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Training Pediatric Primary Care Providers in Behavior Management Strategies

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TRAINING PEDIATRIC PRIMARY CARE PROVIDERS IN BEHAVIOR MANAGEMENT STRATEGIES

by

Kate Burger

A dissertation submitted to the Graduate College in partial fulfillment of the requirements for the degree of Doctor of Philosophy Psychology Western Michigan University August 2018

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Childhood mental health disorders are a significant public health concern in the United States. It is estimated that every year 13 to 20% of children living in the United States experience a mental health disorder (National Research Council and Institute of Medicine, 2009). Despite the clear need for mental health care, less than half (45.6%) of children with one or more emotional, behavioral, or developmental conditions receive treatment from a mental health professional (The National Survey of Children's Health, 2007). There is growing evidence that integrating mental health services into pediatric primary care can result in increased treatment access as well as improved clinical outcomes and patient satisfaction (Cluxton-Keller et al., 2015; Ginsburg et al., 2016; Kolko et al., 2014). However, there is minimal research that examines the effects of training pediatric primary care providers to implement mental health interventions.

This study examined the effectiveness of a brief training program for pediatric primary care providers. The training included information on effective behavioral interventions for common childhood behavior problems. The present study examined whether providers’ knowledge of childhood behavior problems and interventions increased from pre- to post-training. The study also examined whether providers’ reported level of confidence in their ability to discuss behavior problems as well as provide behavior management interventions increased
after participating in the training. Finally, the study tracked the frequency of childhood behavior problems and frequency of interventions used by providers throughout the study.

Data were collected from 14 pediatric primary care providers in Kalamazoo County. A pre/post-test design was utilized to measure potential changes in provider knowledge and confidence. Chart reviews of electronic medical records were conducted to collect data on the frequency of occurrence of behavior problems during office visits as well as the frequency of use of behavior management or other intervention strategies.

There was a significant increase in provider-reported knowledge and confidence from pre- to post-training. There were no significant changes in provider-reported frequency of behavior problems, nor frequency of interventions from pre- to post-training. Use of SmartPhrases (intervention tools in the electronic medical record) occurred at a very low rate.

This study provided some preliminary evidence that a brief training for pediatric primary care providers was associated with an increase in self-reported knowledge of behavioral health concerns as well as confidence in implementing interventions. However, results are limited and additional research with a larger sample size and a more rigorous design is needed.
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INTRODUCTION

Childhood mental health disorders are a significant public health concern in the United States. It is estimated that every year 13 to 20% of children living in the United States (almost 1 out of 5 children) experience a mental health disorder (National Research Council and Institute of Medicine, 2009). In addition, 50% of all lifetime instances of mental illness start by the age of 14 years (National Alliance on Mental Health, 2016). The most commonly diagnosed mental health disorders in childhood are Attention-Deficit/Hyperactivity Disorder (6.8%), followed by behavioral problems (3.5%), anxiety (3.0%), depression (2.1%), and autism spectrum disorders (1.1%). The CDC estimates the total annual cost of childhood mental health disorders is $247 billion (CDC, 2013).

Need for Improved Mental Health Care for Children

Despite the clear need for mental health care for children, less than half (45.6%) of children with one or more emotional, behavioral, or developmental conditions receive treatment from a mental health professional (The National Survey of Children's Health, 2007). Minority children and children in the child welfare and juvenile justice systems experience higher rates of mental health issues than other children, and have even higher rates of unmet mental health needs (Children’s Defense Fund, 2010). Barriers related to funding (e.g., cost of service, lack of insurance, etc.) and access (lack of mental health services in an area) are frequently cited as reasons for the gap in services (Power, Eiraldi, Clarke, Mazzuca, & Krain, 2005).

In comparison, children in the United States do have easier access and more frequent contact with medical care services than mental health services. On average, children have contact at least once a year with their primary care provider (PCP; Dempster, Wildman, Langkamp, & Duby, 2012). Part of the reason for access to better medical care in the United States is the
simple fact that there are more pediatricians than licensed child psychologists. In addition, there are fewer barriers related to funding. Private insurance as well as Medicaid insurance plans typically cover the cost of yearly visits with a PCP. In fact, the Affordable Health Care Act now requires that most health insurance plans, including Marketplace and Medicaid, cover at minimum an annual visit with a pediatric PCP for children ages of 0-18 years (Preventative Care Benefits for Children, n.d.). Thus, while reducing barriers to mental health treatment is still an important goal, the comparative ease of access and frequency of use make the primary care setting a superb setting for addressing children’s mental health concerns. Pediatric PCPs are uniquely situated to address mental health care concerns because they are the most frequent and consistent point of contact between children and the health care system.

**The Primary Care System**

According to the American Academy of Family Physicians, primary care is “care provided by physicians specifically trained for and skilled in comprehensive first contact and continuing care for persons with any undiagnosed sign, symptom, or health concern, not limited by problem origin (biological, behavioral, or social), organ system, or diagnosis” (Primary Care, n.d.). A primary care provider (PCP) is typically the first and most consistent point of contact between a patient and the health care system in the United States. Moreover, a PCP is a generalist who makes decisions about all facets of the patient’s health care, including when to seek consultation with another healthcare provider or when to refer a patient for specialty care (Robinson & Reitel, 2007). A stated goal of primary care is to improve or maintain patient’s overall health and well-being.

The term PCP in a pediatric setting may signify several different medical professionals. Often a PCP refers to a physician, whether a doctor of medicine (M.D.) or a doctor of osteopathy
However, a PCP may also refer to many healthcare professionals with advanced medical degrees [e.g., physician assistant (PA), nurse practitioner (NP), naturopathic physicians (ND)]. Regardless of educational background, the purpose of a PCP is twofold: to provide regular medical evaluations and to take on a leadership role in the coordination of their patients’ various healthcare service needs.

