

2020

Support for screening and intervening on adolescent depression: Provider-reported training outcomes

Leah Rose LaLonde

Follow this and additional works at: <https://commons.emich.edu/theses>



Part of the [Psychology Commons](#)

Recommended Citation

LaLonde, Leah Rose, "Support for screening and intervening on adolescent depression: Provider-reported training outcomes" (2020). *Master's Theses and Doctoral Dissertations*. 1135.
<https://commons.emich.edu/theses/1135>

This Open Access Thesis is brought to you for free and open access by the Master's Theses, and Doctoral Dissertations, and Graduate Capstone Projects at DigitalCommons@EMU. It has been accepted for inclusion in Master's Theses and Doctoral Dissertations by an authorized administrator of DigitalCommons@EMU. For more information, please contact lib-ir@emich.edu.

Support for Screening and Intervening on Adolescent Depression:

Provider-Reported Training Outcomes

by

Leah Rose LaLonde

Thesis

Submitted to the Psychology Department

Eastern Michigan University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

in

Clinical Psychology

Thesis Committee:

Alexandros Maragakis, Ph.D.

Teryn Bruni, Ph.D., BCBA

Michelle Byrd, Ph.D.

Heather Janisse, Ph.D.

January, 27 2020

Ypsilanti, Michigan

Abstract

Given the potential consequences of untreated adolescent depression and the prevalence of untreated mental health among adolescents, the American Academy of Pediatrics has strongly recommended active support and monitoring of depressive symptoms in pediatric primary care. Primary care providers (PCPs), however, do not have sufficient training to provide this level of care, contributing to low rates of identification and management of depression. The purpose of the current pilot study was to evaluate a training aimed at supporting providers in the management of adolescent depression. Results demonstrated that providers were accepting of the training and that provider knowledge of depression management increased. In comparison to pre-training perceptions, the providers perceived adolescent depression management as more feasible. Providers also reported that they were more comfortable managing depression by the end of the training. Limitations of the current study and future directions are discussed.

Table of Contents

Abstract.....	ii
List of Tables.....	v
Introduction.....	1
Literature Review.....	2
Poor Access to Behavioral Health Treatment.....	2
Screening for Behavioral Health Concerns in Primary Care.....	6
Primary Care Provider Training.....	9
Provider Burnout.....	12
Adolescent Depression in Primary Care.....	14
Training Development.....	17
Present Study.....	21
Method.....	23
Participants.....	23
Procedures.....	23
Measures.....	24
Data Analyses.....	26
Results.....	28
Descriptive Statistics.....	28
Changes from Pre- to Post-Training.....	28
Training Acceptability.....	29
Provider Burnout.....	29
Differences Between Clinics.....	30

Exploratory Models.....	31
Discussion.....	32
Limitations.....	33
Future Directions.....	35
References.....	36
Appendix A: Training Manual.....	58
Appendix B: Actor Script for Training Videos.....	93
Appendix C: Behavior Checklist for Roleplays	95
Appendix D: Institutional Review Board Letter	96
Appendix E: Background Questionnaire.....	97
Appendix F: Provider Burnout Sample Items.....	98
Appendix G: Knowledge Questionnaire.....	99
Appendix H: Comfort Questionnaire	100
Appendix I: Feasibility Questionnaire.....	101
Appendix J: Training Acceptability Questionnaire.....	102

List of Tables

Table 1. Changes in Provider-Reported Outcomes	51
Table 2. Correlations between Burnout and Comfort and Perceptions of Feasibility Managing Depression	52
Table 3. Differences in Provider Perceptions Between Clinics with and without Integrated Behavioral Health.....	53
Table 4. Exploratory Models Predicting Post-Training Comfort and Feasibility	54
Table 5. Exploratory Models Predicting Training Acceptability	55

Introduction

Prevalence rates show that children and adolescents experience behavioral health concerns at a high rate (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003), yet pediatricians are currently providing most behavioral health services. Adolescent depression is a behavioral health concern that frequently presents in pediatric primary care and one that pediatricians report feeling like they are unable to adequately address due to receiving less than adequate training in the area (Fallucco, Hanson, & Glowinski, 2010; Olson, et al., 2001; Peterson, Pidano, & Honigfeld, 2018). Despite this, pediatricians have received increased pressure to manage behavioral health concerns (e.g., adolescent depression) through screening initiatives. While screening initiatives increase the identification of behavioral health concerns (Hacker et al., 2015), on its own, screening does not lead to improved management of behavioral health concerns. The current study expands on the current literature regarding pediatrician management of adolescent depression by evaluating the provider-reported outcomes of a training that aimed to train pediatricians to deliver a brief intervention. The implications of the findings and future directions are discussed.

Literature Review

Poor Access to Behavioral Health Treatment

It is estimated that 13% of adolescents meet criteria for a mental health diagnosis (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003); moreover, the World Health Organization reported that approximately one in every four to five youth meet the criteria for a mental disorder with severe impairment (Costello, He, Sampson, Kessler, & Merikangas, 2014; Merikangas et al., 2010). Only one-third of the adolescents who meet criteria for a mental health diagnosis, however, will receive mental health services (Merikangas et al., 2011). This discrepancy between youth who need mental health services and those who receive services is indicative of barriers to accessing care. Poor identification of mental health concerns and lack of access to evidence-based treatment are among those barriers.

The failure to identify mental health concerns presents as a major barrier to adolescents receiving mental health care. Identification of mental health concerns among adolescents is often contingent on whether parents or adolescents disclose such concerns. In a review of the literature, Weitzman and Leventhal (2006) found that parents often do not disclose concerns about their children's mental health to their primary care providers. Barriers to parents recognizing the need for treatment among adolescents include lacking knowledge, forgetting to bring up issues, or passing off mental health issues as likely to improve with time (Lang, 2005). Furthermore, the stigma associated with seeking mental health services may be amplified among adolescents (Goodwin, Savage, Horgan, & 2016), making them less likely to seek specialty mental health services.

When adolescent mental health concerns are raised, it does not tend to be within specialty

mental health settings. Instead, concerns are frequently raised during pediatric primary care visits (Sharp, Pantell, Murphy, & Lewis, 1992). In a recent study assessing pediatric primary care provider (PCP) perceptions about behavioral health concerns that present in their clinics, PCPs reported such concerns present in as many as 65% of well-child visits and were the main presenting problem among about 35% of these visits (Lancaster et al., 2018). PCPs are the most frequently identified source of help for behavioral health concerns (Polaha, Dalton, & Allen, 2010). This may be due to the fact that PCPs are the first professional medical relationship in which youth and their families have ongoing and regular contact; PCPs are the trusted provider for not only somatic, but also behavioral health concerns. As PCPs have become the *de facto* mental health provider for families (Wildman & Langkamp, 2012), there continues to be considerable barriers to patients receiving quality mental health care in this setting.

Recognizing this high prevalence of behavioral health concerns presenting in primary care, PCPs report feeling both responsibility for, and barriers to, managing and monitoring behavioral health concerns. Time constraints and low reimbursement are among those barriers. When behavioral health concerns are present, well-child appointment length has been found to significantly increase from an average of 12 minutes to an average of 17 minutes (Cooper, Valleley, Polaha, Begeny, & Evans, 2006). Because primary care visits with behavioral health concerns last longer than visits without behavioral health concerns, PCP productivity decreases and therefore providers are reimbursed less (Meadows, Valleley, Haack, Thorson, & Evans, 2011). Importantly, not only does it take additional time for PCPs to address behavioral health concerns that come up during well-child visits, but PCPs also feel that they are not able to meet the needs of their patients who are presenting with these concerns, often citing their lack of

knowledge about how to treat behavioral health concerns (Biel, Anthony, Mlynarski, Godboy, & Beers, 2017).

During medical school, PCPs receive broad training in the management of behavioral health concerns; however, this training lacks depth and does not provide the skills for managing of behavioral health concerns (Wildman & Langkamp, 2012). Given both their training and the current system in which they are practicing, PCPs are limited in their options for managing behavioral health concerns: referral to specialty mental health or prescribing medications. When PCPs feel as though behavioral health concerns cannot be sufficiently addressed in the context of a medical visit and decide to refer their patients out to specialty mental health services, they are often met with a variety of challenges (Cunningham, 2009; Pidano, Honigfeld, Bar-Halpern, & Vivian, 2014). PCPs report difficulties with referral to community mental health services (Green et al., 2017) including long waiting lists (Laureer, Marenkos, Gaffney, Ketron, & Huncik, 2018) and lack of patient follow-up with referrals (Briggs-Gowan, Horwitz, Schwab-Stone, Leventhal, & Leaf, 2000). When patients do not follow-up with specialty mental health services, they return to their PCP. Because patients return to their PCP without following up with referrals, PCPs report feeling as though parents would prefer mental health services for their children in the primary care office (Nasir, Watanabe-Galloway, & Coffey-DiRenzo, 2014). Examination of follow-up rates support this perception of preference for mental health treatment in the primary care setting. There were significant improvements in attendance for referral to parent programs held at the primary care office in comparison to the same program held off-site (Wildman & Langkamp, 2012). The authors reason that patients and families are more likely to follow up when they can receive behavioral health services in a familiar location. Given the familiarity with the setting, treating behavioral health concerns within the medical setting can also decrease

the stigma and increase convenience associated with seeking behavioral health treatment (Kolko & Perrin, 2014).

Other than referral to specialty mental health, prescribing medication is another resource PCPs utilize for addressing behavioral health concerns. Data from the National Ambulatory Medical Survey demonstrated an increase in youth mental health psychotropic medication prescriptions among non-psychiatric providers (Olfson, Blanco, Wang, Laje, & Correll, 2014). As a non-psychiatric provider, PCPs may rely on medication as a stand-alone treatment for management of behavioral health concerns, even when it is not consistent with evidence-based practices (Epstein et al., 2014). Because of its availability, PCPs report relying on prescribing medications even when they feel that other treatment options (e.g., parent training) would be more effective (Dempster, Wildman, & Duby, 2015) resulting in youth receiving mental health care that is not evidence-based.

Despite the above barriers to the management of prevalent behavioral health concerns in pediatric primary care, it has been recommended that PCPs play a large role in screening for behavioral health concerns. Not only has the US Preventative Task Force taken a strong stance in support of regular behavioral health screening. Additionally, the American Academy of Pediatrics (AAP) developed the Task Force on Mental Health aimed at improving the quality of mental health services provided in the primary care setting. According to the AAP's "Section on Developmental and Behavioral Pediatrics" in order to improve the quality of mental health care, behavioral health concerns should be accurately identified and managed in primary care (Weitzman & Wegner, 2015).

Screening for Behavioral Health Concerns in Primary Care

Standardized screening for behavioral health concerns across primary care settings has become a focus for improving the accurate identification of behavioral health concerns in pediatric populations. Although PCPs concur about their responsibility in identifying behavioral health concerns, their practices vary greatly. In order to manage behavioral health concerns in primary care, PCPs first need a method for accurately identifying behavioral health concerns. Without screening procedures in place, PCPs often rely on clinical judgment for identifying behavioral health concerns, which frequently leads to under-identification (Sheldrick, Merchant, & Perrin, 2011).

Without screening procedures, the identification of behavioral health concerns varies based on factors associated with the presenting problem, patient, and/or provider. First, PCPs are more likely to identify the severe presenting behavioral health concerns in comparison to mild or moderate concerns (Brown & Wissow, 2010; Steele, Lochie, & Roberts, 2010). This may be due to the higher likelihood of parents to disclose problems to PCPs when the behavioral health concerns are more severe (Dempster, Wildman, Langkamp, & Duby, 2012). Additionally, because PCPs only have a short period of time with their patients during a medical appointment, behaviors that indicate severe behavioral health concerns are more likely to be noted than mild concerns. Therefore, implementing screening measures is likely to increase rates of identification through the means of identifying concerns that are less severe in nature. By identifying behavioral health concerns before they are severe, a more preventative approach, which is consistent with primary care, can be taken (Fox, Halpern, & Forsyth, 2008).

Similar to the effect that severity has on identification, there are specific behavioral health concerns that are more likely to be identified than others. PCPs are more likely to manage

medically focused problem behaviors such as enuresis or obesity in comparison to less medically focused behavioral health concerns such as depressed mood or anxiety (Williams, Burwell, Foy, & Foy, 2006). Additionally, because externalizing behavior problems often have more of an effect on others, such as parents or teachers, these concerns are more likely to be brought up during medical visits and therefore identified in comparison to internalizing problems (Fox et al., 2008). Furthermore, patient characteristics, such as age, gender, and race or ethnicity, also influence the identification of behavioral health concerns. Without systematic screening procedures, PCPs are more likely to ask older female teenagers about their mood than younger males (Ozer, et al., 2009). PCPs are also less likely to identify behavioral health concerns among minority populations (Brown & Wissow, 2010). Lastly, provider characteristics also impact identification of behavioral health concerns. Because PCPs report lack of comfort bringing up behavioral health topics, they may avoid them (Hampton, Richardson, Bostwick, Ward, & Green, 2015) not out of maleficence, but because they feel that they could not adequately manage the concerns anyway.

By ensuring the identification does not rely upon these idiographic factors alone, screening can increase accurate identification of behavioral health concerns. It has been demonstrated that when screening interventions are introduced in primary care clinics, rates of identifying behavioral health concerns increase (Hacker et al., 2015). When comparing identification of behavioral health concerns, clinics that used the Pediatric Symptom Checklist as a screening measure identified more patients with behavioral health concerns than clinics that did not (Valleley, Romer, Kupzyk, Evans, & Allen, 2015). Not only does screening reduce bias in identifying behavioral health concerns, but it also functions as an entrance to discussions about behavioral health concerns. PCPs report that although screening takes additional time, it provides

a method for efficiently uncovering important issues that may not be brought up by patients and families (Gadomski et al., 2015). Furthermore, adolescents tend to be accepting of PCP-initiated behavioral health conversations. Adolescents report more positive perceptions of their provider when PCPs raise these sensitive topics (Brown & Wissow, 2009). Additionally, PCPs also report that data obtained from screening measures can be useful to explain to parents why they should seek specialty mental health services for their child (Zuckerbrot et al., 2007).

Even though PCPs perceive benefits to screening for behavioral health concerns, the implementation of behavioral health screening requires changes in practice. Specifically, not only do providers first have to choose which screeners to use, but they also have to implement workflow changes in their clinics, and then put systems in place for monitoring and managing patients who screen positive for behavioral health concerns (Mulvaney-Day et al., 2018). Although workflow changes are necessary, screening procedures are not new to primary care settings. Because it should be expected that more than one in five children will screen positive on a behavioral health screen (Glascoe, 2015), PCPs should not only have systems in place for implementing screening procedures but also acquiring the knowledge and skills to manage identified behavioral health concerns. These changes required from PCPs caused slow uptake of screening (Kolko & Perrin, 2014). The results from a survey of a Washington, D.C., citywide survey of pediatric PCPs demonstrated that 100% of the pediatric PCPs reported high levels of behavioral health concerns among their patients (Biel et al., 2017). Of the 50 pediatric PCPs surveyed, 96% endorsed the expectation to manage these concerns and only 10% reported being able to meet the needs of these patients. Even though the implementation of screening has demonstrated increased rates of identification, these changes in identification have not corresponded to changes in physician behavior in response to identified behavioral health

concerns (Valleley et al., 2015). This suggests the implementation of screening guidelines alone is not changing physician behavior and that additional supports are necessary for supporting PCPs management of identified behavioral health concerns.

Primary Care Provider Training

With the development of the patient-centered medical home (PCMH; Kaslow, Kapoor, Dunn, & Graves, 2015), primary care has been moving towards more multi-faceted and comprehensive care of patients both physically and psychologically. Receiving primary medical care in a PCMH has been found to be associated with improved outcomes as well as lower costs (Rosenthal, 2008). Despite this evidence, PCP residency training programs lack the mental health training necessary to keep up with these changing models of care (Green, Hampton, Ward, Shao, & Bostwick, 2014). Psychosocial concerns have been repeatedly described as the *new morbidity* since the 1970's (as cited in Jellinek, Murphy, Little, Pagano, Comer, & Kelleher, 1999). Beginning only in 1997, the Accreditation Council for Graduate Medical Education (ACGME) began requiring pediatric PCP residency programs to provide a four-week rotation in developmental and behavioral pediatrics (DBP) to learn how to treat children with developmental and behavioral challenges. Even though it has been shown that pediatric PCPs who had the DBP rotation during residency are more likely to manage behavioral health concerns, management rates still fall below one-third (Stein et al., 2017). This statistic demonstrates that a four-week rotation may not adequately prepare pediatric PCPs to manage the abundance of behavioral health concerns presenting in their pediatric primary care clinics.

