Youth Suicide Prevention in Primary Care: A Model Program and Its Impact on Psychiatric Emergency Referrals

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Primary care is an emerging setting for suicide prevention efforts. Psychologists can play a valuable role in not only consulting to primary care but also assisting with the management of suicidal youth. This article describes the Pennsylvania Youth Suicide Prevention in Primary Care model. After detailing the model, a brief study is reported whereby the intervention of primary care staff training, screening, and available services on referrals to the emergency department (ED) for evaluation and the rate of psychiatric hospitalization following psychiatric evaluation in the ED for these youth are examined. Results demonstrated a reduction in referrals to the ED in the year after the intervention compared to 3 years preintervention. Implications for mental health professionals working in primary care are discussed.

Keywords: suicide, suicide risk, primary care, provider training, suicide screening

Youth suicide presents a serious health problem for the nation and a clinical challenge for medical and behavioral health providers. In 2011, 19.3% of adolescent girls and 12.5% of adolescent boys seriously considered suicide, and 9.8% of adolescent girls and 5.8% of adolescent boys attempted suicide (Eaton et al., 2012). Further, 1,009 youth under the age of 18 died by suicide in 2010 (Centers for Disease Control and Prevention [CDC], 2013). A major challenge in suicide prevention is locating adolescents before they attempt suicide. Fortunately, over 70% of adolescents see a physician at least once a year, making primary care a potentially important gatekeeper for adolescent health (American Academy of Pediatrics, 2009; U.S. Department of Health and Human Services [USDHHS], 2001). Primary care has become the de facto source for mental health care in the United States. Thus, many have proposed it as an ideal setting for identifying individuals at risk for suicide (Bryan, Corso, Rudd, & Cordero, 2008; Institute of Medicine, 2002; Luoma, Martin, & Pearson, 2002; President’s New Freedom Commission on Mental Health, 2003; USDHHS, 1999, 2012).

Despite the well-identified and long-standing need for intentional integration of behavioral health specialty services in the medical setting, penetration into practice has been low (American Academy of Pediatrics, 2000). Elements of behavioral health integration are starting to emerge in primary care. This trend is expected to continue as the Affordable Care Act moves closer to full implementation. Provider education and routine screening for suicide risk can serve as a valuable resource for primary care (Institute of Medicine, 2002; USDHHS, 2012;
Wintersteen, 2010) and have been shown to be effective in reducing suicide rates (Mann et al., 2005). Screening for suicide risk in primary care has also resulted in increased detection of suicide risk in youth (Wintersteen, 2010) and adults (Bryan et al., 2008). The U.S. Preventive Services Task Force (2009) now recommends depression screening for all children and adolescents, when follow-up services are available, with suicide risk detection as a component in this process. Further, the American Academy of Pediatrics (2009) has proposed core competencies for mental health risk factors and emergencies in the primary care setting.

The purpose of this article is to describe a model for suicide prevention efforts for youth, as currently being implemented in over 25 primary care practices in Pennsylvania. There is discussion on how psychologists can assist in the implementation of these strategies associated with this model in primary care practice. As formal data on the feasibility and effectiveness of this model have yet to be evaluated, we present, as means of comparison, findings from a previous data analysis that examine how the combined elements in the Pennsylvania model affect referrals from primary care to the emergency department (ED).

Pennsylvania’s Model for Youth Suicide Prevention in Primary Care

Given the growing need for suicide prevention models in primary care, we developed a multicomponent, suicide training, identification, and referral system, known as the Youth Suicide Prevention in Primary Care (YSP–PC) model. Although screening for suicide risk in primary care was the central aim, this could not be accomplished without providing sufficient training for staff and enhancing the referral process once high-risk youth were identified. Further, primary care providers (PCPs) needed assurances that referral sources in the community were able to treat suicidal youth, thus we also provided trainings for mental health providers. Of course, prior to any work in primary care, it was necessary to build numerous relationships with stakeholders groups, including state officials responsible for physical and mental health care, state medical and nursing associations, insurance providers, and state and community mental health provider organizations. The details of stakeholder development will not be discussed here, as psychologists already embedded in pediatric primary care have likely advanced past this initial hurdle. The remaining four objectives are described below.