There is well-established evidence that primary care services lead to better health care services and outcomes across several different factors. For example, Starfield, Shi, and Macinko (2007) conducted a review of studies that examined the impact of the supply of PCPs on health outcomes in the United States. The review found that across several levels of analysis (i.e., state, county, metropolitan area), an increase in the number of primary care services was associated with significant improvements in the prevention of illness and death, and provided a more equitable distribution of health care across ethnic groups and socioeconomic levels. In addition, Shi (2012) conducted a focused review of studies that measured the effects of primary health care worldwide. The review found evidence that primary care can be associated with increased access to healthcare services, lower healthcare costs, increased quality of care, and better health outcomes (e.g., diabetes management, physical activity promotion, weight loss). Also, the review concluded that primary care helps to counteract some of the negative health outcomes (e.g., higher rates of mortality and chronic illnesses) associated with low socioeconomic and ethnic minority status. This finding is particularly relevant for pediatric care because racial and economic disparities in health care tend to disproportionately affect children (Stevens & Shi, 2003).
Mental Health Issues in Primary Care

Mental health disorders are the most common chronic health conditions in pediatric populations (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Within pediatric primary care, the most common behavioral health concerns are oppositional or aggressive behavior, Attention-Deficit/Hyperactivity Disorder, anxiety and depression, autism spectrum disorders, learning problems, and substance use (Roongpraiwan, Efron, Sewell, & Mathai, 2007). However, PCPs are trained in understanding physical development and medical concerns, and are typically not trained to implement mental health interventions. For example, most medical students only receive 6 to 8 weeks of training in patient interviewing and 4 to 8 weeks of training in psychiatry (Smith, 2011). As a result of a lack of training as well as other factors, less than 25% of the children who present with behavioral health concerns in primary care are actually identified as having a behavioral health problem and receive treatment (U.S. Department of Health and Human Services, 1999).

The Need for Integrated Behavioral Health Care

One solution for addressing mental health needs is to integrate mental health services within pediatric primary care offices. In the medical system, mental health issues are typically called behavioral health issues. Integrated behavioral health care involves collaboration between health professionals (e.g., physicians, nurses, psychologists, and other health professionals) to address all the patient’s health care needs (Integrated Health Care, 2016). Specifically, the collaboration between health professionals involves sharing information in order to create a comprehensive treatment plan that addresses all of the patient’s health related needs (i.e., medical, social, psychological, financial; integrated) (Health Care, 2016).
Support for Integrated Behavioral Health

While integrated behavioral health care is still an emerging area, there is evidence that it is associated with several positive outcomes. Research has found that both providers and patients report high satisfaction ratings with integrated care (Funderburk et al., 2010). Moreover, integrated systems have been found to provide better access to services (Pomerantz, Kearney, Wray, Post, & McCarthy, 2014; Tolan & Dodge, 2005), and mental health services are often viewed as less stigmatizing when provided in a medical setting (Tolan & Dodge, 2005).

There is also emerging evidence for the effectiveness of integrated behavioral health in a pediatric primary care setting. Kolko et al. (2014) utilized a randomized control trial to compare outcomes from primary care based interventions for behavior problems, Attention-Deficit/Hyperactivity Disorder, and anxiety to usual care (psychoeducation and referral for specialty care). The study found that the primary care intervention vs. usual care was associated with higher rates of treatment initiation and completion as well as improvement in child behavior problems, hyperactivity, and internalizing problems, as well as parental stress and consumer satisfaction. Cluxton-Keller, Riley, Sassan, Noazin, and Umoren (2015) conducted a meta-analysis to examine the effectiveness of family therapy interventions embedded in primary care. The analysis showed that family interventions in primary care led to statistically significant decreases in parental distress, parental depressive symptoms and in dysfunctional parent–child interaction. Lastly, Ginsburg, Drake, Winegrad, Fothergill, and Wissow (2016) found that a brief, PCP delivered intervention for anxiety resulted in significant decreases in parent-reported anxiety as well as high levels of satisfaction and acceptability for both the providers and parents.
Different Models of Integrated Behavioral Health Care

There are several different models of integrated behavioral health care that vary across three key factors: co-location, collaboration, and integration. *Co-location* describes where the behavioral health services are located in relation to the primary care clinic. *Collaboration* signifies the amount of information sharing and collaborative treatment planning between the primary care provider and the mental health provider. Lastly, *integration* is the level of incorporation of the mental health provider into the primary care team (Robinson & Reitel, 2007).

Robinson and Reitel (2007) described specific examples of behavioral health models, although this list is not exhaustive. The first is the *co-located model*. In this model, the mental health providers provide traditional outpatient mental health services, but it is located within the same office as the PCP; the mental health provider and the PCP may or may not collaborate and make joint treatment decisions. This model, therefore, is not considered fully integrated since the mental health services are still separate from the primary care services. Another model described is the *staff advisor model*. In this model, the mental health provider only provides the PCP with mental health consultation services and does not interact with patients. A third model is the *stepped-care approach*. This model combines some qualities of each of the models previously described. The mental health services provided depend on the severity of need. For a patient with mild to moderate symptomology, the mental health provider may only provide consultation with the PCP. However, as severity increases, the mental health provider may provide services that more closely resemble traditional, hour-long, outpatient mental health services.

Which model is selected often depends upon financial resources, preferences of primary care staff, logistical considerations, and buy-on from organizational leaders (Gatchel & Oordt,
Robinson and Reitel (2007) suggest that the best model is the *primary care behavioral health (PCBH) model*. In this model, mental health providers and services are fully integrated into the primary care system. The mental health provider, often termed *behavioral health consultant (BHC)*, works in the primary care office as a part of a primary care team. While the PCP is ultimately in charge of their patient’s care, the BHC provides services to enhance the patient’s psychosocial well-being. The BHC provides very different services than traditional outpatient mental health care. They typically conduct very brief, 15 to 30 minute sessions with the patient after a visit with the PCP. The services are less focused on assessment and diagnosis and more upon brief interventions. BHC’s also provide behavioral health consultation for the provider.

**Why Train Primary Care Providers in Behavioral Health?**

Regardless of the model chosen, the PCP still serves as the head of the primary care team. In order to best serve the patient’s overall health and well-being, it would benefit both the PCP and patient for the physician to have some knowledge of common behavioral health disorders and evidence-based interventions. This is especially true in fully integrated models where the PCP and BHC are working closely alongside one another. The idea of integrated behavioral health care is not that the PCP shifts responsibility for behavioral health issues to the BHC, but rather works seamlessly together in order to minimize any gaps in care. Thus, the ability of a PCP to actively participate in behavioral health services is an important component of the model.

In addition, PCPs play an important role in delivering behavioral health services because there is often an established relationship between a PCP and their patient. This relationship is very important in terms of behavioral health issues. There is often a stigma associated with behavioral health problems, and parents may feel more comfortable and more open to
suggestions if the information comes from their PCP. In fact, there is evidence that patients are more likely to trust and follow through with the advice of their PCP versus other professionals.