A majority of residency training program directors report the desire for more mental health training, particularly those in pediatrics (Leigh, Stewart, & Mallios, 2005). In a survey of residency training directors, less than half felt like suicide assessment training is adequate

(Sudak, Sudakm, Lipschitz, Malsberger, & Hendin, 2007). Not only do the directors desire more training, but residents also report areas of behavioral health training that were not adequately addressed during their residency training (Hampton et al., 2015). In a qualitative study describing the current state of pediatric residency training specific to mental health, residents disclosed training deficits in the areas of knowledge and skills necessary to manage behavioral health concerns. Furthermore, residents reported that their residency did not adequately prepare them to feel comfortable addressing behavioral health concerns with their patients.

Considering the changing healthcare system and the lack of mental health training in medical school and residency, the need for additional support and training to aid PCPs with the management behavioral health concerns is evidenced across research studies (O'Brien, Harvey, Howse, Reardon, & Creswell, 2016). Behavioral health screening initiatives have left PCPs feeling particularly ill-equipped to implement screening and interpret scores (Godoy et al., 2017). Furthermore, once behavioral health concerns are identified using the screening measures, PCPs are unsure how to manage those concerns (Biel et al., 2017). Lack of knowledge about behavioral health and low confidence addressing these concerns are two commonly cited barriers reported by PCPs (Horwitz et al., 2007). Close collaboration with specialty mental health providers is one way to improve behavioral health care in the primary care setting (Foy, Kelleher, & Laraque, 2010).

Specialty mental health providers are becoming increasingly integrated into the primary care setting in a variety of ways. The first way is through providing services to pediatric patients within the primary care offices. Collaborative care interventions delivered in primary care by PCPs, psychiatrists, and psychologists, for example, has demonstrated reduced adolescent depression (Richardson et al., 2014). Contrary to what might be expected however, the presence

of a specialty mental health provider in primary care, commonly referred to as a behavioral health provider (BHP), is associated not with decreased, but with increased PCP management of behavioral health concerns (Cooper et al., 2006). It is hypothesized that the availability of a BHP within the primary care office alone increases PCPs confidence of addressing these concerns. Thus, regardless of whether there is a BHP in the office, PCPs are still playing a key role in managing behavioral health concerns. Even with a BHP, PCPs are responsible for making appropriate referrals and following their patients behavioral health care. Other than providing direct care in a primary care office, psychologists can also make a valuable contribution to improving both screening and management of behavioral health concerns during a medical visit by addressing training deficits through training initiatives (Kazak, Nash, Hiroto, & Kaslow, 2017; Robinson et al., 2018; Simonian, 2006).

Trainings that focus on improving PCP screening and management of behavioral health concerns demonstrate some successes. In a review of trainings from 1966 to 1998, Kroenke, Taylor-Vaisley, Dietrich, and Oxman (2000) found improved mental health diagnosis and treatment following provider trainings. More recently, Wintersteen (2010) found even a single 90-minute training resulted in increased rates of screening and identification of suicidal ideation. In comparison to PCPs without training, PCPs who attend behavioral health trainings assess for depression and suicidal risk more often (Fallucco, Conlon, Constantino, & Glowinski, 2012). In a more far-reaching training initiative called the Reaching Children Initiative, Laraque and colleagues (2009) found that, compared to PCPs who did not participate, PCPs who participated in the training demonstrated improved diagnostic skills. It is not enough, however, to only identify concerns using screening measures without further assessing, managing, and intervening when necessary. Because increased identification of behavioral health concerns alone will not

improve patient mental health outcomes (Husky, Miller, McGuire, Flynn, & Olfson, 2011), a corresponding improvement in the management of identified concerns is necessary to connect improved screening to improved patient mental health outcomes.

Trainings aimed at supporting PCPs in the management of behavioral health concerns can work to also increase screening rates because PCPs will feel more confident their ability to address the concerns identified with screening measures. While most PCPs feel responsible for identifying behavioral health concerns, there is variability in PCPs perceptions of responsibility for managing behavioral health concerns (Dempster et al., 2015). Due to barriers to getting their patients mental health treatment elsewhere, PCPs report that they end up managing behavioral health concerns the best they can given their training and resources more often than they prefer (Connors et al., 2018). By including training on management of behavioral health concerns, Laraque and colleagues (2009) demonstrated their training increased PCP knowledge of strategies for managing mental health concerns. Because they are already managing behavioral health concerns in their offices, PCPs perceive benefit to learning skills aimed at intervening on behavioral health concerns (Landoll, Maggio, Cervero, & Quinlan, 2018).

Provider Burnout

As providers face a rapidly expanding knowledge base and increased workloads, physician burnout has become a central concern (Shanafelt, Dyrbye, & West, 2017). Physician burnout is a specific type of job stress encompassed by emotional exhaustion, depersonalization, and diminished feelings of personal accomplishment in one's work (Maslach, Schaufeli, & Leiter, 2001). PCPs generally endorse high rates of burnout (Shanafelt et al., 2012). Using a one-item measure for burnout, Cull and colleagues (2019) found that 20–35% of pediatricians from a national longitudinal study endorsed burnout. Although pediatricians report lower rates of

burnout compared to physicians in other specialties, from 2011 to 2014, pediatrician burnout rates increased faster than burnout among physicians in other specialties (Shanafelt et al., 2015).

Physician burnout has been associated with a variety of undesirable healthcare characteristics, such as reduced productivity and poorer quality patient care (Wallace, Lemaire, & Ghali, 2009). Because of the potential consequences of physician burnout on the provider, patient, and larger healthcare system, it is recommended that provider wellness be included as a quality-indicator measure (Wallace et al., 2009). It has even been advocated that in order to fulfill the triple aim of enhancing patient experience, improving population health, and reducing healthcare costs, a fourth aim, improving the work life of those who deliver care, is needed (Bodenheimer & Sinsky, 2014). By considering PCPs as stakeholders, behavioral health providers implementing trainings aimed to increase management of behavioral health problems need to consider provider burnout and its potential impact on training outcomes. Provider buy-in is an important component to implementation of screening practices in the primary care setting (Godoy et al., 2017). To address barriers to accessing behavioral health care, trainings should provide the PCPs with tools for better managing some of the behavioral health concerns that commonly present within their office. Additionally, the time-limited and fast-paced nature of PCPs day-to-day workplace should be taken into account in order for trainings to result in PCP behavior change.

The lack of considering PCP perceptions of trainings may be a reason why some behavioral health trainings have not demonstrated improvements in the management of behavioral health concerns (Lin, Simon, Katzelnick, & Peterson, 2001). Poor provider perception of trainings may be responsible for the lack of provider behavior change. Because implementing practice change is difficult, if providers do not perceive the training as useful, beneficial, and

feasible, they may be less likely to change their practices. As behavioral health trainings are developed to improve the management of behavioral health concerns, the evaluation of provider perceptions of trainings will be essential. Not only will provider-reported training outcomes be necessary to track immediate feasibility and comfort with protocols for managing behavioral health concerns but also to eventually determine whether the trainings are associated with outcomes such as increased management of behavioral health concerns and improved patient mental health outcomes. Trainings should be directly relevant to the needs of both patients and providers, and given the lower levels of comfort managing depression compared to other behavioral health concerns presenting in pediatric primary care (Peterson et al., 2018), managing depression is a relevant training target.

Adolescent Depression Presenting in Primary Care

Adolescent depression is a specific behavioral health concern that has received increased attention in pediatric primary care. An estimated 12.8% of the United States population ages 12–17 had at least one depressive episode in 2016 (National Institute of Mental Health, 2017). Adolescent depression can lead to impairments across domains, such as social and academic functioning (Fletcher, 2010). Furthermore, adolescent depression is a risk factor for death by suicide, a leading cause of death among adolescents (Thapar, Collishaw, Pine, & Thapar, 2012). In addition to these more proximal consequences, adolescents who experience a depressive episode are more likely to experience depression later on in life (Johnson, Dupuis, Piche, Clayborne, & Colman, 2018). Furthermore, adolescent depression presenting in primary care is persistent (Sterling, Kline-Simon, Weisner, Jones & Satre, 2018), affirming the importance of addressing depression with evidence-based interventions within this setting.

Given these potential consequences of adolescent depression, the US Preventative Task Force recommends universal depression screening for adolescents ages 12–18 (Siu, 2016). The American Academy of Pediatrics (AAP) further supported the screening initiative by recommending screening and monitoring depression symptoms across all patients ages 11–21 (Simon et al., 2014). These recommendations are based on indirect evidence that suggests screening could improve patient health outcomes with the use of accurate and feasible tools to improve identification of depression and that evidence-based treatments are more readily available (Forman-Hoffman & Viswanathan, 2018). Although active support and monitoring of depressive symptoms are recommended, PCPs often do not have the time or sufficient clinical training to provide this level of care (Fallucco, Seago, Cuffe, Kraemer, & Wysocki, 2015).

PCPs report higher levels of comfort addressing other behavioral health concerns such as ADHD compared to depression (Williams, Klinepeter, Palmes, Pulley, & Foy, 2004). PCPs are also less likely to identify internalizing disorders (e.g., depression) in comparison to externalizing disorders (e.g., ADHD; Wren, Scholle, Heo, & Comer, 2003; Wren, Scholle, Heo, & Comer, 2005). Although the majority of pediatric PCPs screen for ADHD, they are screening for depression much less often even though they endorse that depression is a commonly presenting behavioral health concern among their adolescent patients (Stein et al., 2016). Such low utilization of depression screening demonstrates a difference between PCPs reported beliefs about the importance of screening for depression and actual depression screening practices (Dempster et al., 2015). Lack of training in the management of depression may be responsible for the low screening rates.

Trainings aimed at supporting depression screening specifically have demonstrated screening rates improve over the course of one year from 10% to 15% to 82% (Sathyanarayan,

Thakur, Sigal, & Turner, 2015). When PCPs knowledge about depression and confidence to manage depression improves following participation in a depression training, they are more likely to screen for depression and suicide risk (Fallucco et al., 2015). Furthermore, this increase in screening was not evident among PCPs who did not undergo additional training. When examining the components of the trainings that facilitate these changes, in comparison to a lecture only style training, more hands-on trainings are associated with providers feeling more confident about addressing depression and suicide risk with patients (Fallucco, Hanson, & Glowinski, 2010). After implementing depression screening, Aalsma and colleagues (2018) found that 49% of adolescents scored in the mild range for depression. This statistic emphasizes the importance of not only improving identification of depression, but also PCPs ability to manage depression because of how many more patients with depression will be identified.

Pediatric PCPs endorse feeling that most emotional and behavioral complaints can be managed in the primary care setting, but that more training is necessary (Nasir et al., 2014). Pediatric PCPs repeatedly report low confidence in managing depression in their offices (Fallucco et al., 2010; Olson, et al., 2001). In comparison to other behavioral health concerns frequently presenting in primary care, PCPs are more likely to manage depression solely by referring patients with suspected depression (Peterson et al., 2018). Furthermore, lower provider-reported comfort with managing symptoms of depression was associated with the increased referral rate. Furthermore, a study examining the effects of a quality improvement intervention found that in comparison to adolescents receiving primary care as usual, adolescents receiving primary care in a clinic with integrated behavioral health support reported lower depression (Asarnow et al., 2009). Thus, trainings should also address how PCPs can better manage mild depression within the primary care office.

In summary, PCPs are in need of additional behavioral health training. Given the recent emphasis on managing adolescent depression in primary care and considering pediatric PCPs lack of confidence in managing this specific behavioral health concern, it is an appropriate time for trainings targeted at managing depression. While trainings with interactive components have been found to be effective for PCP trainings, the training program components and the providers perception of the training are less frequently reported (Taliaferro & Borowsky, 2011). Rather than assuming the trainings are perceived well by PCPs, provider perceptions of trainings will be a crucial component for examining outcomes of screening initiatives and developing future trainings targeting the management of behavioral health concerns within pediatric primary care.

Training Development

Depression screener. In order to increase identification of adolescent depression, the University of Michigan Medicine implemented guidelines that require all pediatric PCPs to screen adolescents ages 12 to 18 for depression using the Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002). Each clinic varies in their method for delivering the PHQ-9 to adolescents; however, in all clinics, the adolescent completes the questionnaire alone (e.g., parent asked to wait in the waiting room) to ensure the patient is accurately reporting symptoms. The PHQ-9 is a nine-item screener that is consistent with diagnostic criteria for depression (Kroenke & Spitzer, 2002). Scores on the PHQ-9 are indicative of potential depression with mild (scores 5-9), moderate (scores 10-14), moderately severe (scores 15-19), or severe (20-27).

The PHQ-9 has been found to be a reliable and valid measure of depression in a primary care sample (Kroenke, Spitzer, & Williams, 2001). A meta-analysis of validation studies using the PHQ-9 found acceptable sensitivity and specificity in primary care samples (Gilbody, Richards, Brealey, & Hewitt, 2007). The PHQ-9 has also been used as a screening measure in

adolescent samples (Richardson et al., 2014) and has demonstrated utility in identifying adolescent depression in pediatric care settings (Allgaier et al., 2012).

Training model. The integrated behavioral health team, who consisted of psychologists and trainees, developed the training curriculum to follow the behavioral skills training (BST) model (Miltner, 2008). This model involves instruction, modeling of behavior, rehearsal, and feedback. BST is efficacious for teaching skills that can be simulated with role play and provides an opportunity for behavior to be shaped before being implemented in real-world settings. The training consisted of three components: (a) brief instruction about treating adolescent depression in the primary care setting, (b) training PCPs to assess for and manage depression when adolescents screen positive for mild, moderate, and severe depression, and (c) training PCPs to record screening and assessment results and interventions used in the electronic health record (EHR). Training manuals (Appendix A) were provided and included copies of the PHQ-9, information about assessing and treating adolescent depression, a clinical decision-making tree, handouts for adolescents and their parents, example scripts for conducting suicidal risk assessment and implementing a brief behavioral activation (BA) intervention, and team contact information for follow-up questions. A USB drive with all information in electronic format was also provided to each provider.

Suicide risk assessment. Suicide among adolescents is particularly concerning given its increasing rates; current estimates are 11.8 per 100,000 for ages 15–19 (Miron, Yu, Wilf-Miron, & Kohane, 2019). Because the PHQ-9 has a question assessing for suicidal ideation, the training was designed to begin with a review of the steps to conducting a risk assessment with adolescents consistent with recommendations from the American Academy of Pediatrics (Shain, 2016). Providers were given example questions to assess for suicide risk factors, including plan

and attempt, as well as past suicide attempts. Then providers watched a pre-recorded video modeling a suicide risk assessment. Michigan Media at the University of Michigan were hired to create the video. The integrated behavioral health team created the script (Appendix B) for actors. After watching the pre-recorded video example, PCPs had the opportunity to practice conducting a suicide risk assessment by role playing with each other. Trainer's provided immediate feedback to the providers. To ensure fidelity, providers were given a roleplay checklist with specific behaviors to practice (Appendix C).

Brief depression intervention. After practicing suicide risk assessment, providers were given brief instruction about treating adolescent depression which included an overview of Cognitive-behavioral therapy (CBT) with a particular emphasis on behavioral strategies. Behavioral activation (BA) is an evidence-based, behavioral strategy that can be utilized as a stand-alone treatment to improve mood (Cuijpers, van Straten, & Warmerdam, 2007). BA was selected as the brief intervention to train physicians to deliver for multiple reasons. First, the cognitive components of CBT require more insight and cognitive development. The rationale for BA, that an increase in engagement in pleasurable activities leads to an increase in mood, is easily understood. BA alone, without cognitive components, has been shown to be equally effective as a combination of cognitive therapy and BA (Jacobson et al., 1996). Furthermore, BA has been found to be an effective intervention leading to mood improvements among adolescents (McCauley et al., 2014). Lastly, it was important to develop an evidenced-based intervention that providers could implement themselves. BA has been found to be feasibly delivered in a brief format by a professional other than a psychologist (Dimidjian, Barrera, Muniz, & Lewinsohn, 2011; Ekers, Richards, McMillam, Bland, & Gilbody, 2011).

After learning about BA, providers watched a pre-recorded video modeling a brief BA intervention. Michigan Media at the University of Michigan also created this video, and similarly, the integrated behavioral health team created the script (Appendix D) for actors. After watching the pre-recorded video example, PCPs had the opportunity to practice implementing the brief BA intervention by role playing with each other. Trainer's provided immediate feedback to the providers. To ensure fidelity, providers were given a roleplay checklist with specific behaviors to practice (Appendix C).

Documentation of services provided. Finally, the last portion of the training demonstrated how providers can document interventions used in response to the elevated PHQ-9 scores, including implementation of the brief BA intervention. A smart form was developed in collaboration with EPIC, the hospital's EHR software, to provide an efficient way for providers to document actions taken in a way that allows for easy data collection.

Present Study

The University of Michigan Medicine implemented guidelines that require all pediatric PCPs to screen adolescents ages 12 to 18 for depression using the PHQ-9. As a result, the divisions of General Pediatrics, Pediatric Psychology, and Pediatric Psychiatry have partnered to form the Screening to Address Depression Task Force. The aim of the task force is to assist with the new screening initiative across Michigan Medicine primary care offices. Because it is recommended that screening tools only be used in combination with high quality care, the primary goal of the task force is to train PCPs to implement a brief evidence-based treatment that can be effectively delivered during primary care visits to improve management of identified depression.