Increase the Collaboration of Physical and Mental Health Services

It became abundantly clear in the early development of the YSP–PC model that improving relationships between physical and mental health providers would be a central focus. PCPs felt there were too few options for mental health treatment for their patients, and communication between providers was limited at best (Diamond et al., 2012). Several national models for improving collaboration among physical and mental health providers exist, including coordinated care, colocated care, and integrated care (see Blount, 2003; Collins, Hewson, Munger, & Wade, 2010, for reviews). The YSP–PC model primarily uses coordinated care, as we are involved in numerous systems of care, and colocated and integrated models often require a considerable effort to establish and require buy-in on numerous fronts, including PCPs, administrators, and often insurers.

Provide Primary Care Practices With Educational Materials and Trainings to Improve Their Care of Suicidal Youth

With the need for screening in primary care comes the need to train PCPs in this skill. The Annenberg Adolescent Mental Health Project (2003) revealed that only 51% of physicians report know how to handle mental health information from adolescents, and fewer than half (46%) of physicians feel capable of identifying depression in adolescents. This gap in clinical training often results in triaging adolescents who express any level of suicidal ideation directly to the ED for further psychiatric evaluation, which in turn creates an unnecessary burden on ED staff, particularly in cases where adolescents do not require psychiatric hospitalization. In fact, an increase in demand for EDs to manage patients with mental health concerns is a global issue (see Kalucy, Thomas, & King, 2005; Levinson, Haklai, Stein, & Gordon, 2006; Williams et al., 2001).
The YSP–PC project included two specific training programs for primary care practices. First, all staff members attended a 90-min training focused on youth suicide epidemiology, assessment, clinical intervention, crisis planning, and documentation, known as Recognizing and Responding to Suicide Prevention in Primary Care (RRSR–PC; American Association of Suicidology [AAS], 2009). Our project team adapted this training for providers of youth and young adults (RRSR–PC–Y) by adding a section focused on working with parents as well as creating new video vignettes with an adolescent patient and his mother. Providers involved in the project attended the RRSR–PC–Y model. The training is provided by a facilitator either in person or through online archived training. It features a combination of didactic training with video vignettes demonstrating suicide risk assessment. Participants receive a Suicide Risk Assessment and Triage Pocket Card as well as seven reproducible resource sheet handouts. The program has been pilot tested and improved accordingly and is now listed as a Best Practice under Section III of the SPRC–AFSP Best Practice Registry. For more information about this training, or to become a trainer, visit the AAS website.

Despite possible concerns that providers may not have time to attend an in-person training, it was our experience that all practices involved in the project set aside specific time where all providers were available to attend the training. In fact, practices routinely set up the training for an extended lunch and closed the office to patients during that time. Anecdotally, providers indicated that attending the training was worth the initial loss in productivity.

As the second training element, each practice was given a copy of the Suicide Prevention Toolkit for Rural Primary Care. Developed by the Western Interstate Commission for Higher Education (WICHE) in collaboration with the Suicide Prevention Resource Center (SPRC), the Suicide Prevention Toolkit for Rural Primary Care is a web-accessible program designed to help overcome obstacles of visit time, stigma, and poor access to behavioral health services and to improve a practice’s ability to reduce suicide risk. Included in the toolkit are resources to help clinicians connect with behavioral health services, guides to aid in developing telepsychiatry programs, information on educating office staff, and posters and pocket cards to increase awareness and education about suicide in patients and their communities. Though designed for rural primary care, the toolkit is applicable in other primary care settings as well. The toolkit is constantly undergoing important updates as new data emerges in this growing field. As a self-guided tool, providers were given a copy to peruse at their convenience. Visit the SPRC website for more details.

The RRSR–PC–Y and SPRC toolkit serve as excellent adjuncts for one another. Psychologists can play an important role in primary care practices through advanced training offered to PCPs. Using these tools together have allowed PCPs to feel more confident and competent in their work with potentially suicidal youth. Further, 93% of PCPs who have attended the RRSR–PC–Y training and completed a brief follow-up assessment indicated they agreed or strongly agreed that the training increased their comfort assessing for suicide risk, the first step in identifying youth who may be at heightened risk for suicidal behaviors. Finally, we have supplemented these training programs with webinars, archived trainings, and lunch-and-learn models on topics relevant to PCPs in their efforts to assess and manage suicidal youth. Many of these trainings may be viewed for free on the Pennsylvania Youth Suicide Prevention Initiative Website at www.payspi.org.