Taylor, Moeller, Hamvas, and Rice (2012), for example, surveyed 500 parents asking which type of professional’s advice they were most likely to seek and follow in regard to disciplining their child. The study found that a large number (48%) of parents reported they were most likely to seek discipline advice from their pediatrician. Interestingly, only 18% of parents reported that they would most likely seek discipline advice from mental health professionals. Another study surveyed 543 parents after a pediatric office visit about sources of child health that they follow and found that while parents followed advice from many different sources, they followed their pediatrician’s advice more completely than any other source of advice. Thus, PCPs remain at the center of importance when dealing with behavioral health issues even if BHC’s are available in to provide behavioral health services (Mosley, Freed, & Goold, 2011).

**Evidence for Training Medical Providers in Behavioral Health**

There is evidence that medical providers can successfully implement behavioral health interventions after receiving training in the intervention. For example, Turner, Nicholson, and Sanders (2011) examined medical providers’ implementation of consultations for behavior problems after they participated in a 2-day training for the Primary Care Triple P—Positive Parenting Program. The study found that 97% of practitioners reported using the Triple P consultation session with their patients after participating in the training. In addition, providers reported significantly increased self-efficacy in their parent consultation skills as a result of participating in the training. Another study found that training pediatric residents in Primary Care Triple P was associated with an improvement in parenting consultation skills and the parents’ disciplinary practices (McCormick et al., 2014). Thus, there is evidence that pediatric providers
and residents are able to implement skills from specific behavioral health interventions after they have participated in training.

Other research has found that training nurses can result in increased use of effective interventions. MacLauren, Cohen, Larkin, and Shelton (2008) examined the effectiveness of training nursing students in cognitive-behavioral strategies for pain management in children. Specifically, the authors examined changes in knowledge and attitudes toward pain management, as well as implementation of cognitive-behavioral strategies after nursing students participated in a 20-minute training. The training provided a rationale for cognitive-behavioral techniques and taught how to implement two evidence-based strategies for pain management. The results demonstrated that nursing students who received the training had significantly more knowledge of cognitive-behavioral strategies after the training program versus before it, and they had more knowledge in comparison to control participants. In addition, students in the training group implemented more cognitive-behavioral strategies as assessed during a role play than those in the control group. This study illustrated that nursing students were able to apply specific cognitive-behavioral strategies for pain management after participating in a very brief training.

There is also support in adult primary care that evidence-based interventions can be successfully implemented by PCPs. For example, there is ample evidence to support training medical professionals in motivational interviewing techniques (Barwick et al., 2012; Flickinger et al., 2013; Gecht-Silver et al., 2016). There is also evidence that PCPs’ identification and understanding of behavioral health disorders such as PTSD and substance abuse can improve after participating in brief trainings (Samuelson et al., 2014; Stoner et al., 2014).

Taken together, there is empirical support for the benefits of training primary care providers in behavioral health interventions. There is evidence that behavioral health trainings
are associated with increases in knowledge and frequency of use of evidence-based techniques for specific problems. Despite this promising research, further research is needed in order to better understand what types of training are the most effective and efficient for teaching PCPs about common behavioral health problems and interventions. There are very few studies that have examined behavioral health training specifically for pediatricians. The studies that have provided support for training pediatricians in behavioral health have required ample time and resources for both the training and implementation of the intervention. For example, the Triple P for Primary Care program that was utilized in Turner et al. (2011) and McCormick et al. (2014) requires a 4.5 training and accreditation process and there is a substantial fee for training (Triple P – Positive Parenting Program – Primary Care Triple P, 2016). In addition, the actual intervention the providers implement consists of three to four behavioral health sessions (15 to 30 minutes each) over 4 to 6 weeks (Triple P – Positive Parenting Program – Primary Care Triple P, 2016). The time commitment for both training as well as implementation may place a burden on providers and make them less likely to seek out training and to utilize the interventions in the long-term. Future research should focus on brief-trainings as well as brief interventions that PCPs can implement within their standard workflow.

**Types of Behavioral Health Issues in Pediatric Primary Care**

To fully integrate behavioral health services into primary care across the United States, widespread changes in medical provider education, insurance reimbursement and billing codes, as well as changes within medical culture will most likely be needed. These types of changes would require expansive restructuring of current systems and would occur over many years and even decades. However, there is still a current need for behavioral health services. Training PCPs
in brief, evidence-based interventions for commonly occurring behavioral health may be one way to improve behavioral health services in primary care.

As mentioned earlier, within pediatric primary care the most common behavioral health concerns are oppositional or aggressive behavior. (Roongpraiwan, Efron, Sewell, & Mathai, 2007). One estimate of behavioral problems in pediatric primary care place the rate of occurrence of behavioral problems at 12 to 27% of all patients (Weiztman & Leventhal, 2006). In addition to the problems they present for a child’s current functioning, both behavior/conduct problems are associated with higher risk for mental health disorders and impaired functioning later in life (Loth et al., 2014; Rutter et al., 2006). Thus, early intervention for these disorders can have long-standing impact on a child’s current and future well-being. Knowledge of brief, evidence-based strategies to improve behaviors that are typically associated with conduct problems would likely be useful tools for PCPs to implement into their practice.

In addition, many of the behaviors associated with behavioral or conduct disorders are behaviors that occur in typically developing children. Behaviors related to aggression, noncompliance, impulsivity, and hyperactivity commonly occur periodically in children who do not meet criteria for a mental health disorder. While the frequency and severity of these behaviors may be less than those children diagnosed with a disorder, parents and children could still benefit from evidence-based strategies to deal with these types of behaviors.

Lastly, in order to fit into the primary care system, the interventions should be brief. The average length of a pediatrician visit is less than 11 minutes (Halfon, Stevens, Larson, & Olson, 2011). In order for PCPs to implement behavioral management strategies, the interventions should not add substantially more time to the average patient visit.
There are several evidence-based treatments for childhood behavior and conduct problems (Eyberg, Nelson, & Boggs, 2008; Garland, Hawley, Brookman-Frazee, & Hurlburt, 2008). The best evidence suggests that parent training models are the most effective method for treatment of child behavior problems (Eyberg et al., 2008). The essential mechanism of behavioral parent management training is to change the way parents respond to their child’s behavior to ultimately change their child’s behavior (McMahon, 2015). The focus is on increasing positive behaviors and decreasing problem behaviors through strategies based on the principles of behavior such as positive reinforcement and punishment (McNeil & Hembree-Kigin, 2011; McMahon, 2015).

