health risk to success of planned or routine situations, e.g., pregnancy, surgical procedures, preventive care, transitions of care • Behavioral / emotional /social factors in chronic pain, recovery from illness or injury, over-utilization of services, unhappiness or non-engagement with care or providers, social factors interfering with care. Some combination of these?	Screening for depression and anxiety with adult diabetic patients
	4. Method for screening patient population	What are the best screening tools to identify your target population? • Specific tool for a patient population? Universal screening tool? • System indicators, e.g. visit data, claims data,	PHQ-2 and GAD-2 with new and established patients with DM II diagnosis

Fig. 12.1 (continued)

		registries? Provider or patient? • Some combination of these?	
Using a systematic clinical system	5. Program scale or maturity	What is the expected scope or scale for screening process at this point? • Pilot—a circumscribed test or demonstration in one or two places • Project—a larger scale, but still limited program within certain bounds • Mainstream—full-scale implementation across entire practice or organization	Project: Consistent project with a designated team—PCP, MA, BH, and a targeted panel of diabetic patients seen on consistent days (e.g. Mon, Wed, Fri) but with limited number of days/week
	6. Level of patient engagement	How are patients involved in the screening process and follow-up care? • A background function they may or may not be aware of or data entry • A prominent feature of the patient-clinician interaction? Patient self-scoring tools • Explicit shared decision-making. or mostly provider decision-making	Diabetic patients with positive screening meet with Behavioral Health provider (15-20 minutes) for assessment and follow-up shared care plan Options for follow-up counseling, group visits, and/or medication discussed.
	7. Level of practice reliability / standardization	How consistent, reliable, and standardized are screening processes? • Informal—individual clinician identification—variability across clinicians • Some processes consistent or standardized	Schedule same continuity team (e.g. PCP, MA, BH) on the consistent clinic days (e.g. Mon, Wed, Fri, AM) PCP tags diabetic adults for MA to handout PHQ-2 and GAD-2 prior to medical visit. BH scores, documents/reports results to PCP and Patient. BH follows up with positive

Fig. 12.1 (continued)

		• Most or all screening processes consistent, reliable, standard	results.
SUPPORTED BY: Office practice and financial system	8. Business model / billing system	How is screening made a sustainable part of business model? • Billing codes for screening. Specified part of bundled services payments. • Expected as normal part of clinic processes paid in usual manner. • Some combination of these.	Billing for screening: 96110 with .59 modifier A level 3 office visit in which three developmental screening instruments were administered, scored and interpreted: 99213: Evaluation and Management 96110: Screening Tool: ASQ 96110-59: MCHAT Bill Health and Behavior codes (CPT 95801) when behavioral health provider meets with patients with a positive screening and assesses patient more fully.
	9. Practice-based data collection, analysis, and actual use	What processes are in place for routinely collecting, analyzing, and using screening data to improve care, quality, and effectiveness? • How is practice data used to guide changes in team-based care and clinical processes? • For individual patients, entire practice panel, community trends	Team of PCP, MA, BH meets monthly to review patients with positive screening results. Review follow-up with panel of depressed, diabetic patients. Review and track follow-up screening results for panel of patients.
With ongoing QI and effectiveness measurement		• QI feedback to teams on quality measures.	PDSA cycles implemented (Plan, Do, Study, Act) using PHQ9

Fig. 12.1 (continued)

Note: Talen, M. R., Baumer, J. G., & Mann, M. M. (2014). Screening measures in integrated behavioral health and primary care settings (Eds.), *Integrated behavioral health in primary care: Evaluating the evidence, identifying the essentials* (pp. 239-237). Springer Science and Business Media.

Figure 4

Brief Screening Tools

Table 12.3 Brief screening tools

HEADSS:	H: Home and family
	E: Education
	A: Activities
	D: Drugs
	S: Sexual activity S: suicide/support
CRAFFT	C—Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs?
	R—Do you ever use alcohol or drugs to RELAX, feel better about you, or fit in?
	A—Do you ever use alcohol/drugs while you are by yourself, ALONE?
	F—Do you ever FORGET things you did while using alcohol or drugs?
	F—Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?
	T—Have you gotten into TROUBLE while you were using alcohol or drugs?
AUDIT-C	1. How often did you have a drink containing alcohol in the past year?
	2. How many drinks did you have on typical day when you were drinking in the past year?
	3. How often did you have five or more drinks on one occasion in the past year?
CAGE	C: Have you ever felt the need to Cut down on drinking?
	A: Have you ever felt Annoyed by criticism of you drinking?
	G: Have you ever had Guilty feelings about your drinking?
	E: Do you ever take a morning Eye opener?
Patient Health Questionaire-2: PHQ-2	In the last 2 weeks,
	1. Have you often been bothered by feeling down, depressed or hopeless?
	2. Have you often been bothered by little interest or pleasure in doing things?
Generalized Anxiety Disorder-2: GAD-2	Over the last 2 weeks were you bothered by,
	1. Feeling nervous, anxious, or on edge and,
	2. Not being able to stop or control worrying?
Post Traumatic Stress Disorder: PTSD	In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, in the past month, you…
	1. Have had nightmares about it or thought about it when you did not want to?
	2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
	3. Were constantly on guard, watchful, or easily startled?
	4. Felt numb or detached from others, activities, or your surroundings?

(continued)

Note: Talen, M. R., Baumer, J. G., & Mann, M. M. (2014). Screening measures in integrated behavioral health and primary care settings (Eds.), *Integrated behavioral health in primary care: Evaluating the evidence, identifying the essentials* (pp. 239-237). Springer Science and Business Media.

Stress-Diathesis Model

The stress-diathesis model is fundamental in all psychological interventions. The model provides a framework of the dynamic relationship between the individual and the environment. This involves responding to internal and external stress using buffering or coping mechanisms (Robinson & Reiter, 2016). Problems arise due to the interaction of three realms: (a) stressful response of varying magnitude that occurred recently, (b) the individual's predisposition and reactivity to the stress (e.g., genetic vulnerabilities, resources, and previously learned responses), and (c) the individual coping skills (e.g., stress management, stress management skills, mindfulness, etc.). Behaviors arise when the individual is unable to cope or is not equipped to handle the stress given their current set of resources.

Psychologists can help providers enrich their understanding and learn new skills in identifying, conceptualizing, and treating behavioral problems in targeted interventions specific to the behavior. Although informal case presentations may be difficult in ED settings, constant communication and discussion of the diathesis stress model are encouraged. Handouts and practice workshops for relaxation training, problem-solving, scheduling of pleasure activities, and person provided assertion skills will be utilized in staff meetings or during lunch. An initiative for the adoption of psychosocial interventions among physicians is being implemented by the Australian government (Robinson & Reiter, 2016). The 2002 Medicare Benefits Scheduled (MBS) for Australia included cases for PCPs to use these services (Commonwealth Department of Health and Ageing, 2002; Robinson & Reiter, 2016). Focused interventions included: psychoeducation, motivational interviewing, behavioral therapy, cognitive interventions, relaxation strategies (including progressive muscle relaxation and controlled breathing), skills training (including problem-solving, anger management, social skills training,

communication training, and parent management training), and interpersonal therapy. These focus groups can encourage ED providers to use alternative methods for patient care that is more aligned with the biopsychosocial framework of integrated care.

Cognitive Behavioral Therapy and Interventions

Cognitive behavior therapy (CBT) has been extensively studied in integrated healthcare settings for chronic pain (Allen et al., 2012), diabetes (Safren et al., 2014), insomnia (Bélanger et al., 2012), obesity (Unick et al., 2013), smoking cessation (Stanton & Grimshaw, 2013), and adherence to treatment regimens (Demonceau et al., 2013; Newcomb et al., 2014). There are a few manualized treatments of CBT for different health conditions. It is primarily used in healthcare to target both psychological symptoms (e.g., depression and anxiety), focus on improving overall functioning and quality of life, and addressing specific cognitive and behavioral components necessary in managing their conditions (Magidson & Weisberg, 2014).

For example, CBT for chronic pain (CBT-CP; Beehler et al., 2019) utilizes a number of strategies such as psychoeducation, behavioral activation, cognitive restructuring, relaxation training, and relapse prevention. Many of the individuals presenting to the ED are managing complex health conditions comorbid with pain. Therefore, specific pain interventions, such as activity pacing or time-based pacing, can help manage a flare-up by incorporating breaks into activities to prevent the over exacerbation of pain. For example, psychologists will provide education on the chronic pain cycle and help the patient link the consequences of overexertion to stress, anxiety, decreased efficiency, self-esteem, and avoidance (Beehler et al., 2019). The psychologist will highlight the importance of engaging in moderate and safe levels of activity on a regular basis to prevent the cycle of remaining sedentary. Finally, the psychologist will engage

in goal setting and explore with the patient how they will apply it to their own lives following discharge. Patients can commit to an activity and include it in their schedule.

Other techniques, including relaxation training, can be used by psychologists in the ED working with patients with pain-related issues. The psychologist will briefly educate the patient of the body's reaction to the fight or flight response and explain how pain persists even after the stressful situation has subsided. The psychologist will then introduce the different kinds of relaxation training (e.g., deep breathing, progressive muscle relaxation, and guided imagery) as techniques to manage the stress associated with the pain. Psychologists will emphasize the use of relaxation training as a mechanism to reduce the intensity of the pain, rather than to completely rid of the pain. Based on the interest of the patient, the psychologist will introduce and practice one technique with them. The typical CBT-CP format is designed to be intensive of 12, 60-minute sessions. Given the time-limited environment of the ED, the psychologist will utilize specific interventions mentioned above that are believed to provide the patients the most benefit depending on their condition. Many of the listed techniques utilized in CBT for chronic pain can be adapted for other chronic health and mental health conditions. Cognitive-behavioral interventions and mindfulness-based interventions are thought to be highly cost-effective (Herman et al., 2017), and an alternative approach to treatment for pain. These alternative pain-based interventions also have implications on healthcare costs related to medication management for pain.

Additionally, many individuals presenting to the ED also experience sleep difficulties as a result of their medical condition. Sleep-related issues are associated with increased risk for psychiatric illness, including anxiety, depression, obesity, weight gain, obstructive sleep apnea-hypopnea syndrome, and alcoholism (Rosekind & Gregory, 2010). Sleep problems increase the

risk for medical problems such as chronic pain, high blood pressure, gastrointestinal problems, urinary problems, osteoarthritis, hip impairment, fibromyalgia, peptic ulcer disease, and breathing problems (Rosekind & Gregory, 2010). Not only are these secondary problems treated in the ED, sleep-related problems are associated with high economic costs. Patients with insomnia have 60% more healthcare costs (Rosekind & Gregory, 2010; Ozminkowski et al., 2007), have more emergency room visits, laboratory tests, prescription drug use, and increased loss of productivity in society (Hatoum et al., 1998; Rosekind & Gregory, 2010).

Initially, psychologists will briefly assess for sleep-related difficulties and insomnia by asking about the history of their sleep problems, pre-sleep behaviors, sleep environment, in-bed behaviors, the impact of their sleep, and if they experience other sleep-related concerns (e.g., sleep apnea, narcolepsy, periodic limb movement; restless leg syndrome; Goodie & Hunter, 2014). Psychologists will then treat sleep difficulties with sleep hygiene education as a first-line intervention (Irish et al., 2015). Sleep hygiene emphasizes adopting best practices of good sleep habits, such as going to bed and waking up at the same time, making sure the bedroom is dark, quiet, and at a good temperature, removing electronic devices, avoiding large meals, caffeine, or naps before sleep, and engaging in physical activity during the day (Centers for Disease Control and Prevention [CDC], 2016). Psychologists can teach and practice a relaxation training technique (e.g., progressive muscle relaxation, deep breathing, guided imagery) with the patient to help to reduce tension and intrusive thoughts (Morgenthaler et al., 2006; Morin, 2013; Talen et al., 2014).

Stimulus control therapy is another strategy that can be used to treat insomnia. The goal of stimulus control is to associate the bed/bedroom with sleep. In the context of the ED, the psychologists will play a vital role in reinforcing the use of the bed for only sleep and intercourse

(Goodie & Hunter, 2014; Morin, 2013). Further, psychologists will encourage patients to get up after 20 minutes and engage in an activity until they are sleepy. Sleep restriction is another strategy used to help patients maximize their sleep efficiency and reducing anticipatory anxiety of sleep by curbing the amount of time in bed to estimate the time spent sleeping in (Goodie & Hunter, 2014; Morin, 2013). The psychologist will elicit willingness to wake up at a consistent time each morning, including non-workdays. These cognitive-behavioral approaches are an alternative intervention to help reduce the risk and alleviate sleep-related difficulties and the economic burden of this problem.

Behavioral activation (BA) helps patients understand the connection between thoughts and behaviors; specifically, it is well researched and is a technique to help patients understand how negative emotions can impact behaviors and result in a "downward spiral" that contributed to feeling even worse. Thus, BA emphasizes the importance of continued engagement in pleasurable and enjoyable activities. BA utilizes values assessment and activity scheduling to increase patient engagement in enjoyable and meaningful experiences (Funderburk et al., 2019). BA group for the treatment for substance use increased the likelihood of abstinence and reduced adverse consequences from substance use up to 12 months post-treatment (Daughters et al., 2018). It has also demonstrated efficacy in medically ill, difficult to treat populations, psychiatric issues, and substance use comorbidities (Daughters et al., 2008; Funderburk et al., 2019). Brief BA adapted for primary care suggested high patient satisfaction, patient acceptability, treatment fidelity, and treatment response (Funderburk et al., 2019). Therefore, this intervention can be particularly useful in the ED where patients are experiencing difficulty with mood and engagement in activities. For instance, a patient reported having difficulty managing their diabetes due to increased stress at work. This has resulted in increased irritability, difficulty

remembering important information, and low motivation for initiation. In this situation, the ED psychologist can screen and assess mood-related disorders such as depression and anxiety. Most importantly, they will engage in a collaborative conversation identifying the barriers to adherence and problem-solving ways to reduce the stress that is appropriate most for them.

Cognitive Restructuring is a CBT technique used to address negative thoughts or faulty thinking (Beck, 2011; Larsson et al., 2016). This intervention is based on the premise that by changing the way an individual thinks, it will also change their emotions and behaviors. Specifically, patients can distance themselves from their thoughts and begin the process of viewing them as events rather than who they are. Common cognitive restructuring techniques include challenging the truthfulness of thought by looking at the evidence against the thought, identifying thinking errors, and identifying and developing more realistic alternative thoughts to the experience (Arch & Craske, 2008; Larsson et al., 2016).

For example, cardiovascular disease is a common problem seen in the ED and is often associated with underlying anxiety disorders such as Generalized Panic Disorder (GAD), Panic Disorder, and PTSD (Celano, Daunis et al., 2016). Symptoms of cardiovascular disease often overlap with symptoms of heart disease, including chest pains and dyspnea (e.g., difficulty breathing). If a patient presents to the ED for non-cardiac chest pain, the psychologist can provide psychoeducation of the relationship between anxiety and cardiovascular health. Then the psychologist will balance empathizing with the patient regarding the real fear of having another episode and skillfully challenge the patient's negative thoughts about the fear.

Motivational Interviewing

Motivational Interviewing (MI) is a "collaborative conversation style for strengthening a person's own motivation and commitment to change" (Miller & Rollnick, 2013, p. 12). MI takes

a patient-centered approach that also acknowledges the individual ambivalence about behavior change. In MI, the therapeutic alliance is the framework rather than the provider-patient dynamic (Miller & Rollnick, 2013). MI encompasses various techniques that include reflective listening, open-ended questioning, and summarizing the positive and negative of a proposed behavioral change (Miller & Rollnick, 2013; Robinson & Reiter, 2016). The primary goal is to elicit change status from the patient. The psychologist and the patient will start by talking about why they would benefit from behavior change. Then the psychologist will answer questions in a nonjudgment and curious manner to help the patient examine the consequences of the problem behavior. MI is about rolling with the resistance, and thus, if the patient becomes resistance, the provider may see this as how they are having trouble relating to the patient and then shift tactics. A meta-analysis indicated that MI appears to be useful in clinical settings, and as few as one session may be effective in enhancing readiness to change and action directed towards reducing health behavior change (VanBuskirk & Wetherell, 2014). Therefore, MI can be useful in the ED.

For example, a common problem seen in the ED is substance abuse (Center for Substance Abuse Treatment, 1999). When working with the patient, the psychologist can utilize MI skills but first expressing empathy through reflective listening and attenuating to the patient's statements (Miller & Rollnick, 1991). Empathy creates a safe and collaborative environment for the patient to examine their problems and identify personal reasons for change (Center for Substance Abuse Treatment, 1999; Miller & Rollnick, 1991). Then, the psychologist will work towards developing discrepancy with the patient by enhancing their awareness of the consequences of their behaviors. The client will towards recognizing how their substance abuse undermines their personal goals of achieving good health, marital happiness, or financial success through continued open-ended questions and reflective statements. The psychologist will

highlight the patient's concerns and discordance with their personal values. The client will eventually articulate their concerns and commitment to change through this process.

At this point, the psychologist can use the readiness ruler to assess the stage of change. This is another MI tool to help elicit change talk within the client, examine their ambivalence about change, noticing the small incremental changes, and enhance their confidence in taking action. On a 0 to 10 scale, the psychologist will ask, "how motivated are you to change your drinking behaviors?" For instance, if the patient says 7, then the psychologist will ask, "why are you a 7 and not a [lower number]?" and "what would it take for you to get from a 7 to a [higher number]?" The readiness ruler is used to assess motivation, importance, and confidence.

The psychologist will briefly summarize the essence of the session towards the end. The summary links the patient's positive change talk and negative feelings about the substance use to facilitate an understanding of the initial ambivalence. During the session, the psychologist will also provide affirmation that function to make the patient feel understood and to promote self-efficacy. It provides another mechanism for patients to feel empowered to make long-lasting changes. Some affirming statements include, "I appreciate how hard it must have been for you to decide to come here. You took a big step," or "I think it's great that you want to something about this problem." Psychologists can work towards identifying the four types of motivational statements, including cognitive recognition of the problem (e.g., "I guess this is more serious than I thought"), affective expression of concern about the perceived problem (e.g., "I'm really worried about what is happening to me…"), direct or indirect implicit in changing (e.g., "I've got to do something about this"), and optimism (e.g., "I know that if I try this, I can really do it").

Screening, Brief Intervention, and Referral to Treatment (SBIRT)

Screening, Brief Intervention, and Referral to Treatment (SBIRT) utilize the importance of screening, intervention, and treatment strategies to target substance use disorders and at-risk substance use (Babor et al., 2007; Talen et al., 2014). Approximately 40% to 50% of ED visits are related to alcohol (Agerwala & McCance-Katz, 2012; Nilsen et al., 2008). Some EDs have implemented screening tools for alcohol misuse and alcohol use disorder such as the Alcohol Use Disorder Identification Test (AUDIT-C; Bush et al., 1998; Hawk & D'Onofrio, 2018), the cut-down, annoyed, guilty, eye-opener questionnaire (CAGE; Ewing, 1984; Hawk & D'Onofrio, 2018), and the NIAAA. For substance use disorder, the Drug Abuse Screening Test (DAST; Hawk & D'Onofrio, 2018; Skinner, 1982) and the NIDA Quick Screen Single Drug use question: "how many times in the past year have you used an illegal drug or used prescription medication for nonmedical reasons" (Hawk & D'Onofrio, 2018; Smith et al., 2010) have been incorporated into the screening process.

Screening and brief intervention (SBI) has been found to reduce ED utilization (Agerwala & McCance-Katz, 2012; Bray et al., 2011). Given the psychologist's role in screening and their understanding of the DSM-5 diagnostic criteria for substance use disorder (Talen et al., 2014), they will routinely assess for at-risk drinking by utilizing one of the measures above. Psychologists will also utilize MI or a brief negotiated interview (BNI), which integrates current MI approaches and brief advice when there are perceived time constraints experienced by providers. Both screening and BNI take approximately 10 minutes to complete. Brief intervention as a stand-alone treatment is associated with fewer drinks per week and alcohol use below the National Institutes on Alcohol Abuse and Alcoholism (National Institute on Alcohol Abuse and Alcoholism [NIAAA], n.d.). Thus, directly benefiting the patient and reducing

alcohol consumption, alcohol-associated comorbidity, mortality, reduced ED visits, and healthcare costs (Academic ED SBIRT Research Collaborative, 2007; Agerwala & McCance-Katz, 2012). In addition, psychologists may engage in ongoing program development, training, and leading workshops for other healthcare providers and non-essential staff to be involved in the screening process.

Acceptance and Commitment Therapy

Acceptance and Commitment Therapy (ACT; Biglan, 1995; Biglan & Hayes, 1996, 2004; Hayes et al., 1999) is a third-wave approach that is useful in both primary care and in individuals with an MH problem. ACT is for all individuals of all ages and with many physical conditions like chronic pain, cancer, chronic diseases, weight management, and others. The focus of ACT is to help patients take an active approach to increase psychological flexibility and making gains towards living a meaningful life. This approach utilizes mindfulness, acceptance, community, and behavior change processes in human suffering. ACT strategies stages include (Hayes, 2004): (a) cognitive fusion (i.e., being unable to separate one's sense of self from one's emotions, thoughts, and feelings), (b) experiential avoidance (i.e., using any of a host of cognitive, emotional, and behavioral strategies to avoid the direct experience of unpleasant feelings, thoughts, and sensations), and (c) psychological flexibility (i.e., the ability to choose a direction and behave in the world in ways that are consistent with that direction despite experiencing unwanted thoughts, feelings, and behaviors that are contrary to the direction). See Figure 5 for a schematic of the core processes of psychological flexibility or the ACT hexaflex.

Figure 5

The Core Processes of Psychological Flexibility

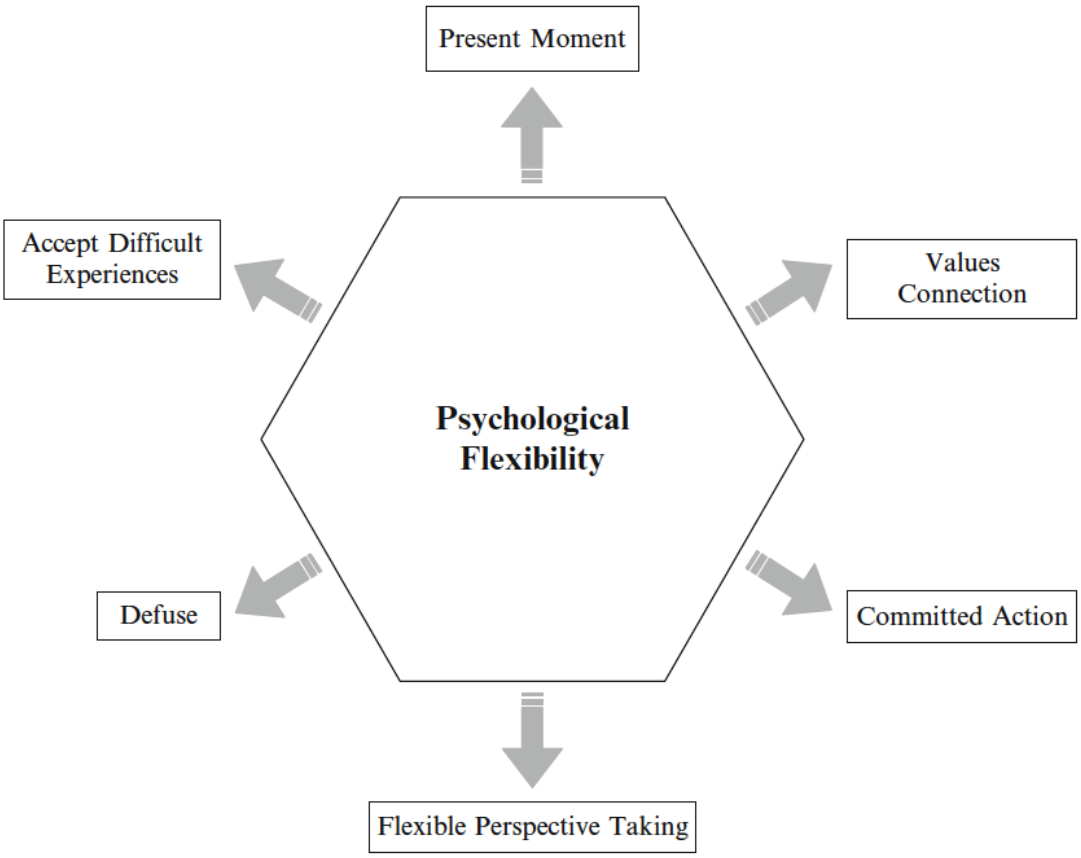


Figure 7.1 Core processes of psychological flexibility ("points")

Note: Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8

The goal of ACT is to help the patient acquire psychological flexibility by strengthening their core processes. There are six domains: (a) being present, (b) connecting with values, c) engaging in committed action, (d) flexible perspective taking, (e) diffusion, and (f) acceptance. Modern conceptualization of ACT integrated the six domains into three pillars of flexibility. The three pillars of psychological are represented in Figure 6. From an ACT perspective, verbal functions are amplified by the patient's cultural context, and thus, compose psychological

flexibility. The patient's culture may suggest that emotional pain is unacceptable, and crying is a sign of weakness. When used in combination with the patient's cultural context, they may exhibit increasing difficulties with unpleasant feelings and emotions. The patient has then fused with the verbal functioning. Therefore, learning diffusion strategies can help the patient manage negative thoughts (Larsson et al., 2016) and alleviate some of the tension and also help them gain a better sense of self – one that is distinct from suffering.