Provide PCPs With Access to a Web-Based, Patient-Report Screening Tool to Assess for Suicide and Related Risk Factors

The Behavioral Health Screen—Primary Care (BHS–PC) was developed to address the need for comprehensive behavioral health screening in primary care. The BHS–PC is designed for an adolescent and young adult patient population and consists of psychiatric symptom scales and risk behaviors that cover all the psychosocial areas suggested by best practice guidelines. The BHS–PC contains 55 core items with an additional 38 embedded items that are presented when certain items are positively endorsed. It is composed of the 13 modules: demographics, medical, school, family, safety, substance use, sexuality, nutrition and eating, anxiety, depression, suicide, psychosis, trauma, and abuse. Depending on the number of problems endorsed, it takes about six to 10 min to
complete the BHS–PC. The program scores and generates a report, and the provider reviews the report before the meeting with the patient. The report is then integrated into the medical record. The BHS–PC was recently translated into Spanish, Korean, and Mandarin. Although the BHS–PC was designed to address American Academy of Pediatric practice guidelines for psychosocial screening (Hagan, Shaw, & Duncan, 2008), several of the modules (i.e., substance use, anxiety, depression, trauma, abuse) have been associated with increased risk for suicide among youth (Aseltine, Schilling, James, Glanovsky, & Jacobs, 2009; Brodsky et al., 2008; Goldston et al., 2009; Haas et al., 2010; Prinstein et al., 2008; Zhao, Montoro, Igartua, & Thombs, 2010).

In a feasibility study, adolescents reported that they (a) liked the computer program; (b) completed the tool in around 10 min; (c) understood the questions; (d) said they reported honestly; and (e) most important, found it helpful during the appointment. Fein et al. (2010) used the BHS in an ED. The study began with qualitative interviews with 60 adolescents, their parents, and 45 medical providers (Pailler et al., 2009). All three groups supported the idea of computerized screening in the ED, with some concerns about privacy, health care provider sensitivity, time constraints, and lack of referral options. Over a one-year period, 857/3979 (22%) of eligible subjects completed the BHS–ED. There was a significant increase in the identification of mental illness or behavioral problems after initiation of the BHS–ED (10.5% vs. 2.5%, odds ratio [OR] = 4.58, 95% confidence interval [CI] 3.53, 5.94) and more frequent ED-based behavioral health assessments by social workers or psychiatrists (8.3% vs. 1.7%, OR 5.12, 95% CI 3.80, 6.88).

Finally, 415 adolescents in primary care completed the BHS–PC and a validation battery (Diamond et al., 2010). Analyses demonstrated that the BHS–PC scales are unidimensional, internally consistent (Cronbach’s $\alpha = .75–.87$), and capable of accurately and efficiently discriminating among adolescents with a range of diagnostic symptoms (e.g., depression, anxiety, suicide, trauma). Feasibility and acceptability were strong. Sensitivity and specificity were strong with an overall accuracy ranging between 78% and 85%. Patients above scale cutoffs on depression, suicide, anxiety, and post-traumatic stress disorder symptoms are at least four times more likely to endorse other risk behaviors or stressors. The scales, although brief, are psychometrically comparable to longer validated scales.

The BHS–PC can be administered by both clinical and nonclinical staff. In fact, in some practices receptionists facilitate the screening. In other practices, it is the PCPs themselves, research assistants, or mental health professionals working within the practices.

Provide Clinical Training for Mental Health Providers Who Receive Referrals to Treat Those at Risk for Suicide

Because of the request by PCPs to have highly trained professionals and the harsh reality that most psychologists never received formal training in managing suicidal individuals while in graduate and professional schools (Schmitz et al., 2012), we sought to enhance postgraduate education for providers. Initially, we designed 3-day training courses in empirically supported psychotherapies for suicidal youth (e.g., attachment-based family therapy [ABFT], Diamond et al., 2010; cognitive behavioral therapy, Brent, Poling, & Goldstein, 2011). We even provided ongoing phone supervision to trainees. However, it became clear that our approach was too ambitious and many mental health professionals simply could not commit the time to the training. After we reassessed the situation, it was determined to begin offering trainings that could benefit both physical and mental health professionals (e.g., working with sexual minority youth). An emphasis was placed on interventions that provided immediate impact (e.g., safety planning) because of findings from a recent multisite study demonstrating that most follow-up suicide attempts for adolescents occur within the first 4 weeks after an initial attempt (Brent et al., 2009).