PCPs could benefit from receiving similar training in behavior modification strategies. Again, PCPs do not have extra time for training in and implementing specialized mental health treatments. A training that condenses essential behavior management components into a brief intervention could result in meaningful changes in PCPs’ knowledge of ways to effectively address common child behavior problems. Training PCPs to help parents manage child behavior problems may be especially helpful for children whose behaviors are less severe and do not need to receive specialty mental health services. PCPs could also be trained to recognize when problems are severe enough to warrant referral to a behavioral health consultant.

**Summary and Present Study Goals**

Childhood mental health disorders are a significant public health concern in the United States. However, despite the clear need for mental health care, less than half of children typically receive treatment from a mental health professional (The National Survey of Children's Health 2007). Barriers related to funding and availability of evidence-based services are two of the main reasons for the gap in services (Power, Eiraldi, Clarke, Mazzuca, & Krain, 2005). In comparison,
children in the United States have easier and more frequent access to medical care than mental health services. Thus, the pediatric primary care setting is an ideal location for the identification and treatment for mental health issues. Pediatric primary care providers would benefit from training in brief, evidence-based interventions to incorporate into their standard practices.

The purpose of the present study was to evaluate the effectiveness of a training in behavior management strategies for common behavior problems for pediatric primary care providers. Specifically, using a pre-post design, the present study examined whether the training program had a significant effect on providers’ knowledge of behavioral management interventions and frequency of use with their patients. The study also examined the providers’ confidence level in addressing behavior problems with patients and their families.

**Hypotheses**

Specifically, it was predicted that providers’ reported knowledge of behavior management strategies would increase from pre to post-test after participating in the training. It was also predicted that the frequency of the use of behavioral management recommendations would increase from pre to post-test. Lastly, it was predicted that providers’ reported confidence in addressing behavior problems would increase from pre- to post-test.
METHODOLOGY

Participants

Participants were recruited from two pediatric primary care practices in Portage and Oshtemo, Michigan. In both offices, doctoral level clinical psychology students served as behavioral health consultants (BHC’s) and provided consultation, brief assessment, and behavioral intervention services. Participants were eligible for the study if they were a primary care provider (PCP) in either office location and participated in a behavior management training offered by a BHC. The investigator recruited 14 participants from the PCPs at both the Portage and Oshtemo offices. The PCPs were all licensed medical professionals who specialized in pediatric primary care. The majority of participants had a medical degree (MD) and had an average of 15.9 years of experience in pediatric primary care. The majority of providers also indicated that they had an “average” amount of training in behavioral health (see Table 1).

Procedures

Approximately 1 month prior to the behavior management training, participants were recruited from a monthly PCP staff meeting. During the meeting, the student investigator provided information about the training and explained that a research study was being conducted to examine the effects of a training program for pediatric primary care providers. PCPs were notified that they could participate in the training without participating in the research study.

During the staff meeting, two pre-training questionnaires were administered (Pre-Test Questionnaire and Knowledge Questionnaire). Providers were also given a list of SmartPhrases to document notes in the EMR. A SmartPhrase is a short phrase that, when typed into the electronic medical record (EMR), populates a specific template or longer set of text. A list of five SmartPhrases was created and providers were told that they would learn more about them during
the training, but they should start using them as needed. The list consisted of one SmartPhrase that could be used to document behavior problems, and four that were specific behavior management interventions (i.e., praise, rewards, ignoring, timeout).

The training was approximately 1 hour and included information about evidence-based behavioral management strategies to address child behavior problems. It included brief interventions aimed at increasing positive behaviors and decreasing problematic behaviors. The following behavior management techniques were discussed: praise, rewards, ignoring, and timeout. The training provided additional information about the SmartPhrases given during the consent/pre-questionnaire sessions. The four intervention SmartPhrases were called behavioral prescriptions. Behavioral prescriptions were brief instructions for using praise, rewards, ignoring, and timeout to improve children’s behavior. The behavioral prescriptions were to be used by participants with patients when concerns about common behavior problems (tantrums, aggression, noncompliance, etc.) were raised during office visits. The student investigator explained that behavior prescriptions were meant to be given in addition to the suggestions and referrals that the providers would normally give parents when they express concerns about their child’s behavior. The providers were able to access the SmartPhrases in the electronic medical record (see Instrumentation section). The training also included case examples, discussion, and time for questions. The training was conducted at each office location for the convenience of the providers. There were two individual make-up trainings for two providers who were unable to attend the group trainings.

There were approximately 2 months between the training and administration of the post-training questionnaires (Post-Test Questionnaire and Knowledge Questionnaire). During this time, the frequency of encountering behavior problems and the use of behavioral prescriptions
were tracked. At 2 months post-training, a student investigator attended another provider staff meeting to administer the post-training questionnaires as well as to answer any further questions about the training and/or behavioral management strategies. The frequency of encountering behavior problems and the use of behavioral prescriptions were tracked for approximately 1 month after the post-training assessment.

Measures

Pre-Test Questionnaire

The pre-test questionnaire was a 7-item self-report measure that enquired about type of medical degree earned and how many years spent working in a pediatric primary care office. The questionnaire also contained five items that measured providers’ experience with behavioral health, as well the frequency at which they encountered patient concerns about child behavior problems and their confidence in handling the problems. These items were completed by endorsing a response on a 7-point Likert scale.

Post-Test Questionnaire

The post-test questionnaire was a 5-item self-report measure that measured the frequency with which providers encountered patient concerns about child behavior problems and their confidence in handling the problems. These items were completed by endorsing a response on a 7-point Likert scale. The post-test contained an additional question that asked for the number of times providers used the behavioral health prescriptions.

Knowledge Questionnaire

This questionnaire was a 10-item measure that assessed providers’ knowledge of behavior problems and interventions that are included in the behavior management training.
Questions were formatted as either multiple choice with four possible responses or as true/false items. The Knowledge Questionnaire was given both pre and post training.