Figure 6

The Pillars of Psychological Flexibility and Suggested Therapeutic Actions

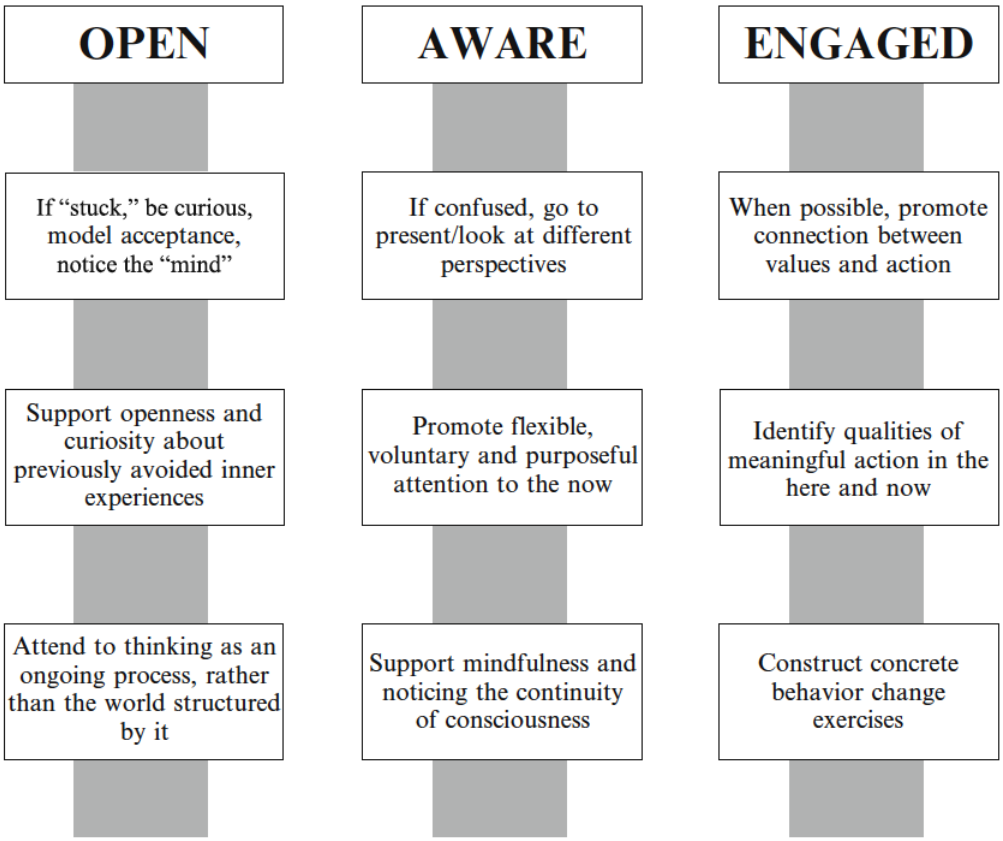


Figure 7.2 Pillars of psychological flexibility and suggested therapeutic actions

Note: Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8

ACT also emphasizes the role of experiential avoidance in all humans. Experimental avoidance is the tendency to change experiences despite the psychological or behavioral harm it may cause. Therefore, the psychologist plays an important role in understanding how the negative, private experiences, unwanted emotions, such as depression and anxiety, thoughts (e.g., "I'm not good enough, and I'm all alone"), and bodily sensations play a role in the patient's maintenance of the problem. The patient's psychological inflexibility experience distress when they experience inconsistencies with what their mind tells them and ignore lessons inherent in the experience of the negative emotion, thoughts, and feelings. Thus, cognitive fusion and experiential avoidance for health care are substantial. Many of these processes drive unnecessary care and increase provider stress.

ACT acknowledges other approaches to foster contextual change. It is particularly important to shift the mindset from form to function to increase psychological flexibility. For example, ACT can be used in diabetic patients to increase their tolerance for uncertainty and anxiety around disease and death by working with the patient to identify values and align behavioral actions with them. Specifically, a psychologist who is accepting may be more able to tolerate the patient's discomfort associated with the chronic pain and their request for pharmacological interventions to help manage the pain (Robinson & Reiter, 2016).

Psychologists in the ED can use a single session of ACT to target health behavior change (Barreto & Gaynor, 2018). In the one-session ACT protocol developed by Barreto and Gaynor (2018), the encounter begins with a focused clinical interview that takes approximately 10 minutes to complete. The questions asked during the focused interview, as outlined in Table 6, inquire about current behaviors the patient is eager to change and their thoughts, feelings, and actions around the behavior change. The case formulation and goals for change are derived from

both the focused interview and the completion of the health-related ACT matrix (adapted from the work of Polk & Schoendroff, 2014; Barreto & Gaynor, 2018).

Table 6

Outline of the Single-Session ACT Protocol

Table 2
Outline of the Single-Session ACT Protocol

Focused clinical interview (5–10 mins)
You selected _____ as the top area to consider for making health-related behavior changes.
Tell me about why you chose _____.
Tell me about your current _____.
What have you tried in the past? How has it worked (positive and negative aspects)?
What kind of life would you choose with respect to if you could choose?
What has gotten in the way (thoughts, feelings, actions)?
What are you currently doing that moves you away from your health-related behavior goals?
Why do you want to change your _____? Why is this change important to you? What core values is _____ linked to?
How would we know that you're moving towards your values?
Introduce the health-related ACT matrix worksheet to participant (1 min)
This worksheet will help us organize your personal motivation for making health-related behavior changes, the barriers and obstacles that have kept you from doing so in a satisfactory way, and your action plan for making changes in the next 30 days.
Collaboratively complete the "Behavioral barriers" and "Internal obstacles" sections of the matrix (5 mins)
Introduce defusion as way of creating space/separation from negative thoughts and reducing their behavior regulatory functions (1–5 min)
Engage participant in the following defusion exercises (10 min)
"I'm having the thought that . . . "
Titchener's repetition (lemon, lemon, lemon, . . .)
Contents on cards
Introduce acceptance as a way of relating to internal experiences with openness and awareness rather than avoidance (1–5 min)
Engage participant in physicalizing mindfulness exercise (5–10 min)
Complete the "Values" section of the matrix (1–5 min)
Reiterate/reemphsize values (identified in the focused interview) unpinning change efforts
Establish the action plan with the participant (5–10 min)
24-hour, 1 week, and 1 month SMART (specific-meaningful-adaptive-realistic-time specified) goals written on matrix
Have participant complete the commitment statement and schedule follow-up appointment (5 min)

Note. ACT = acceptance and commitment therapy.

Note: Barreto, M., & Gaynor, S. (2018). A single-session of acceptance and commitment therapy for health-related behavior change: Protocol description and initial case examples. *Behavior Analysis: Research and Practice, 19*, 47-59.

The health-related ACT matrix, shown in Figure 7, is composed of four quadrants. The vertical quadrants distinguish between the actions taken and the patient's verbal relations. The horizontal quadrants distinguish between behaviors that function to move the patient toward or away from the desired behavior change. The matrix is a way of helping the patient organize their motivation for health behavior change, understanding the barriers to change, and providing them with tools to overcome the obstacles. The patient's negative thoughts and feelings will be reviewed after the completion of the worksheet. During this time, the psychologist will introduce diffusion and acceptance strategies for patients to learn a new way to relate to their responses. The patient will identify health interfering behaviors, and the psychologist will ask questions about the personal value of the health-behavior change. If the patient's responses are inconsistent with the ACT principles such as "I want to feel better about myself" or "to improve my confidence," then the psychologist will validate their responses. The goal is to make a link between the values and different ways of being.

Figure 7

The Health-Related ACT Matrix

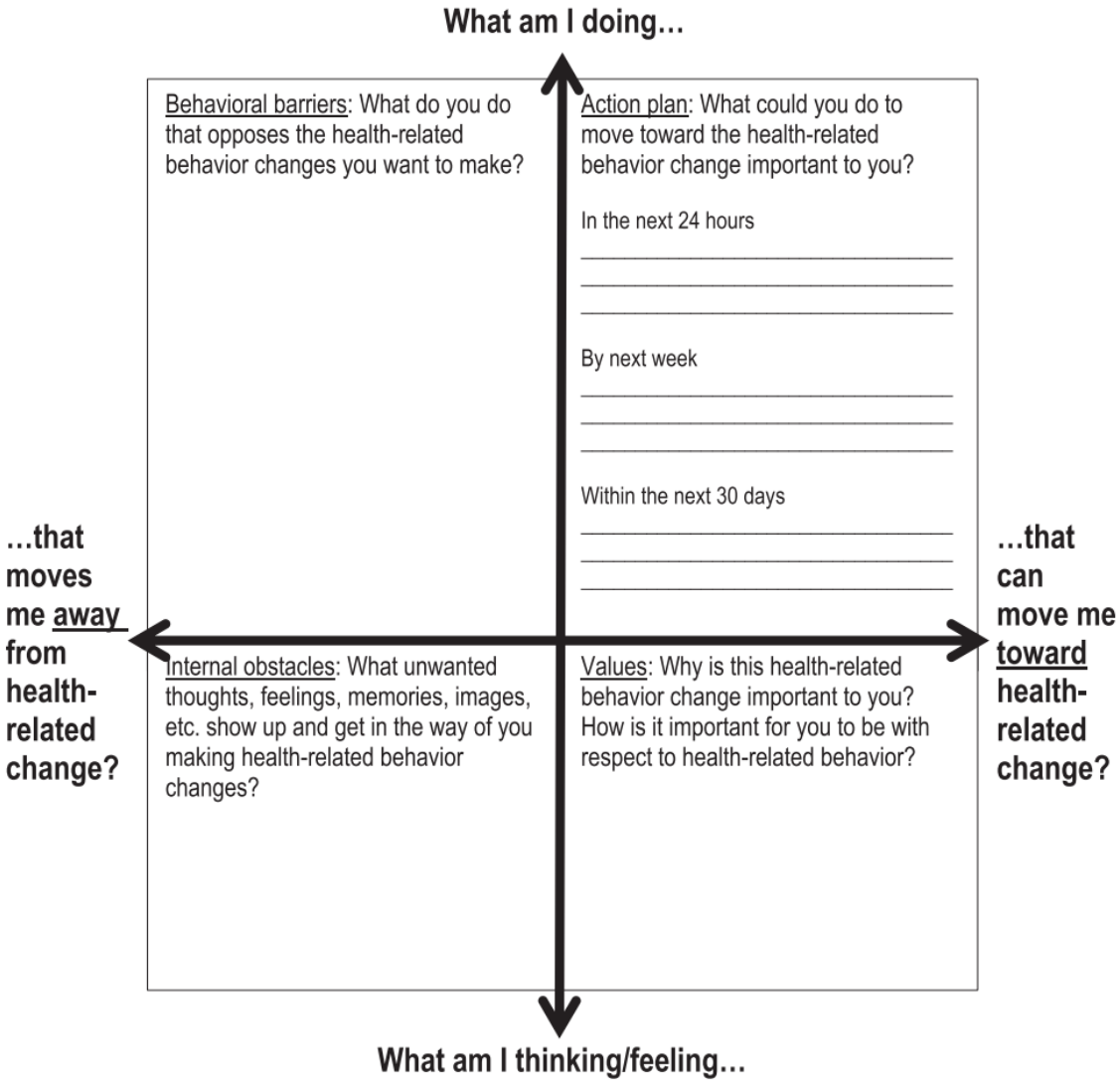


Figure 1. Health-related ACT matrix.

Note: Barreto, M., & Gaynor, S. (2018). A single-session of acceptance and commitment therapy for health-related behavior change: Protocol description and initial case examples. *Behavior Analysis: Research and Practice, 19*, 47-59.

In the context of the ED, the psychologist and patient will collaboratively make an action plan characterized by small goals that will ultimately set them up for successful behavior change. The action plan will detail the patient's commitment over the next 24 hours, the next week, and within the next 30 days. Finally, the patient will write a commitment statement that involves a brief narrative of two prompts. The patient is asked to respond to the stem of the first prompt, which is, "Here is what I was about…" In the second prompt, the patient is asked to finish this sentence: "I'm done with that, 30 days from now, I will be …."

The ACT is gaining increasing acceptance in the United States and in the healthcare population. ACT was found to be efficacious when used with diabetic patients compared to usual care (Gregg et al., 2007; Robinson & Reiter, 2016). Their self-reported diabetes management and hemoglobin A1C levels significantly improved. The ACT has also shown to improve smoking cessation (Gifford et al., 2004; Robinson & Reiter, 2016). It has also been studied to show improvement in chronic pain and disability (Dahl et al., 2004; McCracken & Eccleston, 2003; Robinson & Reiter, 2016). Moreover, this treatment approach is being used to maintain weight management results (Beachy, 2014; Robinson & Reiter, 2016), hypertension (Beachy, Bauman, & Baker et al., in revision), anxiety (Bauman, 2014; Robinson & Reiter, 2016), and PCP resiliency (Baker et al., in revision; Robinson & Reiter, 2016). In addition, ACT strategies have reduced seizure rates and improve the quality of life in patients with uncontrolled seizures (Lundgren et al., 2008; Robinson & Reiter, 2016). In addition to treating health concerns, ACT has even shown to help individuals with depression (Robinson & Reiter, 2016; Zettle & Hayes, 1986) and polysubstance-abusing methadone-maintenance opiate addicts (Hayes, 2004). Finally, ACT beats usual care or waiting lists and is equally as effective as other cognitive behavior

therapies or psychotherapies for treating many traditional mental health problems (Powers et al., 2009; Robinson & Reiter, 2016).

Mindfulness-Stress Reduction

Mindfulness is defined as purposeful and nonjudgmental, focused on the present moment (Kabat-Zinn, 2003; Miller-Mateo et al., 2019). Mindfulness practice key components include the mind-body duality where a patient deliberately engage in awareness of bodily sensations, thoughts, or emotion, and does so without judgment of their experience (Miller-Mateo, 2019; Zgierska et al., 2016). The intention to practice a present-focused, open, and either judgment serves to counteract the negative emotions typically experienced (Kabat-Zinn, 2003; Miller-Mateo et al., 2019). Mindfulness practice may include a number of techniques such as deep breathing, sitting meditation, yoga, and body scan in which the attention is directed throughout different parts of the body (Kabat-Zinn 2003; Miller-Mateo et al., 2019). Other mindfulness practices include mindfulness eating, open monitoring or cognitive diffusion, and focused training (Howarth et al., 2019). This practice has a variety of modes of delivery, including audio, verbal instructions by instructors, written scripts, or video (Howarth et al., 2019). A single session can range from less than five minutes to 25 minutes in length (Howarth et al., 2019).

There is significant literature suggesting the benefits of mindfulness practice in individuals with complex medical conditions. Mindfulness interventions have been utilized for chronic pain management and have been linked to lower pain sensitivity and intensity perceptions (Miller-Mateo, 2019; Zgierska et al., 2016). Mindfulness has also been found to be useful in engagement and self-management strategies for pain (Miller-Mateo, 2019; Zgierska et al., 2016). Research supports mindfulness for self-reported pain rating, pain sensitivity, pain unpleasantness, and pain intensity rating (Zeidan et al., 2010). A narrative review of

mindfulness-based interventions (MBIs) found substantial psychological benefits in cancer diagnoses, pain conditions (e.g., chronic pain, low back pain, fibromyalgia, and rheumatoid arthritis), cardiovascular disease, diabetes, human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS), and irritable bowel syndrome (Carlson, 2012). A single brief session of a mindfulness-based intervention can be utilized in the ED.

Trauma-Focused Interventions

The ED is sensitive to the impact of trauma from unintentional and intentional injuries (e.g., motor vehicle accidents, cutting, drowning, fire, machinery, natural environment, suffocation, etc.). Therefore, trauma-focused interventions will be utilized as a buffer and as an attempt to alleviate future distress. In addition to psychoeducation and relaxation training, Brief Trauma Treatment (BTT) has been piloted in Veterans Health Affairs (Goldstein et al., 2009; Harmon et al., 2014). Theoretically, BTT is consistent with well-established evidence-based treatment for PTSD. Although BTT is a three session-intervention, it can be implemented in 20-minute sessions. The primary goal of BTT is to use a patient-centered approach to enhance the natural-recovery and enhance motivation to engage in the additional care process. There are four parts to BTT: (a) psychoeducation (e.g., common reactions to trauma, the role of avoidance on trauma-related cues and pleasurable activities), (b) behavioral activation and gradual exposure to trauma-related stimuli, (c) collaborative treatment planning, personal goals, and values, and (d) motivational enhance strategies utilized throughout the sessions. Handouts may be provided to help guide the sessions, including identifying triggers that lead to avoidance and identifying challenging situations. BTT was found to be a possible psychological intervention for trauma-related injuries in VHA's (Harmon et al., 2014), and thus, aspects of BTT may be useful to implement in the ED.

Risk Assessments and Crisis Intervention

The emergency room continues to be used for psychiatric emergencies. In this integrated model, psychologists will conduct risk assessments and provide crisis interventions for psychiatric emergencies. Regardless of the chief complaint, approximately 10% of all adult ED patients have recent suicidal ideation or behaviors (Betz & Boudreaux, 2016). Research suggests screening identifies individuals with hidden suicidal ideation without impacting flow, and cost-effectiveness (Betz et al., 2015; Betz & Boudreaux, 2016). Generally, ED providers initially assess for suicide risk, but in doing so, they are confronted with their own level of comfort in these assessments. The psychologist will be able to educate and help ED providers identify ways to overcome their own biases in assessing for suicide. Recent literature suggests asking a patient about their suicidal thoughts or plans does not incite or encourage suicidal behavior (Betz & Boudreaux, 2016; Sood & McStay, 2009). Providers should not be timid, but rather it is recommended that they ask specific questions about the nature and detail of their suicidal thoughts and intentions.

In the ED, the role of the psychologists in suicide risk assessment will be to provide additional evaluation and assessment regarding the patient's well-being. Suicide risk ranges on a continuum. The new Suicide Prevention Resource Center ED Guide (Betz & Boudreaux, 2016; Capoccia & Labre, 2015) provides a guide for providers for assessing suicide in low-risk cases. In more high-risk cases, a comprehensive risk assessment for treatment and disposition can be completed by the psychologist on site (Betz & Boudreaux, 2016). Due to limited space, the Practice Guideline for the Assessment and Treatment of Patients with Suicidal Behaviors (Jacobs et al., 2010) is a valuable tool for clinicians.

A framework for care and evaluation of suicidal patients in the ED is outlined in Figure 8 and will be used in the proposed model of integration (Betz & Boudreaux, 2016). It is a simple and easy to use screening measure that determines the flow of treatment if a patient endorses suicidal ideation. If a patient is positive for suicidal ideation, the general principles would be to provide patient-centered care, identify and treat the medical issues, and ensure their safety in the hospital. The initial evaluation will be completed by the admitting physician. The evaluation will assess for a plan, intent, past intent, mental health history, substance use, and symptoms of irritability, agitation, or aggression.

Figure 8

Framework for Care and Evaluation of Suicidal Patients in the ED

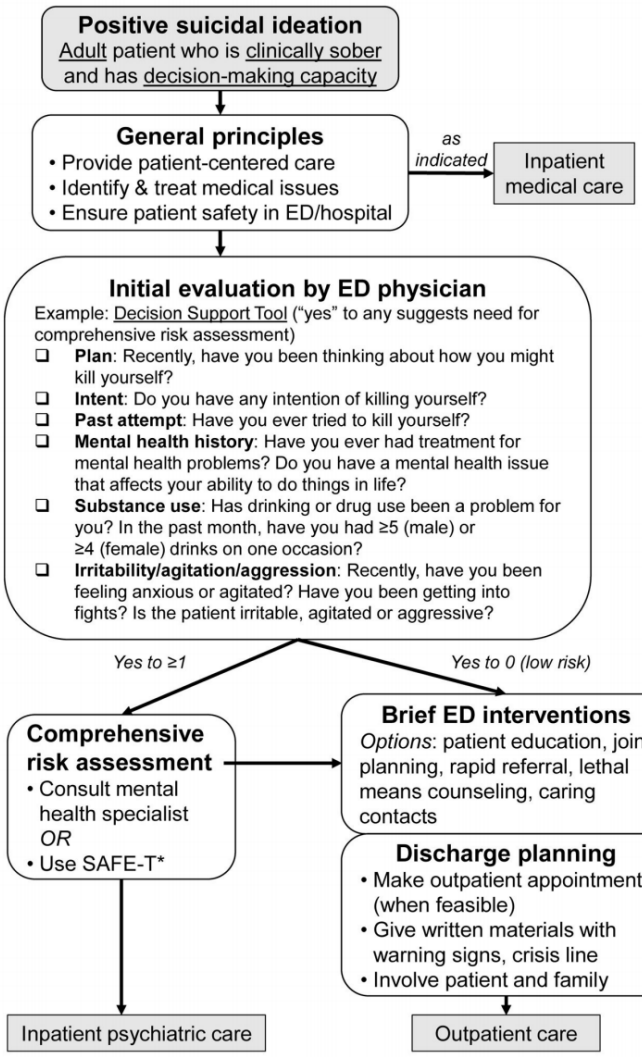


Figure 1. Framework for care and evaluation of suicidal patients in the ED
Intended for use with adult ED patients who do not require medical hospitalization for concomitant acute or chronic medical problems. Patients who are intoxicated or otherwise lacking in decision-making ability should be treated, observed, and reevaluated as clinically indicated. *See Figure 2. Adapted from Cappocia and Labre, 2015.[8]

Note: Betz, M. E., & Boudreaux, E. D. (2016). Managing suicidal patients in the emergency department. *Annals of Emergency Medicine, 67*, 276–282. doi:10.1016/j.annemergmed.2015.09.001

If the patient indicated "no" to any of the above, a brief ED intervention, including education, joint planning, rapid referral, lethal means counseling, or care counseling, will be

provided (Betz & Boudreaux, 2016). These ED-Based Brief Suicide Prevention are detailed in Table 7 with additional resources. For example, the goal of providing brief patient education is to instill hope of recovery, reduce shame, and stigma. It includes educating the patient about their diagnosis, establishing follow up care, and providing warning signs for when to return back to the ED. Following, discharge planning will involve setting up an outpatient appointment with psychology or psychiatry, being provided with written materials of warning signs, crisis lines, and family planning.

Table 7

An ED-Based Brief Suicide Prevention Intervention

ED-Based Brief Suicide Prevention Interventions

Intervention	Comments	Additional resources
Brief patient education	• Goal: Instill hope of recovery, reduce shame and stigma • Include: Diagnosis, home care, follow-up instructions, warning signs for return to ED or call to crisis line • Use teach-back techniques and provide written version with community resources	• "After an Attempt" brochures for ED providers, patients, and family members (available from Substance Abuse and Mental Health Services Administration in English & Spanish:[45–47] http://store.samhsa.gov/home) • "With Help comes Hope" support website: http://lifelineforattemptsurvivors.org/
Safety planning	• Structured plan to identify coping strategies and contacts	• One-page printable template: http://www.suicidesafetyplan.com • Free mobile apps include *MY3* and *SuicideSafe*
Lethal means counseling	• Goal: Reduce patient access to lethal methods (e.g., guns, toxic medications) • Discuss options for safe storage with others or in home	• Detailed recommendations for clinicians: http://www.hsph.harvard.edu/means-matter/recommendations/clinicians/ • Supported by American College of Emergency Physicians[48]
Rapid referral	• Follow-up appointment within 7 day, ideally ≤24 hours • Troubleshoot barriers (e.g., transportation) to facilitate follow-up	• Template for developing community resource list available in Suicide Prevention Resource Center ED Guide[8] • Services locator (therapists and support groups): http://www.suicidepreventionlifeline.org/learn/therapy.aspx
Caring contacts (after discharge)	• Brief communications (letter, telephone, text, email) to promote treatment adherence and feeling of connectedness • May be automated or made by non-clinical staff	• Toolkit for phone call system: http://www.ahrq.gov/professionals/systems/hospital/red/toolkit/redtool5.html • Sample messages available in Suicide Prevention Resource Center ED Guide[8]

Note: Each of the above should also include crisis line information: 1-800-273-8255 and http://www.suicidepreventionlifeline.org/ (online chat available)

Note: Betz, M. E., & Boudreaux, E. D. (2016). Managing suicidal patients in the emergency department. *Annals of Emergency Medicine*, *67*, 276–282. doi:10.1016/j.annemergmed.2015.09.001

If the patient indicates "yes" to any of the above, they will have to undergo a comprehensive risk assessment that can be evaluated by the psychologist using the Suicide Assessment Five-step Evaluation and Triage (SAFE-T; Betz & Boudreaux, 2016) outlined in

Figure 9. The SAFE-T is a comprehensive assessment tool psychologist will use to determine the level of risk of the patient. Risk factors are identified based on current or past psychiatric disorders, key symptoms (e.g., anhedonia, impulsivity, hopelessness), family history, stressors, treatment changes, and access to firearms. The tool then identifies internal (e.g., coping skills, religion, frustration tolerance) and external (e.g., a responsibility to others, therapeutic relationship) protective factors. Following, suicide ideation, plan, behaviors, and intent are explored. This information is used to classify risk on three levels: high, moderate, or low. It also provides recommendations for intervention planning. For example, a patient who is determined to be at moderate risk will have multiple risk factors and very few protective factors. They may have suicidal ideation with a plan, but no intent or behaviors. Based on the tool, the recommended intervention would be to consider admission or hospitalization.