We continue to develop new trainings, and it is encouraging to note that organizations such as the American Association of Suicidology are developing training programs to assist both graduate students and mental health professionals enhance their clinical skills when working with this challenging population.
Examining Outcomes of the YSP–PC Model

One of the primary outcomes to the YSP–PC model is increased access to engagement in mental health services. It is not surprising that a coordinated care model improves some communication between service providers, but often insurance barriers make it difficult for PCPs to refer to their peers in the mental health profession. Thus, tracking these outcomes has been challenging and will be reported in a future article.

A related outcome with great relevance to the medical community is the degree to which a program like the YSP–PC can divert low-risk suicidal youth away from overly used and costly service sectors, such as the ED. Oftentimes, these youth are identified in primary care through screening or clinical interview, but PCPs may hesitate to intervene and referral all of these youth to the ED or another crisis center for psychiatric evaluation. The following describes a secondary data analysis that demonstrates the power of a multicomponent intervention to help manage suicidal youth appropriately in the primary care setting.

Research Context

Earlier efforts in primary care suicide prevention examined training and screening for suicide risk (Wintersteen, 2010) and the impact of available treatment for suicidal youth recruited from primary care in a randomized clinical trial (RCT; Diamond et al., 2010) as independent studies. Through combining efforts from these previous studies, it became apparent that the more comprehensive model (i.e., YSP–PC) previously described and currently being implemented in Pennsylvania had great potential to affect service-related outcomes for suicidal youth. Thus, the purpose of our study was to examine existing data from both prior studies on the number of referrals to an affiliated ED for suicide risk evaluation and on the proportion of ED evaluations that resulted in psychiatric hospitalization. It was hypothesized that, compared with a preintervention period, the intervention composed of provider training, screening, and the availability of outpatient treatment (i.e., the elements contained in the comprehensive YSP–PC model) would result in fewer referrals to the ED, as providers developed a greater understanding of suicide risk in youth and felt more comfortable making outpatient referrals. Additionally, it was hypothesized that there would be an increase in hospital admission rates for patients referred to the ED by the PCPs, as their threshold for believing youth could be managed on an outpatient basis grows higher, thus only those in eminent danger would be referred to the ED.

As a brief means of context, the Diamond et al. (2010) RCT examined the effectiveness of ABFT (Diamond, Siqueland, & Diamond, 2003) compared with enhanced usual care (EUC) for youth with severe and persistent suicidal ideation between the ages of 12 and 17 years presenting in primary care. This study provided the availability of clinical services to the comprehensive intervention. The second study (Wintersteen, 2010) assessed the impact of standardized screening for suicide risk among youth in pediatric primary care on the detection of suicidal ideation and behavior. This study was initially designed to serve as a recruitment tool for the RCT described above in the primary care practices. We developed and provided the practice a live 90-min training that served as the processor to the RRSR–PC–Y.

Two suicide-related items (i.e., “have you ever felt like life is not worth living?” and “have you ever wanted to kill yourself?”) were introduced into the electronic medical record in the psychosocial screening section. An additional six items were presented if there was positive endorsement of either of the two screening items. Results of the screening intervention revealed an increase in 219% of inquiry about suicide risk by the PCPs and 392% in detection of youth reporting a previous history of suicidal ideation. This study offered the other two components (provider training and standardized screening) to the comprehensive intervention evaluated here and described below.

This analysis examines the impact of the intervention as it was implemented at a single outpatient clinic of a large pediatric teaching hospital staffed by adolescent medicine providers. Referrals from the participating adolescent medicine clinic were made directly to its affiliated ED for patients who required further psychiatric evaluation. The ED has full time on-call attending psychiatrists and resident trainees to provide consultations. Though the hospital does
not have a psychiatric unit, patients in need of psychiatric hospitalization are transferred to other area facilities.