**Provider use of Interventions to Address Child Behavior Problems**

The frequency with which providers encountered behavior problems during office visits, as well the frequency with which the providers provided interventions, were tracked throughout the study. Tracking was completed through retrospective chart review and the use of SmartPhrases in the electronic medical record. Between the recruitment session and the training, the frequency with which the providers encountered child behavior problems was tracked, as well as what interventions, if any, were provided to the parents. These same variables were also tracked between the training and the post-test session. Approximately 20% of the participating providers’ notes in the electronic medical record were reviewed during the duration of the study. For each week of the study, one day out of the week was selected and all of the office encounters for all participating providers were reviewed in the EMR. For example, during week 1 of the study, all office encounters that occurred on Monday were reviewed for all providers participating in the study. During week 2, all office encounters that occurred on Tuesday were reviewed. The number of times providers documented a behavior problem, the type of behavior problem, whether an intervention was given, the type of intervention, and whether any SmartPhrases were used were recorded. The data were recorded anonymously, and no information was collected that linked the identity of the provider to the data. Also, the recorded data did contain any information that would identify the patient. Medical records from the providers who did not participate in the study were not reviewed and were not included in this study.
RESULTS

A pre-post design was used to assess changes in provider’s knowledge about brief interventions for behavior problems as well as providers’ confidence in their ability to address behavior problems and implement behavioral interventions. Paired samples t-tests were used to examine these differences. The frequency of provider use of interventions for behavior problems was also tracked from pre- to post-training.

**Frequency of Behavioral Health Problems**

From the pre-training session until approximately 1 month after the post-training session, 2,351 office encounters were reviewed across 14 primary care providers. It is estimated that roughly 20% of office encounters that occurred during the course of the study were reviewed. Of the 2,351 office encounters, behavioral health problems were encountered during 248 visits (10.5% of visits). Approximately 37% of behavioral concerns were related to childhood behavior problems (i.e., aggression, noncompliance, tantrums, sleeping problems, eating problems, defiance, toileting problems) and 65% of concerns were related to other behavioral health concerns or a specific diagnosis (i.e., Attention-deficit/Hyperactivity Disorder, anxiety, depression, etc.). Multiple behavioral health concerns were sometimes expressed during a visit; thus, there is some overlap between categories. There was no significant change from pre- to post-training in the frequency of childhood behavior problems reported by providers in an average week ($p = 0.34$). Providers reported encountering an average of 3.0 concerns about childhood behavior problems prior to training and an average of 2.8 concerns post training (see Table 2).
**Provider Knowledge**

Providers’ knowledge of childhood behavior problems and behavior management strategies were measured pre- and post-training. Providers’ knowledge increased significantly ($p = 0.04$) from pre- to post-training (see Table 2).

**Provider Confidence**

Providers’ confidence in discussing childhood behavior problems and confidence in providing behavior management recommendations was measured both pre- and post-training. Providers’ confidence in their ability to discuss childhood behavior problems with patients increased significantly from pre- to post-training ($p = 0.00$). Providers’ confidence in their ability to provide behavior management recommendations also increased significantly from pre- to post-training ($p = 0.03$) (see Table 2).

**Frequency of Interventions**

Based on review of data from the EHR, when a behavioral health concern was expressed during an office visit, providers offered an intervention during the majority of visits (83%). Multiple interventions were sometimes given in response to a behavior concern; thus, there is some overlap between categories. When comparing provider response to behavioral health concerns, pre- vs. post-training, there was a slight increase in response from pre-training (79%) to post-training (86%). The majority of interventions (83%) were not the behavior management interventions discussed during the training. The majority of interventions that were provided involved some form of medication (69%). Referrals to specialty care (e.g., neurology, psychology, sleep medicine, occupational therapy, etc.) were provided in 33% of the interventions. Referrals to behavioral health consultants in the office were included in 6% of the interventions. Based on questionnaire data, there was no significant change in provider reported
frequency of behavior management recommendations from pre- to post-training ($p = 0.59$). Providers reported that they gave behavior management recommendations to parents an average of 2.9 times per week prior to the training and 2.8 times per week post training.

Of the 20% of office encounters reviewed, the SmartPhrase for documenting behavior problems/interventions was only used once during the entire study. The frequency of use of behavior prescriptions was also tracked through review of the medical record. Of the 81 office encounters where a concern for a childhood behavior problem(s) was expressed, providers utilized behavior prescriptions during 5 visits (6%). The use of behavior prescriptions did not change significantly from pre- to post-training. According to providers’ own report of use of behavior prescriptions, they utilized behavior prescriptions an average of 1.7 times per month.

**Secondary Analyses**

Provider variables (i.e., number of years in practice and training in behavioral health) were analyzed to examine whether these variables were related to providers’ changes in knowledge, confidence, and provider reported frequency of implementing behavior interventions. Thus, pre-post change scores were calculated on main outcome measures for each participant and to examine if those scores are correlated with the provider variables.

Bivariate correlational analyses were performed to examine whether there were significant relationships between provider variables and change scores in knowledge, confidence, and provider reported frequency of implementing behavioral interventions. There were no statistically significant relationships between number of years providers spent working in primary care and their change scores in knowledge; confidence in discussing behavior problems; confidence in implementing behavior interventions; or reported frequency of implementation of behavior interventions. There were also no statistically significant relationships between the
providers’ amount of training in behavioral health and their change scores in knowledge; confidence in discussing behavior problems; and reported frequency of implementation of behavior interventions. There was a significant negative relationship between the provider’s amount of training in behavioral health and their change scores in confidence in implementing behavior interventions. This means that greater training in the behavioral health was associated with smaller changes in confidence in implementing behavior interventions from pre- to post-training (see Table 3).
DISCUSSION

There is growing evidence that integrating mental health services in pediatric primary care offices can result in increased treatment initiation, improved clinical outcomes, and is associated with improved patient satisfaction (Cluxton-Keller et al., 2015; Ginsburg et al., 2016; Kolko et al., 2014). While integrated behavioral health care involves collaboration among many health professionals (e.g., physicians, nurses, psychologists, social workers, etc.), the PCP still serves as the head of the primary care team. Evidence demonstrates that parents are more likely to trust and follow through with the advice of their PCP versus other professionals when seeking behavioral health advice (Mosley et al. 2011; Taylor et al. 2012). While there is evidence that medical providers can successfully be trained in behavioral health interventions, the evidence is still limited, and the studies have required ample time and resources for both the training and implementation of the intervention (McCormick et al, 2014; Turner et al. 2011). Additional research is needed to examine the effects of behavioral health training for pediatric PCPs. Research should focus on brief-trainings and brief interventions that PCPs can implement within their standard workflow.