Training providers to implement a brief depression intervention in primary care is a part of a larger goal to increase access to evidence-based depression care at University of Michigan (See Figure 1). This goal is consistent with a stepped care model, which promotes a more efficient system by transitioning patients to more intensive depression treatments (e.g., referral to integrated behavioral health or referral to other specialty services) only after less intensive treatments do not result in improvement (Maragakakis & Hatzigeorgiou, 2018). Thus, a brief BA intervention in pediatric primary care may function as a lower tiered evidenced-based intervention with the long-term goal of reducing unnecessary referrals.

The purpose of the proposed study was to examine the provider-reported outcomes of this piloted training which aimed to support PCPs in screening, managing, and monitoring symptoms of depression among their adolescent patients.

The primary hypotheses were as follows:

Hypothesis 1: Provider knowledge about depression will increase following participation in the pilot training.

Hypothesis 2: Provider comfort managing depression during a medical visit will increase following participation in the pilot training.

Hypothesis 3: Provider perception of the feasibility of managing depression will increase following participation in the pilot training.

Hypothesis 4: Providers will perceive the pilot training as acceptable.

The secondary hypotheses were as follows:

Hypothesis 5: Higher burnout will be associated with lower provider perception of the feasibility of managing depression during a medical visit.

Hypothesis 6: Higher burnout will be associated with less provider comfort managing depression during a medical visit.

Hypothesis 7: Providers with a psychologist integrated within the primary care office will perceive higher feasibility delivering managing depression during a medical visit than providers without a psychologist integrated within the primary care office.

Hypothesis 8: Providers with a psychologist integrated within their primary care office will report more comfort managing depression during a medical visit than providers without a psychologist integrated within the primary care office.

Finally, three exploratory models will be used to examine the unique variance among predictors (pre-test scores, burnout, age, presence of IBH, years in practice, primary care office). Provider-reported feasibility and comfort managing depression and training acceptability will be the dependent variables.

Method

Participants

The study was reviewed and exempt by the institutional review board (Appendix D). A total of 57 pediatric and internal medicine PCPs located across nine Michigan Medicine primary care offices participated in the training. PCPs were not required to attend the trainings; however, they are required to screen for adolescent depression using the PHQ-9. PCPs did not receive continuing medical education credits for attending the training.

Procedure

The integrated behavioral health team, including one fully licensed psychologist led the pilot trainings. The trainings were scheduled separately by site beginning in March 2019. Consistent with a quality improvement approach, trainings were slightly progressively modified as trainings progressed based on provider feedback. Specifically, after the first training additional information regarding confidentiality and locating the Smart Form within the EHR were added. The second role play was not completed at two locations due to time constraints. Pre-and post-training data were collected using Qualtrics surveys at the beginning and end of the training sessions. Pre-and post-training surveys and roleplay behavior checklists were matched using a unique ID number for each provider. Each training session lasted approximately 90 minutes. The first and last eight minutes of each training were used for PCPs to complete the surveys on their own electronic device or a laptop provided by the trainers. Although most providers completed the post-training survey within the training, some providers completed the surveys later. When providers did not complete the post-training survey, an email reminder with the survey link was sent to all providers that attended the training.

Measures

Demographics. The PCP demographics including age, gender, years in practice, educational background, and practice location were collected (Appendix E).

Burnout. PCP burnout was measured at the beginning of the training using the 22-item Maslach Burnout Inventory Human Services Survey for Medical Professionals (MBI-HSS [MP]; Maslach & Jackson, 1981; Appendix F). The MBI measures overall burnout comprised of three subscales: Emotional Exhaustion, Depersonalization, and Personal Accomplishment. Statements are rated on a 7-point Likert scale ranging from 0 (*never*) to 6 (*every day*). Higher scores on Emotional Exhaustion and Depersonalization and lower scores on Personal Accomplishment subscales are indicative of higher burnout. Cronbach's alpha was .91, .69, and .70 for Emotional Exhaustion, Depersonalization, and Personal Accomplishment, respectively, demonstrating acceptable internal reliability in this sample.

Depression knowledge. Because knowledge of behavioral health concerns has been reported by PCPs as a barrier to providing adequate care to their patients who present with behavioral health concerns (Cheung Zuckerbrot, Jensen, Stein, & Laraque, 2008; Fallucco et al., 2012; Horwitz et al., 2007), a questionnaire was developed to assess whether their knowledge of depression improves following participation in the training. Because no validated measures exist, knowledge of depression was measured using a questionnaire tailored to the specific learning objectives of the training (Appendix G). The questionnaire is a 5-item, true-false, multiple choice questionnaire received expert review from a pediatric psychiatrist. The total depression knowledge score was calculated based on the number of questions answered correctly.

Comfort. Comfort managing depression has been reported as a barrier to adequately managing depression during medical visits (Peterson et al., 2018; Williams et al., 2004); thus, a

questionnaire was created to assess whether learning to implement a brief depression intervention improves comfort managing depression with patients and their families. Provider perceptions of comfort managing depression during a medical visit was measured using a five-item questionnaire (Appendix H). Because there are no validated measures to assess comfort, the questionnaire was created to reflect specific learning objectives of the training. Statements were rated on a 6-point Likert scale ranging from 1 (*very uncomfortable*) to 6 (*very comfortable*). The questionnaire was completed both at the beginning and at the end of the training. Cronbach's alpha was .81 and .82 for pre-training and post-training measures of provider comfort managing depression, respectively, indicating the measure yielded adequate internal reliability among this sample.

Perception of feasibility. Provider perceptions of the feasibility of managing adolescent depression during a medical visit was measured using a five-item questionnaire that parallels the comfort questionnaire (Appendix I). Because there are no validated measures to assess provider perceptions of feasibility, the questionnaire was created to reflect specific learning objectives of the training. Statements are rated on a 6-point Likert scale ranging from 1 (*very unfeasible*) to 6 (*very feasible*). The questionnaire was completed both at the beginning and at the end of the training. Cronbach's alpha were .77 and .76 for pre-training and post-training measures of provider perception of feasibility managing depression, respectively, indicating the measure yielded adequate internal reliability among this sample.

Training acceptability. Acceptability of the training was assessed using a 5-item questionnaire developed specifically for the purpose of the training (Appendix J). Prior studies training PCPs to manage depression have not reported the acceptability of training components. Given the changes observed following trainings (e.g., increased knowledge of depression,

increased comfort managing depression), acceptability has been assumed in prior trainings aimed at supporting PCPs management of depression (Fallucco et al., 2012; Zuckerbrot et al., 2007).

The acceptability of the training was collected because there are no published data on training PCPs to implement a brief intervention using a BST model. Statements about specific characteristics of the training were rated on a six-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The questionnaire was included on the post-training survey. Cronbach's alpha was .80, demonstrating adequate internal reliability among this sample.

Data Analyses

Descriptive statistics were used to describe the providers who participated in the training. Power analysis was conducted using G*Power. SPSS version 26 was used for hypothesis testing. To test the first hypothesis, a paired sample *t*-test was used to examine the change in PCPs knowledge of depression from pre- to post-training. Similarly, a paired sample *t*-tests was used to examine the change in provider-reported perceptions of feasibility and comfort managing depression during medical visits. To test the fourth hypothesis, mean, standard deviation, and modal acceptability scores were used to determine the training components perceived as acceptable by the providers. To test the fifth and sixth hypotheses, bivariate correlations were used to examine the association between provider burnout and provider-reported perceptions of feasibility and comfort with managing depression during medical visits. To test the seventh and eighth hypotheses, independent sample *t*-tests were used to examine differences in provider-reported perceptions of feasibility and comfort with managing depression during medical visits between PCPs who practice in an integrated care clinic and PCPs who do not have a psychologist on-site. An independent sample *t*-test was also conducted to examine differences in training acceptability between PCPs who practice in an integrated care clinic and PCPs who do not have

a psychologist on-site. Lastly, for exploratory data analysis, three multiple regressions were used to examine shared and unique variance among predictors of provider-reported perceptions of training acceptability, feasibility, and comfort managing depression during a medical visit.

Results

Descriptive Statistics

A total of 57 providers attended the training. Power analyses demonstrated that the current study had enough participants to detect a large effect size for between-subjects tests and a medium effect size for within-subjects tests. A portion of the providers attended the training at a different location than they practice due to scheduling conflicts ($n = 2$). Providers were predominantly medical doctors ($n = 56$). One provider was a doctor of osteopathy. A large percentage of providers were female ($n = 53, 93\%$), and practicing in pediatrics ($n = 52$). There were five providers (7%) who practice in internal medicine. The average provider age was 42 ($SD = 9.59$), ranging from 30–67 years of age. Years of practice ranged from zero to 41 ($M = 13.22, SD = 9.60$). Neither age or years in practice were associated with provider-reported comfort managing depression or provider perception regarding the feasibility managing depression during a medical visit. Of the 57 providers, 54 completed both pre-training and post-training surveys. Only 23 of the roleplay checklists were collected.

Changes From Pre to Post-Training

Provider knowledge. The number of items correct on a questionnaire assessing knowledge about managing adolescent depression increased from pre-training to post-training, $t(53) = -6.311, p < .001$. Thus, the first hypothesis was supported (Table 1).

Provider comfort. The average rating of comfort managing adolescent depression increased from pre-training to post-training, $t(53) = -5.40, p < .001$. Thus, the second hypothesis was supported (Table 1).

Provider Perception of Feasibility. The average perception regarding the feasibility of managing adolescent depression in the context of a medical visit increased from pre-training to post-training, $t(53) = -4.50, p < .001$. Thus, the third hypothesis was supported (Table 1).

Training Acceptability

The training was rated favorably. On a scale ranging from one to six the average rating was 5.51 ($SD = .50$), thus supporting the fourth hypothesis. Providers reported the training content was organized and easy to follow ($M = 5.69, SD = .47$), the content and materials provided were helpful ($M = 5.65, SD = .59$), the training experience provided useful information that they will apply in their day-to-day interactions with patients ($M = 5.52, SD = .64$), the trainers feedback during roleplays was helpful ($M = 5.48, SD = .75$), and it was helpful to watch and practice the protocols during the training ($M = 5.24, SD = .82$). The modal rating on all of the training acceptability items was 6 (*strongly agree*).

Provider Burnout

On a scale ranging from zero to six, providers reported an average emotional exhaustion score of 2.59 ($SD = 1.18$), an average depersonalization score of 1.02 ($SD = .82$), and an average personal accomplishment score of 4.95 ($SD = .71$). Based on cut-off scores used in previous studies (Rotenstein et al., 2018), 35% met the cut-off for significant levels of emotional exhaustion, 14% met the cut-off for significant levels of depersonalization, and 14% met the cut-off for significantly low levels of personal accomplishment.

Higher depersonalization was associated with lower provider-reported comfort managing adolescent depression prior to the training ($r = -.29, p < .05$). Neither emotional exhaustion nor personal accomplishment were associated with provider perceptions comfort managing adolescent depression. None of the subscales of burnout were associated with provider

perceptions of the feasibility of managing adolescent depression (Table 2). Thus, the fifth and sixth hypotheses were partially supported.

Differences Between Clinics

Of the 10 clinics, five have a psychologist integrated into the clinic providing behavioral health services. Prior to the training, providers in integrated behavioral health clinics perceived depression management as more feasible than providers without integrated behavioral health, though these differences were not statistically different, $t(54) = -.16, p = .88$. Additionally, providers in integrated behavioral health clinics reported more comfort managing depression than providers without integrated behavioral health, though these differences were not statistically significant, $t(54) = -.10, p = .92$. At the end of the training, providers without integrated behavioral health perceived depression management as more feasible than providers with integrated behavioral health though these differences were not statistically significant $t(51) = .23, p = .82$. Providers without integrated behavioral health also reported more comfort managing depression than providers with integrated behavioral health, though these differences were not statistically significant, $t(51) = 1.67, p = .10$ (Table 3). Thus, hypotheses seven and eight were not supported.

Providers from clinics with integrated behavioral health scored higher on the depression knowledge questionnaire before the training, $t(54) = -2.10, p < .05$. This difference in knowledge disappeared on the post-training knowledge questionnaire, $t(51) = .51, p = .61$. Providers from the clinics with integrated behavioral health also rated the training as more acceptable ($M = 5.71, SD = .36$) than the providers from clinics without integrated behavioral health ($M = 5.34, SD = .55$), $t(51) = -2.92, p < .01$.

Exploratory Models

Multiple regression analysis with simultaneously entered predictor variables was used to evaluate a model predicting predicted post-training perceptions of comfort managing depression. Results demonstrated that years in practice, presence of integrated behavioral health, burnout, and pre-training levels of comfort managing depression significantly predicted post-training perceptions of comfort managing depression, $F(6, 45) = 5.18, p < .001$. Results indicated the model accounted for 33% of the variance ($R^2 = .41$ and *adjusted* $R^2 = .33$). Depersonalization and comfort managing depression before training were the only variables that significantly contributed to the model, such that higher depersonalization and more comfort managing depression prior to the training predicted higher post-training comfort managing depression (Table 4).

A second multiple regression analysis with simultaneously entered predictor variables was used to evaluate a model predicting predicted post-training perception of feasibility managing depression. Results demonstrated that years in practice, presence of integrated behavioral health, burnout, and pre-training perception of feasibility managing depression significantly predicted post-training perception of feasibility managing depression, $F(6, 45) = 5.63, p < .001$. The model accounted for 34% of the variance ($R^2 = .41$ and *adjusted* $R^2 = .34$). Pre-training perception of the feasibility of managing depression was the only independent variable that significantly contributed to the model (Table 4).

A third multiple regression analysis with simultaneously entered predictor variables was used to evaluate a model predicting the acceptability of the training. Results demonstrated that years in practice, presence of integrated behavioral health, and burnout did not significantly predict training acceptability (Table 5).

Discussion

Results from this study demonstrated that PCPs are accepting of a behavioral health training that trains them to implement a brief behavior intervention for adolescent depression. PCPs were engaged in roleplays and reported that the content was useful for their day-to-day interactions with patients. Furthermore, compared to before the training, PCPs reported being more comfortable managing depression by the end of the 90-minute training. Additionally, compared to before the training, PCPs reported managing depression as more feasible. An increase in correct answers on a knowledge questionnaire from pre to post training indicated that PCPs learned information about managing depression that they did not know at the start of the training. These results are consistent with prior studies evaluating behavioral health trainings (Fallucco et al., 2012).

Providers with integrated behavioral health were more accepting of the training overall. While we cannot be sure why they were more accepting, it may be due to social desirability given that the psychologist who is integrated into the clinic was present for the training at their respective clinic. It may also be that these providers have more exposure to the behavioral health team on a day-to-day basis. Providers from clinics without integrated behavioral health may have felt like the training was adding more work on their day-to-day practice because these providers do not have a psychologist to refer their patients to.

Although there were no significant differences between providers with integrated behavioral health in their clinic and providers without behavioral health in terms of provider-reported comfort managing depression and provider-reported feasibility managing depression, the training may have been particularly useful for providers without integrated behavioral health

as they reported greater gains in terms of their reported comfort managing perception and perceived feasibility managing depression.

In terms of burnout among this sample, pediatricians indicated feelings of personal accomplishment occur a few times per week, feelings of emotional exhaustion occur a few times per month, and feelings of depersonalization occur a few times a year. These results are comparable burnout reported by pediatricians in the published literature (Cull et al., 2019). No studies have examined the association between burnout and management of behavioral health concerns among pediatric patients. Interestingly, burnout was not associated with the providers' perception of the feasibility managing depression. Results indicated that at the time of the training, even though depersonalization did not occur often for pediatricians, more depersonalization was associated with less comfort managing depression. Because results from this study of this cannot provide information concerning the directionality of this association, future research should consider whether trainings aimed at improving comfort managing behavioral health can decrease the levels of interpersonal stress contributing to provider. Furthermore, accounting for emotional exhaustion, personal accomplishment, pre-training comfort with managing depression, and presence of IBH, higher depersonalization was associated with more comfort managing depression at the end of the training, suggesting providers who reported depersonalization at the beginning of the training experienced greater gains in terms of their level of comfort managing depression.

Limitations

The current study is not without limitations. Because the training facilitator was a part of Michigan Medicine and practiced at one of the clinics, providers may be inclined to respond positively on the questionnaires. This may explain the significantly higher training acceptability

ratings among providers at Clinic A, which is the location where the training facilitator practices and interacts with the pediatricians daily.

Additionally, the study was underpowered to detect small or medium effects on differences between providers with integrated behavioral health and providers without integrated behavioral health. With an underpowered study, differences may exist but would be undetectable given the limited sample size.