**Intervention Details**

Similar to the YSP–PC model, several components characterize the intervention, including provider training, standardized screening, and available outpatient treatment services. Because all staff observe and interact with patients, all members of the practice were invited to attend the training, including medical, nursing, social work, and reception staff. Time was also allotted to discuss specific issues and needs related to the clinic. The second component of the intervention provided the clinic with a standardized set of two suicide-specific questions (see Wintersteen, 2010) and a brief second-tier assessment to be completed by either the provider or clinic social worker consisting of the Beck Depression Inventory—II (BDI–II; Beck, Steer, & Brown, 1996) and the Suicidal Ideation Questionnaire—JR (SIQ–JR; Reynolds, 1987). The inclusion of the BDI–II and SIQ–JR were needed as a second-tier to assess for inclusion in the RCT (Diamond et al., 2010), and they provided further data to support initial findings of the standardized screening. Finally, patients screened in the clinic with at least a moderate level of depressed mood, as evidenced by BDI–II ≥20, and a clinically significant level of suicidal ideation, as evidenced by SIQ–JR >30, were eligible for further evaluation and possible enrollment in the RCT. Thus, services were both available nearby and without wait. In addition, study staff offered continued clinical support to assist with referrals, consult on cases, or both, although it was used for less than 15% of all patients assessed by providers and the social worker. Generally when consultation was requested it was to assist the social worker in determining whether a particular patient would be eligible for the RCT.

The Children’s Hospital of Philadelphia’s institutional review board approved the two original studies as well as the deidentified data extraction necessary to conduct the reported analyses.

**Data Extraction and Reduction**

To determine whether the intervention resulted in (a) a reduction in referrals to the ED for evaluation and (b) an increase in the rate of ED evaluations resulting in hospitalization (i.e., the most appropriate referrals), data were extracted from an electronic medical record database of all adolescent ED visits (ages 12.0–17.9 years) in the 3 years prior to the intervention (preintervention phase; March 2002–February 2005) and the first year following the initiation of the intervention (intervention phase; March 2005–February 2006). A 3-year preintervention phase was selected to assess stability of previous referrals and psychiatric hospitalizations. The initial sample of 56,352 adolescents over all 4 years was reduced to 1,086 adolescents (1.9% of all adolescents) when only psychiatric emergencies (suicidal ideation, psychosis, other psychiatric problems) were extracted. When considering only those patients with a primary complaint of suicidal ideation or a related complaint in which a suicide risk assessment was called, 502 cases remained (46.2% of all psychiatric emergencies). To determine whether these patients were seen by the targeted primary care intervention clinic prior to the ED visit, medical record numbers (MRN) were cross-referenced with the hospital’s outpatient electronic medical record system. Data in both datasets were encrypted using 56-bit DES encryption, such that any deidentified MRN from the ED would match a deidentified MRN from primary care if both MRNs were identical prior to encryption. Only those patients seen in the intervention clinic within 24 hr prior to the ED visit were included in the sample, resulting in 70 cases.

**Analytic Plan**

To test whether the intervention resulted in a significant reduction in referrals to the ED, correlations were calculated comparing the rates of referrals during each of the 3 preintervention years to the rates of referrals during the intervention year. To test whether the intervention resulted in a significant increase in the rate of ED evaluations resulting in hospitalization, ORs were calculated comparing the proportion of hospitalizations during each of the 3 preintervention years to the proportion of hospitalizations during the intervention year. We also examined the rate of hospitalizations with respect to all patients screened.
Results

Sample

An initial sample of 56,352 adolescents ages 12.0–17.9 years were included in the study. Fifty-one percent (51.5%) of participants were female. Most participants were African American (71.6%), while 22.8% were Caucasian, and 5.6% identified as “other.” The mean age was 15.0 years (SD = 1.9). The pediatric ED patients presenting for psychiatric evaluation and then assessed for suicide risk appeared similar to the overall population of youth. However, there were fewer African American patients assessed for suicide risk when compared with the total sample of youth presenting to the ED for all complaints, $\chi^2(1) = 124.64$, $p < .001$.

Outcomes

Table 1 shows the frequency of ED visits, psychiatric emergencies, and ED suicide assessments referred for psychiatric assessment from both the intervention clinic and all other sources, and the percentage of patients admitted to a psychiatric hospital for each of the 3 preintervention years and the intervention year. There were 87% fewer referrals to the ED during the intervention year in the intervention clinic only (OR = 0.13, 95% CI [0.03, 0.36], $p < .001$).

Discussion

Although inpatient hospitalization occurred for 51% of the 66 preintervention patients and 100% of the 4 patients referred for psychiatric evaluation from the intervention clinic in the intervention phase, these small numbers did not allow accurate analysis for statistical significance. However, the rates of hospitalizations were not significantly different between the three preintervention years (OR = 1.03, 95% CI [0.87, 1.12], $ns$); therefore, we combined these rates and compared the rate of hospitalizations. Because there were no cases of youth not being admitted for inpatient hospitalization after psychiatric evaluation, the OR extended to infinity and was nonsignificant (OR = $\infty$, 95% CI [0.65, $\infty$], $ns$). As a means of comparison, we also examined changes in hospitalization rates from all sources, not just the intervention clinic. There were no significant differences in overall hospitalization rates between preintervention and intervention years (OR = 1.03, 95% CI [0.70, 1.52], $ns$).

Table 1

| Frequency of All Emergency Department (ED) Visits, All Psychiatric Emergencies, ED Referrals From All Sources, and Intervention Clinic for Suicide Risk Assessment and Percent Receiving Psychiatric Hospitalization by Year |
|---|---|---|---|---|
| | Preintervention | Postintervention | Correlation or OR | 95% CI |
| | Year 1 | Year 2 | Year 3 | r | OR |
| All sources | 9,889 | 14,765 | 15,132 | 16,566 | .91 | .442, 0.998 |
| | 177 | 260 | 300 | 349 | .99 | .491, 1.000 |
| | 105 | 125 | 131 | 141 | .97 | .127, 0.999 |
| | 54.3 | 53.6 | 48.1 | 48.9 | 1.03 | .697, 1.520 |
| Intervention clinic | 19 | 24 | 23 | 4 | 0.13 | .034, 0.362 |
| | 52.6 | 50.0 | 43.5 | 100.0 | OR = $\infty$ |

Note. Year 1 = March 2002–February 2003; Year 2 = March 2003–February 2004; Year 3 = March 2004–February 2005; Postintervention = March 2005–February 2006. Correlation equals Pearson correlation of total ED visits, psychiatric emergencies, and suicide risk assessments with year. For computing odds ratios (ORs), the 3 preintervention years were combined the analysis of hospitalization rates. An OR extending to infinity ($\infty$) is the result of not having any incidents of youth not hospitalized after being referred to the ED (i.e., there is an empty cell in the analysis).

* $p < .05$. ** $p < .001$. 
study offers two important findings. First, an intervention composed of a brief provider training, standardized screening, and available treatment significantly reduced the number of ED referrals for suicide risk assessment made from a primary care clinic. This reduction does not appear to be representative of a trend toward less suicide assessments from all referral sources, as there remained a slow but steady increase in these cases over the course of the 4 years evaluated. There were many fewer referrals to the ED during the intervention year, but they all resulted in psychiatric hospitalization, unlike the hospitalization rate for referrals from all sources. Although preliminary, this trend suggests that the intervention has the potential to more accurately refer patients to the ED, potentially reducing an undue burden placed on patients, families (The Committee on Pediatric Emergency Medicine, 2011), and ED staff. Clearly more research is needed to replicate this finding in a larger sample.

Before discussing the impact of this work on mental health providers working in primary care settings, it is important to recognize some limitations to the presented study. Although using a quasiexperimental design limits our ability to assign causality to this intervention, there were no obvious external threats to validity, such as change in staff, change in hospital policy regarding psychiatric evaluation, change in relationship with outside hospitals, or other historical changes appeared to occur during the evaluation period. Thus, it is likely that this isolated intervention influenced the outcomes resulting in fewer ED referrals and possibly more accurate referral to the ED for purposes of inpatient psychiatric hospitalization. Of importance is the impact that the treatment study may have had on referral rates (i.e., were the components of this intervention feasible as a result of the larger treatment study?). Further, would PCPs only have participated in training and screening because they knew treatment was readily available to their patients should concerns arise? Diamond et al. (2012) conducted a survey of 667 PCPs and found them to report that available services significantly influences their willingness and comfort in screening for suicide risk and other psychosocial problems. It should also be noted that the 20 adolescents who were referred directly into the RCT after initial screening by the clinic social worker may have been referred to the ED had the intervention not been in place. The data show that this was not a product of fewer adolescents assessed for suicide risk in the ED that year, nor does this result appear to emerge from an obvious decline in suicidal youth within the intervention clinic. Given the finding that all youth referred to the ED that year were determined to need psychiatric hospitalization, there is the possibility that some high-risk adolescents were referred to outpatient services when they may have otherwise been referred for inpatient care. Overall, none of the youth enrolled in the RCT died by suicide, and only 16.7% made low lethality suicide attempts in the 6 months after beginning treatment (Diamond et al., 2010). It is not likely, although impossible to report definitively, that this intervention resulted in injury to youth presenting to the primary care practice with suicidal ideation. Furthermore, the overall intervention demonstrates an ability to improve decision making by PCPs to consider outpatient behavioral health treatment as a viable alternative to psychiatric hospitalization for some of their suicidal youth.