Thus, the goal of the present study was to evaluate the effect of a brief training in behavior management strategies for common behavior problems for pediatric primary care providers. Specifically, the study examined whether participation in the training program was associated with a significant change in providers’ knowledge of behavioral management interventions and frequency of use with their patients. The study also examined the providers’ confidence level in addressing behavior problems with patients and their families. It was expected that providers’ reported knowledge of behavior management strategies and confidence in addressing behavior problems would increase from pre- to post-training. It was also expected
that the frequency of the use of behavioral management recommendations would increase from pre- to post-training.

Although the overall results were not as expected, there were some promising findings and important directions for future research. One promising finding was that when behavioral health concerns were expressed during office visits, the vast majority of the time (84.5%), providers addressed the concerns and provided some form of an intervention. Although the interventions often were not those discussed in the training, the fact that providers are addressing these concerns regularly is an important point for integrating behavioral health services in primary care. Another promising finding is that providers’ self-reported confidence in both discussing childhood behavior problems and their confidence in their ability to provide behavior management recommendations increased significantly from pre- to post-training. Several studies examining health care provider confidence in their ability to discuss and implement behavior change interventions, have found a positive association between confidence and implementation of interventions (Elwell, Powell, Wordsworth, & Cummins, 2014; Laws et al., 2008; Poirier et al., 2004).

Lastly, provider knowledge of childhood behavior problems and behavior management strategies increased after participating in the training. This is a promising finding since the training was very brief and there was a 2-month delay between the training and administration of the post-knowledge questionnaire. Thus, participation in the training was associated with an increase in knowledge that persisted 2 months post training.

Secondary analyses revealed a significant negative relationship between the amount of training in behavioral health providers had received previously and the change in their confidence in implementing behavior interventions. Thus, providers with higher amounts of
training in behavioral health, reported smaller changes in their confidence level in terms of implementing behavior interventions with their patients. This finding may have been the result of many different factors. One likely explanation may be that providers with more training in behavioral health already had high levels of confidence in their ability to implement interventions. This finding may also be informative for future trainings. Trainings should take into consideration the level of previous training in order to design curriculum that considers varying levels of experience in behavioral health.

An unexpected finding was that the frequency of provider-reported use of behavior management interventions did not increase significantly from pre- to post-training. In addition, providers only used behavior prescriptions five times during the entire duration of the study. This finding could have occurred for many different reasons. First, the training was very brief, approximately 1 hour in duration. Thus, training may have been too short to produce the desired effects. Many other studies on training medical providers in behavior health interventions included much more in-depth, time intensive trainings (McCormick et al., 2014; Turner et al., 2011). In addition, while SmartPhrases were utilized with the goal to decrease the time it takes a PCP to provide behavior management interventions, the time burden may still have been too great. SmartPhrases are common short cuts used by health professionals to document notes in the EMR. However, the use of SmartPhrases still has a time cost. While the time cost is minimal, the average length of a pediatric primary care visit is around 14 to 15 minutes (Merline, Olson, & Cull, 2009). Providers need to cover a wide range of topics during those short visits so the current intervention may not have easily fit into their work flow. In addition, there may have been more follow-up needed after the training to gauge the retention of information from the training and to address any barriers related to implementing the interventions or utilization of
Two of the main goals of the present study were to create a brief training for pediatric providers and give them behavior management tools to use during office visits. While those remain important goals for the integration of behavioral health services into primary care settings, the results of the current study demonstrate that trainings likely need to be more than 1 hour and use of interventions needs to fit into provider workflow.

Martin (2017) reviewed findings from a study that evaluated training for medical residents in behavioral health interventions. Specifically, the study evaluated how a rotation in behavioral health that included both didactic and clinical training was related to changes in attitudes toward behavioral health services and rate of referrals to behavioral health. The study also found that attitudes and referral rates did not change significantly and internal referral rates for behavioral health decreased after participation in the rotation. The author summarized several important learning points that are relevant to the current study. Some of the important findings relate to effective trainings are: learning outcomes of the training should match learning activities, training should include direct observation of behavioral health interventions, and changes in provider behavior and attitudes should be tracked over time. Future trainings should take into consideration these factors.

Another direction for future research would be to directly survey or interview providers prior to training to assess the training needs and preferences of the providers. Quantitative, qualitative, or a combination of both methods could be used to accomplish this goal. If the needs and preferences of providers are known prior to designing the training, then trainings can be more tailored to specific groups of providers. In addition, assessing provider perceptions and attitudes toward behavioral health before the training may have also provided helpful
information for creating the training. More specific trainings may lead to better outcomes in terms of provider use of behavioral health interventions.

Overall, the present study had several strengths. First, it was a needed exploration into the integration of behavioral health services into pediatric primary care settings. There is ample evidence that supports the need for behavioral health services in medical settings, but research is still evolving in determining how the integration of services is best accomplished. Research has generally focused on integrating behavioral health professionals into primary care and not as much on training primary care providers in behavioral health interventions. The current study aimed to explore how providers could be trained to implement behavioral health services in a time effective manner. Second, despite the small sample size ($N = 14$), there were significant increases in provider confidence and knowledge from pre- to post-training. Thus, from the perspective of the provider, they reported that the training was beneficial for their confidence levels and they reported an increase in knowledge of behavior problems and interventions.

Third, the study had high ecological validity. The training was conducted in a real-world (i.e., non-laboratory) pediatric primary care office. The participants were PCPs with no specialized training in behavioral health interventions with a wide range of years of experience in pediatric primary care. Therefore, the participants were likely representative of other pediatric primary care providers in terms of training and experience.

Despite the above strengths of the present study, there are also some important limitations to be discussed. As mentioned previously, the sample size was very small and may have been too small to detect significant changes from pre- to post-training. Future research should include a large sample size from a variety of primary care offices. Long term follow up would also be helpful to assess whether changes maintained over time. In addition, the design of the study was
a pre-post, uncontrolled, non-randomized study. The design places limitations on any causal statements that could be made about the results. Future research would benefit from including a control group. Including a control group would also illuminate whether social desirability effects played a role in the significant increase in provider-reported confidence from pre to post training.