Given the design of the current study, caution should be taken interpreting changes in provider-reported comfort managing and provider-reported perception of feasibility managing depression. Threats to validity in this study include mono-method bias and provider reactivity to the situation (Shadish, Cook, & Campbell, 2002). As mentioned above, providers may have responded to the questionnaires favorably confounding the results. Mono-method bias may have occurred due to measuring provider comfort and perception of feasibility managing depression in a single way, using the same provider self-report questionnaires. The addition of an objective measure or variation in questionnaires may have reduced response bias, which could have contributed to increased scores on provider-reported comfort managing depression and provider-reported perception of feasibility managing depression. Additionally, in a pre-test, post-test study design without a control group, we cannot be sure the changes were due to the training. The addition of a control group or the use of Solomon's four group design may have increased our confidence that changes were in fact due to the training; however, given the applied nature of the study and limited sample size, this was not feasible to implement.

Lastly, we are not sure which aspects of the training are responsible for the changes in the perception of comfort and feasibility managing depression. Due to time constraints and lack of consistency in utilizing and collecting roleplay checklists, we could not determine whether

roleplays were responsible for the changes in comfort managing depression or increased perception regarding the feasibility of managing depression. The checklists were useful as a guide for providers and facilitators to know the goal of roleplays but were not useful as an objective outcome measure. Providers often left the training taking their behavior checklist, or given only 7 minutes were allotted for roleplays, trainers did not always complete the roleplay behavior checklist.

Future Directions

While understanding provider perceptions following the training is useful for evaluating whether the training was acceptable to providers and helped them feel more comfortable managing depression and learn how to implement a brief intervention that can be feasibly delivered in the context of a medical visit, this does not mean that provider behavior will change. As an extension this analysis of outcomes and a part of the larger study, follow-up surveys are currently being sent to providers at each of the sites to ask whether they are using the materials and whether they would like a follow-up visit to problem solve any barriers to implementing the behavior activation intervention. Further, as a more objective measure, utilization of the behavioral activation intervention is being tracked using the smart form, which can be tracked using the EHR. This allows us to not only know rates of screening using the PHQ-9, but also know provider action in response to an elevated PHQ-9 score.

References

- Aalsma, M. C., Zerr, A. M., Etter, D. J., Ouyang, F., Glibert, A. L.,...Downs, S. M. (2018). Physician intervention to positive depression screens among adolescents in primary care. *Journal of Adolescent Health, 62*(2), 212–218. doi:10.1016/j.jadohealth.2017.08.023
- Allgaier, A., Pietsch, K., Fruhe, B., Sigl-Glockner, J., & Schulte-Korne, G. (2012). Screening for depression in adolescents: Validity of the patient health questionnaire in pediatric care. *Depression and Anxiety, 29*(10), 906–913. doi:10.1002.da.21971
- Asarnow, J. R., Jaycox, L. H., Tang, L., Duan, N., Laborde, A. P.,...Wells, K. B. (2009). Long-term benefits of short-term quality improvement interventions for depressed youths in primary care. *American Journal of Psychiatry, 53*(9), 1002–1010. doi:10.1176/appi.ajp.2009.08121909
- Biel, M. G., Anthony, B. J., Mlynarski, L., Godboy, L., & Beers, L. S. (2017). Collaborative training efforts with pediatric providers in addressing mental health problems in primary care. *Academic Psychiatry, 41*(5), 610–616. doi:10.1007/s40596-017-0709-1
- Briggs-Gowan, M., Horwitz, S., Schwab-Stone, M. E., Leventhal, J. M., & Leaf, P. J. (2000). Mental health in pediatric settings: Distribution of disorders and factors related to service use. *American Academy of Child and Adolescent Psychiatry, 39*, 841–849. doi:10.1097/00004583-200007000-00012
- Bodenheimer, T., & Sinsky, C. (2014). From triple to quadruple aim: Care of the patient requires care of the provider. *Annals of Family Medicine, 12*(6), 573–576. doi:10.1370/afm.1713
- Brown, J. D., & Wissow, L. S. (2009). Discussion of sensitive health topics with youth during primary care visits: Relationship to youth perceptions of care. *Journal of Adolescent Health, 44*(1), 48–54. doi:10.1016/j.jadohealth.2008.06.018

- Brown, J. D., & Wissow, L. S. (2010). Screening to identify mental health problems in pediatric primary care: Considerations for practice. *International Journal of Psychiatry in Medicine*, *40*(1), 1–19. doi:10.2190/PM.40.1.a
- Cheung, A. H., Zuckerbrot, R. A., Jensen, P. S., Stein, R. E. K., Laraque, D. (2008). Expert survey for the management of adolescent depression in primary care. *Pediatrics*, *121*(1), e101–e107. doi:10.1542/peds.2006-3560
- Connors, E. H., Arora, P., Blizzard, A. M., Bower, K., Coble, K.,...Wissow, L. (2018). When behavioral health concerns present in pediatric primary care: Factors influencing provider decision-making. *The Journal of Behavioral Health Services & Research*, *45*(3), 340–355. doi:10.1007/s11414-017-9580-9
- Cooper, S., Valleley, R. J., Polaha, J., Begeny, J., & Evans, J. H. (2006). Running out of time: Physician management of behavioral health concerns in rural pediatric primary care. *Pediatrics*, *118*(1), e132. doi:10.1542/peds.2005-2612
- Costello, J. E., He, J., Kessler, N. A., & Merikangas, K. R. (2014). Services for adolescents with psychiatric disorders: 12-month data from the national comorbidity survey- Adolescents. *Psychiatric Services*, *65*(3), 359–366. doi:10.1176/appi.ps.201100518
- Costello, J. E., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, *60*(8), 837–844. doi: 10.1001/archosyc.60.8.837
- Cuijpers, P., van Straten A., & Warmerdam, L. (2007). Behavioral activation treatments of depression: A meta-analysis. *Clinical Psychology Review*, *27*(3), 318–326. doi:10.1016/j.cpr.2006.11.001

- Cull, W. L., Frintner, M. P., Starmer, A. J., & Leslie, L. K. (2019). Longitudinal analyses of pediatrician burnout. *Academic Pediatrics, 19*(3), 256–262.
doi:10.1016/j.acap.2018.11.006
- Cunningham, P. J. (2009). Beyond parity: Primary care physicians' perspectives on access to mental health care. *Health Affairs, 28*(3), w490-w501. doi:10.1377/hlthaff.28.3.w490
- Dempster, N. R., Wildman, B. G., & Duby, J. (2015). Perception of primary care pediatricians of effectiveness, acceptability, and availability of mental health services. *Journal of Child Health Care, 19*(2), 195–205. doi:10.1177/1367493513513503585
- Dempster, R. M., Wildman, B. G., Langkamp, D., & Duby, J. C. (2012). Pediatrician identification of child behavior problems: The roles of parenting factors and cross-practice differences. *Journal of Clinical Psychology in Medical Settings, 19*(2), 177–187.
doi:10.1007/s10880-011-9268-x
- Dimidjian, S., Barrera, M., Martell, C., Munoz, R. F., & Lewinsohn, P. M. (2011). The origins and current status of behavioral activation treatments for depression. *Annual Review in Clinical Psychology, 7*, 1–38. doi:10.1146/annurev-clinspy-032210-104535
- Ekers, D., Richards, D. McMillam, D., Bland, J. M., & Gilbody, S. (2011). Behavioural activation delivered by the non-specialist: Phase II randomized control trial. *British Journal of Psychiatry, 198*(1), 66–72. doi:10.1192/bjp.bp.110.079111
- Epstein, J. N., Kellehner, K. J., Baum, R., Brinkman, W. B., Peugh, J., Gardner, W.,.... Langberg, J. (2014). Variability in ADHD care in community-based pediatrics. *American Academy of Pediatrics, 134*(6), 1136–1143. doi:10.1542/peds.2014-1500
- Fallucco, E. M., Conlon, M. K., Gale, G., Constantino, J. N., & Glowinski, A. L. (2012). Use of a standardized patient paradigm to enhance proficiency in risk assessment for adolescent

- depression and suicide. *Journal of Adolescent Health, 51(1)*, 66–72.
doi:10.1016/j.jadohealth.2011.12.026
- Fallucco, E. M., Hanson, M. D., & Glowinski, A. L. (2010). Teaching pediatric residents to assess adolescent suicide risk with a standardized patient module. *Pediatrics, 125(5)*, 953–959. doi:10.1542/peds.2009-2135
- Fallucco, E. M., Seago, R. D., Cuffe, S. P., Kraemer, D. F., & Wysocki, T. (2015). Primary care provider training in screening, assessment, and treatment of adolescent depression. *Academic Pediatrics, 15(3)*, 326–332. doi:10.1016/j.acap.2014.12.004
- Fletcher, J. M. (2010). Adolescent depression and educational attainment: Results using sibling fixed effects. *Health Economics, 19(11)*, 855–871. doi:10.1002/hec.1526
- Forman-Hoffman, V. L., & Viswanathan, M. (2018). Screening for depression in pediatric primary care. *Current Psychiatry Reports, 20(8)*, 62. doi:10.1007/s11920-018-0926-7
- Fox, J. K., Halpern, L. F., & Forsyth, J. P. (2008). Mental health checkups for children and adolescents: A means to identify, prevent, and minimize suffering associated with anxiety and mood disorders. *Clinical Psychology Science, 15(3)*, 182–211. doi:10.1111/j.1468-2850.2008.00129.x
- Foy, J. M., Kelleher, K. J., & Laraque, D. (2010). Enhancing pediatric mental health care: Strategies for preparing a primary care practice. *Pediatrics, 125*, S87–S108.
doi:10.1542/peds.2010-0788E
- Gadomski, A. M., Fothergill, K. E., Larson, S., Wissow, L. S., Winegrad, H., Nagykaldi, Z. J.,...Roter, D. L. (2015). Integrating mental health into adolescent annual visits: Impact of previsit comprehensive screening on within-visit processes. *Journal of Adolescent Health, 56(3)*, 267–273. doi:10.1016/j.jadohealth.2014.11.011

- Gilbody, S., Richards, D., Brealey, S., & Hewitt, C. (2007). Screening for depression in medical settings with the patient health questionnaire(PHQ): A diagnostic meta-analysis. *Journal of General Internal Medicine, 22(11)*, 1596–1602. doi:10.1007/s11606-007-0333-y
- Glascoc, F. P. (2015). Evidence-based early detection of developmental-behavioral problems in primary care: What to expect and how to do it. *Journal of Pediatric Health Care, 29(1)*, 46–53. doi:10.1016/j.pedhc.2014.06.005
- Godoy, L., Long, M., Marschall, D., Hodgkinson, S., Bokor, B., Rhodes, H.,...Beers, L. (2017). Behavioral health integration in health care settings: Lessons learned from a pediatric hospital primary care system. *Journal of Clinical Psychology in Medical Settings, 24*, 245–258. doi:10.1007/s10880-017-9509-8
- Goodwin, J., Savage, A., & Horgan, A. (2016). Adolescents' and young adults beliefs about mental health services and care: A systematic review. *Archives of Psychiatric Nursing, 30(5)*, 636–644. doi:10.1016/j.apnu.2016.04.004
- Green, C., Hampton, E., Ward, M. J., Shao, H., & Bostwick, S. (2014). The current and ideal state of mental health training: Pediatric program director perspectives. *Academic Pediatrics, 14(5)*, 526–532. doi:10.1016/j.acap.2014.05.011
- Green, C., Storfer-Isser, A., Stein, R. E. K., Garner, A. S. Kerker, B. D., Szilagyi, M.,...Horwitz, S. M. (2017). Which pediatricians comanage mental health conditions? *Academic Pediatrics, 17(5)*, 479–486. doi:10.1016/j.acap.2016.10.014
- Hacker, K. A., Penfold, R. B., Arsenaault, L. N., Zhang, F., Soumerai, S. B., & Wissow, L. S. (2015). Effect of pediatric behavioral health screening and colocated services on ambulatory and inpatient utilization. *Psychiatric Services, 66(11)*, 1141–1148. doi:10.1176/appi.ps.201400315

- Hampton, E., Richardson, J. E., Bostwick, S., Ward, M. J., & Green, C. (2015). The current and ideal state of mental health training: Pediatric resident perspectives. *Teaching and Learning in Medicine, 27*(2), 147–154. doi:10.1080/10401334.2015.1011653
- Horwitz, S. M., Kelleher, K. J., Stein, R. E. K., Storfer-Isser, A., Youngstrom, E. A.,...Hoagwood, K. E. (2007). Barriers to the identification and management of psychosocial issues in children and maternal depression. *Pediatrics, 119*(1), e208–218. doi:10.1542/peds.2005-1997
- Husky, M. M., Miller, K., McGuire, L., Flynn, L., & Olfson, M. (2011). Mental health screening of adolescents in pediatric practice. *Journal of Behavioral Health Services & Research, 38*(2), 159–169. doi:10.1007/s11414-009-9207-x
- Jacobson, N. S., Dobson, K. S., Truax, P. A., Addis, M. E., Koerner, K., Gollan, J. K., Gortner, E., & Prince, S. E. (1996). A component analysis of cognitive-behavioral treatment for depression. *Journal of Consulting and Clinical Psychology, 64*(2), 295 – 304. doi:10.1037/0022-006X.64.2.295
- Jellinek, M. S., Murphy, M., Little, M., Pagano, M. E., Comer, D. M., & Kelleher, K. J. (1999). Use of the pediatric symptom checklist to screen for psychosocial problems in pediatric primary care. *Archives of Pediatric Adolescent Medicine, 153*(3), 254–260. doi:10.1001/archpedi.153.3.254
- Johnson, D., Dupuis, G., Piche, J. Clayborne, Z., & Colman, I. (2018). Adult mental health outcomes of adolescent depression: A systematic review. *Depression and Anxiety, 35*(8), 700–716. doi:10.1002/da.227777

- Kaslow, N. J., Kapoor, S., Dunn, S. E., & Graves, C. C. (2015). Psychologists' contributions to patient-centered medical homes. *Journal of Clinical Psychology in Medical Settings, 22*, 199–212. doi:10.1007/s10880-015-9445-4
- Kazak, A., Nash, J. M., Hiroto, K., & Kaslow, N. J. (2017). Psychologists in patient-centered medical homes (PCMHs): Roles, evidence, opportunities, and challenges. *American Psychologist, 72*(1), 1–12. doi:10.1037/a004382
- Kolko, D. J., & Perrin, E. (2014). The integration of behavioral health interventions in children's health care: Services, science, and suggestions. *Journal of Clinical Child & Adolescent Psychology, 43*(2), 216–228. doi:10.1080/15374416.2013.862804
- Kroenke, K., & Spitzer, R. (2002). The PHQ-9: A new depression diagnostic and severity measure. *Psychiatric Annals, 32*(9), 509–515. doi:10.3928/0048-5713-20020901-06
- Kroenke, K., Spitzer, R., & Williams, J. B. W. (2001). The validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606–613. doi:10.1046/j.1525-1497.2001.016009606.x
- Kroenke, K., Taylor-Vaisley, A., Dietrich, A. J., & Oxman, T. E. (2000). Interventions to improve provider diagnosis and treatment of mental disorders in primary care. *Psychosomatics, 41*(1), 39–52. doi:10.1016/S0033-31829(00)7172-8
- Lancaster, B., Cook, A., Bruni, T., Sturza, J., Sevecke, J., Ham, H.,...Orringer, K. A. (2018). Comparing primary care pediatricians' perceptions of clinics with and without integrated behavioral health. *Primary Health Care Research & Development, 20*. doi:10.1017/S1463423618000579
- Landoll, R. R., Maggio, L. A., Cervero, R. M., & Quinlan, J. D. (2018). Training doctors: A scoping review of interprofessional education in primary care behavioral health (PCBH).