Implications for Mental Health Professionals Working in Primary Care

Improving relationships between primary care and behavioral health providers can result in more accurate and informed referrals and continues to be emphasized (see Bryan & Rudd, 2011). Universal screening, as opposed to indicated screening only of those youth with previous concerns about risk, is suggested as one method of detecting the greatest number of youth at risk for suicide (Wintersteen, 2011). As a valued member of the primary care treatment team, mental health professionals can facilitate screening, triage, and referral. Inclusion of the PCP in this process further provides a training experience that fosters shared knowledge between professionals as well as continuity of care. Even without mental health professionals holding responsibility for screening, results from this study support previous research (Bryan et al., 2008; Wintersteen, 2010), demonstrating that PCPs are able to apply prevention screening procedures in clinical settings to identify and triage youth who may be at risk for suicide. This may be particularly true when outpatient services are readily available for their
patients. In hindsight, it could be stated that the Diamond et al. (2010) RCT and the Wintersteen (2010) screening project were dependent on each other for success. Whereas providers were generally interested in developing new skills and applying a screening tool to identify youth who may be at risk for suicide, the availability of treatment made them more willing to expand their practice in this manner. Similarly, available services can only be as effective in treating suicidal youth as providers are knowledgeable about risk factors and warning signs and are able to use tools to screen for increased risk.

The generalizability and dissemination of the presented intervention must be considered. Fortunately, many aspects of this intervention may be easily reproducible outside of the study contexts. First, while the training component was uniquely crafted for this intervention, several suicide prevention training curricula for PCPs have been developed in recent years, including a face-to-face didactic training (American Association of Suicidology, 2009), self-study toolkit (Suicide Prevention Resource Center, 2009), and web-based interactive training (Biddle, 2011). Mental health professionals can further enhance their training in suicide assessment and intervention to facilitate better care in the primary care setting. Second, screening for suicide risk is considered a critical step in youth suicide prevention (Horowitz, Ballard, & Pao, 2009; King, O’Mara, Hayward, & Cunningham, 2009; USDHHS, 2012; Wintersteen, 2010, 2011; Wintersteen, Diamond, & Fein, 2007). Despite challenges associated with screening, particularly in primary care (Zuckerbrot & Jensen, 2006), a number of models have been discussed and are available (see Diamond et al., 2010; Horowitz et al., 2009; Wintersteen et al., 2007, for reviews). Finally, the potential benefit of having services available to patients can greatly influence a physician’s decision to refer a patient for outpatient evaluation and care instead of the ED (Bryan & Rudd, 2011). Availability of services is a necessary component to the U.S. Preventive Services Task Force’s (2009) recommendation to screen in pediatric primary care. Without such services many providers are hesitant to engage their patients in assessments of psychosocial functioning (Diamond et al., 2012). In this study, these services were provided within the same hospital network, thus providers were somewhat familiar with one another. Further, the behavioral health treatment providers were located directly across the street from the primary care clinic which could have increased referral rates and attendance. Similar to the consultation assistance, PCPs may have felt some comfort simply knowing that a reliable “handoff” to a trusted behavioral health provider was available.

**Conclusion**

The YSP–PC project, as demonstrated in the findings from our study, highlight the importance of PCPs in acting as gatekeepers, providing screening that allows for early identification, brief intervention, and appropriate referrals. The necessity of available services for suicidal youth is also evident. Each of these components can be directed by mental health professionals working in primary to improve the care of pediatric patients.

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