Lastly, due to limits in resources and limits within the EMR computer system, only ~20% of office visits were reviewed during the course of the study. Ideally, systematic methods would have been used to ensure that the sample was representative of all of the office visits. There is a chance that the sample of charts selected is not representative of the 80% of visits that were not reviewed and the frequency of behavior problems and interventions may have been either over or under-estimated in the present study.

In summary, childhood mental health disorders are a significant public health concern. Increased evidence-based services and access to those services is imperative. Pediatric primary care is a viable setting for providing behavioral health services. However, research is still needed to better understand how to successfully integrate behavioral health services into primary care. Providing pediatric PCPs with training in behavioral health interventions, as well as equipping them with tools that they can feasibly use with patients, is one way to increase access to behavioral services. The present study provides some evidence that a very brief training in behavior management strategies is associated with increasing provider confidence in discussion and management of behavior problems with patients and knowledge of common child behavior problems and interventions. More rigorous studies of how to effectively train pediatric PCPs in behavioral health interventions are needed.
Table 1

*Participant Characteristics*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
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<tr>
<td>Degree (N = 14)</td>
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</tr>
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<td>Doctor of medicine (MD)</td>
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<td>64.3</td>
</tr>
<tr>
<td>Doctor of Osteopathy (DO)</td>
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<tr>
<td><em>M</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
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<tr>
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<tr>
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</table>
Table 2

*Mean Differences in Provider Outcomes Before and After Participation in the Training Program*

<table>
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<th>Measures</th>
<th>Pre-test</th>
<th>Post-test</th>
<th></th>
<th></th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
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<td><strong>Pre/Post-Training Questionnaire</strong></td>
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<td></td>
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<tr>
<td>Frequency of Behavior Problems Encountered</td>
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<td>0.4</td>
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<tr>
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<td>4.8*</td>
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<td>Confidence Using Behavior Interventions</td>
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<td>1.5</td>
<td>4.6*</td>
<td>0.9</td>
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<tr>
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<td>1.7</td>
<td>6.9*</td>
<td>1.3</td>
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*p < 0.05. N = 14.*
### Changes in Confidence in Implementing Behavior Interventions From Pre- to Post-Training

<table>
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<th>Number of Years in Primary Care</th>
<th>Amount of Training in Behavioral Health</th>
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<td>$p$-value</td>
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<td>Knowledge of Childhood Behavior Problems and Interventions</td>
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<td>0.51</td>
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</table>

*p < 0.05, N = 14.*
REFERENCES


Appendix A

Pre-Test Questionnaire
Pre-Test Questionnaire

1. Degree: ____________________.

2. Numbers of years working in pediatric primary care: ___________.

3. I would describe my training in behavioral health disorders and treatment as:
   
   
   
   
   
   
   
   
   
   
   
   I have not received any training
   Average amount of training
   I have received extensive training

4. How many times in an average week do my patients express concerns about child behavior problems (e.g., tantrums, aggression, hyperactivity, etc.)? (circle one)

   0  0-5  5-10  10-20  20+

5. How many times in an average week do you provide behavioral management recommendations (e.g., timeout, ignoring, rewards, etc.) for behavior problems (e.g., tantrums, aggression, hyperactivity, etc.)? (circle one)

   0  0-5  5-10  10-20  20+

6. I would describe my level of confidence in discussing behavior problems (e.g., tantrums, aggression, hyperactivity, etc.) with my patients as:

   0  1  2  3  4  5  6  7
   No confidence  Moderate  Very Confident

7. I would describe my level of confidence for providing interventions for behavior problems (e.g., tantrums, aggression, hyperactivity, etc.) as:

   1  1  2  3  4  5  6  7
   No confidence  Moderate  Very Confident
Appendix B

Post-Test Questionnaire
1. How many times in an average week do my patients express concerns about child behavior problems (e.g., tantrums, aggression, hyperactivity, etc.)? (circle one)

0 0-5 5-10 10-20 20+

2. How many times in an average week do you provide behavioral management recommendations (e.g., timeout, ignoring, rewards, etc.) for behavior problems (e.g., tantrums, aggression, hyperactivity, etc.)? (circle one)

0 0-5 5-10 10-20 20+

3. I would describe my level of confidence in discussing behavior problems (e.g., tantrums, aggression, hyperactivity, etc.) with my patients as:

No confidence Moderate Very Confident

2 1 2 3 4 5 6 7

4. I would describe my level of confidence for providing interventions for behavior problems (e.g., tantrums, aggression, hyperactivity, etc.) as:

No confidence Moderate Very Confident

3 1 2 3 4 5 6 7

5. How many times did you use a behavior health prescription in the past two months?

0 0-5 5-10 10-20 20+
Appendix C

Knowledge Questionnaire
Knowledge Questionnaire

1. Among pediatric populations, mental health disorders are the most common chronic health conditions.
   
   a. True
   b. False

2. Which of the following is NOT a strategy for increasing behavior?
   
   a. Praise
   b. Effective instructions
   c. Active ignoring
   d. Reason giving

3. Seth is currently sitting in time out because he threw a ball at his younger brother. While he is in time out he has been yelling and screaming to his mom that she is mean and his little brother is stupid. How should mom respond?
   
   a. Mom should stop the time out; it is clearly not working.
   b. Mom should go over to Seth and calmly tell him that it is not nice to say those things about people.
   c. Mom should start the timer over again every time Seth yells.
   d. Mom should ignore the yelling and she should not start the timer over again.

4. A parent’s response to their child’s behavior is only considered to be reinforcing if the child’s behavior increases as a result.
   
   a. True
   b. False

5. The most common behavioral health concern encountered in pediatric primary care is
   
   a. Depression
   b. Conduct problems
   c. Anxiety
   d. Eating disorders

6. Dad has created a reward chart for his 4-year-old daughter Megan to help her get ready for bed at night. Megan has to wash her hands, brush her teeth, and get her pajamas on each night. If Megan completes her reward chart every night for a week she earns a dollar at the end of the week. Dad has been using the chart for over a month and bedtime is still a struggle every night. What is one possible reason why the reward chart does not seem to be affecting Megan’s behavior?
   
   a. A week is too long of a time between the behavior and a reward.
b. Money should not be used as a reward.
c. Megan is too young to be able to complete a reward chart.
d. The bedtime routine list is too long.

7. Time out should not be used for which of the following behaviors?
   a. Hitting
   b. Biting
   c. **Back talk**
   d. All of the above

8. Which of the following is an effective strategy for decreasing behavior?
   a. **Time out**
   b. Reason giving
   c. Delayed consequences
   d. All of the above

9. Studies have found that parents are most likely to seek advice about discipline from
   a. Psychologists
   b. The internet
   c. Teachers
   d. **Pediatricians**

10. A consequence is only considered a punishment if the behavior decreases as a result
    a. **True**
    b. False
Appendix D

Behavioral Prescription: Praise
Behavioral Prescription: Praise

Praise

• Offer praise immediately after the behavior
• Consistently give good praise for behavior
• Describes the behavior that you like (e.g., “good job sitting quietly” at the table instead of just “good job”)
• Be a good behavior detective – find even small positive behaviors to praise
• Be enthusiastic and sincere!

Activities to increase praise

• Have a friendly competition with your partner or yourself and see how many times you can praise your child in 1 hour.
• Keep a list of all positive behaviors your child does in a day. Be on alert for those behaviors the next day and see how many you are able to praise.

*If you have additional questions, please feel free to contact our behavioral health consultants at 269-372-1000 (Oshtemo) and 269-324-2400 (Portage).
Appendix E

Behavioral Prescription: Rewards
Behavioral Prescription: Rewards

1. Brainstorm with your child a list of rewards they would like to receive

2. Create a list of behaviors that you could reward

3. Decide which behaviors receive each reward

4. Give the reward to your child as soon as the behavior happens

Remember…
- Rewards can be varying sizes
- Rewards do not have to cost any money
- Be creative!

*If you have additional questions, please feel free to contact our behavioral health consultants at 269-372-1000 (Oshtemo) and 269-324-2400 (Portage).
Appendix F

Behavioral Prescription: Active Ignoring
Behavioral Prescription: Active Ignoring

- Behaviors to ignore…
  - Whining, complaining, pouting, talking back, making noises, mild arguing, asking the same question repeatedly

- Use both verbal and nonverbal ignoring

- Return attention and give praise when child engages in appropriate behavior

- It is normal and expected that behavior will become worse before it becomes better

*If you have additional questions, please feel free to contact our behavioral health consultants at 269-372-1000 (Oshtemo) and 269-324-2400 (Portage).
Appendix G

Behavioral Prescription: Time-out
Behavioral Prescription: Time-out

- Time-out should be used for:
  - Hitting, slapping, or pinching, property destruction, being mean to animals or people, breaking a house rule, disobeying an instruction
- Location for timeout
  - Safe
  - Boring
  - Parent still able to supervise
- Prior to giving the first time out explain the rules of time out to child in language they understand (do this when both child and parent are calm)

Steps to an Effective Time Out
1. Give an instruction
   - “Keep your hands to yourself.”
2. Count to 5 in your head
3. If child follows through with instruction provide praise
   - “Thank you for keeping your hands to yourself.”
4. If the child does not complete the instructions – Give ONE warning
   - “If you do not keep your hands to yourself, you will go to time out.”
5. Count to 5 again, if child does not follow through, then instruct them to go to time out
6. Set a timer for one minute per year of age up to 5 minutes
   - 3 minutes for a 3-year-old
7. When time is done, check to see if he or she knows why you gave a time out.
8. If your child says, “I don’t know” calmly give age appropriate reason, but don’t lecture

Troubleshooting Time Out
Child yells or “back talks” while in time out
- Completely ignore any verbal arguments or name calling. Do not provide any rationale or reason giving for time out until after child has completed time out

Child leaves time out chair/room
- Firmly instruct child to return to time out. If they do not return to time out gently guide them back to time out. Restart timer. Continue process until child has completed entire time out.

When in public
- When you go outside of the home, it can be helpful to pick a time out place as soon as you arrive and to let your child know about it.
- Conduct the timeout following the same sequence.
- If there is absolutely no safe way to implement time out – remove a privilege instead. Never give a warning for a time out you cannot follow through with it.

*If you have additional questions, please feel free to contact our behavioral health consultants at 269-372-1000 (Oshtemo) and 269-324-2400 (Portage).
Appendix H

HSIRB Approval
Date: January 26, 2017

To: Amy Damashek, Principal Investigator
    Kate Burger, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 17-01-04

This letter will serve as confirmation that your research project titled “Training Pediatric Primary Care Providers in Behavior Management Strategies” has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes in this project (e.g., you must request a post approval change to enroll subjects beyond the number stated in your application under “Number of subjects you want to complete the study.”) Failure to obtain approval for changes will result in a protocol deviation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

Reapproval of the project is required if it extends beyond the termination date stated below.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: January 25, 2018
Appendix I

WMed Approval
Thank you for your submission responding to the Western Michigan University Homer Stryker M.D. School of Medicine (WMed) Institutional Review Board’s (IRB) request for changes to secure approval of your study “Training Pediatric Primary Care Providers in Behavior Management Strategies”, IRB number WMed-2017-0142. The IRB has approved your submission using an Expedited review procedure, Category 7 as a minimal risk study.

Your responses have been reviewed and determined to satisfy the conditions placed by the IRB. Your study is now fully approved.

Please note this study has been approved with the following:

- Consent Form, WMU IRB approval date 1.26.17, WMed IRB approval date 2.14.17

The IRB-stamped consent form is attached for you to copy and use.

All research must be conducted in accordance with this approved submission. Any changes to the approved study, including the consent form, must be reviewed and approved by the WMed IRB prior to implementation, except when necessary to eliminate an apparent immediate hazard to the subject. If you must implement a change prior to WMed IRB approval to eliminate an apparent immediate hazard, the change must be promptly reported to the IRB.

You are reminded that you must apply for, and undergo review, and be granted continued IRB approval for this study before February 13, 2018 to be able to conduct your study in an uninterrupted manner. Please apply for renewal using the “Continuing Review Form” available on the WMed IRB website. If you do not receive approval before this date, you must stop all research activities associated with this study until approval is granted. The IRB office will send you reminder notices to help ensure that you submit in sufficient time to avoid a lapse in approval. Alternatively, if your study has concluded please complete the “Study Closure Form” and forward to the WMed IRB office. For additional information on WMed IRB requirements, including continuing review and interim reporting responsibilities, please refer to the WMed HRPP Handbook.

If you have any questions or comments about this correspondence, please contact the IRB Office at 269-337-4345.

Sincerely,

[Signature]

Tyler Gibb, JD, PhD
Vice Chair
Western Michigan University Homer Stryker M.D. School of Medicine