- Journal of Clinical Psychology in Medical Settings*, 26(3), 243–258. doi:10.1007/s10880-018-9582-7
- Lang, A. J (2005). Mental health treatment preferences of primary care patients. *Journal of Behavioral Medicine*, 28(6), 581–586. doi:10.1007/s10865-005-9019-2
- Laraque, D., Adams, R., Steinbaum, D., Zuckerbrot, R., Schonfeld, D., Jensen, P. S.,...Boscarino, J. A. (2009). Reported physician skills in the management of children's mental health problems following an educational intervention. *Academic Pediatrics*, 9(3), 164–171. doi:10.1016/j.acap.2009.01.009
- Laureer, J. A., Marenakos, K. G., Gaffney, K., Ketron, C., & Huncik, K. (2018). Integrating behavioral health in the pediatric medical home. *Journal of Child and Adolescent Psychiatric Nursing*, 31(1), 39–42. doi:10.1111/jcap.12195
- Leigh, H., Stewart, D., & Mallios, R. (2005). Mental health and psychiatry training in primary care residency programs Part II: What skills and diagnoses are taught, how adequate, and what affects training directors' satisfaction. *General Hospital Psychiatry*, 28(3), 195–204. doi:10.1016/j.genhosppsy.2005.10.004
- Lin, E. H. B., Simon, G. E., Katzelnick, D. J., & Pearson, S. D. (2001). Does physician education on depression management improve treatment in primary care? *Journal of General Internal Medicine*, 16(9), 614–619. doi:10.1046/j.1525-1497.2001.016009614.x
- Maragakis, A., & Hatzigeorgiou, M. N. (2018). The transformation of the healthcare system: Integrated primary care and the role of stepped care interventions for behavioral health providers. In A. Maragakis, & W. T. O'Donohue (eds.), *Principle-based stepped care and brief psychotherapy for integrated care settings*. Springer: Cham, Switzerland. doi:10.1007/978-3-319-70539-2_2

Maslach, C., & Jackson, S. E. (1981). *MBI – Human services survey for medical personnel – MBI-HSS (MP)*.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*, 397–422. doi:10.1146/annurev.psych.52.1.397

McCauley, E., Gudmundsen, G., Schloredt, K., Martell, C., Rhew, I., Hubley, S., & Dimidjian, S. (2016). The adolescent behavioral activation program: Adapting behavioral activation as a treatment for depression in adolescence. *Journal of Clinical Child and Adolescent Psychology*, *45*(3), 291–304. doi:10.1080.15374416.2014.979933

Meadows, T., Valleley, R. J., Haack, M. K., Thorson, R., & Evans, J. (2011). Physician “costs” in providing behavioral health in primary care. *Clinical Pediatrics*, *50*(50), 447–455. doi:10.1177/0009922810390676

Merikangas, K. R., He, J. P., Burstein, M., Swendsen, J., Avenevoli, S., Case, B.,...Olfson, M. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the national comorbidity survey–adolescent supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*(10), 980–989. doi: 10.1016/j.jaac.2010.05.2017

Miltenberger, R. G. (2008). *Behavior modification: Principles and procedures*. Belmont, CA: Thomson Wadsworth.

Miron, O., Yu, K., Wilf-Miron, R. Kohane, I. S. (2019). Suicide rates among adolescents and young adults in the United States, 2000-2017. *JAMA*, *321*(23), 2362–2363. doi:10.001/jama.20195054

Mulvaney-Day, N., Marshall, T., Piscopo, K. D., Korsen, N., Lynch, S., Karnell, L. H.,...Ghose, S. G. (2017). Screening for behavioral health conditions in primary care settings: A

- systematic review of the literature. *Journal of General Internal Medicine*, 33(3), 335–346. doi:10.1007/s11606-017-4181-0
- Nasir, A., Watanabe-Galloway, S., & Coffey-DiRenzo, G. (2014). Health services for behavioral problems in pediatric primary care. *Journal of Behavioral Health Services*, 43(3), 396–401. doi:10.1007/s11414-014-9450-7
- National Institute of Mental Health (2017, November). Major depression. Retrieved from https://www.nimh.nih.gov/health/statistics/major-depression.shtml#part_155031
- O'Brien, D., Harvye, K., Howse, J., Reardon, T., & Creswell, C. (2016). Barriers to managing child and adolescent mental health problems: A systematic review of primary care practitioners perceptions. *British Journal of General Practice*, 66(651), e693–e707. doi:10.3399/bjgp16X687061
- Olfson, M., Blanco, C., Wang, S., Laje, G., & Correll, C. U. (2014). National trends in the mental health care of children, adolescents, and adults by office-based physicians. *JAMA Psychiatry*, 71(1), 81–90. doi:10.1001/jamapsychiatry.2013.3074
- Olson, A. L., Kelleher, K. J., Kemper K. J., Zuckerman, B. S., Hammond, C. S., & Dietrich, A. J. (2001). Primary care pediatricians' roles and perceived responsibilities in the identification and management of depression in children and adolescents. *Ambulatory Pediatrics*, 1(2), 91–98. doi:10.1367/1539-4409(2001)001<0091:PCPRAP>2.0.CO;2
- Ozer, E., Zahnd, E., Adams, S. H., Husting, S. R., Wibbelsman, C. J., Norman, K. P., & Smiga, S. M. (2009). Are adolescents being screened for emotional distress in primary care? *Journal of Adolescent Health*, 44(6), 520–527. doi:10.1016/j.jadohealth.2008.12.016

- Peterson, E. L., Pidano, A. E., & Honigfeld, L. (2018). Pediatric primary care providers' reported likelihood to refer to mental health specialists. *Families, Systems, & Health, 36*(3), 410–414. doi:10.1037/fsh0000335
- Pidano, A. E., Honigfeld, L., Bar-Halpern, M., & Vivian, J. E. (2014). Pediatric primary care providers' relationships with mental health care providers: Survey results. *Child & Youth Care Forum, 43*(1), 135–150. doi:10.1007/s10566-013-9229-7
- Polaha, J., Dalton, W. T., & Allen, S. (2011). The prevalence of emotional and behavior problems in pediatric primary care serving rural children. *Journal of Pediatric Psychology, 36*(6), 652–660. doi:10.1093/jpepsy/jsq116
- Richardson, L. P., Lewis, C. W., Casey-Goldstein, M., McCauley, E., & Katon, W. (2007). Pediatric primary care providers and adolescent depression: A qualitative study of barriers to treatment and the effect of the black box warning. *Journal of Adolescent Health, 40*(5), 433–439. doi:10.1016/j.jadohealth.2006.12.006
- Richardson, L. P., Ludman, E., McCauley, E., Lindenbaum, J., Larison, C., Zhou, C.,...Katon, W. (2014). Collaborative care for adolescents with depression in primary care. *JAMA, 312*(8), 809–816. doi:10.1001/jama.2014.9259
- Robinson, P., Oyemaja, J., Beachy, B., Goodie, J., Sprague, J., Maples, M., & Ward, C. (2018). Creating a primary care workforce: Strategies for leaders, clinicians, and nurses. *Journal of Clinical Psychology in Medical Settings, 25*(2), 169–186. doi:10.1007/s10880-017-9530-y
- Rosenthal, T. C. (2008). The medical home: Growing evidence to support a new approach to primary care. *Family Medicine and the Health Care System, 21*(5), 427–440. doi:10.3122/jabfm.2008.05.070287

- Rotenstein, L. S., Torre, M., Ramos, M. A., Rosales, R. C., Guille, C., Sen, S., & Mata, D. A. (2018). Prevalence of burnout among physicians: A systematic review. *JAMA*, *320*(11), 1131–1150. doi:10.1001/jama.2018.12777
- Sathyanarayan, S., Thakur, K., Sigal, Y., & Turner, J. (2015). Improving validated depression screen among adolescent population in primary care practice using electronic health records (EHR). *BMJ Quality Improvement Reports*. doi:10.1136/bmjquality.u209517.w3913
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin Company.
- Shain, B. (2016). Suicide and suicide attempts in adolescents. *Pediatrics*, *138*(1), e20161420 doi:10.152/peds.2016-1420
- Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D.,...Oreskovich, M. R. (2012). Burnout satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, *172*(18), 1377–1385. doi:10.1001/archinternmed.2012.3199
- Shanafelt, T. D., Dyrbye, L. N., & West, C. P. (2017). Addressing physician burnout: The way forward. *JAMA*, *317*(9), 901–902. doi:10.1001/jama.2017.0076
- Shanafelt, T. D., Hasan, O., Dyrbye, L. N., Sinsky, C., Satele, D., Sloan, J., West, C. P. (2015). Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clinical Practice*, *90*(12), 1600–1613. doi:10.1016/j.mayocp.2015.08.023
- Sharp, L., Pantell, R., Murphy, L., & Lewis, C. (1992). Psychosocial problems during child health supervision visits: Eliciting, then what? *Pediatrics*, *89*(4), 619–623.

- Sheldrick, C. R., Merchant, M. A., & Perrin, E. C. (2011). Identification of developmental-behavioral problems in primary care: A systematic review. *Pediatrics, 128*(2), 356–363. doi:10.1542/peds.2010-3261
- Simon, G. R., Baker, B., Barden, G. A., Brown, O. W., Hardin, A., Lessin, H. R.,...Rodgers, C. T. (2014). 2014 recommendations for pediatric preventative health care, *Pediatrics, 133*(3), 568–570. doi:10.1542/peds.2013-4096
- Simonian, S. J. (2006). Screening and identification in pediatric primary care. *Behavior Modification, 30*(1), 114–131. doi:10.1177/0145445505283311
- Siu, A. L. (2016). Depression in children and adolescents: U. S. Preventative Services Task Force Recommendation Statement. *Annals of Internal Medicine, 164*(5), 360–366. doi:10.7326/M15-2957
- Steele, M. M., Lochrie, A. S., & Roberts, M. C. (2010). Physician identification and management of psychosocial problems in primary care. *Journal of Psychology in Medical Settings, 17*, 103–115. doi:10.1007/s10880-010-9188-1
- Stein, R. E. K., Strofer, A., Kerker, B. D., Garner, A., Szilagyi, M., Hoagwood, K.,...Horwitz, S. M. (2017). Does length of developmental behavioral pediatrics training matter? *Academic Pediatrics, 17*(2), 61–67. doi:10.1016/j.acap.2016.07.007
- Stein, R. E. K., Storfer-Isser, A., Kerker, B. D., Garner, A., Szilagyi, M., Hoagwood, K. E.,...Horwitz, S. M. (2016). Beyond ADHD: How well are we doing. *Academic Pediatrics, 16*(2), 115–121. doi:10.1016/j.acap.2015.08.012
- Sterling, S. Kline-Simon, A. H., Weisner, C., Jones, A., & Satre, D. D. (2018). Pediatrician and behavioral clinician-delivered screening, brief-intervention and referral to treatment:

- Substance use and depression outcomes. *Journal of Adolescent Health, 62*(4), 390–396.
doi:10.1016/j.adohealth.2017.10.016
- Sudak, D., Roy, A., Sudak H., Lipschitz, A., Maltzberger, J., & Hendin, H. (2007). Deficiencies in suicide training in primary care specialties: A survey of training directors. *Academic Psychiatry, 31*, 345–349. doi:10.1176/appi.ap.31.5
- Taliaferro, L. A., & Borowsky, W. (2011). Physician education: A promising strategy to prevent adolescent suicide. *Academic Medicine, 86*(3), 342–347.
doi:10.1097/ACM.0b013e31820984ad
- Thapar, A., Collishaw, S., Pine, D. S., & Thapar, A. K. (2012). Depression in adolescence. *The Lancet, 379*, 1056–1067. doi:10.1016/S0140-6736(11)60871-4
- Valleley, R. J., Romer, N., Kupzyk, S., Evans, J. H., & Allen, K. D. (2015). Behavioral health screening in pediatric primary care: A pilot study. *Journal of Primary Care & Community Health, 6*(3), 199–204. doi:10.1177/2150131914562912
- Wallace, J. E., Lemaire, J. B., & Ghali, W. A. (2009). Physician wellness: A missing quality indicator. *Lancet, 374*, 1714–1721. doi:10.1016/S0140-6736(09)61424-0
- Weitzman, C. C., & Leventhal, J. M. (2006). Screening for behavioral health concerns in primary care. *Current Opinion in Pediatrics, 18*(6), 641–648.
doi:10.1097/MOP.0b013e3280108292
- Weitzman, C. C., & Wegner, L. (2015). Promoting optimal development: Screening for behavioral and emotional problems. *Pediatrics, 135*(2), 384–395. doi:10.1542/peds.2014-3716

- Wildman, B. G., & Langkamp, D. L. (2012). Impact of location and availability of behavioral health services for children. *Journal of Psychology in Medical Settings, 19*(4), 393–400. doi:10.1007/s10880-012-9324-1
- Williams, J., Burwell, S., Foy, C. G., & Foy, J. M. (2006). Addressing behavioral health issues during well child visits by pediatric residents. *Clinical Pediatrics, 45*(8), 734–740. doi:10.1177/0009922806292790
- Williams, J., Klinepeter, K., Palmes, G., Pulley, A., & Foy, J. M. (2004). Diagnosis and treatment of behavioral health disorders in pediatric practice. *Pediatrics, 114*(3), 601–606. doi:10.1542/peds.2004-0090
- Wintersteen, M. B. (2010). Standardized screening for suicidal adolescents in primary care. *Pediatrics, 125*(5), 938–944. doi:10.1542/peds.2009-2458
- Wren, E. J., Scholle, S. H., Heo, J., & Comer, D. M. (2005). How do primary care clinicians manage childhood mood and anxiety symptoms? *International Journal of Psychiatry in Medicine, 35*(1), 1–12. doi:10.2190/LK3G-8YHB-HYYL-811C
- Wren, F., Scholle, S. H., Heo, J., & Comer, D. M. (2003). Pediatric mood and anxiety syndromes in primary care: Who gets identified? *International Journal of Psychiatry in Medicine, 33*(1), 1–16. doi:10.2190/UT6D-RDFG-LBT7
- Zuckerbrot, R. A., Maxon, L., Pagar, D., Davies, M., Fisher, P. W., & Shaffer, D. (2007). Adolescent depression in primary care: Feasibility and acceptability. *Pediatrics, 119*(1), 101–108. doi:10.1542/peds.2005-2965

Table 1

Changes in Provider-Reported Outcomes

	Pre-training		Post-training	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Comfort managing depression	4.20	.75	4.72	.65
Feasibility managing depression	4.59	.67	4.93	.59
Knowledge managing depression	3.43	1.19	4.65	.55

Note. Comfort managing depression was measured on a Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Perceptions of the feasibility managing depression was measured on a Likert-type scale ranging from 1 (*very unfeasible*) to 6 (*very feasible*). Knowledge managing depression is the number of items answered correctly on a 5-question survey assessing knowledge about various aspects of evidence-based depression treatment.

Table 2.

Correlations Between Burnout and Comfort and Perceptions of Feasibility Managing Depression

	Emotional Exhaustion	Depersonal- ization	Personal Accomp- lishment	Feasibility (Pre)	Feasibility (Post)	Comfort (Pre)	Comfort (Post)
Years in practice	.22	-.16	-.15	.00	-.4	.17	.06
Emotional Exhaustion	-	.47***	-.36**	-.17	-.18	-.20	-.17
Depersonalization		-	-.32	-.08	.07	-.29*	.08
Personal Accomplishment			-	.21	.20	.16	.24
Feasibility (Pre)				-	.61***	.61***	.47***
Feasibility (Post)					-	.38**	.79***
Comfort (Pre)						-	.50***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3

Differences in Provider Perceptions Between Clinics With and Without Integrated Behavioral Health (IBH)

	No IBH		IBH	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-training comfort	4.19	.95	4.21	.62
Post-training comfort	4.86	.53	4.57	.75
Pre-training feasibility	4.59	.68	4.62	.71
Post-training feasibility	4.95	.51	4.91	.68
Pre-training knowledge*	3.12	1.21	3.81	1.05
Post-training knowledge	4.68	.48	4.60	.65
Training Acceptability**	5.34	.55	5.71	.36

Note. * $p < .05$, ** $p < .01$

Table 4

Exploratory Models Predicting Post-Training Comfort and Feasibility

Predictors	Comfort				Feasibility			
	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>
Years in practice	.01	.01	.12	.94	.01	.01	.17	1.37
IBH	-.28	.16	-.22	-1.83	-.04	.14	-.03	-.28
Emotional Exhaustion	-.14	.08	-.26	-1.79	-.10	.07	-.20	-1.37
Depersonalization	.31	.11	.39	2.73**	.17	.10	.23	1.64
Personal Accomplishment	.16	.11	.18	1.39	.09	.10	.11	.84
Pre-Training Scores	.41	.11	.47	3.88***	.49	.10	.57	4.82*

Note. ** $p < .01$, *** $p < .001$. IBH = presence of integrated behavioral health (0 = no, 1 = yes). Pre-training scores are pre-training comfort managing depression in the comfort model and pre-training perception of feasibility in the feasibility model. VIF ranges from 1.06 to 1.55, demonstrating low multicollinearity among predictor variables.

Table 5

Exploratory Models Predicting Training Acceptability

Predictors	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>
Years in practice	.00	.01	.04	.29
IBH	.36	.14	.36	2.55*
Emotional Exhaustion	-.05	.07	-.11	-.66
Depersonalization	.06	.10	.10	.62
Personal Accomplishment	-.03	.10	-.05	-.32

Note. * $p < .05$. IBH = presence of integrated behavioral health (0 = no, 1 = yes).