Figure 9

Suicide Assessment Five-Step Evaluation and Triage (SAFE-T)

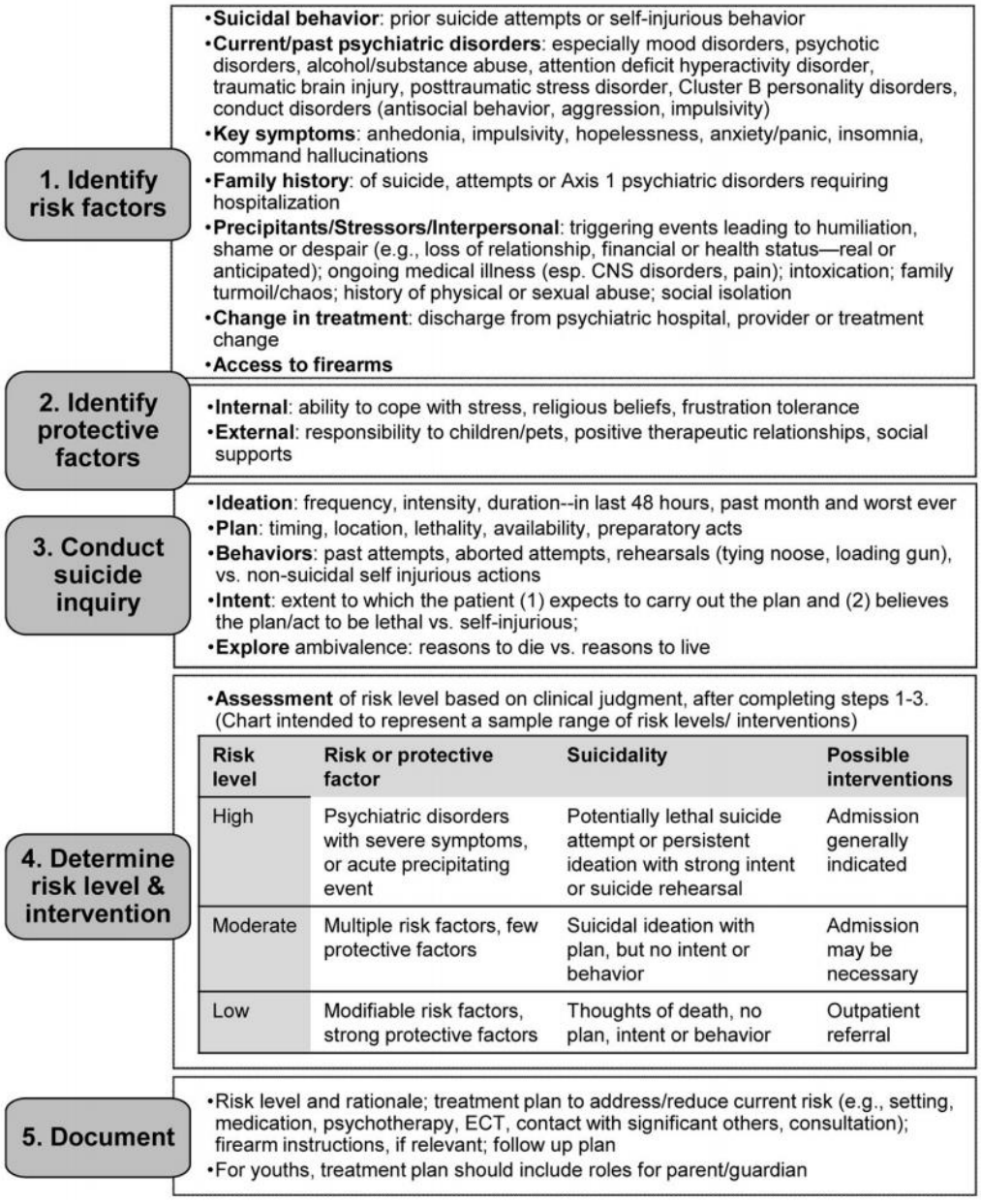


Figure 2. Suicide Assessment Five-step Evaluation and Triage (SAFE-T)
Risk assessment modified slightly[42–44] from original SAFE-T.[24, 25]

Note: Betz, M. E., & Boudreaux, E. D. (2016). Managing suicidal patients in the emergency department. *Annals of Emergency Medicine*, *67*, 276–282. doi:10.1016/j.annemergmed.2015.09.001

After a comprehensive evaluation is completed, psychologists will have more time to implement brief ED interventions to prevent future risk and to provide patients who are discharging home with skills. *Patient education and joint safety planning* in the ED will include personalized plans with specific warning signs, follow up, and emergency contact (Betz & Boudreaux, 2016). Safety planning utilizes a step-by-step approach to patients to identify mechanisms for coping and seeking treatment during crises. These plans can be completed collaboratively with the psychologist on paper or electronically on free smartphone applications (e.g., MY3 or SuicideSafe; Betz & Boudreaux, 2016). Patients who have been discharged will require *referrals* for outpatient follow-up care. The psychologist can help patients and families find resources, aid social work in care augmentation, or make the appointment to ensure follow-up care. Another aspect of suicide assessment is *counseling to reduce home access to lethal means* (Betz & Boudreaux, 2016). Literature suggests survival depends on the lethality of the chosen method (Betz & Boudreaux, 2016; Spicer & Miller, 2000). Therefore, psychologists can help reduce the risks of reacting to impulsive behavior by educating the family to keep unsafe mechanisms off-site. In the event that patients are determined in need of psychiatric hospitalization, it is important to continuously provide empathy and patient-centered care. The psychologist completing the evaluation will be required to communicate their concerns and findings with the ED providers. These concerns will be communicated to the treatment team on the inpatient psychiatric unit.

In addition, a case demonstrated the utility of a single session crisis therapy in the ED (Simpson, 2019). A crisis arises when an individual's coping skills are inadequate to life stressors. They are unable to access the strength to overcome the crisis. These crises can also be precipitated by a medical illness or interpersonal conflict and relate to the individual worsening

of symptoms related to their psychiatric illness. For example, an individual with a borderline personality disorder may seek treatment for suicidal ideation in the ED. The psychologist can take advantage of the crisis model and use single sessions to help the patient and providers make sense of the ED visit while actively working towards resolving them (Simpson, 2019). The goals of this intervention include reducing mood symptoms, initiating treatment, and identifying when referrals for intensive outpatient psychiatric treatment need to be made. A summary of the stages, working steps, and therapeutic processes for one session crisis intervention therapy is outlined in Table 8. This framework provides psychologists with an opportunity to collaborate with the patient in identifying what is to be completed for stabilization to occur. The psychologist can characterize the patient's response by validating their emotional state. The therapeutic relationship will establish a trusting relationship and will allow for more adaptive responses from the patient. The framework also emphasizes formulating with the patient the precipitating events and identifying behavioral goals for change. Through alignment and collaboration, the psychologist will initiate problem-solving by having the patient write a list of goals, creating actionable steps for each goal, creating a safety plan, and restricting access to lethal means.

Table 8

Summary of the Working Steps and Therapeutic Processes for One Session Crisis Intervention Therapy

Table. Summary of working steps and therapeutic processes for one-session crisis intervention therapy.

Stage	Working steps	Therapeutic process
1. Recognize the crisis and identify the precipitant(s)	• Assemble history • Write timeline (Figure 1)	• Ascertain more replete history • Inform DSM-5 diagnosis • Demonstrate active exploration of crisis • Build rapport
2. Characterize the patient's response	• Describe emotional response • Describe behavioral response: immobility, avoidance, or adaptation • Immobile patients benefit from naming the precipitant; avoidant patients benefit from identifying solutions	• Validate emotional state • Validate therapeutic relationship • Consider whether lack of adaptive posture requires higher level treatment • Support evolution towards adaptive response in course of session
3. Formulate together	• Discuss what is going on: What are the precipitants? How does the patient feel? What does the patient need? What choices are available? What's going well despite the crisis? • Agree on an explanation for symptoms and the ED visit	• Validate the work done in prior steps • Align with patient on identifying the problem • Begin problem-solving
4. Identify behavioral goals and offer concrete support	• Write a list of goals (Supplemental figure) • For easy "to-do's," provide concrete support (e.g., make appointments, help with phone calls) • For more aspirational goals (e.g., "feel better"), identify intermediate, actionable steps • Safety plan • Restrict access to lethal means • Arrange follow-up call if possible	• Demonstrate adaptive problem-solving • Begin envisioning discharge and anticipating challenges • Reduce safety risks
5. Engage social supports	• Write hub-and-spoke diagram of social supports (Figure 2) • Call social supports for collateral information • Enlist supports in discharge planning	• Enhance social connectedness • Improve concrete support for discharge plan • Increase likelihood of other persons referring patient to treatment should crisis worsen

DSM-5, Diagnostic and Statistical Manual for Mental Disorders, 5th ed.; *ED*, emergency department.

Note: Simpson, S. A. (2019). A single-session crisis intervention therapy model for emergency psychiatry. *Clinical Practice and Cases in Emergency Medicine, 1*, 27-32. https://doi.org/10.5811/cpcem.2018.10.40443

Psychologists in the ED will be able to provide immediate crisis intervention and complete a more thorough mental health exam that providers may not have the time for. They will have more time to address crisis concerns and use the therapeutic relationship to modify internal and external factors that contribute to the distress. Their role can have implications on patient satisfaction, wait times, and reduced hospitalizations.

Additional Roles

Debriefing

In addition to treating medical and mental health conditions, the ED encounters a number of other problems ranging from disaster relief, mass shootings, and other critical events. Debriefing is defined generally as a guided reflection in the cycle of experimental learning (Kessler et al., 2015). It serves to promote conversations around actions and thought processes, encourages reflections, and with the end goal of improving future behaviors. Psychological debriefing, on the other hand, is a "formal version of providing emotional and psychological support immediately following a traumatic event" (Society of Clinical Psychology, 2016, para. 1). The goal of psychological debriefing is to prevent the development of post-traumatic stress disorder and other negative symptoms associated with secondary trauma. These debriefings can take place in a single session between one to three hours, following the days after the incident, and they often occur in groups.

Psychologists are required to demonstrate competencies in a number of domains, as outlined in Figure 2 (Robinson & Reiter, 2016). Their core competencies in clinical practice skills, practice management skills, cultural competence, and team performance skills can help co-facilitate debriefing sessions for healthcare providers and other staff. Specifically, psychologists are trained to create a warm and empathetic environment, that is open and responsive to comments, for the purpose of facilitating process among group members. Not only are psychologists useful in providing their clinical judgment and recommendations, but they play an essential role in program development. As outlined by Kessler et al. (2015), psychologists are able to guide psychological debriefing programs by addressing the who, what, where, when, why, and how. Structured debriefings can provide a source of support for members, enhance

collaboration between team members, and improve clinical care in the future (Kessler et al., 2015).

Burnout

Given the demands of healthcare providers, there are a number of competing pressures, including balancing clinical work, time constraints, lack of control over work processes, scheduling, and conflicting roles with leaders that contribute burnout syndrome. It is estimated that burnout syndrome affects 10 to 70% of nurses and 30 to 50% of physicians, nurse practitioners, and physician assistants (Bridgeman et al., 2018). As a result, poorer safety outcomes and increased medical errors are associated with moderate to high levels of burnout (Bridgeman et al., 2018; Hall et al., 2016).

There are three dimensions of burnout syndrome including emotional exhaustion (e.g., feelings of apathy and indifference, limited investment in work), depersonalization and cynicism (e.g., negative attitude toward the job, feeling detached from the workplace and patient outcomes), and decreased sense of personal accomplishment (e.g., inefficiency, feelings of incompetence, decreased work productivity; Bridgeman et al., 2018; Freudenberger, 1974). Psychologists will play an important role in identifying and alleviating risk factors that contribute to burnout among healthcare providers. Since screening is an essential part of identifying risk for future problems, psychologists can use the Burnout Inventory, a 22-item self-report measure, assessing the level of burnout and frequency in healthcare providers among the three domains (Maslach et al., 1997).

In addition, psychologists in the ED are familiar with the seven risk factors for burnout (e.g., workload, control, reward, community, fairness, values, and job-person congruity) and the techniques to mitigate these risks (Bridgeman et al., 2018; Maslach et al., 1997). Since

psychologists will share a collaborative space with other healthcare providers and are in direct communication, they are able to identify these risk factors through behavioral observations and verbal reports. Their interpersonal skills and warm, empathetic nature will also allow those experiencing burnout to be open and honest with their feelings. For example, if a provider is experiencing additional workplace demands, the psychologist can propose setting aside time to recover from the stressful situation. This may be done by asking, "what would be most helpful to you right now?" A nurse who experiences perceived unfairness among her colleagues could benefit from the psychologist. They can facilitate a discussion with the nurse and other colleagues to promote transparency in decision making. By doing so, the psychologist is able to highlight the impact of power differentials on an individual's mental and emotional well-being in the ED.

As part of the psychologist's role in prevention efforts (Maslach & Leiter, 2017), they will hold interactive experiences such as workshops or training sessions around reducing burnout in the workplace setting. These monthly meetings may provide a place for healthcare providers to process their emotional well-being, clarify their personal goals, and learn techniques to cope with negative perceptions. Psychologists can also propose altering work patterns (e.g., working less, frequent breaks, balancing work and personal life; Maslach & Leiter, 2017), develop coping strategies (e.g., positive reframing, conflict resolution, time management), utilize relaxation techniques, promoting health and fitness (e.g., yoga), and through process groups. This can promote self-efficacy, enhance resilience, and positive mindfulness (Lyndon, 2015). Ultimately, this may improve patient satisfaction and clinical care outcomes.

Needs Assessments and Resources

The ED treats a diversity of patients and can inform the needs of the local populations (Wright et al., 1998). Needs assessments can be distilled in two categories: healthcare needs (e.g., health education, disease prevention, diagnosis, treatment, rehabilitation, terminal care) and health needs (e.g., a wider adaption of social determinants of health, deprivation, housing, diet, education, and employment). It is a systematic approach to identify unmet needs and developing appropriate interventions to help the population meet these needs. It requires reflective listening, empathizing with the patient's perspective, and epidemiological and qualitative approaches. Health needs assessments provide an opportunity for professionals and institutions like the ED to describe and differentiate patterns of disease prevalence in their local population. Determining the priority of the patients can promote clear objectives and rationales for the resources needed to improve health. More importantly, it can inform policy and institutional changes through research engagement.

Given the current demands in the ED, the psychologist will draw upon their research expertise, advocacy skills, and program development to engage in continued needs assessment. Collaboration with other healthcare providers and stakeholders can foster the development and implementation of cost-effective services for issues related to overcrowding or healthcare utilization. A study examined the factors associated with frequent hospitalizations and ED visits among Medicaid members who were homeless (Lin et al., 2015). Homeless individuals with Medicaid had frequent hospitalizations and ED visits despite having insurance coverage. To meet the needs of the homeless population, this informed policymakers to make statewide expansions under the Affordable Care Act to increase housing resources. Needs assessments can improve the quality of care individuals are receiving and improve cost-effectiveness by reducing healthcare utilization. It will benefit both the communities and the healthcare system.

Summary

The chapter outlined a fully integrated model for psychology in the ED. In the proposed model, psychologists are fully integrated and work on an interdisciplinary team with all other healthcare providers to provide assessment, consultation, and same-day evidenced-based brief (15 to 30 minute) intervention for a broad range of presenting problems. They will work in the same location as other healthcare providers to enhance referrals, communication, and ongoing learning. Referrals will be made through a warm handoff or through direct verbal reports. Psychologist's competencies in clinical skills, consultation, team performance, administration, and research and development will allow them to work with a diversity of patients and conditions. In addition, psychologists will be engaged in continued education and teaching by highlighting the issues of disease and diversity to their colleagues. They will also attend and participate in staff meetings, engage in program evaluations, and assist with care coordination (Robinson & Reiter, 2016). The overall goals of psychologists in the ED will be to (a) enhance the patient's understanding of the biopsychosocial factors that contribute to the maintenance of their problems, (b) assist in medication management and adherence, and (c) augmented care through providing culturally competent and clinical care. Psychologists will use brief evidenced-based interventions to alleviate symptoms and reduce future risk, with the common goal of improving the quality of care.

There are a number of evidenced based interventions psychologists will use when working with patients. Essential to treatment is screening and assessment. It provides information for quality improvement and best practices (Iragorri & Spackman, 2018). Psychologists will use brief measures and questionnaires to detect signs and symptoms of a disorder or disease before it has progressed (Talen et al., 2014). Psychologists will provide same-

day screening to identify risk factors for medical and mental health-related issues. The screening will also provide pertinent information for targeted behavioral health interventions. The psychologist will also collaborate with other providers to develop a comprehensive model for screening if one is not currently present in the ED.

Psychologists will use the stress-diathesis model to provide a framework to educate their patients about internal and external stressors that contribute to disease progression. Other evidenced-based interventions such as CBT for chronic pain and insomnia, MI, SBIRT, ACT, mindfulness-stress reduction, and brief trauma focused therapy can be used in a single session to promote engagement and behavior change. Psychologists will also conduct risk assessments and provide crisis interventions for mental health related problems. They will have the opportunity to conduct a comprehensive exam and provide immediate interventions that other healthcare providers may not have the time for. Through this approach, patients will be able to identify internal and external factors that contribute to their stress and find additional coping strategies to help overcome the risks.

Psychologists will have other roles and responsibilities that will help improve the overall ED flow. They will facilitate psychological debriefings after a critical incident and use their interpersonal skills to prevent burnout among healthcare providers. They will also use their research knowledge, advocacy skills, and program development to engage in continued needs assessment for the ED. Psychologists collaboration with other healthcare providers and stakeholders will foster the development and implementation of cost-effective services for issues related to overcrowding or healthcare utilization. The key points of the proposed model are outlined in Appendix A.

Developing and implementing a fully integrated model will present many challenges. The next chapter will focus on the barriers to integration and address the current billing procedures. Finally, it will also address areas of research and propose a pilot study for the future implementation.

Chapter 5: Barriers to Implementation

The proposed model of integration of psychologists in the ED presents numerous challenges. This chapter will focus on the barriers to integration, address the current billing procedures, and address recommended areas of future research.

Challenges to Integration

The federal government regulates ED services. They offer support by (a) requiring EDs to provide certain services, (b) providing reimbursement for individual enrolled in federal insurance programs, (c) requiring private insurance plans to include coverage for emergency health services, and (d) providing funds to hospitals to cover the cost of uncompensated care (Heisler & Tyler, 2014). Although the government provides aid to the ED for care coordination efforts, emergency room care is more expensive than elsewhere. In 2008, the average cost of primary care was $199 compared to $922 in the ED (Hayes, 2018). The high cost of $39 billion is due to the regulatory burden faced by hospitals. Hospitals also charge high amounts so they can cross-subsidize uncompensated care, which is financed by private payers. Despite covering 35 to 60% of all ED patient visits, private insurers have consistently paid half of all ED.

Thus, provisions made by the Emergency Medical Treatment and Active Labor Act (EMTALA) have mandated that patients are stabilized before discharge, even if they are unable to pay (Heisler & Tyler, 2014). Adding to the complexity of care, EDs are open 24 hours and have high overhead costs for emergency technology equipment to respond to disasters or other crises. Even though increasingly more individuals are seeking services in the ED, the total expenditure has only increased by 2% of the total national health expenditure. This is 1.6% in 1997 to 2.2% in 2014. Although this equates to $16.9 billion in 1997 to $65.4 billion in 2014, this may be due to the increased services that are provided in the ED (AHRQ, 2014; Hayes

2018). Therefore, improving access to care and providing preventative services, disease management, and other behavioral health services may significantly improve healthcare utilization.

Implementation of integrated healthcare services in the ED is challenging due to the minimal implementation of comprehensive models in the United States (Grazier et al., 2014). There are a number of challenges experienced, including reimbursement issues, limited capacity, resistance to change, information technology issues, and confidentiality rules for behavioral health (Grazier et al., 2014; Gerrity et al., 2014). Therefore, it is important to address policy-level barriers to implementation and utilize these barriers as a framework for change.

A systematic review by Grazier et al. (2014) identified important barriers that hinder wider adoption, falling into several categories: focus on vulnerable population (e.g., mental health is a secondary concern), patient and family factors (e.g., lack of culturally competent mental health care providers in minority clinic), comorbidities (e.g., treatment for complex physical and mental illness), provider factors (e.g., provider doubts about their ability to implement integration), financing and costs (e.g., lack of reimbursement management services), and organizational issues (e.g., provider shortages). It is important to recognize and understand the role of these barriers in the implementation of integrated services in the ED.

Recommendations

There are various ways to alleviate the challenges to integration. Grazier et al. (2014) identified six broad practices that promoted successful healthcare. First, it is important to *prioritize the underserved, vulnerable populations,* and provide these individuals with additional resources and concerns. Homeless individuals or individuals at risk for homelessness account for 10.1% of the population seeking services in the ED (Feldman et al., 2017). Targeting the

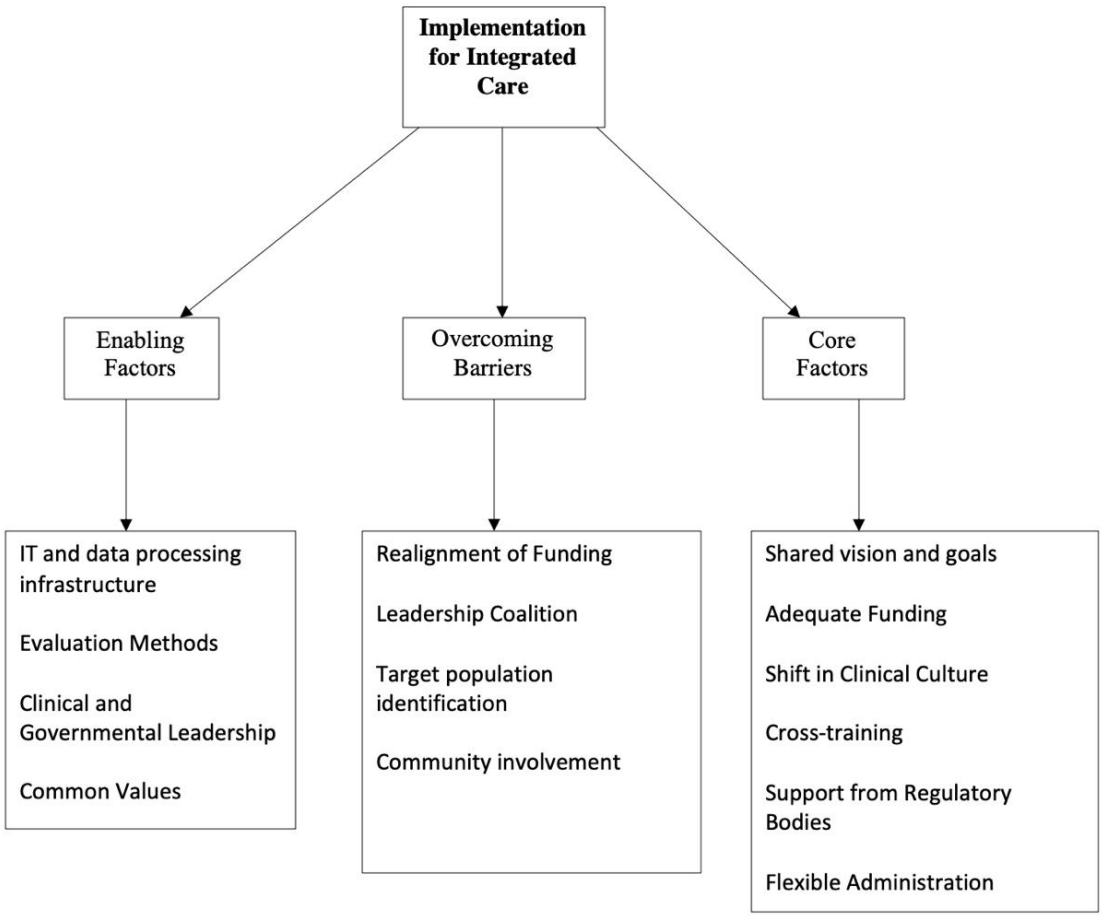
vulnerable population will help alleviate the burden placed on ED, its providers, and reduce healthcare utilization. Second, it is recommended integration make *use of data-driven best practices* such as using outcomes assessment. These measures allow EDs to evaluate healthcare integration and conducting a needs assessment to determine additional community partnerships. Third, *community-wide collaboration* is important to utilize to acquire support from other organizations to implement early education programs. Further, this will allow the ED to receive feedback on policy-level changes. Fourth, it will be important to acquire *support from influential leaders and established institutions*. For example, legislature support will help EDs and other healthcare integrations to address complaints around low quality and high cost of behavioral health services. Fifth, healthcare integration in the ED should utilize a *team approach that includes the patient and family.* This involves family members as part of the patient's healthcare team. However, in the event that individuals are faced with ethical dilemmas, it will be important to consult and implement guidelines. Finally, a consistent and *diverse funding stream* can help alleviate some of the barriers to implementation. For example, some programs have received partial funding through Medicaid or through state general funds. It may be beneficial for the ED to partner with tertiary insurance companies to access these funds and utilize it towards better healthcare. Healthcare integration truly requires integration from the coordinating care, the healthcare system delivery and the community to the payors and providers.

Maruthappu et al. (2015) also outline a tailored approach that could be used in conjunction with Grazier et al. (2014) for successful healthcare integration by addressing an aspect of these three categories (a) enabling factors, (b) barriers to overcome, and (c) core factors. Figure 10 provides a visual for a proposed model for the factors required for adequate implementation of integrated care. Successful healthcare integration requires a leadership

coalition and a framework for stakeholder support that must be developed (e.g., government support). Overcoming the resistance for a leadership coalition can be accomplished through a shared vision, which enables successful healthcare integration. A vision among leaders creates a structure and provides clarity for the team when presented with challenges. With a vision, there also needs to be congruency between the team goals and mission of the organization.

Figure 10

A Proposed Model for the Factors Required for the Adequate Implementation of Integrated Care



Note: Adapted from Maruthappu, M., Hasan, A., & Zeltner, T. (2015). Enablers and barriers in integrated care. *Health Systems & Reform, 1*, 250-256. Doi: 10.1080/23288604.2015.1077301

The Institute of Medicine (IOM)'s core principles of healthcare integration emphasize the importance of shared goals and their implications on patient care and service delivery (Mitchell et al., 2012). Specifically, shared goals contribute to the common understanding of the population, desired outcomes, evidence-based treatment approaches, and team-based approach. A vision can also enhance creativity among healthcare providers to refine current processes and develop new ones. This can be accomplished through evaluation methods and fostering a better technology infrastructure to assess the appropriateness of integration (Maruthappu et al., 2015; Strandberg-Larsen & Krasnik, 2009).

It is essential to identify a target population for successful integration (Grazier et al., 2014; Maruthappu et al., 2015). It requires an understanding of the patients' needs and risk factors, which involves the inclusion of all entities of the healthcare system (e.g., stakeholders, providers, social work, community). In addition, identifying populations in need can help create standards for treating patients with multiple comorbidities. A strong technology infrastructure can enable integration by increasing information access to multiple providers, using electronic health data records for information, and coordinating care.

A core factor to integration is through long-term planning for adequate support and funding, which should be directed towards integrated pathways, and to redistribute these incentives to stakeholders (Maruthappu et al., 2015). However, the conflicting need for capital between hospitals and insurers results in problems due to limited infrastructure required by the growing plan (Maruthappu et al., 2015). Further, program management support in health care integration has been stunted due to limited support. Therefore, future research may benefit from evaluating this type of collaboration and provide insight into the limitations around this for future implementation. Although these findings address the gaps in the literature between research and

clinical implementation, it highlights common areas many organizations experience in their endeavor to integrate behavioral health care services.

Another core component of successful integration is the involvement of government leadership (Maruthappu et al., 2015). Maruthappu et al. (2015) suggest governmental leadership involves the following: formulation of a multistakeholder coalition, an evidenced-based framework for an integrated model of care (e.g., leadership coalition, implementation guidelines), funding pool used for incentives and reward, and specific roles of healthcare providers. Successful integration also requires a shift in funding and resource allocation. It has been suggested that incentivizing payment contracts has been the most beneficial approach in encouraging the adaption of care strategies (Gottlieb, 2013; Maruthappu et al., 2015). Not only should incentives be economically beneficial for all parties, but they should also be transparent. Specifically, local organizations may benefit from providing a detailed budget and from being held accountable for delivering standardized care (Dixon et al., 2011; Maruthappu et al., 2015).

Alternatively, for individuals with multiple comorbidities, bundled payments for services could be used (Maruthappu et al., 2015). Physicians and providers may wish to lead financing strategies in states with minimally active government leadership. These payor-oriented arrangements often involve financial incentives or reimbursements to promote active response (Maruthappu et al., 2015). In these arrangements, it is important to emphasize collaboration, clinical leadership, shared accountability, and reliable information sharing. Moreover, identifying a high-cost target population may offer the greatest possibility of achieving efficiency, cost reduction, and continued dialogue with caregivers (Glynn et al., 2011; Vogeli et al., 2007). Thus, supportive government regulations and a flexible administration that allow for reorganization can promote successful integration (Maruthappu et al., 2015).

Finally, a shift in clinical culture is required for successful integration. As described earlier, psychologists working in the ED should demonstrate a strong interest in learning, be flexible, collaborative in nature, and demonstrate initiative (Robinson & Reiter, 2016). The alignment of personal goals and team values provide a foundation for quality service delivery, patient-centered care, and conflict resolution. This can also be achieved by establishing a non-hierarchical team structure. A structure like this can promote the sharing of ideas, assisting other members in their work, and promoting an interdisciplinary team approach. Cross-training is another method that can shift the culture to one that is more equal and collaborative. Through a non-hierarchical structure, team members can learn and train skills from each other. They can participate in shared education and nurture a change in culture from the current model. The emphasis on learning and implementing said skills can help address patients' concerns holistically. The culture shift and shared vision can motivate healthcare providers to work more collaboratively when dealing with patient management. They can meet regularly to review performance, use appropriate integrated care metrics, and arrange for joint initiatives between practitioners, communities, and hospital care providers. Clinical leadership and common values of patient-centered care are fundamental to successful healthcare integration.

Billing and Reimbursement

Another central concern of integrated healthcare is in regard to billing (Robinson & Reiter, 2016). Specifically, the question becomes, "How will we pay for this?" or "Who will pay for this?" There is a fundamental difference between reimbursement for delivery and physical health concerns (Becker et al., 2018). Typically, the fee for services (FFS) models has been utilized where each service is reimbursed based on certain billing codes that are submitted to insurance companies (Miller et al., 2017). It is to enhance clinician services and incentives based

on their availability and skills. For example, clinicians may only be billed for diagnosable mental health conditions, thus, making behavioral health interventions less eligible. However, FFS models do not provide any discrete evidence for improved care, reduce cost, and other healthcare needs (Becker et al., 2018; Kessler et al., 2009). The division in clinical services threatens the sustainability of psychologists working in integrated healthcare settings (Becker et al., 2018; Miller et al., 2017). For example, BHC providing brief services (e.g., 15 minutes) versus other behavioral health care providers providing more lengthy services (e.g., 45 to 50 minutes) creates differences in structure and introduced barriers to clinical flow (Becker et al., 2018). Moreover, healthcare fragmentation also requires patients to seek services with multiple healthcare providers to address certain needs (e.g., chronic health condition) and dismiss other aspects of their lives (e.g., depression, job, loss, unaffordable housing, divorce; Miller et al., 2017). These barriers, in conjunction with the FFS model, create further difficulties in integrating psychologists and providing comprehensive and coordinated patient-centered care.

Typically, medical and behavioral health services have been paid through two ways and budgets that utilize two separate sets of billing codes, reimbursement pathways, and reporting requirements (Kathol et al., 2010; Miller et al., 2017). Clinicians are reimbursed for specific services through the number of patient interactions rather than using an outcome-based approach. Using an outcome-based approach could allow for coordinated care efforts in a brief encounter to address patients' needs preferences. Some state policies also limit billing for same-day medical and behavioral health services, which further promotes the lack of patient-centered care (Miller et al., 2017; Miller et al., 2013). However, the need for psychologists to address behavioral health conditions is important, given the economic burden of untreated behavioral conditions (Melek & Norris, 2008). Importantly, individuals with commercial health care plans utilize

significantly more nonbehavioral health given their comorbid behavioral symptoms, including self-care, medical treatment adherence, diet, exercise, and other lifestyle factors (Melek et al., 2014; Miller et al., 2017). Integrated healthcare programs have shown to save between 9 and 16% of costs associated with healthcare and are equivalent, not $27 and $48 billion (Melek et al., 2014). Despite these economic challenges, the need for reform is prevalent. Although the Health and Behavior codes (H&B) are one way of allowing psychologists to bill for services, alternative payment structures have been proposed. Due to limited space, refer to Table 9 for a comparison of payment models and the associated pros and cons in support of behavioral health integration.

Table 9

Payment Models for Behavioral Health Integration and the Associated Advantages and Disadvantages

Payment Model	Description	Advantages	Disadvantages
Fee for Service (FFS)	This is a retrospective payment model which services are reimbursed based on specific billing codes. These codes are submitted by the insurance company.	Behavioral health are compensated for their services	Emphasis on providing more traditional mental health interventions; practice independently of the team
Modified FFS	This is a mixture of FFS and non-FFS payment models (e.g., pay for performance and capitation)	Promotes more value-based care in PCMH	Behavioral health interventions are still considered independent of the team
Pay for Performance	Clinicians are responsible and accountable for the health service delivery therefore, incentivizing care delivery	Increases the probability that specific behavioral health conditions are treated	Typically there are insufficient funds for the payment of behavioral health clinicians on the team
Bundle Payments	Discrete courses of treatments are reimbursed	This model supports a team approach to treating a condition	Behavioral health is rarely considered a part of the bundle payments
Global Payments	There is a predetermined rate per person regardless of type of service delivery	Behavioral health becomes more truly integrated into the system and is an extension of the primary care team; services are more accessible	There is risk associated in assuming a patient's behavioral health patients; difficulty with practice change and transformation

Note: Adapted from Miller, B. F., Ross, K. M., Davis, M. M., Melek, S. P., Kathol, R., & Gordon, P. (2017). Payment reform in the patient-centered medical home: Enabling and sustaining integrated behavioral health care. *American Psychologist, 72*, 55– 68. http://dx.doi.org/10.1037/a0040448

According to Robinson and Reiter (2016), integrated healthcare clinics that hire BHC without an intention to use them as direct revenue producers, and rather see them as an integral part of the team since they save time for the provider, improve clinical functioning, increase patient satisfaction, and help improve access to care. Robinson and Reiter (2016) emphasize that clinics will not generate substantial revenue from BHC services given the discrepancy between the number of providers and psychologists. Instead, they argue that a strong BHC service will most likely generate strong interest and acceptance from demonstrators about the value in the service.

There are a number of advantages for billing for BHC services. It allows the organization to break even on these services and can later increase the influence on such services. For institutions that are particularly small, BHC services can increase growth and bring revenue to the organization. According to Robinson and Reiter (2016), the optimal scenario would involve utilizing the right clinical model to generate "bottom-up" support from providers while simultaneously billing to generate "top-down" support from distractors. This same approach can be used to think about billing issues in the ED. Therefore, global payments (e.g., capitation) have been proposed as the best model for sustained integrations (Miller et al., 2017).

Global Capitation is a system that pays a predetermined rate per person seen by the clinician, practice, or organization, regardless of the service delivery (Miller et al., 2017). Through this system, clinicians are able to meet the patient's needs and deliver services based on the appropriateness of the patient. It has been suggested global payments may result in greater reduction of healthcare costs than bundles payment approaches (Cutler & Kaushik, 2012; Miller et al., 2017). When budgets are consolidated, this approach is regarded as the best opportunity to fully support an integrated healthcare system (Miller et al., 2017). A study that evaluated six

integrated primary clinics with global payments found these facilities achieved higher behavioral health screening rates and saved money (e.g., cost avoidance) compared to control (Miller et al., 2016; Miller et al., 2017). Therefore, global payments offer a promising approach to providing cost-saving and quality health service delivery.

CPT and Diagnostic Codes

As previously mentioned, there are a number of diagnostic codes in place to bill for health behavior service. The *Current Procedural Terminology (CPT)* system is used to describe medical services for subsequent reimbursement. They are numerical labels for each procedure and diagnosis. To be reimbursed for these services, a CPT code has to be assigned. Thus, BHCs will have the knowledge to assign CPT codes in addition to their diagnosis to bill for services.

H&B were created to allow psychologists to bill for brief interventions that are specific to the patient's condition (Miller et al., 2017). These codes are listed in the medical section of the CPT code and were first included in 2002. Table 10 provides the CPT codes effective January 1, 2020. The new family codes are changing to Health Behavior Assessment and Intervention (HBAI) to reflect a greater emphasis on psychological and/or psychosocial factors in health and the increased role of these services in interdisciplinary care. These codes specifically focus on medical concerns rather than a patient mental health consideration. For example, if a patient is presenting for depression, an H&B code would not be appropriate to use. On the other hand, if a patient is being educated on diabetes management, then a H&B code would be most appropriate. Further, the codes take into consideration services related to physical health including patient adherence to medical treatment, health promoting behaviors, risk behaviors, and adjustment to physical illness. Although there are subtle nuisances tot H&B codes, they can be used if a patient

is being seen for both a psychiatric illness and medical conditions if the primary visit was focused on the medical concern, but may not be billed at the same time.

Table 10

CPT Codes Effective January 1, 2020

CPT Code and Descriptor	
Health Behavior Assessment Services	
Assessment or Re-Assessment	
96156	Health behavior assessment or re-assessment. For example, clinical interviews that are health focused, behavioral observations, and clinical decision making.
Health Behavior Intervention Services	
Individual Intervention	
96158	Individual, face-to-face, health behavior intervention; initial 30 minutes.
+ 96159	Each additional 15 minutes. This is listed separately in addition to the code for the primary procedure.
Group Intervention	
96164	Group, face-to-face, health behavior intervention; initial 30 minutes.
+ 96165	Each additional 15 minutes. This is listed separately in addition to the code for the primary procedure.
Family Intervention ***With*** *the patient present*	
96167	Family (with patient present), face-to-face, health behavior intervention; initial 30 minutes.
+ 96168	Each additional 15 minutes. This is listed separately in addition to the code for the primary procedure.
Family Intervention ***Without*** *the patient present*	
96170	Family (without patient present), face-to-face, health behavior intervention; initial 30 minutes.
+96171	Each additional 15 minutes. This is listed separately in addition to the code for the primary procedure.

Note: Based on Health Behavior Assessment and Intervention Services. (2020). *CPT codes and descriptions.* American Psychological Association Service Inc. https://www.apaservices.org/practice/reimbursement/health-codes/descriptors.pdf

The goal of BHC would be to identify health problems related to the patients physical, mental, and social quality of life, and then develop targeted evidenced based interventions to improve these issues (Robinson & Reiter, 2016). H&B codes can help focus attention to specific rather than premorbid diagnosing a patient before treating them. For example, instead of viewing a patient as "depressed," it may be more beneficial to think of the functional impairments the patient is experiencing with insomnia, concentration, or trauma and provided focused intervention. Given the movement of healthcare integration and interdisciplinary care, the new codes emphasize the collaboration in behavioral health. The new codes have been proposed to allow for comparative payments for H&B services with psychotherapy services. Specifically, psychologists working in a hospital-based setting or integrated primary care setting are now allowed to accurately document and be reimbursed appropriately for their work. The codes highlight the importance of psychologists working with individuals with a medical condition and being recognized for their contribution to the patient's overall well-being.

The *International Classification of Disease Tenth Revision Clinical Medication* (ICD-10-CM; CDC, 2010) started being used in the United States on October 1, 2013. H&B codes require the ICD-10-CM codes for billing purposes for full documentation of physical health problems. It is important to emphasize that the primary provider caring for the patient – not the BHC – must be the one who diagnosis's the problem. Thus, BHC will code physical health problems primarily identified by the treating physician prior to treatment.

Future Research

To date, there is little evidence identifying the feasibility of psychologist's role in the ED. However, there has been an integration of mental health liaisons and consultants adopted in EDs

in other countries to address psychiatric needs. On the other hand, there is limited evidence of psychologists treating comorbid medical and mental health issues in the U.S.

A pilot study addressing the feasibility and clinical and cost-effectiveness of a psychologist's role in the ED is warranted in the future. This study may look to initially obtain funding from their local government or from organizations that allocate resources towards improving health service delivery. The funding can compensate for the psychologists pay, services offered, and other instrumentation needed for appropriate delivery. Although the implementation of global payments will require systemic changes, it is important for psychologist's and other behavioral health clinicians to advocate for this reform. The findings from the pilot study can inform future projects looking to integrate psychologists in EDs across multisite in the country.

Following this, an approval from a hospital to implement psychologists in the ED will be warranted. Healthcare integration can occur in various domains ranging from a narrow approach (e.g., looking at specific intervention) to something that is more expansive (e.g., multisite studies). For the purpose of this pilot study, the integration will use a narrower approach with the goal of maximizing health outcomes for patients presenting to the ED. The financial viability will ultimately determine the scale of the study. Similar to other pilot studies, obtaining informed consent for all patients treated will be an essential part of the study. The study may be completed in two phases. Phase 1 would be an initial feasibility study, which will assess the practicality of the proposed model. Phase 2 will determine the clinical outcomes (e.g., quality of care, patient satisfaction) and cost-effectiveness (e.g., overcrowding, wait times, adherence, efficiency, healthcare utilization).

Phase 1

In phase 1 of the study, evidence will be gathered from the patients and staff on their perceptions of integration, test methods for identifying and recruiting eligible patients, describing the use of psychological support, and developing methods needed for the next phase. The proposed model will be implemented in the ED in which psychologists work on an interdisciplinary team with the healthcare providers in a co-located space and will chart in the same electronic medical record. The feasibility and acceptance of the proposed integrated model will be assessed through questionnaires, focus groups, and in-depth interviews.

Phase 2

Phase 2 of the study will involve integrating two psychologists in the ED to provide clinical services to patients. Demographic data will be collected, such as age, gender, race, ethnicity, citizenship status, marital status, employment status, income, and health insurance status. Other information, including presenting problems, the reason for referral, prior mental health history, medications, psychosocial determinants of health, and barriers to adherence will also be gathered. Experience of care data will be gathered. This includes the type of evidence-based intervention used, length of intervention, perceived utility, perceived engagement, and patient and provider satisfaction. Population health data, such as adherence metrics and treatment efficacy, will be gathered. Finally, data pertaining to health care costs will also be collected. Psychologists will conduct a brief intake, assessment, and implement a tailored intervention specific to the patient's needs. Patient outcomes and satisfaction will be completed upon discharge, at 6-month follow-up, and 12-month follow through surveys and phone calls.

Although the pilot study may provide initial evidence for the feasibility, clinical utility, and cost-effectiveness for integration, there is a need for additional research in this area. The

diversity of problems treated in the ED and the varied screening measures used among sites suggests there is a need for additional research. Specifically, future research needs to validate and implement routine screening measures for risk factors related to medical and mental health problems. There is also a need to identify the efficacy of the proposed evidenced-based interventions in a single brief session in the ED. Although there are case studies demonstrating the utility of an evidenced-based approach in a single session like the ACT, there is limited research addressing the feasibility and efficacy of it in an integrated healthcare setting. There is a need for future research to determine which evidence-based treatments are most useful for specific problems or groups of patients presenting in the ED. These preventative measures can detect problems earlier, enhance treatment engagement, and reduce overall healthcare costs.

Many patients seek treatment in the ED for medication management or as their primary care. There is an additional need to identify barriers to patient engagement and community wide support with their primary care. Understanding these barriers can help healthcare providers address ways to enhance motivation to engage in treatment and sustain follow up care on an individual level. There is also limited research identifying tools and resources needed to augment patient care following discharge from the ED. Future research may wish to identify, develop, and implement best practice approaches such as using technology assisted tools to encourage patient engagement. Addressing barriers to patient engagement on a systems-level can promote departmental and policy level changes to alleviate such problems seen in the ED.

Stigma also plays a role in healthcare engagement. Future research will want to determine the impact of the proposed model of integration on stigma reduction and the factors that contribute to the maintenance of the problem. For example, are patients more willing to initiate and engage in treatment after being treated by a psychologist in the ED? There is also limited

literature addressing if and how integrated healthcare is able to treat underserved populations. Future research may wish to determine if the proposed model promotes health equity in its approach to service delivery. Understanding the implications of this in the ED can be then compared to the populations being reached in primary care.

Additional research is also needed to determine if the integration of psychology reduces cost-utilization related to overcrowding, frequent visitors, wait times, and medication management. Specifically identifying the high-cost target populations will offer the greatest possibility of achieving efficiency, cost reduction, and continued dialogue with others. More importantly, future research may wish to compare the integration of psychologists in the ED with other sites that have or have not adopted a similar model. The comparison can provide justification for future investment and healthcare integration.

A major challenge to integration is payment and reimbursement. Future research may attempt to identify the barriers to payment and reimbursement, specifically for the ED. There is limited evidence comparing the different payment models (e.g., fee for service, modified fee for service, pay for performance, bundled payments, and global payments). There is also limited evidence regarding the benefits of partnering with tertiary insurance companies and incentivizing payments. Thus, future research may wish to determine which payment model is appropriate for the ED. Global payments (e.g., pay a predetermined rate per individual seen by the clinician; Miller et al., 2017) has been specifically proposed as the best model to sustain an integration. Although it offers a cost-saving approach to service delivery, there is limited research addressing the utility of this payment model in the ED. Thus, future research in global payment models in the ED is also warranted. Finally, there is a need to identify specific factors related to systemic and policy level barriers to integration. Specifically, the availability of resources specific to

integration will have to be gathered in addition to addressing the necessary conditions for coalition with department stakeholders and the government (e.g., local, state, and federal). The findings can be compared to the veterans' health administration and other integrated care models to better understand the differences in funding allocation and resource availability.

Conclusion

The ED treats a diversity of problems related to health and mental health needs. Presently, the ED faces many challenges, such as overcrowding, frequent and recurrent visits, long wait-times, visits substance misuse, overdose, treatment of chronic health conditions, acting as primary for the uninsured, medication management, low acuity problems, burnout, triage, staffing insufficiencies, and inadequate training. These challenges and issues presenting to the ED have a wide range of effects on the quality of treatment, satisfaction, and cost. EDs are not equipped in handling comorbid medical and psychiatric emergencies from a biopsychosocial perspective. In the United States, there are limited mental health interventions currently available in the ED, such as the role of psychiatrists. EDs in other countries like Australia have introduced mental health nurse liaisons and practitioners to provide direct clinical support. They utilize brief interventions and psychoeducation to patients with mental health and other health-related problem. These individuals are embedded in the ED and provide consultation, assessment, and provide follow-up care. Their roles have improved follow-up care, reduced access to care, increased patient and provider satisfaction, enhanced patient safety, and decreased cost associated with ED utilization.

Integrated healthcare is becoming widely accepted in the United States. Currently, there are a number of models that have been implemented and demonstrated efficacy on symptom reduction, patient satisfaction, health care utilization, cost-effectiveness, relationship status, and

clinical care outcomes. These models include the co-located collaborative models, the PCBH, a "blended" model, and the PCMH. Aspects of these established models have informed the proposed model of integration in the ED.

In the proposed model of integration, psychologists will be fully integrated and will work on an interdisciplinary team with all other healthcare providers to provide assessment, consultation, and same-day evidenced-based brief (15 to 30 minute) interventions for a broad range of presenting problems. These problems include disease management, such as stress related cardiac issues, pain management, diabetes, substance use, and more. Other problems include mental health crisis stabilization and critical incidents. They will work in the same location as other healthcare providers to enhance referrals, communication, and ongoing learning within the department. Referrals will be made through a warm handoff or through a direct verbal report.

Psychologists will enhance their clinical competencies through continued education, workshops, and attending training programs. They can promote awareness and capitalize on teaching opportunities by bringing attention to issues of disease and diversity to their colleagues. More specifically, psychologists can destigmatize and breakdown stereotypes of behavioral health treatment. Psychologists will be able to enhance the teams understanding of the biopsychosocial factors that contribute to patients' medical conditions.

They will also attend and participate in staff meetings, engage in program evaluations, and assist with other care coordination efforts (Robinson & Reiter, 2016). Psychologists in the ED will primarily use evidenced-based interventions to address problems from the biopsychosocial perspective. These interventions include screening and assessment, psychoeducation from the stress-diathesis model, cognitive behavioral therapy and intervention,

MI, SBIRT, ACT, mindfulness stress reduction, brief trauma-focused treatment, risk assessments and crisis intervention, debriefings, preventing burnout, and continued needs assessment.

The implementation of integrated healthcare services has been limited due to the marginal success of other comprehensive models in the United States. Healthcare integration encounters challenges that make it difficult to complete this successfully. These include related reimbursement issues, limited capacity, resistance to change, information technology issues, confidentiality rules for behavioral health, time, and resources (Grazier et al., 2014; Gerrity et al., 2014).

There are best practices in making integration successful. These include prioritizing the underserved and vulnerable populations, using data-driven best practices, adopting a community-wide collaboration, seeking support from influential leaders and established institutions, using a team approach, and obtaining a diverse funding stream can promote successful interventions (Feldman et al., 2017). Successful integration also requires a shared vision, leadership coalition, and a framework for stakeholder support (e.g., government support). A shift in funding and resource allocation by incentivizing payments also needs to happen to promote successful integration. One way to accomplish successful integration may be through a global capitation system that offers a promising approach to providing cost-saving and quality health service delivery by having a pre-determined rate per person seen by the psychologist (Miller et al., 2017). Most importantly, it is the common values of patient-centered care that is fundamental and needs to remain attuned to in fostering a successful integration.

As the nation moves towards integrated models of care, it is important to evaluate the feasibility and utility of this model in the ED. This dissertation can be used as a guideline and theoretical model for the integration of psychologists in the ED for a future pilot study. It will

inform the need for additional research in the areas of systematic screening measures, evidenced-based single session interventions, targeting high-risk treatment populations to promote efficiency, stigma reduction, and cost-saving approaches to healthcare delivery. The findings can be used in the justification for future research. The role of psychologists in the ED may enhance the quality of care and service delivery in our nation's most utilized system for healthcare. Psychologists in the ED have an opportunity to make huge public health and population health impacts and promote health equity among all individuals.

References

Academic ED SBIRT Research Collaborative. (2007). The impact of screening, brief Intervention and referral to treatment of emergency department patients' alcohol use. *Annals of Emergency Medicine, 50*(6), 699–710. https://doi.org/10.1016/j.annemergmed.2007.06.486

Ackroyd, S. A., & Wexler, D. J. (2014). Effectiveness of diabetes interventions in the patient centered medical home. *Current Diabetes Report, 14*, 471. https://doi.org/10.1007/s11892-013-0471-z

Adaji, A., Melin, G. J., Campbell, R. L., Lohse, C., Westphal, J. J., & Katzelnick, D. J. (2018). Patient-centered medical home membership is associated with decreased hospital admissions for emergency department behavioral health patients. *Population Health Management, 21*(3), 172-179. https://doi.org/10.1089/pop.2016.0189

Agency for Healthcare Research and Quality [AHRQ]. (n.d.). *Defining the PCMH*. Retrieved on April 9, 2020, from https://pcmh.ahrq.gov/page/defining-pcmh

Agerwala, S. M., & McCance-Katz, E. F. (2012). Integrating screening, brief intervention, and referral to treatment (SBIRT) into clinical practice settings: A brief review. *Journal of Psychoactive Drugs, 44*(4), 3017-317. https://doi.org/10.1080/02791072.2012.720169

AHRQ. (2014). *Emergency room services mean and median expenses per person with expense and distribution of expenses by source of payment: United States, 2014. Medical expenditure panel survey household component data. Generated interactively.* Retrieved on December 8, 2019, from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html

AHRQ. (2018). *Warm handoffs: A guide for clinicians.* Retrieved on April 8, 2020, from https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient safety/patient-family-engagement/pfeprimarycare/warm-handoff-guide-for-clinicians.pdf

Aims Center. (2019). *Stepped Model of Integrated Behavioral Health Care.* Retrieved on April 9,2020, from https://aims.uw.edu/stepped-model-integrated-behavioral-health-care

Air Force Medical Service. (2013). *Behavioral health optimization program (BHOP).* Retrieved April 8, 2020 from http://www.airforcemedicine.af.mil/Media-Center/Fact-Sheets/Display

Allen, L. B., Tsao, J. C., Seidman, L. C., Ehrenreich-May, J., & Zeltzer, L. K. (2012). A unified, transdiagnostic treatment for adolescents with chronic pain and comorbid anxiety and depression. *Cognitive and Behavioral Practice, 19*(1), 56-67. https://doi.org/10.1016/j.cbpra.2011.04.007

Andersson, A. K., Omberg, M., & Svedlund, M. (2006). Triage in the emergency department-a qualitative study of the factors which nurses consider when making decisions. *Nursing Critical Care, 11,* 136–145. https://doi.org/10.1111/j.1362-1017.2006.00162

Angantyr, K., Rimner, A., Norden, T., & Norlander, T. (2015). Primary care behavioral health model: Perspectives of outcome, client satisfaction, and gender. *Social Behavior and Personality, 43*(2), 287 – 302. http://dx.doi.org/10.2224/sbp.2015.43.2.287

Arch, J. J., & Craske, M. G. (2008). Acceptance and commitment therapy and cognitive behavioral therapy for anxiety disorders: Different treatments, similar mechanisms? *Clinical Psychology: Science and Practice, 15*(4), 263-279. https://doi.org/10.1111/j.1468-2850.2008.00137.x

Armstrong, M. J., Mottershead, T. A., Ronksley, P. E., Sigal, R. J., Campbell, T. S., &

Hemmelgarn, B. R. (2011). Motivational interviewing to improve weight loss in overweight and/or obese patients: A systematic review and meta-analysis of randomized controlled trials. *Obesity Reviews, 12*(9), 709–723. https://doi.org/10.1111/j. 1467 789X.2011.00892.x.

Ashour, O. M., & Okudan Kremer, G. E. (2016). Dynamic patient grouping and prioritization: A new approach to emergency department flow improvement. *Health Care Management Science, 19*, 192-205. https://doi.org/10.1007/s10729-014-9311-1

Attkisson, C. C., & Zwick, R. (1982). The client satisfaction questionnaire: Psychometric properties and correlations with service utilization and psychotherapy outcome. *Evaluation and Program Planning, 5*(3), 233–237. https://doi.org/10.1016/0149-7189(82)90074-X

Babor, T. F., McRee, B. G., Kassebaum, P. A., Grimaldi, P. L., Ahmed, K., & Bray, J. (2007). Screening, brief intervention, and referral to treatment (SBIRT): Toward a public health approach to the management of substance abuse. *Substance Use, 28*(3), 7-30. https://doi.org/10.1300/J465v28n03_03

Bahr, R. (2000). Chest pain centers: Moving toward proactive acute coronary care. *International Journal of Cardiology, 72*(2), 101–110. http://doi.org/10.1016/S0167-5273(99)00160-6

Baker, M., Beachy, B., Bauman, D., Wilson, A., & Tiernan, K. (in revision). *Stress, psychological flexibility, and behavioral health satisfaction: An assessment and intervention study with primary care providers.*

Baraff, L. J., Janowicz, N., & Asarnow, J. R. (2006). Survey of California emergency departments about practices for management of suicidal patients and resources available for their care. *Annals of Emergency Medicine, 48*(4), 452–458. https://doi.org/

10.1016/j.annemergmed.2006.06.026

Barata, I. A., Shandro, J. R., Montgomery, M., Polanskey, R., Sachs, C. J., Duber, H. C., Weaver, L. M., Heins, A., Owen, H. S., Josephson, E. B., & Macias-Konstantopoulous, W. (2017). Effectiveness of SBIRT for alcohol use disorder in the emergency department: A systematic review. *Western Journal of Emergency Medicine, 18*(6), 1143 1152. https://doi.org/10.5811/westjem.2017.7.34373

Barish, R. A., McGauly, P. L., & Arnold, T. C. (2012). Emergency room crowding: A marker of hospital health. *Transactions of the American Clinical and Climotological Association, 123*, 304-311.

Barr, M. (2006). *The advanced medical home: A patient centered, physician-guided model of health care*. American College of Physicians. https://www.acponline.org/acp_policy/policies/adv_medicalhome_patient_centered_model_healthcare_2006.pdf

Barreto, M., & Gaynor, S. (2018). A single-session of acceptance and commitment therapy for health-related behavior change: Protocol description and initial case examples. *Behavior Analysis: Research and Practice, 19*, 47-59. https://doi.org/10.1037/bar0000093

Bauman, D. E. (2014). *A brief acceptance and commitment therapy protocol in an underserved primary care setting: ACTing your way with anxiety* [Unpublished doctoral dissertation]. The School of Professional Psychology at Forest Institute.

Bear, M., & Bowers, C. (1998). Using a nursing framework to measure client satisfaction at a nurse-managed clinic. *Public Health Nursing, 15*(1), 50-59. https://doi.org/10.1111/j.1525-1446.1998.tb00321.x

Beachy, B. R. (2014). *Utilizing brief sessions based on ACT principles to address weight*

management in primary care. Doctoral dissertation, The School of Professional Psychology at Forest Institute, Springfield, MO

Beachy, B., Bauman, D., & Baker, M. (in revision). *A brief, ACT, behavioral health protocol for treating hypertension in primary care.*

Beck, J. S. (2011). *Cognitive behavior therapy: Basics and beyond* (2nd ed.). Guilford Press.

Beck, A., Sanchez-Walker, E., Evans, L. J., Harris, V., Pegler, R., & Cross, S. (2017). Frequent users of mental health liaison services within emergency departments. *Psychiatry Research, 258,* 194-199. https://doi.org/10.1016/j.psychres.2017.08.006

Becker, K. D., Boustani, M., Gellatly, R., & Chorpita, B. F. (2018). Forty years of engagement research in children's mental health services: Multidimensional measurement and practice elements. *Journal of Clinical Child and Adolescent Psychology, 47*(1), 1-23. https://doi.org/10.1080/15374416.2017.1326121

Bee, P., Playle, J., Lovell, K., Barnes, P., Gray, R., & Keeley, P. (2008). Service user views and expectations of UK-registered mental health nurses: A systematic review of empirical research. *International Journal of Nursing Studies, 45*(3), 442–457. https://doi.org/10.1016/j.ijnurstu.2007.02.008

Beehler, G. P., Murphy, J. L., King, P. R., Dollar, K. M., Kearney, L. K., Haslam, A., Wade, M., & Goldstein, W. R. (2019). Brief cognitive behavioral therapy for choric pain: Results from a clinical demonstration project in primary care behavioral health. *The Clinical Journal of Pain, 35*(10), 809-817. https://doi.org/10.1097/AJP.0000000000000747

Bélanger, L., LeBlanc, M., & Morin, C. M. (2012). Cognitive behavioral therapy for insomnia in older adults. *Cognitive and Behavioral Practice, 19*(1), 101–115. https://doi.org/10.1016/j.cbpra.2010.10.003

Benjamin, R. M. (2012). Medication adherence: Helping patients take their medicines as directed. *Public Health Reports, 127*(1), 2–3. https://doi.org/10.1177/003335491212700102

Berwick, D. (2013). *A promise to learn—A commitment to act. Improving the safety of patients in England. National advisory group on the safety of patients in England. London: Stationery office.* Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/226703/Berwick_Report.pdf. Accessed April 8, 2020

Betz, M. E., Arias, S. A., Miller, M., Barber, C., Espinola, J. A., Sullivan, A. F., Manton, A. P., Miller, I., Camargo Jr., C. A., & Boudreaux, E. D. (2015). Change in emergency department providers' beliefs and practices after use of new protocols for suicidal patients. *Psychiatric Services, 66*(6), 625–631. https://doi.org/10.1176/appi.ps.201400244

Betz, M. E., & Boudreaux, E. D. (2016). Managing suicidal patients in the emergency department. *Annals of Emergency Medicine, 67*(2), 276–282. https://doi.org/10.1016/j.annemergmed.2015.09.001

Biglan, A. (1995). *Changing cultural practices: A contextualist framework for intervention research.* Context Press.

Biglan, A., & Hayes, S. C. (1996). Should the behavioral sciences become more pragmatic? The case for functional contextualism in research on human behavior. *Applied and Preventive Psychology, 5*(1), 47–57. https://doi.org/10.1016/S0962-1849(96)80026-6

Blasinsky, M., Goldman, H. H., & Unutzer, J. (2006). Project IMPACT: A report on barriers and facilitators to sustainability. *Administration and Policy in Mental Health and Mental Health Services Research, 33*(6), 718–29. https://doi.org/10.1007/s10488-006-0086-7

Blount, A., Schoenbaum, M., Kathol, R.,Rollman, B., Thomas, M., O'Donohue, W., & Peek, C. (2007). The economics of behavioral health services in medical settings: A summary of the evidence. *Professional Psychology: Research and Practice*, *38*(3), 290–97. https://doi.org/10.1037/0735-7028.38.3.290

Blow, F. C., Walton, M. A., Bohnert, A. S., Ignacio, R. V., Chermack, S., Cunningham, R. M., Booth, B. M., Iigen, M., & Barry, K. L. (2017). A randomized controlled trial of brief interventions to reduce drug use among adults in a low-income urban emergency department: The HealthiER you study. *Addiction, 112*(8), 1395-1405. https://doi.org/10.1111/add.13773

Bosworth, H. B., Granger, B. B., Mendys, P., Brindis, R., Burkholder, R., Czajkowski, S. M., Daniel, J. G., Ekman, I., Ho, M., Johnson, M., Kimmel, S. E., Liu, L. Z., Musaus, J., Shrank, W. H., Whalley, B. E., Weiss, K., & Granger, C. B. (2011). Medication adherence: A call for action. *American Heart Journal*, *162*(3), 412–424. https://doi.org/10.1016/j.ahj.2011.06.007

Boudreaux, J. G., Crapanzano, K. A., Jones, G. N., Jeider, T. A., Dodge, V. H., Hebert, M. J., & Kasofsky, J. M. (2016). Using mental health outreach teams in the emergency Department to improve engagement in treatment. *Community Mental Health Journal, 52*(8), 1009-1014. https://doi.org/10.1007/s10597-015-9935-8

Bower, P., & Gilbody, S. (2005). Stepped care in psychological therapies: Access, effectiveness and efficiency. Narrative literature review. *The British Journal of Psychiatry*, *186*, 11–17. http://dx.doi.org/10.1192/bjp.186.1.11

Brackenridge, A., Wallbank, H., Lawrenson, R. A., & Russell-Jones, D. (2006). Emergency management of diabetes and hypoglycemia. *Emergency Medicine Journal, 23*(3), 183-185. https://doi.org/10.1136/emj.2005.026252

Brawer, P. A., Martielli, R., Pye, P. L. Manwaring, J., & Tierney, A. (2010). St. Louis initiative for integrated care excellence (SLI(2)CE): Integrated-collaborative care on a large scale model. *Family Systems Health, 28*(2), 175-187. https://doi.org/10.1037/a0020342

Bray, J. W., Cowell, A. J., & Hinde, J. M. (2011). A systematic review and meta-analysis of health care utilization outcomes in alcohol screening and brief intervention trials. *Medical care, 49*(3), 287-294. https://doi.org/10.1097/MLR.0b013e318203624f.

Bray, J. W., Del Boca, F. K., McRee, B. G., Hayashi, S. W., & Babor, T. F. (2017). Screening, brief intervention and referral to treatment (SBIRT): Rationale, program overview and cross-site evaluation. *Addiction, 112*(2), 3-11. https://doi.org/10.1111/add.13676.

Bridgeman, P. J., Bridgeman, M. B., & Barone, J. (2018). Burnout syndrome among healthcare professionals. *American Journal of Health-System Pharmacy, 75*(3), 147-152. https://doi.org/10.2146/ajhp170460

Britt, T. W., Jennings, K. S., Cheung, J. H., Pury, C. L., & Zinzow, H. M. (2015). The role of different stigma perceptions in treatment seeking and dropout among active duty military personnel. *Psychiatric Rehabilitation Journal, 38*(2), 142–149. http://dx.doi.org/10.1037/prj0000120

Brown, N. B., & Bruce, S. E. (2016). Stigma, career worry, and mental illness symptomatology: Factors influencing treatment-seeking for operation enduring freedom and operation Iraqi freedom soldiers and veterans. *Psychological Trauma: Theory, Research, Practice and Policy,* 8(3), 276–283. http://dx.doi.org/10.1037/tra0000082

Bryan, C. J., Blount, T., Kanzler, K. A., Morrow, C. E., Corso, K. A., Corso, M. A., & Ray-Sannerud, B. (2014). Reliability and normative data for the Behavioral Health Measure (BHM) in primary care behavioral health settings. *Families, Systems, & Health, 32*(1), 89–100. http://dx.doi.org/10.1037/fsh0000014

Bryan, C. J., Morrow, C., & Appolonio, K. K. (2009). Impact of behavioral health consultant interventions and functioning in an integrated family medicine clinic. *Journal of Clinical Psychology, 65*(3), 281–293. https://doi.org/10.1002/jclp.20539

Budde, K. S., Friedman, D., Alli, K., Randell, J., Kang, B., & Feuerstein, S. (2017). Integrating behavioral health and primary care in two New Jersey federally qualified health centers. *Psychiatric Services, 68*(11), 1095-1097. https://doi.org/10.1176/appi.ps.201700240

Bush, K., Kivlahan, D. R., McDonell, M. B., Fihn, S. D., & Bradley, K. A. (1998). The AUDIT alcohol consumption questions (AUDIT-C): An effective brief screening test for problem drinking. *Archives of International Medicine, 158*(16), 1789–1795. https://doi.org/10.1001/archinte.158.16.1789

Buysse, D. J., Germain, A., Moul, D. E., Franzen, P. L., Brar, L. K., Fletcher, M. E., Begley, A., Houck, P. R., Mazumdar, S., Reynolds, C. F., & Monk, T. H. (2011). Efficacy of brief behavioral treatment for chronic insomnia in older adults. *Archives of International Medicine, 171*(10), 887–895. https://doi.org/10.1001/archinternmed.2010.535

Cahill, S. P., & Foa, E. B. (2007). Psychological theories of PTSD. In M. J. Friedman, T. M. Keane, & P. A. Resick (Eds.), *Handbook of PTSD: Science and practice* (pp. 55–77). Guilford Press.

Capoccia, L., & Labre, M. (2015). *Caring for adult patients with suicide risk: A consensus-based*

guide for emergency departments. Education Development Center, Inc. http://www.sprc.org/ed-guide

Capp, R., Hardy, R., Lindrooth, R., & Wiler, J. (2016). National trends in emergency department visits by adults with mental health disorders. *The Journal of Emergency Medicine, 51,* 131-135. http://dx.doi.org/10.1016/j.jemermed.2016.05.002

Carlson L. E. (2012). Mindfulness-based interventions for physical conditions: A narrative review evaluating levels of evidence. *ISRN Psychiatry, 2012,* 651583.https://doi.org/10.5402/2012/651583

Carter, S. P., Loew, B., Allen, E. S., Orborne, L., Stanley, S. M., & Markman, H. J. (2015). Distraction during deployment: Marital relationship associations with spillover for deployed army soldiers. *Military Psychology, 2*(2), 108–114. https://doi.org/10.1037/mil0000067.

Celano, C. M., Daunis, D. J., Lokko, H. N., Campbell, K. A., & Huffman, J. C. (2016). Anxiety disorders and cardiovascular disease. *Current Psychiatry Reports, 18*(11), 101. https://doi.org/10.1007/s11920-016-0739-5

Celano, M. C., Healy, B., Suarez, L., Levy, D. E., Mastromauro, C., Januzzi, J. L., & Huffman, J. C. (2016). Cost-effectiveness of a collaborative care depression and anxiety program in patients with acute cardiac illness. *Value in Health, 19*(2), 185-191. http://dx.doi.org/10.1016/j.jval.2015.12.015

Center for Disease Control and Prevention (CDC). (2010). *International classification of diseases, tenth revision, clinical modification* [ICD-10-CM]. https://www.cdc.gov/nchs/icd/icd10cm.htm

Centers for Disease Control and Prevention (CDC). (2016). *Tips for better sleep.* https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html

Center for Substance Abuse Treatment. (1999). *Motivational interviewing as a counseling style*. Substance Abuse and Mental Health Services Administration. https://www.ncbi.nlm.nih.gov/books/NBK64964/

Chakravarthy, B., Menchine, M., Thompson, D. E., Rajeev, S., & Santos, B. J. (2013). Psychiatric patient disposition agreement between the emergency physician and the psychiatry consultant. *Crisis, 34*(5), 354-362. https://doi.org/10.1027/0227-5910/a000195

Cherry, D., Albert, M., & McCaig, L. F. (2018). Mental health-related physician office visits by adults aged 18 and over: United States, 2012-2014. *NCHS Data Brief, 311,* 1-8.

Chiles, J. A., Lambert, M. J., & Hatch, A. L. (2006). The impact of psychological interventions on medical cost offset: A meta-analytic review. *Clinical Psychology: Science and Practice, 6*(2), 204–220. https://doi.org/10.1093/clipsy/6.2.204

Cigrang, J. A., Dobmeyer, A. C., Becknell, M. E., Roa-Navarrete, R. A., & Yerian, S. R. (2006). Evaluation of a collaborative mental health program in primary care: Effects on patient distress and health care utilization. *Journal of Community and Primary Care Psychiatry, 11*(3), 121–127. https://doi.org/10.1185/135525706X121192.

Cigrang, J., Rauch, S. A., Bryan, C. J., & Goodie, J. L. (2011). Treatment of active-cuty military with PTSD in primary care: Early findings. *Psychological Services, 8,* 104-113. https://doi.org/10.1037/a0022740

Cigrang, J. A., Rauch, S. A., Mintz, J., Brundige, A., Avila, L. L., Bryan, C. J., Goodie, J. L.,

Peterson, A. L., & the STRONG STAR Consortium. (2015). Treatment of active duty military with PTSD in primary care: A follow-up report. *Journal of Anxiety Disorders, 36*, 110–114. http://dx.doi.org/10.1016/j.janxdis.2015.10.003

Cigrang, J. A., Rauch, S. A., Mintz, J., Brundige, A., Mitchell, J. A., Najera, E., Litz, B. T., Young-McCaughan, S., Roache, J. D., Hembree, E. A., Goodie, J. L., Sonnek, S. M., Peterson, A. L., & the Strong STAR Consortium. (2017). Moving effective treatment for posttraumatic stress disorder to primary care: A randomized controlled trial for active duty military. *Family Systems Health*, 35(40), 450-462. https://doi.org/10.1037/fsh0000315

Clay, R. A. (2016). An emergency care psychologist. *Monitor on Health Psychology, 47*(4), 7-8.

Collins, C., Hewson, D. L., Munger, R., & Wade, T. (2010). *Evolving models of behavioral health integration in primary care*. Retrieved from https://www.milbank.org/wp-content/uploads/2016/04/EvolvingCare.pdf

Coleman, K. J., Hemmila, T., Valenti, M. D., Smith, N., Quarrell, R., Ruona, L. K., Brandenfels, E., Hann, B., Hinnenkamp, T., Parra, M. D., Monkman, J., Vos, S., & Rossom, R. C. (2017). Understanding the experience of care managers and relationship with patient outcomes: The COMPASS initiative. *General Hospital Psychiatry, 44*, 86–90. https://doi.org/10.1016/j.genhosppsych.2016.03.003

Coleman, K. J., Magnan, S., Neely, C., Solberg, L., Beck, A., Trevis, J., Heim, C., Williams, M., Katzelnick, D., Unutzer, J., Pollock, B., Hafer, E., Ferguson, R., & Williams, S. (2017). The COMPASS initiative: Description of a national wide collaborative approach to the care of patients with depression and diabetes and/or cardiovascular disease. *General Hospital Psychiatry, 44*, 69-76. http://dx.doi.org/10.1016/j.genhosppsych.2016.05.007

Commonwealth Department of Health and Ageing. (2002). *Medicare benefits schedule book: Operating from 1 November 2002*. Commonwealth Department of Health and Aging. http://www.health.gov.au/pubs/mbs/mbs/css/mbs_book_nov_02?cata.pdf

Cooper, R. J. (2004). Emergency department triage: Why we need a research agenda. *Annals of Emergency Medicine*, *44*(5), 524–526. https://doi.org/10.1016/j.annemergmed.2004.07.432

Cordova, J. V. (2009). *The marriage checkup: A scientific program for sustaining and strengthening marital health*. Jason Aronson.

Cordova, J. V., Cigrang, J. A., Gray, T. D., Najera, E., Havrilenko, M., Pinkley, C., Nielsen, M., Tatum, J., & Redd, K. (2017). Addressing relationship health needs in primary care: Adapting the marriage checkup for use in medical settings with military couples. *Journal of Clinical Psychology in Medical Settings, 24,* 259-269. https://doi.org/10.1007/s10880017-9517-8

Cordova, J. V., Fleming, C. J., Morrill, M. I., Hawrilenko, M., Sollenberger, J. W., Harp, A. G., Gray T., D., Darling, E. V., Blair, J. M., Meade, A. E., & Wachs, K. (2014). The marriage checkup: A randomized controlled trial of annual relationship health checkups. *Journal of Consulting and Clinical Psychology*, *82*(4), 592–604. https://doi.org/10.1037/a0037097

Cordova, J. V., Scott, R. L., Dorian, M., Mirgain, S., Yaeger, D., & Groot, A. (2005). The marriage checkup: An indicated preventive intervention for treatment-avoidant couples at risk for marital deterioration. *Behavior Therapy, 36*(4), 301–309. https://doi.org/10.1016/S0005-7894(05)80112-1

Craven, M., & Bland, R. (2006). Better practices in collaborative mental health care: An analysis

of the evidence base. *The Canadian Journal of Psychiatry, 51,* 1-74.

Cuijpers, P., van Straten, A., van Schaik, A., & Andersson, G. (2009). Psychological treatment of depression in primary care: A metanalysis. *The British Journal of General Practice, 59*(559), e51–e60. https://doi.org/10.3399/bjgp09X395139

Cummings, N. A., O'Donohue, W. T., & Cummings, J. L. (2009). The financial dimension of integrated behavioral/primary care. *Journal of Clinical Psychology in Medical Settings, 16*(1)**,** 31–39. https://doi.org/10.1007/s10880-008-9139-2

Cutler, D. M., & Kaushik, G. (2012). The potential for cost savings through bundled episode payments. *The New England Journal of Medicine, 366*(12), 1075–1077. http://dx.doi.org/10.1056/NEJMp1113361

Dahl, J., Wilson, K. G., & Nilsson, A. (2004). Acceptance and commitment therapy and the treatment of persons at risk for long-term disability resulting from stress and pain symptoms: A preliminary randomized trial. *Behavior Therapy, 35*(4), 785–801. https://doi.org/10.1016/S0005-7894(04)80020-0

Dammen, T., Arnesen, H., Ekeberg, O., & Friis, S. (2004). Psychological factors, pain attribution and medical morbidity in chest-pain patients with and without coronary artery disease. *General Hospital Psychiatry, 26*(6), 463–469. https://doi.org/10.1016/j.genhosppsych.2004.08.004

Daughters, S. B., Braun, A. R., Sargeant, M. N., Reynolds, E. K., Hopko, D. R., Blanco, C., & Lejuez, C. W. (2008). Effectiveness of a brief behavioral treatment for inner-city illicit drug users with elevated depressive symptoms: The life enhancement treatment for substance use (LETS Act!). *The Journal of Clinical Psychiatry, 69*(1), 122–129. http://dx.doi.org/10.4088/JCP.v69n0116

Daughters, S. B., Magidson, J. F., Anand, D., Seitz-Brown, C. J., Chen, Y., & Baker, S. (2018). The effect of a behavioral activation treatment for substance use on post-treatment abstinence: A randomized controlled trial. *Addiction, 113*(3), 535–544. https://doi.ord/10.1111/add.14049

Davis, D. P., Jandrisevits, M. D., Iles, S., Weber, T. S., & Gallo, L. C. (2012). Demographic, socioeconomic, and psychological factors related to medication non-adherence among emergency department patients. *Journal of Emergency Medicine, 43*(5), 773-785. https://doi.org/10.1016/j.jemermed.2009.04.008

Davis, M. J., Moore, K. M., Meyers, K., Mathews, J., & Zerth, E. O. (2016). Engagement in mental health treatment following primary care mental health integration contact. *Psychological Services, 13*(4), 333–340. http://dx.doi.org/10.1037/ser0000089

Del Boca, F. K., McRee, B., Vendetti, J., & Damon, D. (2017). The SBIRT program matrix: A conceptual framework for program implementation and evaluation. *Addiction, 112*, 12-22. https://doi.org/10.1111/add.13656

Demonceau, J., Ruppar, T., Kristanto, P., Hughes, D. A., Fargher, E., Kardas, P., De Geestt, S., Dixon, J., Smith, P., Gravelle, H., Martin, S., Bardsley, M., Rice, N., Georghiou, T., Dusheiko, M., Billings, J., De Lorenzo, M., & Sanderson, C. (2011). A person based formula for allocating commissioning funds to general practices in England: Development of a statistical model. *British Medical Journal, 343*, 1-16. https://doi.org/10.1136/bmj.d6608

Dopp, A. R., Smith, A. B., Dueweke, A. R., & Bridges, A. J. (2018). Cost-savings analysis of primary care behavioral health in a pediatric setting: Implications for provider agencies and training programs. *Clinical Practice in Pediatric Psychology, 6*(2), 129-139. http://dx.doi.org/10.1037/cpp000023

Eccleston, C., Williams, A. C., & Morley, S. (2009). Psychological therapies for the management of chronic pain (excluding headache) in adults. *Cochrane Database of Systematic Reviews, 15*(2), CD007407. https://doi.org/10.1002/14651858.CD007407.pub2

Edward, K., Giandinoto, J., Weiland, T. J., Hutton, J., & Reel, S. (2018). Brief interventions of de-escalate disturbances in emergency departments. *British Journal of Nursing*, 27(6), 322-327. https://doi.org/10.12968/bjon.2018.27.6.322

Eisenberg, E. M., Murphy, A. G., Sutcliffe, K., Wears, R., Schenkel, S., Perry, S., & Vanderhoef, M. (2005). Communication in emergency medicine: Implications for patient safety. *Communication Monographs, 72*(4), 390–413. https://doi.org/10.1080/03637750500322602

Ewing, J. A. (1984). Detecting alcoholism: The CAGE questionnaire. *JAMA, 252*(12), 1905-1907. https://doi.org/10.1001/jama.252.14.1905

Feldman, B. J., Calogero, C. G., Elsayed, K. S., Abbasi, O. Z., Enyart, J., Friel, T. J., Abunamous, Y. H., Dusza, S. E., & Greenberg, M. R. (2017). Prevalence of homelessness in the emergency department setting. *Western Journal of Emergency Medicine, 18*(3), 366-372. https://doi.org/10.5811/westjem.2017.1.3305

Fleet, R. P., Lavoie, K. L., Martel, J. P., Dupuis, G., Marchand, A., & Beitman, B. D. (2003). Two-year follow-up status of emergency department patients with chest pain: Was it panic disorder? *Canadian Journal of Emergency Medicine, 5*(4), 247–254. https://doi.org/10.1017/s1481803500008447

Frank, R. G., Huskamp, D. A., & Pincus, H. A. (2003). Aligning incentives in the treatment of

depression in primary care with evidence-based practice. *Psychiatry Services, 54*(5), 682–687. https://doi.org/10.1176/appi.ps.54.5.682

Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues, 30*(3), 159-165. https://doi.org/10.1111/j.1540-4560.1974.tb00706.x

Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A. M., Riggs, D. S., Feeny, N. C., & Yadin, E. (2005). Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology, 73*(5), 953–964. http://dx.doi.org/10.1037/0022-006X.73.5.953

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (Eds.). (2009). *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies* (2nd ed.). Guilford Press.

Foa, E. B., Riggs, D. S., Dancu, C. V., & Rothbaum, B. O. (1993). Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *Journal of Traumatic Stress, 6*(4), 459–473. http://dx.doi.org/10.1002/jts.2490060405

Fortney, J., Sladek, R., Unutzer, J., Kennedy, P., Harbin, H., Alfred, L., & Carneal, G. (2015). *Fixing Behavioral Health Care in America: A National Call for Integrating and Coordinating Specialty Behavioral Health Care with the Medical System*. The Kennedy Forum.

Funderburk, J. S., Pigeon, W. R., Shepardson, R. L., & Maisto, S. A. (2019). Brief behavioral activation intervention for depressive symptoms: Patient satisfaction, acceptability, engagement, and treatment response. *Psychological Services, 1,* 1-9. http://dx.doi.org/10.1037/ser0000328

Funderburk, J. S., Sugarman, D. E., Labbe, A. K., Rodrigues, A., Maisto, S. A., & Nelson, B. (2011). Behavioral health interventions being implemented in a VA primary care system. *Journal of Clinical Psychological in Medical Settings, 18*(1), 22-29. https://doi.org/10.1007/s10880-011-9230-y.

Funderburk, J. S., Sugarman, D. E., Maisto, S. A., Ouimette, P., Schohn, M., Lantinga, L., Wray, L., Batki, S., Nelson, B., Coolhart, D., & Strutynski, K. (2010). The description and evaluation of the implementation of an integrated healthcare model. *Family Systems Health, 28*(2), 146-160. https://doi.org/10.1037/a0020223

Geller, A. I., Shehab, N., Lovegrove, M. C., Kegler, S. R., Weidenbach, K. N., Ryan, G. J., Bunditz, D. S. (2014). National estimates of insulin-related hypoglycemia and errors leading to emergency department visits and hospitalizations. *JAMA International Medicine, 174*(5), 678–686. https://doi.org/10.1001/jamainternmed.2014.136

Gerber, R. A., Liu, G., & McCombs, J. S. (1998). Impact of pharmacist consultations provided to patients with diabetes on healthcare costs in a health maintenance organization. *American Journal of Management Care, 4*(7), 991-1000.

Gerrity, M., Zoller, E., Pinson, N., Pettinari, C., & King, V. (2014). *Integrating primary care into behavioral health settings: What works for individuals with serious mental illness.* Milbank Memorial Fund.

Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Antonuccio, D. O., Piasecki, M. M., Rasmussen-Hall, M. L., & Palm, K. M. (2004). Acceptance-based treatment for smoking cessation. *Behavior Therapy, 35*(4), 689–705. https://doi.org/10.1016/S0005-7894(04)80015-7

Gilboy, N., Tanabe, P., Travers, D., & Rosenau, A. M. (2012). *Emergency severity index (ESI): a triage tool for emergency department care, version 4.* Agency for Healthcare Research and Quality.

Gill, M. (2017). Augmented care: An alternative model of care of people with chronic disease. *International Journal of Care Coordination, 20*(1-2), 5-7. https://doi.org/10.1177/2053434517711416

Glasper, A., & Quiddington, J. (2009). Communication. In A. Glasper, G. McEwing, & J. Richardson (Eds.), *Foundations studies for caring: Using student-centered learning* (pp. 79–93). Red Globe Press.

Glynn, L. G., Valderas, J. M., Healy, P., Burke, E., Newell, J., Gillespie, P., & Murphy, A. W. (2011). The prevalence of multimorbidity in primary care and its effect on health care utilization and cost. *Family Practice*, *28*(5), 516-523. https://doi.org/10.1093/fampra/cmr013

Goldstein, E. S. R., Harmon, A. L., Smith, A. M., Zayed, M. H., Bernardy, N. C., & Scott, D. L. (2009). *Brief posttraumatic stress recovery intervention in a VA primary care setting*. Unpublished manuscript.

Goodie, J. L., & Hunter, C. L. (2014). Practical guidance for targeting insomnia in primary care settings. *Cognitive and Behavioral Practice, 21*(3), 261-268. https://doi.org/10.1016/j.cbpra.2014.01.001

Goodie, J. L., Isler, W. C., Hunter, C., & Peterson, A. L. (2009). Using behavioral health consultant to treat insomnia in primary care: A clinical case series. *Journal of Clinical Psychology, 65*(3), 294–304. https://doi.org/10.1002/jclp.20548

Gottlieb, K. (2013). The Nuka System of Care: improving health through ownership and

relationships. *International Journal of Circumpolar Health, 72*(1), 21118. https://doi.org/10.3402/ijch.v72i0.21118

Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes.* Lawrence Erlbaum Associates, Inc. doi:10.5860/choice.31-5739

Gouge, N., Polaha, J., Rogers, R., & Harde, A. (2016). Integrating behavioral health into pediatric primary care, implications for provider time and cost. *The Southern Medical Journal, 109*(12), 774-778. https://doi.org/10.14423/SMJ.0000000000000564

Grazier, K. L., Smith, J. E., Song, J., & Smiley, M. L. (2014). Integration of depression and primary care: Barriers to adoption. *Journal of Primary Care Community Health, 5*(1), 67 73. https://doi.org/10.1177/2150131913491290

Gregg, J. A., Callaghan, G. M., Hayes, S. C., & Glenn-Lawson, J. L. (2007). Improving diabetes self-management through acceptance, mindfulness, and values: A randomized controlled trial. *Journal of Clinical and Consulting Psychology, 75*(2), 336–334. https://doi.org/10.1037/0022-006X.75.2.336

Grumbach, K., & Bodenheimer, T. (2002). A primary care home for Americans: Putting the house in order. *JAMA, 288*(7), 889 –93. https://doi.org/10.1001/jama.288.7.889

Hall, L. H., Johnson, J., Watt, I., Tsipa, A., & O'Connor, D. B. (2016). Healthcare staff wellbeing, burnout, and patient safety: A systematic review. *PloS one*, *11*(7), e0159015. https://doi.org/10.1371/journal.pone.0159015

Harmon, L. A., Goldstein, E. S., Shiner, B., & Watts, B. A. (2014). Preliminary findings for a brief post-traumatic stress intervention in primary mental health care. *Psychological Services, 11*(3), 295-299. https://doi.org/10.1037/a0035846

Hatoum, H. T., Kong, S. X., Kania, C. M., Wong, J. M., & Mendelson, W. B. (1998). Insomnia,

health-related quality of life and healthcare resource consumption: A study of managed care 186andomized186n enrollees. *Pharmacoeconomic, 14*(6), 629-637. https://doi.org/10.2165/00019053-199814060-00004

Hayes, S. C. (2004). Acceptance and commitment therapy, relational frame theory, and the third wave of behavioral and cognitive therapies. *Behavior Therapy, 35,* 639-665.

Hayes, T. O. (2018). *Primer: Examining trend in emergency department utilization and costs*. American Action Forum. https://www.americanactionforum.org/research/primer examining-trends-in-emergency-department-utilization-and-costs/

Hayes, S. L., McCarthy, D., & Radley, D. (2016). *The impact of a behavioral health condition on high-need adults.* The Commonwealth Fund.

Hayes, S., Strosahl, K., & Wilson, K. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. The Guilford Press.

Hawk, K., & D'Onofrio, G. (2018). Emergency department screening and interventions for substance use disorders. *Addiction Science & Clinical Practice*, *13*, 18. https://doi.org/10.1186/s13722-018-0117-1

Hawrilenko, M., Gray, T., & Cordova, J. V. (2015). The heart of change: Acceptance and intimacy mediate treatment response in a brief couples intervention. *Journal of Family Psychology*, *30*(1), 93-103. https://doi.org/10.1037/fam0000160

Health Behavior Assessment and Intervention Services. (2020). *CPT Codes and Descriptions.* American Psychological Association Service Inc. https://www.apaservices.org/practice/reimbursement/health-codes/descriptors.pdf

Heaton, P. C., Tundia, N. L., & Luder, H. R. (2013). U.S. emergency department visits resulting from poor medication adherence: 2005-07. *Journal of the American Pharmacist Association, 53*(5), 513-519. https://doi.org/10.1331/JAPhA.2013.12213

Heisler, E. J., & Tyler, N. L. (2014). *Hospital-based emergency departments: Background and policy considerations*. Congressional Research Service. https://fas.org/sgp/crs/misc/R43812.pdf

Henry, S. G., Bell, R. A., Fenton, J. J., & Kravitz, R. L. (2017). Goals of chronic pain management: Do patients and primary care physicians agree and does it matter? *Clinical Journal of Pain, 33*(11), 955-961. https://doi.org/10.1097/AJP.0000000000000488

Hepworth, I., & McGowen, L. (2014). Understanding the management of people seeking voluntary psychiatric hospitalization who do not meet the criteria for inpatient admission: A qualitative study of mental health liaison nurses working in accident and emergency departments in the north of England. *Archives of Psychiatric Nursing, 29*(1), 26-32. http://dx.doi.org/10.1016/j.apnu.2014.09.012

Herman, P. M., Anderson, M. L., Sherman, K. J., Balderson, B. H., Turner, J. A., & Cherkin, D. C. (2017). Cost-effectiveness of mindfulness-based stress reduction versus cognitive behavioral therapy or usual care among adults with chronic low back pain. *Spine, 42*(20), 1511–1520. https://doi.org/10.1097/BRS.0000000000002344

Hockberger, R. S., Binder, L. S., Graber, M. A., Hoffman, G. L., Perina, D. G., Schneider, S. M., Sklar, D. P., Strauss, R. W., Viravec, D. R., Koeing, W. J., Auguustine, J. J., Burdick, W. P., Henderson, W. V., Lawrence, L. L., Levy, D. B., McCall, J., Parnell, M. A., & Shoji, K. T. (2001). The model of the clinical practice of emergency

medicine. *Annals of Emergency Medicine, 36,* 745-770. https://doi.org/10.1067/mem.2001.115495

Horwitz, L. I., Green, J., & Bradley, E. H. (2010). US emergency department performance on wait time and length of visit. *Annals of Emergency Medicine, 55*(2), 133-141. https://doi.org/10.1016/j.annemergmed.2009.07.023

Howarth, A., Smith, J.G., Perkins-Porras, L., & Ussher, M. (2019). Effects of brief mindfulness based interventions on health-related outcomes: a systematic review. *Mindfulness, 10***,** 1957–1968. https://doi-org.proxy1.library.jhu.edu/10.1007/s12671-019-01163-1

Hubley, S., Uebelacker, L., & Eaton, C. (2014). Managing medically unexplained symptoms in primary care: A narrative review and treatment recommendations. *American Journal of Lifestyle Medicine, 10*(2), 109-119. https://doi.org/10.1177/1559827614536865

Hubley, S., Ubelacker, L., Nash, J., & Eaton, C. B. (2017). Open trial of integrated primary care consultation for medically unexplained symptoms. *Journal Behavioral Health Services Research, 44*(4), 590-601. https://doi.org/10.1007/s11414-016-9528-5

Huffman, J. C., Adams, C. N., & Celano, C. M. (2018). Collaborative care and related interventions in patients with heart disease: An update and new directions. *Psychosomatics, 59*(1), 1-18. https://doi.org/10.1016/j.psym.2017.09.003

Huffman, J. C., Beach, S. R., Suarez, L., Mastromauro, C. A., DuBois, C. M., Celano, C. M., Rollman, B. L., & Januzzi, J. L. (2013). Design and baseline data from the management of sadness and anxiety in cardiology (MOSAIC) randomized controlled trial. *Contemporary Clinical Trials,* 36(2), 488-501. http://dx.doi.org/10.1016/j.cct.2013.09.012

Huffman, J. C., Mastromauro, C. A., Beach, S. R., Celano, C. M., DuBois, C. M., Healy, B. C.,

Suarez, L., Rollman, B. L., & Januzzi, J. L. (2014). Collaborative care for depression and anxiety disorders in patients with recent cardiac events: the management of sadness and anxiety in cardiology (MOSAIC) randomized clinical trial. *JAMA International Medicine, 174*(6), 927-935. https://doi.org/10.1001/jamainternmed.2014.739

Huffman, J. C., Mastromauro, C. A., Sowden, G., Fricchione, G. L., Healy, B. C., & Januzzi, J. L. (2011a). Impact of a depression care management program for hospitalized patients. *Circulation Cardiovascular Quality and Outcomes, 4*(2), 198-205. https://doi.org/10.1161/CIRCOUTCOMES.110.959379

Huffman, J. C., Mastromauro, C. A., Sowden, G. A., Wittmann, C. L., Rodman, R., Januzzi, J. L. (2011b). A collaborative care depression management program for cardiac inpatients: Depression characteristics and in-hospital outcomes. *Psychosomatics, 52*(1), 26–33. https://doi.org/ 10.1016/j.psym.2010.11.021

Hunter, C. L., Goodie, J. L., Dobmeyer, A. C., & Dorrance, K. A. (2014). Tipping points in the Department of Defense's experience with psychologists in primary care. *American Psychologist, 69*, 388–398. https://doi.org/10.1037/a0035806

Hunter, C. L., Goodie, J. L., Oordt, M. S., & Dobmeyer, A. C. (2017). *Integrated behavioral health in primary care: Step-by-step guidance for assessment and intervention* (2nd ed.). American Psychological Association. Doi: 10.1037/0000017-000

Hunter, C. L., Goodie, J. L., Oordt, M. S., & Dobmeyer, A. C. (2009). *Integrated behavioral health in primary care: Step-by-step guidance for assessment and intervention.* American Psychological Association.

Iragorri, N., & Spackman, E. (2018). Assessing the value of screening tools: Reviewing the challenges and opportunities of cost-effectiveness analysis. *Public Health*

*Revision, 39***,** 17. https://doi.org/10.1186/s40985-018-0093-8

Innes, K., Morphet, J., O'Brien, P. A., & Munro, I. (2013). Caring for mental illness patient in emergency departments – An exploration of the issues from a healthcare provider perspective. *Journal of Clinical Nursing, 23*(13-14), 2003-2011. https://doi.org/10.1111/jocn.12437

Irish, L. A., Kline, C. E., Gunn, H. E., Buysse, D. J., & Hall, M. H. (2015). The role of sleep hygiene in promoting public health: A review of empirical evidence. *Sleep Medicine Review, 22,* 23-36. https://doi.org/10.1016/j.smrv.2014.10.001

Jacobs, D. G., Baldessarini, R. J., Conwell, Y., Fawcett, J. A., Horton, L., Meltzer, H., Pfeffer, C. R., & Simon, R. I. (2010). *Practice guideline for the assessment and treatment of patients with suicidal behaviors.* American Psychiatric Association. https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/suicide.pdf

Jacobson, N. S., & Christensen, A. (1996). *Acceptance and change in couple therapy: A therapist's guide to transforming relationships*. Norton.

Jeffries, D. (2019). Emergency department triage: Not for the faint of heart. *The Journal of Legal Nurse Consulting, 30,* 8-13.

Jiang, J. H., Weiss, A. J., & Barrett, M. L. (2017). *Characteristics of emergency department visits for super high utilizers by payer, 2014.* Agency for Healthcare Research and Quality. https://www.hcupus.ahrq.gov/reports/statbriefs/sb221-Super-Utilizer-ED-Visits-Payer-2014.jsp

Kabat-Zinn J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10*(2), 144–156.

https://doi.org/10.1093/clipsy.bpg016

Kanzler, K. E., Robinson, P. J., Munante, M., McGeary, D., Potter, J., Macintyre, B., Lopez, E., Hale, W., Mintz, J., & Velligan, D. (2017). A novel treatment delivery of acceptance and commitment therapy for chronic pain in an integrated primary care setting. *Journal of Clinical and Translational Science, 1*, 69-69. https://doi.org/10.1017/cts.2017.245

Kathol, R. G., Butler, M., McAlpine, D. D., & Kane, R. L. (2010). Barriers to physical and mental condition integrated service delivery. *Psychosomatic Medicine, 72*(6), 511–518. https://doi.org/10.1097/PSY.0b013e3181e2c4a0

Katon,W., Russo, J., Lin, E. H., Schmittdiel, J., Ciechanowski, P., Ludman, E., Peterson, D., Young, B., & Van Korff, M. (2012). Cost-effectiveness of a multicondition collaborative care intervention: A randomized controlled trial. *Archives of General Psychiatry, 69*(5), 506–514. http://doi.org/10.1001/archgenpsychiatry.2011.1548

Katon, W., & Unutzer, J. (2011). Consultation psychiatry in the medical home and accountable care organizations: achieving the triple aim. *General Hospital Psychiatry, 33*(4), 305 310. https://doi.org/10.1016/j.genhosppsych.2011.05.011

Kearney, L. K., Post, E. P., Pomerantz, A. S., & Zeiss, A. M. (2014). Applying the inter professional patient aligned care team in the Department of Veterans Affairs: Transforming primary care. *American Psychologist, 69*(4), 399–408. http://dx.doi.org/10.1037/a0035909

Keller-Senn, A., Lee, G., Imhof, L., & Sturt, J. (2017). Hypoglycemia and brief interventions in the emergency department – A systematic review. *International Emergency Nursing, 34*, 43-50. http://dx.doi.org/10.1016/j.ienj.2017.02.006

Kerrison, S. A., & Chapman, R. (2007). What general emergency nurses want to know about mental health patients presenting to their emergency department. *Accident an Emergency Nursing*, *15*(1), 48–55. https://doi.org/1016/j.aaen.2006.09.003

Kessler, D. O., Cheng, A., & Mullan, P. C. (2015). Debriefing in the emergency department after clinical events: A practical guide. *Annals of Emergency Medicine, 65*(6), 690-698. https://doi.org/10.1016/j.annemergmed.2014.10.019

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mrczek, D. K., Normand, S. L. T., Walters, E. E., & Zaslavasky, A. M. (2002). Short screening scales to monitor population prevalence's and trends in non-specific psychological distress. *Psychological Medicine, 32*(6), 959-976. https://doi.org/10.1017/s0033291702006074

Kessler, R. C., Chiu, W. T., Jin, R., Ruscio, A. M., Shear, K., & Walters, E. E. (2006). The epidemiology of panic attacks, panic disorder, and agoraphobia in the National Comorbidity Survey Replication. *Archives of general psychiatry*, *63*(4), 415–424. https://doi.org/10.1001/archpsyc.63.4.415

Kessler, R., Stafford, D., & Messier, R. (2009). The problem of integrating behavioral health in the medical home and the questions it leads to. *Journal of Clinical Psychology in Medical Settings*, *16*(1), 4–12. http://dx.doi.org/10.1007/s10880-009- 9146-y

Kilbourne, A. M., Schulberg, H. C., Post, E. P., Rollman, B. L, Belnap, B. H., & Pincus, H. A. (2004). Translating evidence-based depression management services to community-based primary care practices. *Milbank Q*, *82*(4), 631–659. https://doi.org/10.1111/j.0887378X.2004.00326.x

King, P. R., Beehler, G. P., Buchholz, L. J., Johnson, E. M., & Wray, L. O. (2019). Functional concerns and treatment priorities among veterans receiving VHA primary care and

behavioral health services. *Family Systems Medicine, 37*(1), 68-73. https://doi.org/10.1037/t03748-000

Knowles, P. (2009). Collaborative communication between psychologists and primary care providers. *Journal of Clinical Psychology in Medical Settings, 16*(1), 72–76. https://doi.org/10.1007/s10880-009- 9151-1

Kolko, D. J., Campo, J., Kilbourne, A. M., Hart, J., Sakolsky, D., & Wisniewski, S. (2014). Collaborative care outcomes for pediatric behavioral health problems: A cluster randomized trial. *Pediatrics, 133*(4), e981– e992. http://dx.doi.org/10.1542/peds.20132516

Kopta, S., & Lowry, J. (2002). Psychometric evaluation of the Behavioral Health Questionnaire 20: A brief instrument for assessing global mental health and the three phases of psychotherapy. *Psychotherapy Research, 12*(4), 413–426. http://dx.doi.org/10.1093/ptr/12.4.413

Kroenke, K. (2006). Patients presenting with somatic complaints: epidemiology, psychiatric co morbidity and management. *International Journal of Methods in Psychiatric Research, 12*(1), 34–43. https://doi.org/10.1002/mpr.140

Kuijpers, P. M. Dennollet, J., Wellens, H. J., Crijns, H. M., & Honig, A. (2007). Noncardiac chest pain in the emergency department: the role of cardiac history, anxiety or depression and Type D personality. *European Journal of Cardiovascular Prevention and Rehabilitation, 14*(2), 273–279. https://doi.org/10.1097/HJR.0b013e32801da0fc

LaCalle, E. J., Rabin, E. J., & Genes, N. G. (2013). High-frequency users of emergency department care. *The Journal of Emergency Medicine, 44*, 1167-1173. https://doi.org/10.1016/j.jemermed.2012.11.042

Landis, S. E., Barrett, M., & Galvin, S. L. (2013). Effects of different models of integrated collaborative care in a family medicine residency program. *Family Systems Health, 31*(3), 264-273. https://doi.org/10.1037/a0033410

Landoll, R. M., Nielsen, M. K., & Waggoner, K. K. (2017). Understanding primary care behavioral health across military settings: A preliminary comparison between deployed and in-garrison care. *Military Medicine, 182*(3), e1575-e1579. https://doi.org/10.7205/MILMED-D-16-00272

Lantz, P. M., Lichtenstein, R. L., & Pollack, H. A. (2007). Health policy approaches to population health: The limits of medicalization. *Health Affairs, 26*(5), 1253–1257. https://doi.org/10.1377/hlthaff.26.5.1253

Larsson, A., Hooper, N., Osborne, L. A., Bennett, P., & McHugh, L. (2016). Using brief cognitive restructuring and cognitive defusion techniques to cope with negative thoughts. *Behavior Modification, 40*(3), 452-482. https://doi.org/10.1177/0145445515621488

Last, J. M. (1988). *A dictionary of epidemiology*. Oxford University Press.

Lessard, M. J., Marchand, A., Pelland, M. E., Belleville, G., Vadeboncoeur, A., Chauny, J. M., Poitras, J., Dupuis, G., Fleet, R., Foldes-Busque, G., & Lavore, K. L. (2012). Comparing two brief psychological interventions to usual care in panic disorder patients presenting to the emergency department with chest pain. *Behavioral and Cognitive Psychotherapy, 40*(2), 129-147. https://doi.org/10.1017/S1352465811000506

Lin, W. C., Bharel, M., Zhang, J., O'Connell, E., & Clark, R. E. (2015). Frequent emergency department visits and hospitalizations among homeless people with Medicaid: implications for Medicaid expansions. *American Journal of Public Health, 105*(5), 716-722. https://doi.org/10.2105/AJPH.2015.302693

Lu, D. W., Dresden, S., McCloskey, C., Branzetti, J., & Gisondi, M. A. (2015). Impact of burnout on self-reported patient care among emergency physicians. *Western Journal of Emergency Medicine, 16*(7), 996-1001. https://doi.org/10.5811/westjem.2015.9.27945

Luga, A. O., & McGuire, M. J. (2014). Adherence and health care costs. *Risk Management and Healthcare Policy, 7*, 35–44. https://doi.org/10.2147/RMHP.S19801

Lundgren, T., Dahl, J., Yardi, N., & Melin, L. (2008). Acceptance and commitment therapy and yoga for drug-refractory epilepsy: A randomized controlled trial. *Epilepsy and Behavior, 13*(1), 102–108. https://doi.org/10.1016/j.yebeh.2008.02.009

Lyndon, A. (2015). *Burnout among health professionals and its effect on patient safety*. Agency for Healthcare Research and Quality. https://psnet.ahrq.gov/perspectives/perspective/190/burnoutamong-health-professionals-and-itseffect-on-patient-safety

Magidson, J. F., & Weisberg, R. B. (2014). Implementing cognitive behavioral therapy in specialty medical settings. *Cognitive and Behavioral Practice*, *24*(4), 367–371. https://doi.org/10.1016/j.cbpra.2014.08.003

Marciano, R., Mullis, D. M., Jauch, E. C., Carr, C. M., Raney, L., Martin, R. H., Walker, B. J., & Saef, S. H. (2012). Does targeted education of emergency physicians improve their comfort level in treating psychiatric patients? *The Western Journal of Emergency Medicine*, *13*(6), 453–457. https://doi.org/10.5811/westjem.2012.3.6899

Maruthappu, M., Hasan, A., & Zeltner, T. (2015). Enablers and barriers in integrated care. *Health Systems & Reform, 1*(4), 250-256. https://doi.org/10.1080/23288604.2015.1077301

Maslach, C., & Leiter, M. P. (2017). New insights into burnout and health care: Strategies for

improving civility and alleviating burnout. *Medical Teacher, 39*(2), 160-163. https://doi.org/10.1080/0142159X.2016.1248918

Maslach, C., Jackson, S., & Leiter, M. (1997). *Maslach Burnout Inventory manual*. The Scarecrow Press. www.researchgate. Net/profile/Christina_Maslach/ publication/277816643_ The_Maslach_Burnout_Inventory_Manual/ links/5574dbd708aeb6d8c01946d7. Pdf.

McCracken, L. M., & Eccleston, C. (2003). Coping or acceptance: What to do about chronic pain? *Pain, 105*(1-2), 197–204. https://doi.org/10.1016/s0304-3959(03)00202-1

Melek, S., & Norris, D. (2008). *Chronic conditions and comorbid psychological disorders*. Milliman Inc. http://publications.milliman.com/ research/health-rr/pdfs/chronic conditions-and-comorbid-RR07-01-08.pdf

Melek, S., Norris, D. T., & Paulus, J. (2014). *Economic impact of integrated medical-behavioral healthcare*. Milliman Inc. http://www.aha.org/content/14/milliman_economicimpact_behavhealthcare2014.pdf

Melzack, R. (1987). The short-form McGill pain questionnaire. *Pain, 30*(2), 191-197. https://doi.org/10.1016/0304-3959(87)91074-8

Miller, B. F., Gilchrist, E. C., Brown Levey, S., Gordon, P., Kurtz, P., & Melek, S. (2016). *Leveraging alternative payment methodologies in support of comprehensive primary care: Results from the SHAPE evaluation on integrated behavioral health*. [Manuscript submitted for publication]

Miller, B. F., Ross, K. M., Davis, M. M., Melek, S. P., Kathol, R., & Gordon, P. (2017). Payment reform in the patient-centered medical home: Enabling and sustaining integrated

behavioral health care. *American Psychologist, 72*(1), 55– 68. http://dx.doi.org/10.1037/a0040448

Miller, B. F., Talen, M. R., & Patel, K. K. (2013). Advancing integrated behavioral health and primary care: The critical importance of behavioral health in health care policy Integrated Behavioral Health in Primary Care. In M. R. Talen & A. B. Valera (Eds.), *Integrated Behavioral Health in Primary Care: Evaluating the Evidence, Identifying the Essentials* (pp. 53– 62). Springer Science & Business Media. http://dx.doi.org/10.1007/978-1-4614-6889-9_4

Miller, W. R., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior* (1st edition). The Guilford Press.

Miller, W. R., & Rollnick, S. (2013). *Motivational interviewing: Helping people change* (3rd edition). The Guilford Press.

Miller-Matero, L. R., Coleman, J. P., Smith-Mason, C. E., Moore, D. A., Marszalek, D., & Ahmedani, B. K. (2019). A brief mindfulness intervention for medically hospitalized patients with acute pain: A pilot randomized controlled trial. *Pain Medicine, 20*(11), 2149–2154. https://doi.org/10.1093/pm/pnz08

Mitchell, P., Wynia, M., Golden, R., McNellis, B., Okun, S., Webb, C. E., Rohrbach, V., & Kohorn, I. V. (2012). *Core principles & values of effective team-based health care*. Institute of Medicine. www.iom.edu/tbc

Monte, S. V., Slazak, E. M., Albanese, N. P., Adelman, M., Rao, G., & Paladino, J. A. (2003). Clinical and economic impact of a diabetes clinical pharmacy service program in a university and primary care-based collaboration model. *Journal of American Pharmacist Association, 49*(2), 200-208. https://doi.org/10.1331/JAPhA.2009.08160

Morgenthaler, T., Kramer, M., Alessi, C., Friedman, L., Boehlecke, B., Brown, T., Coleman, J., Kapur, V., Lee-Chiong, T., Owens, J., Pacer, J., & Swick, T. (2006). Practice parameters for the psychological and behavioral treatment of insomnia: An update. An American Academy of Sleep Medicine report. *Sleep, 29*, 1415–1419.

Morin, C. M. (2013). Psychological and behavioral treatment for insomnia. In M. H. Kryger, T. Roth, & W. C. Dement (Eds.), *Principles and practice of sleep medicine* (5th ed., pp. 866–883). Elsevier Saunders.

Morin, C. M. (1993). *Treatment manuals for practitioners. Insomnia: Psychological assessment and management.* Guilford Press.

National Center for Health Statistics. (2013). *Health, United States, 2012: With special feature on emergency care. 2013.* U.S. Department of Health and Human Services. http://www.cdc.gov/nchs/data/hus/hus12.pdf. Accessed November 09, 2018

National Institute on Alcohol Abuse and Alcoholism (NIAAA). (n.d.). *Drinking levels defined.* https://www.niaaa.nih.gov/alcohol-health/overviewalcoholconsumption/moderate-binge-drinking

Nilsen, P., Baird, J., Mello, M. J., Nirenberg, T., Woolard, R., Bendtsen, P., & Longabaugh, R. (2008). Systematic review of emergency care brief alcohol interventions for injury patients. *Journal of Substance Abuse Treatment, 35*(2), 184–201. https://doi.org/10.1016/j.jsat.2007.09.008

Newcomb, M. E, Bedoya, C. A., Blashill, A. J., Lerner, J. A., O'Cleirigh, C., Pinkston, M. M., & Safren, S. A. (2014). Description and demonstration of cognitive behavioral therapy to enhance antiretroviral therapy adherence and treat depression in HIV-infected adults. *Cognitive and Behavioral Practice, 22*(4), 430-438. https://doi.org/10.1016/j.cbpra.2014.02.001

Ngo, S., Shahsahebi, M., Schreiber, S., Johnson, F., & Silberberg, M. (2018). Evaluating the effectiveness of community and hospital medical record integration on management of behavioral health in the emergency department. *The Journal of Behavioral Health Services & Research, 45*(4), 651-658. https://doi.org/10.1007/s11414-017-9574-7

Niedzwiecki, M. J., Sharma, P. J., Kanzaria, H. K., McConville, S., & Hsia, R. Y. (2018). Factors associated with emergency department use by patients with and without mental health diagnoses. *JAMA Network Open, 1*(6), 1-12. https://doi.org/10.1001/jamanetworkopen.2018.352

Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family, 45*(1), 141–151. https://doi.org/10.2307/351302

Ogbeide, S. A., Landoll, R. R., Nielsen, M. K., & Kanzler, K. E. (2018). To go or not go: Patient preference in seeking specialty mental health versus behavioral consultation within the primary care behavioral health consultation model. *Families, Systems, & Health, 36*(4), 513-517. https://doi.org/10.1037/fsh0000374

Oliver, J. E. (2015). Feature article: Mental health crises and hospital emergency departments. *Developments in Mental Health Law, 34*, 6-15.

Ozminkowski, R. J., Wang, S., & Walsh, J. K. (2007). The direct and indirect costs of untreated insomnia in adults in the United States. *Sleep, 30*(3), 263-273. https://doi.org/10.1093/sleep/30.3.263

Parkerson, G. R. (2002). *Users of Duke health measures*. Department of Community and Family Family Medicine, Duke University Medical Center.

Parsonage, M., & Fossey, M. (2011) *Economic evaluation of a liaison psychiatry service*. Centre for Mental Health.

Pincus, H. A. (2003). The future of behavioral health and primary care: Drowning in the mainstream or left on the bank? *Psychosomatics, 44*(1), 1–11. https://doi.org/10.1176/appi.psy.44.1.1

Pines, J. M., Pilgrim, R. L., Schneider, S. M., Siegel, B., & Viccellio, P. (2011). Practical implications of implementing emergency department crowding interventions: Summary of moderated panel. *Society for Academic Emergency Medicine, 18*(12), 1278-1282. https://doi.org/10.1111/j.1553-2712.2011.01227.x

Polk, K. L., & Schoendorff, B. (2014). *The ACT matrix: A new approach to building psychological flexibility across settings and populations.* Context Press/New Harbinger Publications.

Possemato, K. (2011). The current state of intervention research for posttraumatic stress disorder within the primary care setting. *Journal of Clinical Psychology in Medical Settings, 18*(3), 268 –280. http://dx.doi.org/10.1007/s10880-011-9237-4

Possemato, K., Ouimette, P., Lantinga, L. G., Wade, M., Coolhart, D., Schohn, M., Labbe, A., & Strutynski, K. (2011). Treatment of Department of Veterans Affairs primary care patients with posttraumatic stress disorder. *Psychological Services, 8*, 82–93. http://dx.doi.org/10.1037/a0022704

Possemato, K., Johnson, E. M., Beehler, G. P., Shepardson, R. L., King, P., Vair, C. L., Funderbunk, J. S., Maisto, S. A., & Wray, L. O. (2018). Patient outcomes associated with primary care behavioral health services: A systematic review. *General Hospital Psychiatry, 53,* 1-11. https://doi.org/10.1016/j.genhosppsych.2018.04.002

Powers, M. B., Zum Vorde Sive Vording, M. B., & Emmelkamp, P. M. (2009). Acceptance and commitment therapy: A meta-analytic review. *Psychotherapy and Psychosomatics, 78*(2),

73–80. https://doi.org/10.1159/000190790

Ramsey, Z., Palter, J. S., Hardwick, J., Moskoff, J., Christian, E. L., & Bailitz, J. (2018). Decreased nursing staffing adversely affects emergency department throughout metrics. *The Western Journal of Emergency Medicine*, *19*(3), 496–500. https://doi.org/10.5811/westjem.2018.1.36327

Raney, L. (2013). Integrated care: The evolving role of psychiatry in the era of health care reform. *Psychiatry Services, 64,* 1076–1078. https://doi.org/10.1176/appi.ps.201300311

Recio-Saucedo, A., Pope, C., Dall'Ora, C., Griffiths, P. P., Jones, J., Crouch, R., & Drennan, J. (2015). Safe staffing for nursing in emergency departments: Evidence review. *Emergency Medicine Journal, 32*(11), 888-894. https://doi.org/10.1136/emermed-2015-204936

Reid, R. J., Johnson, E. A., Hsu C., Ehrlich, K., Coleman, K., Erikson, M., Ross, T. R., Liss, D. T., Cromp, D., & Fishman, P. A. (2013). Spreading a medical home redesign: Effects on emergency department use and hospital admissions. *Annals of Family Medicine, 11*(1), S19– S26. https://doi.org/10.1370/afm.1476

Reiter, J. T., Dobmeyer, A. C., & Hunter, C. L. (2018). The primary care behavioral health (PCBH) model: An overview and operational definition. *The Journal of Clinical Psychology in Medical Settings, 25,* 109-126. https://doi.org/10.1007/s10880-017-9531-x

Roberge, P., Marchand, A., Cloutier, K., Mainguy, N., Miller, J. M., Bégin, J., & Turcotte, J. (2005). Healthcare utilization following cognitive-behavioral therapy for panic disorder with agoraphobia. *Cognitive Behaviour Therapy*, *34*(2), 1–10. https://doi.org/10.1080/16506070510008443

Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-

319-13954-8

Roscoe, L. A., Eisenberg, E. M., & Forde, C. (2016). The role of patients' stories in emergency medicine triage. *Health Communication, 31*(9), 1155-1164. http://dx.doi.org/10.1080/10410236.2015.1046020

Rosenthal, T. C. (2008). The medical home: growing evidence to support a new approach to primary care. *Journal of the American Board of Family Medicine, 21*(5), 427–440. https://doi.org/ 10.3122/jabfm.2008.05.070287

Rosekind, M. R., & Gregory, K. B. (2010). Insomnia risks and costs: Health, safety, and quality of life. *American Journal of Managed Care, 16*(8), 617-626.

Roy-Byrne, P., Veitengruber, J. P., Bystritsky, A., Edlund, M. J., Sullivan, G., Craske, M. G., Welch, S. S., Rose, R., & Stein, M. B. (2009). Brief intervention for anxiety in primary care patients. *Journal of the American Board of Family Medicine, 22*(2), 175–186. https://doi.org/10.3122/jabfm.2009.02.080078

Rui, P., & Kang, K. (2017). National hospital ambulatory medical care survey: 2017 emergency department summary tables. *National Center for Health Statistics.* Retrieved on July 15, 2020 from https://www.cdc.gov/nchs/data/nhamcs/web_tables/2017_ed_web_tables-508.pdf.

Sadock, E., Auerbach, S. M., Rybarczyk, B., & Aggarwal, A. (2014). Evaluation of integrated psychological services in a university-based primary care clinic. *Journal of Clinical Psychology in Medical Settings, 21*(1), 19-32. https://doi.org/10.1007/s10880-013-9378-8

Safren, S. A., Gonzalez, J. S., Wexler, D. J., Psaros, C., Delahanty, L. M., Blashill, A. J.,

Margolina, A. I., & Cagliero, E. (2014). A randomized controlled trial of cognitive behavioral therapy for adherence and depression (CBT-AD) in patients with uncontrolled type 2 diabetes. *Diabetes Care*, *37*(3), 625–633. https://doi.org/10.2337/dc13-0816

Salway, R., Valenzeula, R., Mallon, W., & Viccellio, A. (2017). Emergency department (ED)overcrowding: Evidence-based answers to frequently asked questions. *Revista MedicaClinica Las Condes, 28*(2), 213-219. https://doi.org/10.1016/j.rmclc.2017.04.008

Sanchez, K., Thompson, S., & Alexander, L. (2010). Current strategies and barriers in integrated health care: A survey of publicly funded providers in Texas. *General Hospital Psychiatry*, *32*(1), 26–32. https://doi.org/:10.1016/j.genhosppsych.2009.10.007

Sandoval, B. E., Bell, J., Khatri, P., & Robinson, P. J. (2018). Toward a unified integration approach: Uniting diverse primary care strategies under the primary care behavioral health (PCBH) model. *The Journal of Clinical Psychology in Medical Settings, 25*(2), 187-196. https://doi.org/10.1007/s10880-017-9516-9

Schmidt, E. M., Behar, S., Barrera, A., Cordova, M., & Beckum, L. (2018). Potentially preventable medical hospitalizations and emergency department visits by the behavioral health population. *The Journal of Behavioral Health Services & Research, 45*(3), 370-388. https://doi.org/ 10.1007/s11414-017-9570-y

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). NFER-NELSON.

Searing, L. M., & Cantlin, K. A. (2015). Nonurgent emergency department visits by insured and uninsured adults. *Public Health Nursing, 33*(2), 93-98. https://doi.org/10.1111/phn.12238

Serrano, N., Prince, R., Fondow, M., & Kushner, K. (2018). Does the primary care behavioral health model reduce emergency department visits. *Health Research and Educational Trust, 53*(6), 4529 – 4542. https://doi.org/10.1111/1475-6773.12862

Shanafelt, T. D., Boone, S., Tan L., Dyrbye, L. N., Sotile, W., Satele, D., Colin, P. W., Sloan, J., & Oreskovich, M. R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine, 172*(18), 1377-1385. https://doi.org/10.1001/archinternmed.2012.3199

Sharp, M. L., Fear, N. T., Rona, R. J., Wessely, S., Greenberg, N., Jones, N., & Goodwin, L. (2015). Stigma as a barrier to seeking health care among military personnel with mental health problems. *Epidemiologic Reviews, 37*(1), 144 –162. http://dx.doi.org/10.1093/epirev/mxu012

Shim, R. S., Koplan, C., Langheim, F. J., Manseu, M., Oleskey, C., Powers, R. A., & Compton, M. T. (2012). Health care reform and integrated care: A golden opportunity for preventive psychiatry. *Psychiatry Services, 63*(12), 1231–1233. https://doi.org/10.1176/appi.ps.201200072.

Siaw, M. Y. L., Ko, Y., Malone, D. C., Tsou, K. Y. K., Lew, Y. J., Foo, D., Tan, E., Shan S. C., Chia, A., Sinaram, S. S., Coh, K. C., & Lee, J. Y. (2017). Impact of pharmacist-involved collaborative care on the clinical, humanistic and cost outcomes of high-risk patients with type 2 diabetes (IMPACT): A randomized controlled trial. *Journal of Clinical Pharmacy and Therapeutics, 42*(4), 475-482. https://doi.org/ 10.1111/jcpt.12536

Simpson, S. A. (2019). A single-session crisis intervention therapy model for emergency psychiatry. *Clinical Practice and Cases in Emergency Medicine, 3*(1), 27-32. https://doi.org/10.5811/cpcem.2018.10.40443

Skinner, H. A. (1982). The drug abuse screening test. *Addiction Behavior, 7*(4), 363–371. https://doi.org/10.1016/0306-4603(82)90005-3

Sklar, D. P. (2016). How medical education can add value to the healthcare delivery system. *Academic Medicine, 91*(4), 445-447. https://doi.org/10.1097/ACM.0000000000001103

Smith, P. C., Schmidt, S. M., Allensworth-Davies, D., & Saitz, R. (2010). A single-question screening test for drug use in primary care. *Archives of Internal Medicine, 170*(13), 1155-1160. https://doi.org/10.1001/archinternmed.2010.140

Snyder, D. K., Balderrama-Durbin, C., Cigrang, J. A., Talcott, G. W., Slep, A. M. S., & Heyman, R. E. (2016). Help-seeking among airmen in distressed relationships: Promoting relationship well-being. *Psychotherapy, 53*(1), 1–12. https://doi.org/10.1037/pst0000045

Snyder, D. K., & Halford, W. K. (2012). Evidence-based couple therapy: Current status and future directions. *Journal of Family Therapy, 34*(3), 229–249. https://doi.org/10.1111/j.1467-6427.2012.00599.x

Society of Clinical Psychology. (2016). *Psychological debriefing for post-traumatic stress disorder.* https://www.div12.org/treatment/psychological-debriefing-for-post-traumatic-stress-disorder/

Sood, T. R., & McStay, C. M. (2009). Evaluation of the psychiatric patient. *Emergency Medicine Clinics of North America, 27*(4), 669–683. https://doi.org/10.1016/j.emc.2009.07.005

Soria, R., Legido, A., Escolano, C., Lo´pez Yeste, A., & Montoya, J. (2006). A 205andomized controlled trial of motivational interviewing for smoking cessation. *The British Journal of General Practice, 56*(531), 768–774.

Spicer, R. S., & Miller, T. R. (2000). Suicide acts in 8 states: Incidence and case fatality rates by demographics and method. *American Journal of Public Health, 90*(12), 1885–1891.

https://doi.org/10.2105/ajph.90.12.1885

Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *JAMA, 282*(18), 1737–1744. https://doi.org/10.1001/jama.282.18.1737

Spitzer, R. L., Kroenke, K., Williams, J. B., & Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092-1097. https://doi.org/10.1001/archinte.166.10.1092

Stanton, A., & Grimshaw, G. (2013). Tobacco cessation interventions for young people. *Cochrane Database Systematic Review, 17*. https://doi.org/10.1002/14651858.CD003289.pub5

Strandberg-Larsen, M., & Krasnik, A. (2009). Measurement of integrated healthcare delivery: a systematic review of methods and future research directions. *International Journal of Integrated Care, 9,* 1-10. https://doi.org/10.5334/ijic.305

Strosahl, K. D., Robinson, P. J., & Gustavsson, T. (2012). *Brief interventions for radical* change: Principles and practice of focused acceptance and commitment therapy. New Harbinger.

Talen, M. R., Baumer, J. G., & Mann, M. M. (2014). Screening measures in integrated behavioral health and primary care settings. In Talen M. R., & Valeras, A. B. (Eds.), *Integrated behavioral health in primary care: Evaluating the evidence, identifying the essentials* (pp. 239-237). Springer Science and Business Media. https://doi.org/10.1007/978-1-4614-6889-9

Tanielian, T., Jaycox, L. H., Schell, T. L., Marshall, G. N., Burnam, M. A., Eibner, C., Karney,

B., Meredith, L. S., Ringel, J. S., & Vaiana, M. E. (2008). *Invisible wounds of war: Summary and recommendations for addressing psychological and cognitive injuries*. RAND Corporation.

Troxel, W. M., Germain, A., & Buysse, D. J. (2012). Clinical management of insomnia with brief behavioral treatment (BBTI). *Behavioral Sleep Medicine, 10*(4), 266-279. https://doi.org/10.1080/15402002.2011.607200

Unick, J. L., Beavers, D., Bond, D. S., Clark, J. M., Jakicic, J. M., Kitabchi, A. E., Knowler, W. C., Wadden, T. A., Wagenknecht, L. E., Wing, R. R., & Look AHEAD Research Group. (2013). The long-term effectiveness of a lifestyle intervention in severely obese individuals. *American Journal of Medicine, 126*(3), 236-242. https://doi.org/10.1016/j.amjmed.2012.10.010.

Unutzer, J., Schoenbaum, M., Druss, B. G., & Katon, W. J. (2006). Transforming mental health care at the interface with general medicine: report for the president's commission. *Psychiatry Services 57*(1), 37–47. Htttps://doi.org/10.1176/appi.ps.57.1.37

Vanbuskirk, K. A., & Wetherell, J. L. (2014). Motivational interviewing with primary care populations: A systematic review and meta-analysis. *Journal of Behavioral Medicine, 37*(4), 768-780. https://doi.org/10.1007/s10865-013-9527-4

Vogeli, C., Shields, A. E., Lee, T. A., Gibson, T. B., Marder, W. D., Weiss, K. B., & Blumenthal, D. (2007). Multiple chronic conditions: prevalence, health consequences, and implications for quality, care management, and costs. *Journal of Internal Medicine, 22*(3), 391-395. https://doi.org/10.1007/s11606-007-0322-1

Younger, J., McCue, R., & Mackey, S. (2009). Pain outcomes: A brief review of instruments and

techniques. *Current Pain and Headache Reports, 13*(1), 39–43. https://doi.org/10.1007/s11916-009-0009-x

Yu, H., Kolko, D. J., & Torres, E. (2017). Collaborative mental health care for pediatric behavior disorders in primary care: Does it reduce mental health care costs? *Families, Systems, & Health, 35*(1), 46-57. http://dx.doi.org/10.1037/fsh0000251

Waits for care and hospital beds growing dramatically for psychiatric emergency patients. (2016). Retrieved on April 11, 2020, from http://newsroom.acep.org/2016-10-17-Waits-for-Care-and-Hospital-Beds-Growing-Dramatically-for-Psychiatric-Emergency-Patients

Wand, T. (2004). Mental health liaison nurses in the emergency department: On-site expertise and enhanced coordination of care. *Australian Journal of Advanced Nursing,* 22(2), 25-31.

Wand, T., D'Abrew, N., Barnett, C., Acret, L., & White, K. (2015). Evaluation of a nurse practitioner-led extended hours mental health service based in the emergency department. *Australian Health Review, 39*(1), 1-8. http://dx.doi.org/10.1071/AH14100

Wand, T., & Fisher, J. (2006). The mental health nurse practitioner in the emergency department: an Australian experience. *International Journal of Mental Health Nursing, 15*(3), 201-208.https://doi.org/10.1111/j.1447-0349.2006.00415.x

Wand, T., & Schaecken, P. (2006). Consumer evaluation of a mental health liaison nurse service in the emergency department. *Contemporary Nurse, 21*(1), 14-21. https://doi.org/10.5172/conu.2006.21.1.14

Wand, T., White, K., Patching, J., Dixon, J., & Green, T. (2010). Introducing a new model of emergency department-based mental health care. *Nurse Researcher, 18*(1), 35-44. https://doi.org/10.7748/nr2010.10.18.1.35.c8046

Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1993). *The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility.* International Society for Traumatic Stress Studies.

Wei, H. G., & Camargo Jr., C. A. (2000). Patient education in the emergency department. *Academy of Emergency Medicine, 7*(6), 710–717. https://doi.org/10.1111/j.1553-2712.2000.tb02052.x

Weiss, A. J., Barrett, M. L., Heslin, K.C., & Stocks, C. (2016). *Trends in emergency department visits involving mental and substance use disorders, 2006-2013.* Retrieved on April 11, 2020, from https://www.hcup-us.ahrq.gov/reports/statbriefs/ sb216-Mental-Substance Use-Disorder-ED-VisitTrends.pdf

Weiss, A.P., Chang, G., Rauch S.L., Smallwood, J. A., Schechter, M., Kosowky, J., Hazen, E., Haimovici, F., Gitlin, D. F., Finn, C. T., & Orav, E. J. (2012). Patient and practice-related determinants of emergency department length of stay for patients with psychiatric illness. *Annals of Emergency Medicine, 60*(2), 162-171. https://doi.org/10.1016/j.annemergmed.2012.01.037

Whaley, A. L., Rodriquez, R., & Alexander, L. A. (2006). Development of a rating form to evaluate grant applications to the Hogg foundation for mental health. *Evaluation Review, 30*(1), 3-26. https://doi.org/10.1177/0193841X05275586

Wharff, E. A., Ginnis, K. B., Ross, A. M., & Blood, E. A. (2011). Predictors of psychiatric boarding in the pediatric emergency department: Implications for emergency care. *Pediatric Emergency Care, 27*(6), 483–489. https://doi.org/10.1097/PEC.0b013e31821d8571

Whisman, M. A., Synder, D. K., & Beach, S. R. (2009). Screening for marital and relationship

discord. *Journal of Family Psychology, 23*, 247-254. https://doi.org/10.1037/a0014476

Whisman, M. A., & Uebelacker, L. A. (2006). Impairment and distress associated with relationship discord in a national sample of married or cohabiting adults. *Journal of Family Psychology, 20*(3), 369–377. https://doi.org/10.1037/0893-3200.20.3.36

Wright, J., Williams, R., & Wilkinson, J. R. (1998). Development and importance of health needs assessment. *British Medical Journal, 316*(7140), 1310–1313. https://doi.org/10.1136/bmj.316.7140.1310

Zane, R. D., McAfee, A. T., Sherburne, S., Billeter, G., & Barsky, A. (2003). Panic disorder and emergency services utilization. *Academic Emergency Medicine, 10*(10), 1065–1069. https://doi.org/10.1197/S1069-6563(03)00349-X

Zeller, S. L. (2010). Treatment of psychiatric patients in emergency settings. *Primary Psychiatry, 17*(6), 35-41.

Zeller, S. L. (2018). *Transforming behavioral healthcare in the emergency department*. Retrieved on April 11, 2020, from https://www.healthleadersmedia.com/clinical-care/transforming-behavioral healthcare-emergency-department

Zeidan, F., Gordon, N. S., Merchant, J., & Goolkasian, P. (2010). The effects of brief mindfulness meditation training on experimentally induced pain. *Journal of Pain, 11*(3), 199–209. https://doi.org/10.1016/j.jpain.2009.07.015

Zettle, R. D., & Hayes, S. C. (1986). Dysfunctional control by client verbal behavior: The context of reason-giving. *The Analysis of verbal behavior, 4*, 30–38. https://doi.org/10.1007/BF03392813

Zgierska, A. E, Burzinski, C. A., Cox, J., Kloke, J., Sttegner, A., Cook, D. B., Singles, J.,

Mirgain, S., Coe, C. L., & Backonja, M. (2016). Mindfulness meditation and cognitive behavioral therapy intervention reduces pain severity and sensitivity in opioid treated chronic low back pain: Pilot findings from a randomized controlled trial. *Pain Medicine, 17*(10), 1865–81. https://doi.org/10.1093/pm/pnw006

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica, 67*(6), 361-370. http://doi.org/cf9rmjrmj

Zun, L. (2016). Care of psychiatric patients: The challenge to emergency physicians. *Western Journal of Emergency Medicine, 17*(2), 173-176. https://doi.org/10.5811/westjem.2016.1.29648

Appendix A

Key Points of the Proposed Model

- Psychologists will work collaboratively on an interdisciplinary team to provide assessment, brief consultation, and intervention services for mental and behavioral health problems.
- Psychologists will work in the same workstation as other healthcare providers to receive referrals and to engage in ongoing communication.
- Referrals will be made through warm handoffs or direct verbal report.
- The primary goal of psychologists in the ED will work to enhance the patients understanding of the biopsychosocial factors that maintain their problems, assist in medication adherence and management, and assist in care augmentation.
- Evidenced based interventions will be used to assess and treat problems from a biopsychosocial perspective. These include:
    - Screening tools and brief assessment measures such as PHQ-2, GAD-2, or other validated measures
    - Education of the stress-diathesis model and factors (e.g., internal and external) that contribute to disease maintenance
    - Single sessions of CBT for chronic pain, sleep related problems, as well as coping and adjustment problems
    - Single sessions of MI to resolve ambivalence and enhance behavior change.
    - SBIRT to screen and treat at-risk drinking behaviors
    - Single sessions of ACT to enhance behavior change congruent with patient values

  - Single sessions of mindfulness-stress reduction to reduce discomfort associated with chronic medical conditions and anxiety related problems
  - Single sessions of brief trauma focused treatment to prevent the development of future trauma-related symptoms
  - Risk Assessments and crisis intervention for mental health issues
- Psychologists will also assist in debriefing the team of critical incidents, assess for burnout, and continue ongoing needs assessments.

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Del Boca, F. K., McRee, B., Vendetti, J., & Damon, D. (2017). The SBIRT program matrix:

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> **Figure 12.1: Questions, tasks, and examples for embedding screening effectively in practice** from Talen, M. R., Baumer, J. G., & Mann, M. M. (2014). Screening measures in integrated behavioral health and primary care settings (Eds.), *Integrated behavioral health in primary care: Evaluating the evidence, identifying the essentials* (pp. 239-237). Springer Science and Business Media.
>
> **Table 12.3: Brief screening tools** from Talen, M. R., Baumer, J. G., & Mann, M. M. (2014). Screening measures in integrated behavioral health and primary care settings (Eds.), *Integrated behavioral health in primary care: Evaluating the evidence, identifying the essentials* (pp. 239-237). Springer Science and Business Media.
>
> I look forward to your response.
>
> Warmly,
> Krina

Permission from authors to reproduce Table 5, Figure 2, Figure 5, and Figure 6

From: **Patricia Robinson** patti@mtnviewconsulting.com
Subject: Re: [E] Permission request to reproduce material
Date: July 17, 2020 at 9:48 AM
To: Krina Patel - Student kpatel5@ego.thechicagoschool.edu
Cc: Jeff Reiter Jeffreiter2@gmail.com

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You have permission. I wish you the best in your work, Krina.

Best,
Patti

PS: Check out the free downloads on the website - basicsofbehaviorchangeinprimarycare.com - there are a couple of updated versions of the documents that you are wanting to use. And you have permission to use them.

> On Jul 17, 2020, at 5:13 AM, Krina Patel - Student <kpatel5@ego.thechicagoschool.edu> wrote:
>
> Good Morning Dr. Robsinson & Dr. Reiter,
>
> My name is Krina Patel, a 5th year doctoral candidate in Clinical Psychology at the Chicago School of Professional Psychology at Washington D.C. I am emailing you today requesting permission to reproduce for my doctoral dissertation. My dissertation proposes a theoretical model of integration of psychology in emergency medicine. I am requesting permission to reproduce the following tables and diagrams:
>
> **Figure 4.1: Classes of psychotropic medication** from Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8
>
> **Figure 5.1: Behavioral Health Competency Tool** from Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8
>
> **Figure 7.1: The core processes of psychological flexibility** from Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8
>
> **Figure 7.2: Pillars of psychological flexibility and suggested therapeutic actions** from Robinson, P., & Reiter, J. (2016). *Behavioral consultation and primary care: A guide to integrating services* (2nd ed.). Springer. http://dx.doi.org/10.1007/978-3-319-13954-8
>
> I look forward to your response.
>
> Warmly,
> Krina Patel

Permission from author to reproduce Table 6 and Figure 7

From: **Barreto, Monica** monica.barreto@yale.edu
Subject: Re: [E] Permission to Reproduce Inquiry
Date: August 6, 2020 at 10:51 AM
To: Krina Patel - Student kpatel5@ego.thechicagoschool.edu, Scott T Gaynor scott.gaynor@wmich.edu

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Hi Krina,

I am happy to grant you permission to reproduce Figure 1: The Health-related ACT Matrix from Barreto & Gaynor (2018). Best of luck with your dissertation and studies.

Best,

Monica

Monica Barreto, Ph.D.
Assistant Professor of Clinical Child Psychology
Yale Child Study Center
350 George Street, New Haven, CT 06511
Phone: (203)785-2605
Fax: 203-737-5455
E-mail: monica.barreto@yale.edu

From: Krina Patel - Student <kpatel5@ego.thechicagoschool.edu>
Sent: Thursday, August 6, 2020 10:48:29 AM
To: Scott T Gaynor <scott.gaynor@wmich.edu>; Barreto, Monica <monica.barreto@yale.edu>
Subject: Re: [E] Permission to Reproduce Inquiry

Good Morning Dr. Gaynor & Dr. Barreto,

Thank you for granting me permission to reproduce Table 2 from Barreto & Gaynor (2018). I apologize because I forgot to inquire about another figure. This email services to request permission to reproduce **Figure 1: The Health-related ACT Matrix** from the same paper for my dissertation.

I look forward to hearing from you soon.

Warmly,
Krina

On Jul 20, 2020, at 9:41 AM, Scott T Gaynor <scott.gaynor@wmich.edu> wrote:

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Hi Krina,

Thank you for your interest in our work.

I am happy to give you permission to reproduce Table 2 from Barreto & Gaynor (2018) in your dissertation.

Best regards,

Scott

****

Scott T. Gaynor, Ph.D.
Professor of Interesting Stuff
Co-Director of Clinical Training
Western Michigan University
Department of Psychology

From: Krina Patel - Student <kpatel5@ego.thechicagoschool.edu>
Sent: Friday, July 17, 2020 9:31 AM
To: Scott T Gaynor <scott.gaynor@wmich.edu>; monica.barreto@yale.edu <monica.barreto@yale.edu>
Subject: Permission to Reproduce Inquiry

Good Morning Dr. Bareto & Dr. Gaynor,

My name is Krina Patel, a 5th year doctoral candidate in Clinical Psychology (PsyD) at the Chicago School of Professional Psychology at Washington D.C. I am emailing you all today requesting permission to reproduce a table from a publication for my dissertation. My doctoral dissertation proposes a theoretical model of integration for psychology in emergency medicine. The single session ACT protocol is a tool that could be used by psychologists working with complex medical conditions in an emergency department setting.

I am requesting permission to reproduce **Table 2: Outline of the single session ACT protocol** from Barreto, M., & Gaynor, S. (2018). A single-session of acceptance and commitment therapy for health-related behavior change: Protocol description and initial case examples. *Behavior Analysis: Research and Practice, 19*, 47-59.

I look forward to your response.

Warmly,
Krina

From: **Barreto, Monica** monica.barreto@yale.edu
Subject: Re: [E] Permission to Reproduce Inquiry
Date: July 18, 2020 at 3:50 PM
To: Krina Patel - Student kpatel5@ego.thechicagoschool.edu

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Hello Krina,

Thank you for your email. Your study sounds very interesting and definitely needed! Please feel free to use our table for your research. Best of luck with your dissertation and studies. If you have any questions about the protocol or study itself do not hesitate to reach out.

Best,

Monica Barreto

Monica Barreto, Ph.D.
Assistant Professor of Clinical Child Psychology
Yale Child Study Center
350 George Street, New Haven, CT 06511
Phone: (203)785-2605
Fax: 203-737-5455
E-mail: monica.barreto@yale.edu

From: Krina Patel - Student <kpatel5@ego.thechicagoschool.edu>
Sent: Friday, July 17, 2020 9:31:08 AM
To: scott.gaynor@wmich.edu <scott.gaynor@wmich.edu>; Barreto, Monica <monica.barreto@yale.edu>
Subject: Permission to Reproduce Inquiry

Good Morning Dr. Bareto & Dr. Gaynor,

My name is Krina Patel, a 5th year doctoral candidate in Clinical Psychology (PsyD) at the Chicago School of Professional Psychology at Washington D.C. I am emailing you all today requesting permission to reproduce a table from a publication for my dissertation. My doctoral dissertation proposes a theoretical model of integration for psychology in emergency medicine. The single session ACT protocol is a tool that could be used by psychologists working with complex medical conditions in an emergency department setting.

I am requesting permission to reproduce **Table 2: Outline of the single session ACT protocol** from Barreto, M., & Gaynor, S. (2018). A single-session of acceptance and commitment therapy for health-related behavior change: Protocol description and initial case examples. *Behavior Analysis: Research and Practice, 19*, 47-59.

I look forward to your response.

Warmly,
Krina

Permission from the author to reproduce Table 7, Figure 8, and Figure 9

From: **Boudreaux, Edwin** Edwin.Boudreaux@umassmed.edu
Subject: RE: [E] Permission to reproduce table inquiry
Date: July 17, 2020 at 8:59 AM
To: Krina Patel - Student kpatel5@ego.thechicagoschool.edu, marian.betz@cuannschutz.edu

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Sincerely,

Ed

Edwin D. Boudreaux, PhD
Professor, Departments of Emergency Medicine, Psychiatry, and Quantitative Health Sciences
University of Massachusetts Medical School
Emergency Medicine, LA-189
55 Lake Avenue North
Worcester, Massachusetts 01655
Phone: 508-334-3817
Fax: 508-421-1490
Cell: 856-701-2153
Email: Edwin.Boudreaux@umassmed.edu

From: Krina Patel - Student <kpatel5@ego.thechicagoschool.edu>
Sent: Friday, July 17, 2020 8:58 AM
To: marian.betz@cuannschutz.edu; Boudreaux, Edwin <Edwin.Boudreaux@umassmed.edu>
Subject: Permission to reproduce table inquiry

Good Morning Dr. Betz & Dr. Boudreaux,

My name is Krina Patel, a 5th year doctoral candidate at the Chicago School of Professional Psychology at Washington D.C. I am emailing you all today requesting permission to reproduce some tables from your publications for my doctoral dissertation. I have proposed a theoretical model to integrate psychology in emergency medicine and your work in suicide assessment will be critical for psychologists. I am requesting to reproduce the following:

Table: ED-Based Brief Suicide Prevention Interventions

My name is Krina Patel, a 5th year doctoral candidate at the Chicago School of Professional Psychology at Washington D.C. I am emailing you all today requesting permission to reproduce some tables from your publications for my doctoral dissertation. I have proposed a theoretical model to integrate psychology in emergency medicine and your work in suicide assessment will be critical for psychologists. I am requesting to reproduce the following:

Table: ED-Based Brief Suicide Prevention Interventions

Figure 1: Framework for care and evolution of suicidal patients in the ED

Figure 2: Suicide Assessment five-step Evaluation ad Triage (SAFE-T) from

These tables and figures are from Betz, M. E., & Boudreaux, E. D. (2016). Managing suicidal patients in the emergency department. *Annals of Emergency Medicine*, *67*, 276–282. doi:10.1016/j.annemergmed.2015.09.001.

I look forward to your response.

Warmly,
Krina

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Date: August 12, 2020 at 4:04 AM
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Sent: Tuesday, August 11, 2020 9:50 PM
To: Vethakkan, Anita Mercy (ELS-CHN) <A.Vethakkan@elsevier.com>
Subject: Re: [E] Obtain permission request - Journal (1040147)

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Thank you for your email. I believe this is the ISSN # 0196-0644

Please let me know if you have any questions or concerns.

Sincerely,
Krina

> On Aug 11, 2020, at 12:02 PM, Vethakkan, Anita Mercy (ELS-CHN) <A.Vethakkan@elsevier.com> wrote:
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>
> Could you please provide me the ISSN or the Journal title of the requested material.
>
> Thanks
> Anita
>
> ---
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> **From:** kpatel5@ego.thechicagoschool.edu <kpatel5@ego.thechicagoschool.edu>
> **Sent:** Monday, August 10, 2020 8:17 PM
> **To:** Rights and Permissions (ELS) <Permissions@elsevier.com>
> **Subject:** Obtain permission request - Journal (1040147)
>
> ***** External email: use caution *****
>
> **Submission ID:** 1040147
> Date: 10 Aug 2020 3:47pm
> **Name:** Ms. Krina Patel

Institute/company:
Address: 12 French Meadow Lane
Post/Zip Code: 14618
City: Rochester
State/Territory: NY
Country: United States
Telephone:
Email: kpatel5@ego.thechicagoschool.edu
Type of Publication: Journal
Title: Managing suicidal patients in the emergency department.
Auhtors: Marian E. Betz; Edwin D. Boudreaux
Year: 2016
From page: 9
To page: 11
ISSN: 0000-0000
Volume: 67
Issue: 2
Article title: Managing suicidal patients in the emergency department
I would like to use: Table(s)
Quantity of material: Figure 1: Framework for care and evaluation of suicidal patients in the ED; Figure 2. Suicide Assessment Five-step Evaluation and Triage (SAFE-T); Table 1: ED-Based Brief Suicide Prevention Interventions
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To: Krina Patel - Student kpatel5@ego.thechicagoschool.edu

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scott

Scott A. Simpson MD MPH
Medical Director, Psychiatric Emergency Services, Denver Health Medical Center
Program Director, Emergency Psychiatry Fellowship
Associate Professor, University of Colorado School of Medicine
777 Bannock St MC 0116 Denver, CO 80204 303-602-7221

From: Krina Patel - Student [mailto:kpatel5@ego.thechicagoschool.edu]
Sent: Friday, July 17, 2020 6:40 AM
To: Simpson, Scott MD
Subject: [EXTERNAL] Permission Request to Reproduce Figure

Good Morning Dr. Scott,

My name is Krina Patel, a 5th year doctoral candidate in Clinical Psychology (PsyD) at the Chicago School of Professional Psychology at Washington D.C. I am emailing you today requesting permission to reproduce a table for my dissertation. I am proposing a theoretical model to integrate psychology in emergency medicine. I hope to eventually publish this model in a peer review journal. I am requesting to reproduce:

Table: Working steps and therapeutic processes for one-session crisis intervention therapy from Simpson, S. A. (2019). A single-session crisis intervention therapy model for emergency psychiatry. *Clinical Practice and Cases in Emergency Medicine, 1,* 27-32. https://doi.org/10.5811/cpcem.2018.10.40443

I look forward to hearing from you soon.

Warmly,
Krina