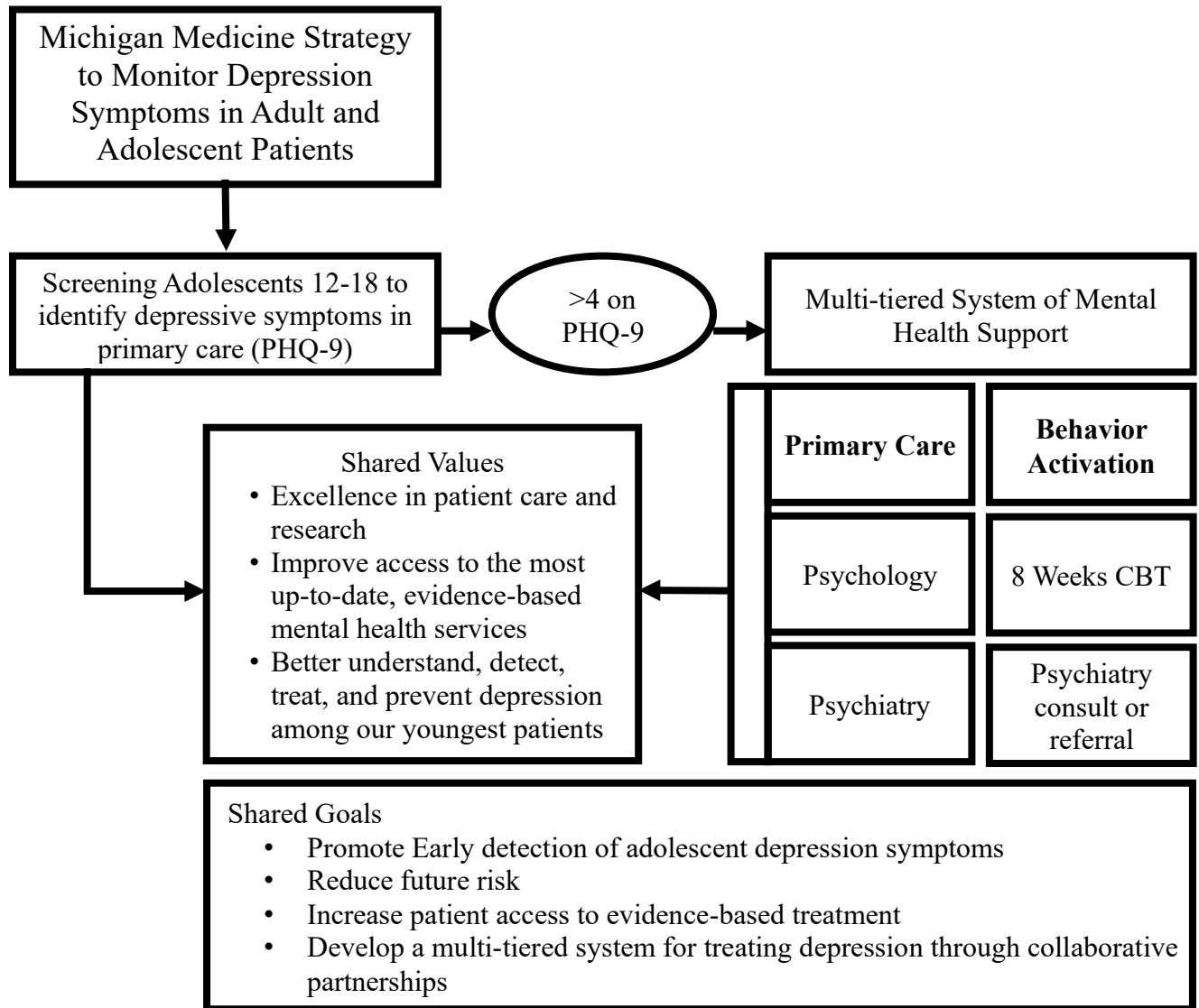


Figure 1. Treatment Model created by Teryn Bruni for improving adolescent depression treatment

APPENDICES

Appendix A: Training Manual

Assessing and Treating Pediatric Depression



**Training Funded by the Frances and Kenneth
Eisenberg Translational Research Prize**

Michigan Medicine Depression Center

General Pediatrics

Pediatric Psychology

Pediatric Psychiatry



Table of Contents

Training Goals	3
Depression Screening	4
Patient Health Questionnaire	5
Suicide Risk Assessment	6
Privacy and Confidentiality	7
Conducting a Risk Assessment	8
Treating Pediatric Depression	11
Cognitive Behavior Therapy	12
CBT: Cognitive Components	13
CBT: Behavioral Components	14
Behavioral Activation	15
Handout Instructions	17
Decision Tree	19
Documentation	20
Actions Taken Navigator	21
Handouts and Resources	22
Accessing Handouts	23
Parent Handout	25
Patient Handout	27
Resources Handout	29
Resource Card	30
Medication Resources	31
Next Steps	33
Acknowledgements	34

Training Goals



- **Build understanding of factors that lead to suicide risk**
- **Demonstrate how to conduct a brief risk assessment**
- **Provide easy-to-deliver strategies for treating mild to moderate depression in the context of the medical visit**
- **Provide easy-to-deliver patient resources**
- **Provide tools to assist with documentation**
- **Provide tools and resources to support medication management**

Depression Screening

There has been increased emphasis of universal mental health screening in pediatric primary care.

Incorporating depression screening helps to identify patients experiencing depressive symptoms and increases access to appropriate treatment.



Michigan Medicine began a universal depression screening for pediatric patients in 2017 to ensure all pediatric patients 12 and older are being screened annually in primary care during health maintenance exams.

Regular follow-up and re-screening is conducted by pediatricians to provide consistent monitoring of patients who present with symptoms of depression.

The Patient Health Questionnaire (PHQ-9) depression screener is now used across Michigan Medicine as a universal measure of depression among adults and adolescents.

The PHQ-9 initiative is monitored by the Michigan Medicine Depression Quality Improvement Committee.

Patient Health Questionnaire (PHQ-9)

Over the last 2 weeks, how often have you been bothered by the following?

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things				
2. Feeling down, depressed, or hopeless				
3. Trouble falling or staying asleep, or sleeping too much				
4. Feeling tired or having little energy				
5. Poor appetite or overeating				
6. Feeling bad about yourself- or that you are a failure or have let yourself or your family down				
7. Trouble concentrating on things such as reading the newspaper or watching television				
8. Moving or speaking so slowly that other people have noticed. Or the opposite- being so fidgety or restless that you have been moving around a lot more than usual				
9. Thoughts you would be better off dead or of hurting yourself				

Depression Severity	
0-4	None
5-9	Mild
10-14	Moderate
15-19	Moderately Severe
20-27	Severe

Suicide Risk Assessment

When to conduct a risk assessment?

- When the **patient endorses question 9** on PHQ-9
- When patient or parent **verbally indicates** thoughts of suicide
- When patient has a **history of suicidal ideation** or suicide attempts



Other Indicators of Increased Suicide Risk

- Past attempts
- Recent suicide attempt or completion by peer
- Substance use
- Engagement in high risk behavior
- Family history

Resources:

- **AAP Report on identification and management of the adolescent at risk of suicide.** Shain, B and AAP Committee on Adolescence. Suicide and Suicide Attempts in Adolescents. Pediatrics. 2016; 138(1), 669-676.

Privacy and Confidentiality

By law in Michigan, patients **14 and older** can be seen without their parent present for a mental health concern for up to **12 sessions**. You may discuss PHQ-9 results and treatment options with teens without parent present.

Caregiver involvement is required when:

- Medication is indicated (consent required by law)
- Patient is sent to the Emergency Department
- Patient is indicating risk of harm to self or others
- Other risk factors are indicated and a plan for safety is required

Effective treatment for teens **highly depends on the support of caregivers**. Except for rare exceptions, you should always try to involve the parent if depression symptoms are present.

Resources:

Michigan Medicine Policy for Minor Child Consent:

http://www.med.umich.edu/u/compliance/faq_minor_consent.htm#services

Michigan Department of Community Health Policy on Consent for Minors:

http://michigan.gov/documents/mdch/Michigan_Minor_Consent_Laws_292779_7.pdf

Mental Health Code (excerpt) :Included as hardcopy and electronic copy

Privacy and Confidentiality

By law in Michigan, patients **14 and older** can be seen without their parent present for a mental health concern for up to **12 sessions**. You may discuss PHQ-9 results and treatment options with teens without parent present.

Caregiver involvement is required when:

- Medication is indicated (consent required by law)
- Patient is sent to the Emergency Department
- Patient is indicating risk of harm to self or others
- Other risk factors are indicated and a plan for safety is required

Effective treatment for teens **highly depends on the support of caregivers**. Except for rare exceptions, you should always try to involve the parent if depression symptoms are present.

Resources:

Michigan Medicine Policy for Minor Child Consent:

http://www.med.umich.edu/u/compliance/faq_minor_consent.htm#services

Michigan Department of Community Health Policy on Consent for Minors:

http://michigan.gov/documents/mdch/Michigan_Minor_Consent_Laws_292779_7.pdf

Mental Health Code (excerpt) :Included as hardcopy and electronic copy

Conducting a Risk Assessment

Step 1: Assess patient mood

- Scale of 1 through 10 (10 = best mood)

Step 2: Ask about how recently thoughts occurred and ask how frequently they occur

- If they occurred within the last month = higher risk
- If they occur on a daily basis = higher risk

Step 3: Ask if patient has a plan to carry out suicide

- Have they thought about how they would do it?
- Have they thought about preparation (e.g., giving away important belongings, saying goodbye to loved ones)?
- If yes = higher risk

Step 4: Assess their intent to complete suicide plan

- Thoughts about when they would complete suicide plan?
- Thoughts about where they would complete suicide plan?
- If yes = higher risk

Step 5: Is there a history of suicide attempts?

- If yes = higher risk

Questions you can ask

Assessing Risk

Assessing how recently thoughts occurred:

“When was the last time you had these thoughts?”

Assessing frequency of thoughts:

“How often are you having these thoughts?”

Assess for intent:

“When you have these thoughts do you think about how you would end your life?”

Assess for a plan:

“Have you thought about when or where you would do this?”

Assess for previous attempts:

“Have you ever tried to complete suicide before?”

If there is intent or plans express non-judgmental concern and follow-up with any safety planning necessary:

“I am concerned about your safety. Let’s talk about ways we can make sure you stay safe and where you can go for help. I think we should talk to your mom/dad about how you have been feeling.”

If risk for suicide is high, follow standard clinic emergency procedures and ensure patient safety

Watch and Practice

Video 1: Conducting a Risk Assessment

Link: <https://vimeo.com/user13981411/review/320321732/90260fb03d>

Video file: included on USB drive provided

What did you notice in the video?

Practice: Pair up with colleague. One of you will take on the role of the patient and the other will take on the role of physician. Switch roles after you have each practiced the part of the physician.



Treating Pediatric Depression

What the research tells us:

- **Cognitive Behavior Therapy** is the most **evidence-based** treatment for **mild to moderate** symptom presentation.
- **CBT** has been found to be more enduring than medication alone.
- Component analyses of CBT reveal the **behavioral components** alone produce **equivalent treatment benefits to CBT** for special populations (including pediatrics).
- For the **moderate to severe** cases a **CBT + Medication** approach has been shown to have the most efficacy.

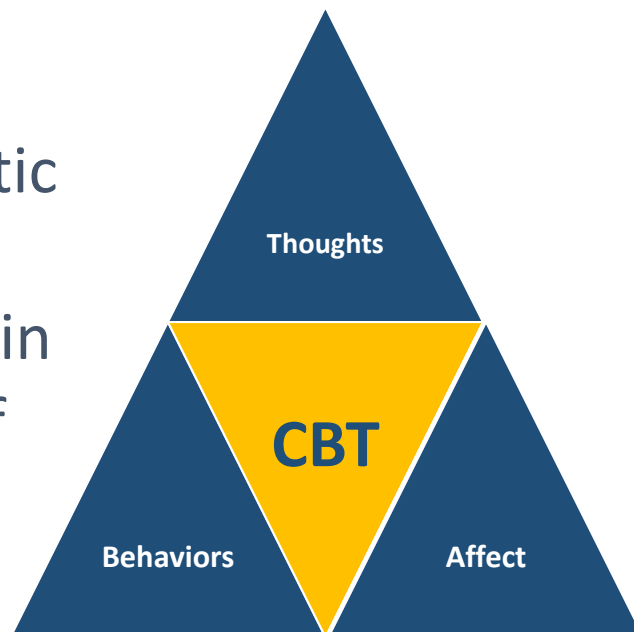
Resources

Journal Article on Depression Treatment: Dobson KS, Hollon SD, Dimidjian S, et al. Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. *J Consult Clin Psychol*. 2008;76(3):468-477.

Journal Article on Efficacy of the combination of therapy and medication compared to medication alone: March J, et al. Fluoxetine, cognitive-behavioral therapy, and their combination for adolescents with depression: Treatment for adolescents with depression study (TADS) randomized control trial. *JAMA*. 2004; 292(7):807-820.

Cognitive-Behavioral Therapy (CBT)

Evidence-based psychotherapeutic approach most commonly used in the treatment of depression and anxiety



The goal of CBT is to generate alternative thinking and change behavior to improve patient affect

CBT: Cognitive Components

Automatic thoughts: how we think about...

- Ourselves
- What happens to us
- What we do and why
- How others judge us
- Why things happen to us
- The future

Cognitive distortions: thoughts that are...

- Inaccurate
- Improbable
- Exaggerations
- Fail to fit all the facts
- Overly negative
- Automatic

Cognitive restructuring: Challenging cognitive distortions and replacing with alternative thinking to encourage more balanced and realistic thinking patterns

Controlling thoughts: learning to change cognitive distortions by...

- Thought records
- Distraction
- Coping strategies
- Positive self-talk

Parent support: providing incentives for regular practice and engagement in coping strategies and cognitive exercises

Resources:

APA Handout on Cognitive Behavior Therapy: <https://www.apa.org/ptsd-guideline/patients-and-families/cognitive-behavioral.pdf>

CBT: Behavior Components

Rationale:

- Depressed mood can make even enjoyable activities more difficult.
- With time, engaging in these enjoyable activities can improve mood.

Behavior activation is a **strategy** to help adolescents engage in pleasurable activities in order to improve mood.

- Acceptable treatment for a broad range of patients
- An effective stand alone treatment for depression
- Particularly acceptable as a stand alone for children and adolescents who may not be able to use cognitive strategies effectively



Resources:

Book on behavioral activation: Martell, C. R., Dimidjian, S., & Herman-Dunn, R. (2010). Behavioral Activation for Depression. New York, NY: Guilford Press.

Research article on non-therapist dissemination of behavioral activation: Ekers D, Richards D, McMillan D, Bland JM, Gilbody S. Behavioural activation delivered by the non-specialist: phase II randomised controlled trial. Br J Psychiatry. 2011;198(1):66-72.

Behavior Activation

Behavior activation: aims to alleviate depression by focusing directly on behavior change to increase patient’s engagement in daily pleasurable activities. Reducing pleasurable activities in response to problems can reduce the likelihood individuals experience positive rewards from their environment

Pleasurable activity scheduling: the process of planning pleasurable activities at specific times and days

- Patients engage in pleasurable activities without relying on motivation because each activity is a scheduled task to complete

Self-monitoring: tracking behaviors.

- Tracking frequency, duration, and/or timing of activities
- Tracking changes in response to engagement in activity

Parent support: providing incentives for regular practice and engagement in behavioral strategies when patient lacks motivation to engage in activities on their own

Resources:

Behavioral activation chapter: Dimidjian S, Martell CR, Herman-Dunn R, Hubley, S. Behavioral Activation for Depression. In D. H. Barlow (Ed.), *Clinical Handbook of Psychological Disorders* (pp. 353 – 393). New York, NY: Guilford Press.

Research article on treating adolescent depression: McCauley E. et al. Treatment for depression in adolescence. *Journal of Clinical Child & Adolescent Psychology*. 2014;45:291-304. doi: 10.1080/15374416.2014.979933

Make a Weekly Schedule

The purpose of scheduling activities is to engage in pleasurable activities that lead to positive experiences. Engaging in even small tasks that typically bring joy or feelings of success can increase mood and motivation. Start with small achievable goals and work up to more challenging activities after accomplishing smaller tasks. Activities should be **social** or **active** in nature and should **NOT** involve screen time.

Here is an example of how to start:

	Mon.	Tues.	Wed.	Thurs.
Activity	Eat a full breakfast	Go the mall with Jane	Go for a walk with mom	Practice guitar for 30 minutes
Time	8am	4pm	7pm	7pm

	Fri.	Sat.	Sun
Activity	Go to Morgan's birthday party	Grocery shopping with dad	Family dinner and board game night
Time	6pm	8am	6pm

Handout Instructions

- Introduce strategies for managing depression
- Explain behavior activation and how it works
- Get the patient engaged to start thinking about how to implement behavior activation at home
- Connect behavior activation with activities the adolescent enjoys
- Emphasize that activities should be **social** or **active** in nature (**no screens**)
- Explain handout to parent and explain how they can help



Watch and Practice

Video 1: Behavior Activation

Link: <https://vimeo.com/user13981411/review/320322898/659949dff7>

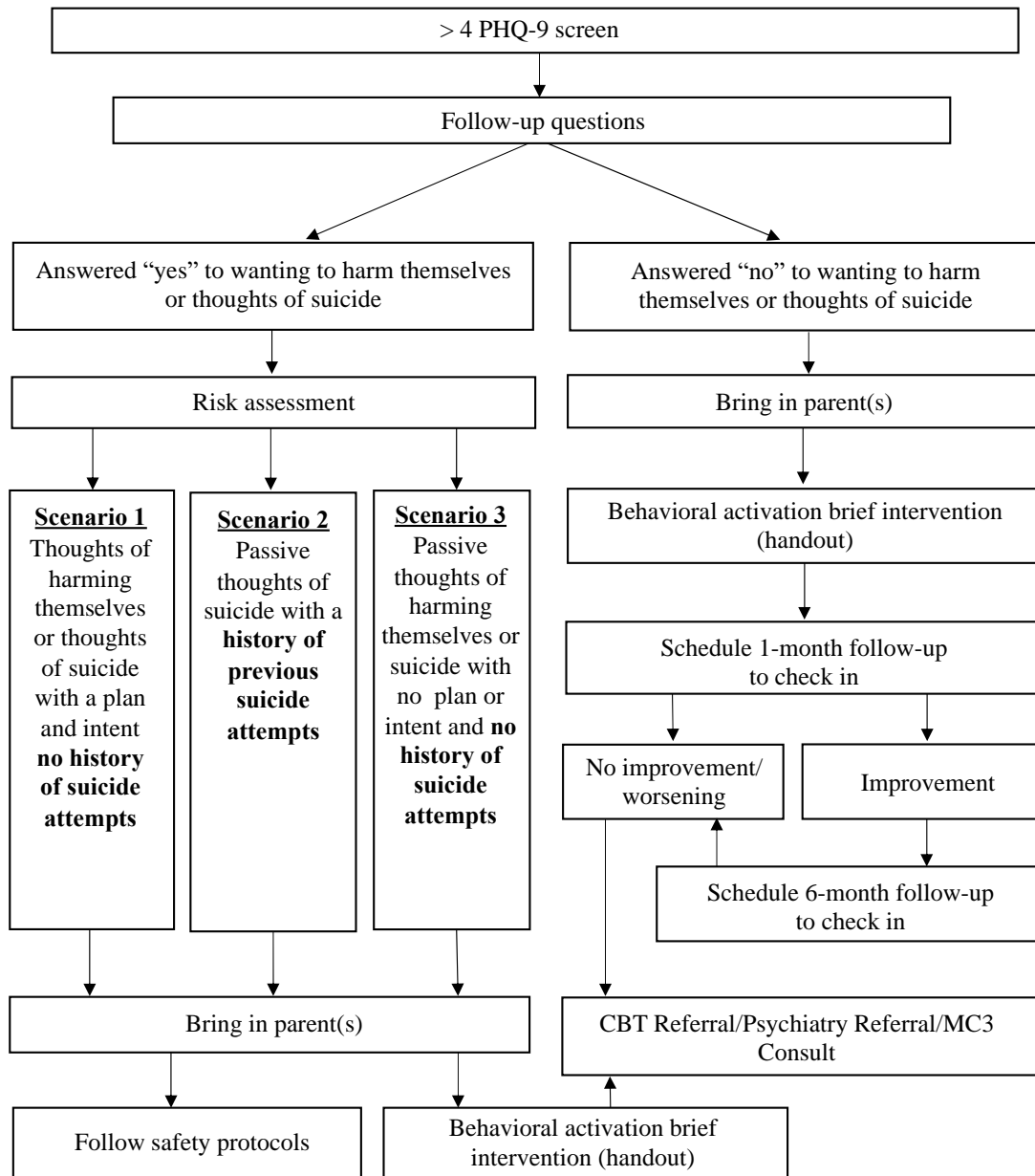
Video file: included on USB drive provided

What did you notice in the video?

Practice: Pair up with 2 colleagues. One of you will take on the role of the patient, one of you take on the role of the parent, and the other will take on the role of physician. Switch roles after you have each practiced the physician part.



Decision Tree



Documentation

As part of Michigan Medicine’s monitoring for adult and adolescent depression symptoms, General Pediatrics will track relevant treatment delivery

High Level Workflow

- 1) When due for the PHQ-9, the adolescent patient is provided a private and confidential setting in which to answer the PHQ-9 questions.
- 2) The MA (or other clinical user) documents the patient’s answers in the PHQ-9 navigator section.
- 3) If the patient has a score > 4, the provider notes the patient’s score in the **PHQ-9 Actions Taken navigator section**, and reviews the patient’s answers/interviews patient as necessary. The provider determines treatment and:
 - **Signs appropriate referral and/or prescriptions**
 - Provides handouts, community resources and/or advice
 - Confirms ongoing external treatment
 - Assesses safety risks and/or directs to emergency care
 - Enters follow-up interval

The provider documents the actions taken from Step 3 in the **PHQ-9 Actions Taken navigator section**, and uses **.pedphqactions** in the Note.

Actions Taken Navigator

Document the actions taken from in the **PHQ-9 Actions Taken navigator section:**

PHQ-9 Actions Taken

PHQ-9 Score

Actions Taken

If today's score is >4, click these buttons to reflect how the patient's symptoms have been addressed. .pedphqactions will pull this into your note.

Select all that apply:

<input type="checkbox"/> Signed Ref: MM Ped Psychology	<input type="checkbox"/> Handed Parent handout on Depression	<input type="checkbox"/> Prescribed medication
<input type="checkbox"/> Signed Ref: MM Child/Adol Psychiatry	<input checked="" type="checkbox"/> Handed Patient handout on Behav Act	<input type="checkbox"/> Confirmed ongoing external MH Tx
<input checked="" type="checkbox"/> Signed Ref: MM Social Work	<input type="checkbox"/> Provided Resources/Contact card	<input type="checkbox"/> Assessed safety risks
<input type="checkbox"/> Signed Ref: MM Adol Med	<input type="checkbox"/> Provided sleep/diet advice	<input type="checkbox"/> Directed to PES/Emergency
<input type="checkbox"/> Referred to community services	<input checked="" type="checkbox"/> Requested Follow-up in Wrap-Up	

Comments:

You can document your actions taken by entering the **.pedphqactions** dotphrase directly into the patient note:

Social Screening:
We first reviewed the confidential nature of this health information, as well as the limits of confidentiality.

The risks of tobacco, alcohol, and drug use were discussed. We discussed sexuality. There is no history of abuse, and the adolescent feels safe at home and school.

PHQ-9 Actions Taken

PHQ-9 Score: **11**

Actions taken:
	Signed Ref to MM Social Work	
	Handed Patient handout on Behav Act	
	Requested Follow-up in Wrap-up	

Comments: Patient engaged

The adolescent health questionnaire was reviewed and was otherwise negative.

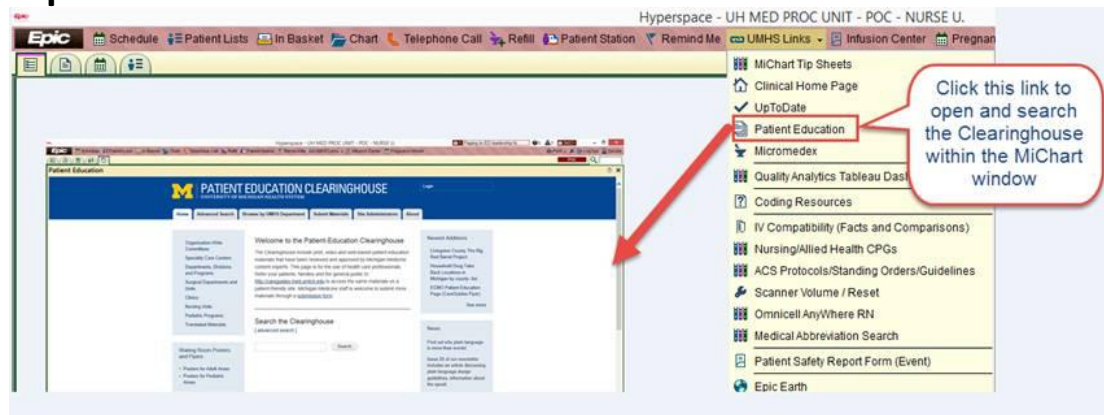
Important to Note: Documenting actions relating to internal referrals **does not** place an order for that referral. You must still place an order for internal referrals.

Handouts and Resources

Accessing Handouts

Patient Education Clearinghouse

[Parent and Teen Depression handouts](#) to the [Clearinghouse](#). You can find them with the keyword “**teen depression**”.



Clinicians can access the Clearinghouse directly from MiChart with the link on the top bar of every MiChart screen by clicking on **UMHS Links** and selecting **Patient Education**.

You can also find the handout by searching the internal search engine on the clinical homepage with the keywords “**teen depression Clearinghouse**”

Accessing Handouts

MiChart Patient Instructions

You access each handout by typing a keyword and adding “umh” in the **Patient Instructions** search box.

For example: “depression umh” . Adding “umh” to the search term limits the search to UMHS-created patient instructions.

Detailed instructions on using Patient Instructions in the Visit Navigator and the Letters activity can be found at:

<http://www.med.umich.edu/i/pteducation/healthtopics/michart.html>



For Parents: Depression and How to Help

Depression is a medical illness that involves feelings of overwhelming sadness and a loss of interest in daily activities. It is normal for children to experience changes in mood from day to day. When your child's mood does not recover and you begin to see them pulling away from previously enjoyed activities, this could mean they are experiencing depression.

What are some signs of depression?

- | | | |
|--|---|---|
| <input type="checkbox"/> Withdrawal from friends, family, and school | <input type="checkbox"/> Physical pain | <input type="checkbox"/> Irritability |
| <input type="checkbox"/> Feeling hopeless | <input type="checkbox"/> Thoughts of death or suicide | <input type="checkbox"/> Feeling worthless or helpless |
| <input type="checkbox"/> Change in sleeping and/or eating patterns | <input type="checkbox"/> Missing school | <input type="checkbox"/> Lack of motivation to engage in preferred activities |
| | <input type="checkbox"/> Declining grades | |
| | <input type="checkbox"/> Drug or alcohol use | |

What can our family do?

- Encourage engagement in social and physical activities
- Engage in activities with your child
- Engage in active listening and avoid lecturing or passing judgement
- If things do not improve or seem to worsen, seek out a mental health professional

What to do if you are worried about suicide

Signs to watch out for:

- Comments or talk of suicide, death, or dying
- Saying things like "it would be better off if I were not here"
- Engaging in reckless or high-risk behavior (e.g., drug use)
- Giving away valued possessions
- Withdrawing from regular activities and spending time alone

How can I support my child?

- Ask your teen directly about suicide
- Talk to them about their thoughts and feelings
- Let them know that you are not disappointed

Pediatric Psychology

- 1 -

- Participate in activities with your teen to help keep them active
- Encourage them to stay busy
- Encourage social interaction with friends and family
- Increase monitoring if necessary
- If you have guns in your home, ensure all ammunition is locked and inaccessible
- Put alarms and locks on patio doors and second floor windows if necessary

When should we seek emergency help?

- If you do not feel you can keep your child safe, call 911 immediately or bring them to the emergency room
- **You should seek help if your child:**
 - Has a specific suicide plan
 - Has more than just thoughts of suicide and states they intend to go through with it at some future point in time
 - Hides or refuses to give up weapons/means

Websites for more information:

- Information about supporting others with depression from University of Michigan Depression Center: <https://www.depressioncenter.org/toolkit/i-want-support-someone/supporting-others>
- Parent's Guide to Teen Depression: <https://www.helpguide.org/articles/depression/parents-guide-to-teen-depression.htm?pdf=13027>
- For more information on depression or teen depression visit <http://www.careguides.med.umich.edu> and search "depression".

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

Patient Education by [Michigan Medicine](#) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License](#). Last Revised 01/2019



For Teens: Depression

Depression is a medical illness that involves feelings of overwhelming sadness and a loss of interest in daily activities. It is normal for mood to fluctuate from day to day. When mood does not recover and you begin pulling away from what you would typically enjoy doing, this could mean you are experiencing depression.

What are some signs of depression?

- Withdrawal from friends, family, and school
- Physical pain
- Irritability
- Feeling hopeless
- Thoughts of death or suicide
- Feeling worthless or helpless
- Change in sleeping and/or eating patterns
- Missing school
- Lack of motivation to engage in preferred activities
- Declining grades
- Drug or alcohol use

What can I do?

- Talk to an adult you trust about how you are feeling
- Engage in physical activity and reduce time on screens
- Avoid alcohol and drugs
- Engage in activities you previously enjoyed
- Socialize with people who make you feel good

Where can I learn more about depression?

- Help Guide: “Teenager’s Guide to Depression”: <https://tinyurl.com/yadtayu4>
- Teen Depression”: <https://tinyurl.com/y9vbfmz>
- Visit <http://www.careguides.med.umich.edu> and search “depression”.

Suicide help resources:

- National Suicide Prevention Lifeline: call 1-800-273-TALK (8255) Available 24 hours a day/7 days per week
- Crisis Text Line: Text “HOME” to 741741 or go to <http://www.crisistextline.org>. Available 24 hours a day/7 days per week

A strategy to try at home

Behavior Activation

Behavior activation involves engaging in pleasurable activities on a set schedule each day. These activities should be completed even if you do not feel like doing them. Activities should be social or active (e.g., walking, spending time with friends, drawing, playing basketball). It should not involve use of screens. You can start small by engaging in just 5 minutes of the activity per day and then gradually increase the duration as you feel more motivated to do so.

- Watch the following video about behavior activation:
<https://www.youtube.com/watch?v=HBVACTJCN3M>
- **Daylio app:** Monitor mood and activities to see what types of activities help improve mood
- Use the table below to keep track of your pleasurable activities. Write down the time and type of activity, then rate your mood from 1-10.

1 = lowest mood and 10 = best mood

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun
Time:							
Activity:							
Mood Rating							

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

Patient Education by [Michigan Medicine](#) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License](#). Last Revised 01/2019



Resources for Teens: Depression and Suicide Prevention

What can I do when I'm feeling depressed?

- Talk to an adult you trust about how you feel
- Be active and reduce time on screens
- Do things that you usually enjoy
- Increase contact with family and friends
- Stay away from drugs and alcohol

Where can I find help?

Suicide help resources:

- National Suicide Prevention Lifeline: call 1-800-273-TALK (8255) Available 24 hours a day/7 days per week
- Crisis Text Line: Text "HOME" to 741741 or go to <http://www.crisistextline.org>. Available 24 hours a day/7 days per week

Daylio app:

Monitor mood and activities to see what types of activities help improve mood

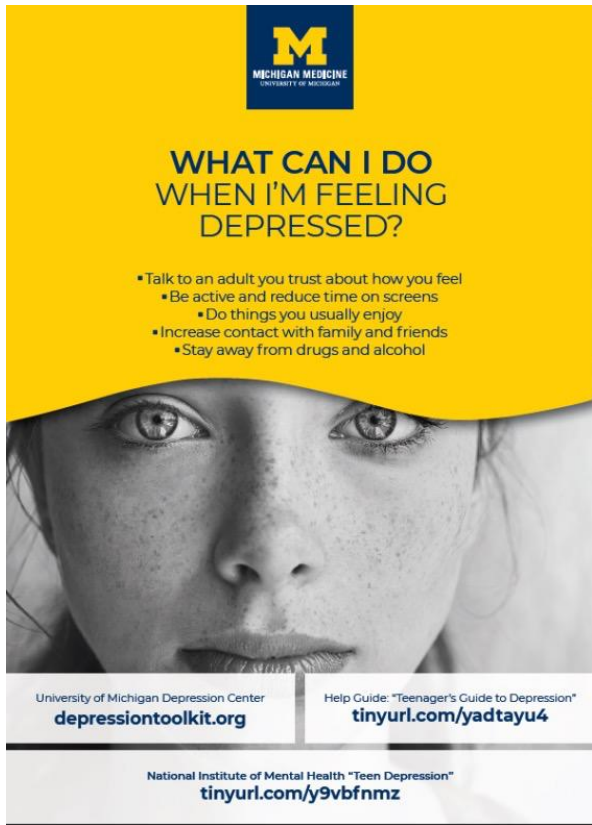
Websites:

- University of Michigan Depression Center: <http://www.depressiontoolkit.org>
- Help Guide: "Teenager's Guide to Depression": <https://tinyurl.com/yadtayu4>
- Nat. Institute of Mental Health "Teen Depression": <https://tinyurl.com/y9vbfmz>
- For more information on depression or teen depression visit <http://www.careguides.med.umich.edu> and search "depression".

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

Patient Education by [Michigan Medicine](#) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License](#). Last Revised 01/2019

Patient Resource Card



M
MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

WHAT CAN I DO WHEN I'M FEELING DEPRESSED?

- Talk to an adult you trust about how you feel
 - Be active and reduce time on screens
 - Do things you usually enjoy
 - Increase contact with family and friends
 - Stay away from drugs and alcohol

University of Michigan Depression Center
depressiontoolkit.org

Help Guide: "Teenager's Guide to Depression"
tinyurl.com/yadtayu4

National Institute of Mental Health "Teen Depression"
tinyurl.com/y9vbfmz



M
MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

WHERE CAN I FIND HELP?



depressiontoolkit.org
University of Michigan Depression Center

National Suicide Prevention Lifeline
Call 1-800-273-TALK (8255)
Available 24 hours a day/7 days a week

Crisis Text Line
Text "HOME" to 741741 or go to crisistextline.org.
Available 24 hours a day/7 days a week

Daylio app
Monitor your mood to understand what kinds of activities can help improve it

More information on depression
careguides.med.umich.edu
search "depression"

©2019 Regents. Produced by Michigan Medicine, a unit of the Office of the Vice President for Communications

Medication Resources

MC3 Program

The MC3 program offers **psychiatry support** to primary care providers in Michigan who are managing patients with behavioral health problems. This includes children, adolescents, young adults through age 26.

Psychiatrists are available through same-day phone consultations to offer guidance on:

- diagnostic questions
- medication recommendations
- appropriate psychotherapy

Your local MC3 Behavioral Health Consultant is also available to provide recommendations for local resources.

For the primary care provider, only one phone call is necessary to get the consultation started.

Phone availability for U of M psychiatrists and local BHCs is Monday to Friday, 9:00 a.m. to 5:00 p.m., excluding holidays.

To request a consult Michigan Medicine providers can call: **844-270-3195**

Consultation number as well as online learning modules can be found here: <https://mc3.depressioncenter.org>

Medication Resources

MC3 Medication Resource Cards:

<https://mc3.depressioncenter.org/pcp/resource/cards/>

Generic (Trade)	PC	Formulations (mg)	FDA appr. in Youth	Notes & Risks All: Black Box Warning for SI	(S)start (mg) (T)arget (mg)	Titration Interval	t ½ (h)
Fluoxetine (Prozac)	C	tab: 10, 20, 60; cap: 10, 20, 40 weekly cap: 90; liq: 4mg/mL	≥7y OCD ≥8y MDD	Long titration/washout = self-tapering Behaviorally activating; CYP 2D6 inhib.	S: 5-10 T: 20-60 [§]	7-14 d	96-384
Sertraline (Zoloft)	C	tab: 25, 50, 100 liq: 20mg/mL	≥6y OCD		S: 12.5-25 T: 50-200 [§]	4 d	26
Escitalopram (Lexapro)	C	tab: 5, 10, 20 liq: 1mg/mL	≥12y MDD	Few CYP interactions	S: 5-10 T: 10-30	4-5 d	27-32
Fluvoxamine (Luvox)	C	tab: 25, 50, 100	≥8y OCD	CYP 2C9 inhib.	S: 25 T: 50-200 [§]	3-4 d	16
Citalopram (Celexa)	C	tab: 10, 20, 40 liq: 2mg/mL	--	Few CYP interactions ↑QTc risk at >40mg	S: 5-10 T: 20-40	4-5 d	35
Bupropion (Wellbutrin)	C	tab: 75, 100; er: 100, 150, 174, 200, 300, 348, 450, 522	--	Behaviorally activating; Used to augment SSRI, treat ADHD ↑Anxiety, ↑SZ risk	S: 37.5-75 T: 150-300	4-5 d	21-37
Trazodone	C	tab: 50, 100, 150, 300 er: 150, 300	--	Used primarily for insomnia Priapism (rare)	S: 25 T: 50-100	2 d	10
Mirtazapine (Remeron)	C	tab: 7.5, 15, 30, 45 dis: 15, 30, 45	--	Used to augment SSRI, treat insomnia Stimulates appetite = ↑Obesity risk	S: 7.5-15 T: 15-30	4-5 d	20-40
Duloxetine (Cymbalta)	C	dr: 20, 30, 40, 60	≥7y GAD		S: 20 T: 30-60	3-4 d	12
Paroxetine (Paxil)	D	tab: 10, 20, 30, 40 er: 12.5, 25, 37.5 liq: 2mg/mL	--	↓Lit. support in minors; Anxiolytic ↑SI risk among SSRIs Many CYP interactions	S: 5-10 T: 10-40	4 d	21
Venlafaxine (Effexor)	C	tab: 25, 37.5, 50, 75, 100 er cap: 37.5, 75, 150 er tab: 37.5, 75, 150, 225	--	↓Lit. support in minors Hypertension risk	S: 25-37.5 T: 150-300	3-4 d	5-11

*Other uses include anxiety and chronic pain. [§]Higher doses needed for OCD. Greyed out medications are not recommended in minors. CYP = Cytochrome P450 protein; d = days; PC = Pregnancy Class; tab = tablet; cap = capsule; liq = oral liquid, er = extended release, dr = delayed release.

PDP, 2017

Other Medication Resources:

- <http://web.jhu.edu/pedmentalhealth/Psychopharmacolog%20use.html>
- American Academy of Pediatrics Mental Health Toolkit

Next Steps

Ongoing Feedback and Support

- Site visits to answer questions and obtain feedback
- Follow-up surveys for ongoing user feedback

Contact:

Teryn Bruni

tbruni@med.umich.edu

Access to handouts:

- Printed hard copies (provided)
- Electronic copies (flash drive provided)
- Available through *patient instructions* on MiChart
- Published within the Patient Education Clearinghouse (accessible through MiChart)
- Resource card: Contact Teryn Bruni

Acknowledgements

This training was made possible through the generosity of the Michigan Medicine Depression Center. Time, materials, and resources have been funded by the **Frances and Kenneth Eisenberg Translational Research Prize**.

This project has also been supported by the Michigan Medicine Depression Quality Improvement Committee. Their feedback and support has been valuable in shaping the content of this training to align with institutional priorities and existing initiatives.

HITS specialist and systems analyst Cheryl Dehmlow has also dedicated valuable time and effort to assist in ensuring efficient documentation and data collection to better serve our patients. Her work on this project has been invaluable.

Project Team Members

- Teryn Bruni, Pediatric Psychology
- Blake Lancaster, Pediatric Psychology
- Kelly Orringer, General Pediatrics
- David Hanauer, General Pediatrics
- Joanna Quigley, Child and Adolescent Psychiatry
- Leah LaLonde, Pediatric Psychology
- Luke Turnier, Pediatric Psychology

Appendix B: Actor Script for Training Videos

Video 1: PHQ-9 = Mild Depression Symptoms (>4), No suicidal ideation, No past attempts Goal: Give patient and parent Depression and Behavior Activation Handouts	
[Physician is in exam room with patient and is bringing up elevated score to patient]	
Physician	<i>Hi, Kelly. How are you doing?</i>
Patient	<i>I'm okay.</i>
Physician	<i>I wanted to talk to you about the depression questionnaire you filled out earlier today and go over some of your answers. Then, if it's okay with you, maybe we can talk about some things you can do to help your mood...I can also give you some resources in case your mood gets worse. Is this okay with you?</i>
Patient	<i>Okay, that's fine.</i>
Physician	<i>Good. Can you tell me how you would rate your mood over the last week on a scale of 1 through 10, with 10 being your best mood?</i>
Patient	<i>I'd say a 4 or 5.</i>
Physician	<i>Can you describe that mood a little for me?</i>
Patient	<i>Happy sometimes, but sad lately.</i>
Physician	<i>Okay. Have you stopped doing any of the things you usually enjoy or stopped enjoying time with friends?</i>
Patient	<i>Sometimes I don't feel like doing things. I like to just be in my room.</i>
Physician	<i>Alright. Have you had any thoughts of wanting to harm yourself or thoughts of suicide?</i>
Patient	<i>No.</i>
Physician	<i>Okay...it sounds like you've been feeling kind of down lately, and I understand that this can make it harder to do some of the things you normally do every day, like school work or hanging out with friends. This handout might help you to understand a little more about what you're going through, and it has some strategies you can try to help you feel better...I'd also like to give one of these to your mom, so she can help support you. Would it be okay with you if I ask her to come in and discuss this with us?</i>
Patient	<i>Yeah, that would be okay.</i>
[Physician leaves the exam room. Re-enters with mom. Physician speaks to both mom and patient]	
Physician	<i>Okay, so we did a short depression screener today and found Kelly has been feeling down and sad lately, and may be showing some symptoms of depression. I wanted to talk to you both about some things you can do to help Kelly feel better. Here's a handout that explains some of the symptoms and risks of depression, and it also gives you some steps you can take at home that might be helpful.</i>
[Physician hands parent a hard copy of a handout]	

Physician	<i>One way to help boost your mood is to schedule activities that have helped you feel better in the past or that you know are good for you. Depressed mood can make it harder to do the things that normally help us feel better. Can you tell me some of the activities you usually like doing?</i>
Patient	<i>I used to like playing basketball and taking my dog for a walk....I like to play video games and watch videos on my tablet sometimes.</i>
Physician	<i>Basketball and walking your dog are great activities. Video games and screens are fun, but they're not the kind of thing that helps boost your mood. Try to stick to activities that require you to be active or interact with other people. Anything else you can think of? Mom, do you have any suggestions?</i>
Mom	<i>Well, you used to like bake, right? That is something we could do together.</i>
Patient	<i>Yeah.</i>
Physician	<i>Okay, those are some great ideas. I'd like you to schedule a time during the day to walk your dog, play basketball, or bake with your mom. It's really helpful to put it in a calendar like this one...</i>
<i>[Physician points to the example calendar on the handout]</i>	
Physician	<i>Having a schedule will get you doing these things that will help your mood, even if you're feeling sad or just not motivated. This strategy has been shown to help depression. Do either of you have any questions?</i>
Mom	<i>What can I do to help her feel better?</i>
Physician	<i>As a parent you can encourage Kelly to participate in activities she enjoys. You can do things with her like spending some positive one-on-one time together. The handout also has other resources to help with depression and ways to help you improve your mood. So, do we have a plan?</i>
Mom	<i>Yes, we can do this.</i>
Physician	<i>Great. It's important to watch closely in case anything gets worse. If things don't get better over the next month, please make another appointment with us and we can explore some other options. I hope this is helpful for you.</i>
Mom and Patient	<i>Thank you.</i>

Appendix C: Behavior Checklist for Roleplays

Please fill in the ID number you used on your online pre-test here: _____

Goals for behavioral activation:

	Behavior
	Provide the behavioral activation handout
	Describe the importance of scheduling activities
	Explain that activities should be social or physically active
	Promote parent involvement

Goals for suicide risk assessment:

	Behavior
	Assess patient mood
	Assess for suicidal ideation (recency and frequency)
	Assess for suicide plan
	Assess for intent of carrying out plan for suicide
	Assess for prior suicide attempt
	Provide resources

Appendix D: Institutional Review Board Letter

IRB #: UHSRC-FY18-19-218

Title: Support for Screening and Intervening on Adolescent Depression: Provider-Reported Training Outcomes

Creation Date: 2-6-2019

End Date:

Status: **Approved**

Principal Investigator: Leah LaLonde

Review Board: University Human Subjects Review Committee

Sponsor:

Study History

Submission Type	Initial	Review Type	Exempt	Decision	Exempt
-----------------	---------	-------------	--------	----------	---------------

Key Study Contacts

Member	Leah LaLonde	Role	Principal Investigator	Contact	lmcdiarm@emich.edu
Member	Alexandros Maragakis	Role	Co-Principal Investigator	Contact	amaragak@emich.edu

Appendix E: Background Questionnaire

DEMOGRAPHIC QUESTIONNAIRE

1.	What is your gender?
2.	What is your age?
3.	Please select your Michigan Medicine practice location.
4.	How many years have you been in practice as a pediatrician?
5.	What is your educational background?
	a. Medical Doctor b. Doctor of Osteopathy
	c. Physician Assistant d. Nurse Practitioner

Appendix F: Provider Burnout Sample Items

MASLACH BURNOUT INVENTORY HUMAN SERVICES SURVEY FOR MEDICAL PERSONNEL

Please read each of the 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about your job.		0	1	2	3	4	5	6
		Never	A few times a year or less	Once a month or less	Once a week	A few times a week	A few times a week	Every day
1.	I feel emotionally drained from my work.							
15.	I don't really care what happens to some patients.							
19.	I have accomplished many worthwhile things in this job.							

Copyright 1981 Christina Maslach & Susan E Jackson. All rights reserved in all media. Published by Mind Garden. Inc., www.mindgarden.com

Appendix G: Knowledge Questionnaire

KNOWLEDGE QUESTIONNAIRE

1.	<p>Behavioral activation is an appropriate treatment in which of the following situations?</p> <ul style="list-style-type: none"> a. An adolescent presents with symptoms of moderate depression and no thoughts of suicide b. An adolescent with symptoms of moderate depression and passive suicidal ideation with no plans or intent. c. An adolescent with symptoms of moderate depression with current suicidal ideation with plans and access to means. d. A and B e. Unsure
2.	<p>What are important aspects of behavioral activation that should be explained to patients and families?</p> <ul style="list-style-type: none"> a. Schedule social or physical activity and engage regardless of motivation b. Engage in social or physical activity only when you are feeling motivated to do so c. It is good to schedule activities that do not require a lot of energy, such as watching your favorite TV show. d. A and C e. Unsure
3.	<p>For adolescents with suicidal ideation with no plans or intent.</p> <ul style="list-style-type: none"> a. Provide brief intervention and schedule a follow-up visit. b. Send home with safety planning (e.g., suicide hotlines) c. Engage in safety protocols (e.g., referral to emergency room) d. A and B
4.	<p>What is the primary purpose of the smart phrase</p> <ul style="list-style-type: none"> a. You can use the smart phrase to initiate referrals b. You can use the smart phrase to document when referrals are made, but this does NOT initiate the referral. c. You can use the smart phrase to document when patients are provided with behavior activation handouts. d. B and C e. Unsure
5.	<p>In order for behavioral activation to be effective patients should....</p> <ul style="list-style-type: none"> a. Schedule as many pleasurable activities as they can in one week b. Start slow and gradually increase scheduling pleasurable activities. c. See an improvement in mood right away. d. Stick to scheduled activities and not engage in other activities if they are feeling motivated to do so. e. Unsure

Appendix H: Comfort Questionnaire

COMFORT QUESTIONNAIRE

1.	Treating mild to moderate depression during a medical visit.					
	1	2	3	4	5	6
	Very Uncomfortable	Uncomfortable	Slightly Uncomfortable	Slightly Comfortable	Comfortable	Very Comfortable
2.	Having a discussion about depression with patients and families during a medical visit.					
	1	2	3	4	5	6
	Very Uncomfortable	Uncomfortable	Slightly Uncomfortable	Slightly Comfortable	Comfortable	Very Comfortable
3.	Monitoring symptoms of depression for adolescent patients.					
	1	2	3	4	5	6
	Very Uncomfortable	Uncomfortable	Slightly Uncomfortable	Slightly Comfortable	Comfortable	Very Comfortable
4.	Conducting suicide risk assessments and engaging patients in safety planning during a medical visit.					
	1	2	3	4	5	6
	Very Uncomfortable	Uncomfortable	Slightly Uncomfortable	Slightly Comfortable	Comfortable	Very Comfortable
5.	Prescribing and managing psychotropic medications for depression.					
	1	2	3	4	5	6
	Very Uncomfortable	Uncomfortable	Slightly Uncomfortable	Slightly Comfortable	Comfortable	Very Comfortable

Appendix I: Feasibility Questionnaire

FEASIBILITY QUESTIONNAIRE

1.	Treating mild to moderate depression during a medical visit.					
	1	2	3	4	5	6
	Very Unfeasible	Unfeasible	Slightly Unfeasible	Slightly Feasible	Feasible	Very Feasible
2.	Explaining a handout on depression to patients and families during a medical visit.					
	1	2	3	4	5	6
	Very Unfeasible	Unfeasible	Slightly Unfeasible	Slightly Feasible	Feasible	Very Feasible
3.	Using a smart tool to document screening results and treatment plan for patients.					
	1	2	3	4	5	6
	Very Unfeasible	Unfeasible	Slightly Unfeasible	Slightly Feasible	Feasible	Very Feasible
4.	Conducting suicide risk assessments and engaging patients in safety planning during a medical visit.					
	1	2	3	4	5	6
	Very Unfeasible	Unfeasible	Slightly Unfeasible	Slightly Feasible	Feasible	Very Feasible
5.	Prescribing and managing psychotropic medications for depression.					
	1	2	3	4	5	6
	Very Unfeasible	Unfeasible	Slightly Unfeasible	Slightly Feasible	Feasible	Very Feasible

Appendix J: Training Acceptability Questionnaire

TRAINING ACCEPTABILITY QUESTIONNAIRE

1.	The content and material provided in the training was helpful.					
	1	2	3	4	5	6
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
2.	It was helpful to watch the video demonstration and practice delivering the protocol during the training.					
	1	2	3	4	5	6
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
3.	The training experience provided useful information that I will use in my day-to-day interactions with patients.					
	1	2	3	4	5	6
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
4.	The training was organized and easy to follow.					
	1	2	3	4	5	6
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
5.	The trainers feedback during the training was helpful.					
	1	2	3	4	5	6
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree