Computerized Behavioral Health Screening in the Emergency Department

Megan E. Pailler, PhD; and Joel A. Fein, MD, MPH

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CME EDUCATIONAL OBJECTIVES

1. Discuss the impact of unrecognized psychiatric illness on child and adolescent health.
2. Identify the best methods of implementing an "extra" but important screening process in the emergency department setting.
3. Understand the challenges of translating research results for clinical settings.

ABOUT THE AUTHOR

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Dr. Pailler and Dr. Fein have disclosed no relevant financial relationships.

PARTICIPANT ATTESTATION

___ I certify that I have read the article(s) on which this activity is based, and claim credit commensurate with the extent of my participation.

COMMERCIAL BIAS EVALUATION

Please rate the degree to which the content presented in this activity was free from commercial bias. No bias 5 4 3 2 1 Significant bias

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INSTRUCTIONS

1. Review the stated learning objectives of the CME articles and determine if these objectives match your individual learning needs.

2. Read the articles carefully. Do not neglect the tables and other illustrative materials, as they have been selected to enhance your knowledge and understanding.

3. The following quiz questions have been designed to provide a useful link between the CME articles in the issue and your everyday practice. Read each question, choose the correct answer, and record your answer on the CME REGISTRATION FORM at the end of the quiz. Retain a copy of your answers so that they can be compared with the correct answers should you choose to request them.

4. Type your full name and address and your date of birth in the space provided on the CME REGISTRATION FORM.

5. Complete the evaluation portion of the CME REGISTRATION FORM. Forms and quizzes cannot be processed if the evaluation portion is incomplete. The evaluation portion of the CME REGISTRATION FORM will be separated from the quiz upon receipt at PEDIATRIC ANNALS. Your evaluation of this activity will in no way affect the scoring of your quiz.

6. Your answers will be graded, and you will be advised whether you have passed or failed. Unanswered questions will be considered incorrect. A score of at least 80% is required to pass. Your certificate will be mailed to you at the mailing address provided. Upon receiving your grade, you may request quiz answers. Contact our customer service department at (856) 994-9400.

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8. This activity is to be completed and submitted online only.

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This CME activity is primarily targeted to pediatricians, osteopathic physicians, pediatric nurse practitioners, and others allied to the field. There are no specific background requirements for participants taking this activity. Learning objectives are found at the beginning of each CME article.

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EDUCATIONAL OBJECTIVES OVERVIEW

Innovative programs in healthcare are those that have identified needs in a community and have found creative solutions to meet those needs. This issue of *Pediatric Annals* highlights five such programs: one program that addresses the needs of children with asthma, another that helps obese children and those at risk for obesity adopt a better diet and lifestyle, a third that educates parents about injury prevention, a fourth that helps identify patients who may need mental health services, and a fifth that reaches out to underserved young people.

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RESPONSIBILITY FOR STATEMENTS

Computerized Behavioral Health Screening in the Emergency Department

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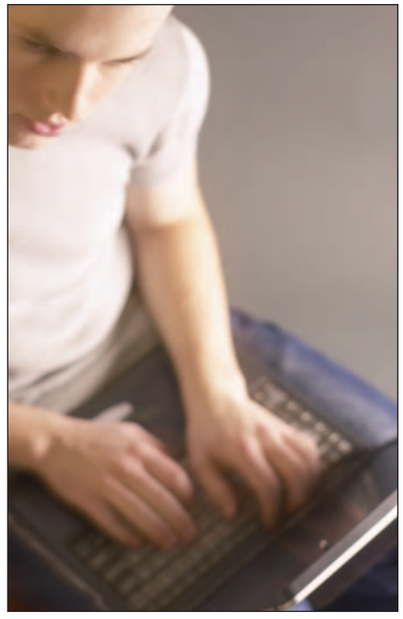
The rate of untreated mental health problems among children and adolescents has increased over the past decade, and it is estimated that 70% of children in need do not receive mental health services.[1] Untreated, mental health problems place children at risk for poor school performance and social isolation, and in some cases can lead to adult psychopathology and suicide.[2-8] Routine screening in medical settings has been recommended as a mechanism for identifying adolescents with unmet mental health needs.[9] The American Academy of Pediatrics (AAP) has acknowledged the role of the emergency department (ED) as a safety net for children and adolescents with unmet mental health needs and recommended the development of accurate mental health screening tools and best practices for follow-up programs for pediatric patients.[10]

Concomitantly, recent research has focused on the ED as a venue for adolescent behavioral health screening. Results of studies implementing depression screening indicate a high prevalence of depressive symptoms among adolescents seeking care in the ED.[11-13] Grupp-Phelan and colleagues have implemented mental health screening and referral procedures for pediatric ED patients and are developing procedures for facilitating mental health treatment engagement.[14,15] Studies have also examined the feasibility of screening adolescents for substance abuse in the ED.[16-19] Horowitz and colleagues developed a brief, four-question instrument for detecting suicide risk in the pediatric ED setting.[13] These studies highlight the potential for inclusion of behavioral health screening in the ED setting but do not address the process by which such endeavors can be translated into routine clinical practice.

In the current medical and economic climate, busy clinicians prefer clinical innovations to be "pushbutton" in nature, creating added value while minimizing time and effort. Barriers to ED-based behavioral health screening include a lack of adequate time and training of faculty and staff, as well as a need for brief but accurate assessment tools.[20] Computer technology offers some solutions to these barriers. Studies with adult ED patients using kiosk-based screening for social concerns and psychiatric illness[21-24] demonstrate the ability to identify at-risk individuals, and suggest that patients and families are generally amenable to this type of screening in the ED setting (see Sidebar 1, page 157).

This article focuses on a specific example of how communication with and early involvement of key stakeholders can be used to develop and sustain an innovative, computerized adolescent behavioral health screening (BHS) process in a busy pediatric ED.



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PURPOSE OF THE PROJECT

The purpose of this project was to design and implement a computerized, universal, self-administered adolescent behavioral health screening process that is fully integrated into the workflow of the ED, thus creating a sustainable program that was not reliant on research staff or external funding.

SIDEBAR 1.

Clinical Vignette

A 17-year-old who had not received any previous mental health services presented to the ED with abdominal pain. On a computerized, self-administered screen that she completed while in her ED treatment room, she endorsed recent suicidal ideation. The doctors consulted social work and psychiatry, to which she revealed a plan to either hang or electrocute herself. She was admitted to an inpatient psychiatric hospital for further evaluation and management.

PROJECT DESCRIPTION

To achieve our goal of transforming screening from a research procedure to a clinical practice, we systematically involved all potential stakeholders in the development and initiation of the screening process. We created a stakeholder's advisory team comprised of adolescents, parents, ED physicians, nurses as well as social workers, psychiatrists, and primary care physicians. Large group meetings were held at key transition points, and individual members of the group were consulted as needed. In addition, project staff attended various departmental staff meetings to reach a larger audience — not solely those who were supportive or willing to donate time to our initiative.

We conducted semi-structured interviews to identify stakeholders' perceived barriers toward and preferences for computerized behavioral health screening in the ED. We interviewed 45 emergency care providers and 60 adolescent-parent/guardian dyads seeking care in the ED, asking questions about overall reactions to screening as well as specific feedback about design of the process (when and where to screen, who to introduce, what to do with results). Interviews were transcribed and coded and analyzed using qualitative research software (N6). This analysis revealed that most stakeholders were supportive of computerized behavioral health screening of adolescents in the ED. Providers were most concerned about the additional time that screening would require and the lack of good referral options given an already overburdened mental health system. They also provided input about the location and timing of screening, as well as the presentation of screening results. They generally agreed that screening should be introduced by nursing staff and should occur in the private patient rooms. Adolescents and caregivers were mostly supportive of screening, provided that it did not precede or interfere with evaluation of their presenting complaint. They raised issues of provider sensitivity and confidentiality of information, and parents stressed the importance of their involvement and permission for screening.[25]

As we developed procedures for screening, we struggled with the question of confidentiality of results. In Pennsylvania, adolescents 14 years and older are allowed to consent to mental health treatment. Additionally, a substantial proportion of adolescents seen in our ED are not accompanied by a parent or guardian. As such, we limited screening to adolescents age 14 and older, and thus we would not need to involve a parent against the child's wishes if we needed to refer to more specialized mental health care. Our hospital maintains a Family Advisory Council (FAC) consisting of former and current patients and family members. The FAC consults on issues that integrate family centered care into patient care activities. We presented this question of confidentiality to the FAC. They recommended that it was best to keep screening content private if requested by the adolescent, provided that they did not pose a threat to themselves or others. With the help of the FAC, we developed a brochure for families explaining the screening initiative and providing the rationale for and boundaries of confidentiality. This brochure was to be given to the families by the nurses or technicians who placed the patient into the treatment room.

With the goal of fully integrating the BHS process into the ED workflow, we obtained institutional review board (IRB) approval to use research consent only for the pilot portion of the study. Anticipating that through this pilot process all of the confidentiality and privacy issues would be resolved, the screening process could then become a "routine" part of the adolescent care received in our ED. In light of this, we received a waiver of consent from the IRB for adolescents completing the screen and sought to measure only the large-scale impact of screening process.

DESIGN AND PILOT OF SCREENING PROCESS

All patients 14 to 18 years presenting with urgent or non-urgent triage categories were eligible for the BHS. We considered the clinical needs of acute and critical patients as paramount in our approach to screening and therefore these patients were not uniformly approached for study participation. We excluded patients who were developmentally delayed, did not speak English, suffered from significant hearing or vision impairment, were determined by the medical team to be too ill or unable to sit at the computer to complete the BHS, or had been screened in the previous 2 weeks.

To address adolescents' and caregivers concerns about sensitivity and confidentiality and to ensure that screening was fully explained to patients and families without overburdening ED staff, we integrated an introductory slideshow with audio instructions into the computerized screening process. The audio portion used adolescents' own words about how a depressed teen-

ager might feel and provided a rationale for screening, focusing on a desire to help teenagers in need. The slideshow also described the limits of confidentiality and how positive screens would be approached. The slideshow specifically mentioned the fact that the physician or nurse practitioner is mandated to divulge current suicidal ideation as well as current child abuse. Screening was conducted in individual patient rooms and occurred after the initial nursing assessment. This timing was chosen as a balance between families' desire to have their chief complaint addressed before screening and providers' request that screening be conducted early in the visit to ensure adequate time for follow-through of positive results. For screening, adolescents wore headphones to listen to the slideshow and had the option to have screening questions audible. Nurses or ED technicians (paramedics) were instructed to request that parents allow their child privacy while completing screening. After the adolescent completed the screening instrument, the nurse or ED technicians printed the results to local ED printers (not in the patient's treatment room) so that they could be attached to the paper charts. These results were reviewed by ED physicians and nurse practitioners but did not become part of the official medical record.

At providers' request, we created the screening results printout to contain summary information in addition to individual answers to screening questions. Given that providers professed a variety of beliefs about how positive results should be handled, we instructed providers to follow their routine care in response to positive screening results, including further questioning of the adolescent, consultation with social work or psychiatry, or provision of a referral for additional evaluation or treatment. Although there is no standard practice at our institution, a social worker was consulted for most patients who required a mental health referral. In addition, to address providers' concerns about providing information about referrals, we created a searchable database of mental health providers in the Philadelphia area and ensured that ED staff as well as social work and psychiatry staff were aware of this resource. This database is currently managed and updated by a clinical psychology team at our hospital.

The screening process was piloted by research staff on 40 families utilizing a mobile laptop computer. We discovered that rolling the mobile laptop into each patient's room proved too burdensome for nurses and ED technicians. We decided to use the computers that were located in each treatment room, formerly used only for nurse and physician data entry. This also allowed a switch from an application-based laptop screening interface to a Web-based version, which could be accessed from any computers. We hired a private medical information technology company, MD Logix, Inc. (Baltimore, Maryland), to create a Web-based version of the BHS-ED and maintain the database server that housed the results. This private company entered into a business agreement with our hospital that included Health Insurance Portability and Accessibility Act (HIPAA) certification, and the server was password protected and encrypted such that only our research staff and a staff member at MD Logix could access the data. We also significantly shortened the length of the screen from an initial length of 66 items, resulting in a process that took approximately 15 minutes for adolescents to complete. The revised version was piloted again on six patients prior to full implementation of screening.

ASSESSMENT INSTRUMENT

During the development phase of this initiative, we worked with psychologists at The Children's Hospital of Philadelphia to develop The Behavioral Health Screen for Emergency Departments (BHS-ED): a brief, comprehensive, computer-based screening tool designed for adolescents in a non-psychiatric medical setting that could be incorporated into the computerized screening method. There are 63 required items in the computerized BHS-ED and 42 questions designed to follow-up positive responses. In the BHS-ED version, there are five subscales administered: depression, suicide, posttraumatic stress, substance use, and family or community violence. Items are based on common risk behavior screens (eg, Youth Risk Behavior Survey). Psychiatric items are based on *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV), diagnostic criteria and language. The items went through extensive review by a panel of adolescent medicine physicians and psychologists, who were expert in each of the assessment domains. The assessment instrument included the Beck Depression Inventory-Fast Screen (BDI-FS), designed to screen for depression in patients reporting somatic and behavioral symptoms that may be attributable to biological, medical, or substance-abuse problems.[26] The BDI-FS demonstrates high sensitivity and specificity rates, strong internal consistency, and correlates highly ($r > .60$) with other measures that assess depressive symptoms. With permission from and remuneration to the copyrighting agency, we incorporated the paper-based BDI-FS questions into the computer-based assessment.

ROLLOUT OF SCREENING PROCESS

Prior to implementation in the ED, we took steps to educate staff about the project and to engage providers in the process. Given the prominent role of nursing in initiating screening, we requested that one of our upper-level nurses be the project liaison to facilitate communication with all staff nurses. Several weeks prior to the start date, we posted signs in prominent ED areas, sent e-mails to ED physicians, nurses, social workers and psychiatrists, and attended staff meetings. Nurses were also sent a PowerPoint "training" presentation. For the first 3 days of implementation, we provided on-site training (and doughnuts) to ED nurses and technicians, making sure to be present for each shift. During the first 3 weeks of implementation, project staff facilitated screening for every eligible patient until nurses were familiar with the procedure.

During the first 2 months of implementation, project staff members were available Monday through Friday from 8 AM to 10 PM to provide reminders via text paging and to troubleshoot problems.

SIDEBAR 2.

Lessons Learned

- Sustainable innovations occur more readily if the partnership between researchers and clinician-stakeholders begins early in the process.
- Clinicians need to see a positive impact from the process in order to continue doing it.
- Translational researchers need methods that are flexible and creative, which respond to the end-users' needs.
- Behavioral change takes a multi-pronged approach that addresses personal beliefs, social norms, and perceived control over the process (TPB). Therefore, your agenda is not others' agenda unless you make it easy to accomplish.

MEASURES OF SUCCESS

Our primary outcome involved a comparison of patient outcomes for the 19-month period before and 9-month period after implementing the screening process. Specifically, we compared a) the identification of mental illness or behavior problem, b) further ED-based behavioral health assessment by social work or psychiatry, and c) the provision of a referral for mental health treatment upon discharge from the ED.

In this project, ED staff engagement of the screening process was central to its success. We tracked the rate at which patients meeting eligibility were screened. During the first 2 months of the project in which ED nurses received reminders through their pagers or on the computerized tracking board, the screening rate among patients meeting age and acuity criteria was 22.6%, not including those patients who were deemed ineligible by nursing staff (too sick, did not speak English, developmentally delayed) or who refused. Once we stopped page reminders, the screening rate was 19.2%.

During the course of the project, we implemented a variety of strategies to improve the screening rate. Using the Theory of Planned Behavior[27,28] as a guide, we sought to influence attitudes, subjective norms and perceived behavioral control regarding screening. Prevailing attitudes for late adopters questioned the efficacy of screening in our ED. To address this, we circulated "success stories" — individual instances in which screening had identified a patient with a previously undetected problem. Several of these stories were quite striking, including patients with undisclosed suicidal ideation that required inpatient psychiatric hospitalization. To alter the subjective norm, we sent frequent "screening update" e-mails to nurses that included the most recent screening rate, and commended specific nurses who had screened the most patients. Self-efficacy and perceived control were addressed by incorporating any feedback received during the initial rollout phase, and altering the screening documentation process and the clinical "risk" cutoffs to achieve a more reasonable referral pattern. This process involved removing questions triggering frequent false-positive screening results (eg, have you ever considered life not worth living?), as well as anxiety questions, for which norms in an ED have not yet been established and were eliciting false-positive screening results. BHS status fields were added to the nursing progress note template for easier documentation. In addition, for those nurses who had difficulty remembering to initiate the BHS-ED in the patient's treatment room, we tried to build a reminder into the computerized ED discharge process asking them whether their adolescent patient had been screened, and if not, to select from a series of options as to why it had not been completed. However, because this question appeared at the time of patient discharge, it had only a small influence on the initiation rate of screening.

ROADBLOCKS/CHALLENGES

One challenge that we faced was the difficulty of integrating our computerized screening process within the larger context of the hospital's information technology (IT) system. At the time of implementation, the costs of maintaining a data server at our hospital were prohibitive, and as such, we contracted with the above-mentioned medical technology company (MD Logix) to provide the data server, and we worked with our institution to ensure criteria were met for data safety and HIPAA compliance. Early in the implementation process, we encountered several obstacles associated with differences in computer settings and security. Additionally, although our hospital's IT department provided troubleshooting related to issues of printing and local device configuration, they could not provide the same service relating to the actual Web-based screening tool. This necessitated that our project staff function as liaisons between ED staff and the medical information company; occasional "freezing" of the screening tool and difficulties in accessing the patient report in real-time likely hindered the self-efficacy and perceived behavioral control of some of the ED staff.

As one of our major goals was to integrate screening into clinical care such that it lived beyond the project grant period, we did not involve research staff in the initiation or response to the screening process. Therefore, we were frequently asked by ED staff why research staff could not assist. In this project, we struggled with competing forces of internal vs. external validity — the more the research team was involved to streamline the process, the less we achieved our goal of full integration into the ED workflow.

IMPLICATIONS/NEXT STEPS

After the grant-funded study was completed, sustainability of the screening process was our most important goal (see

Sidebar 2, page 159). We again conducted interviews with nurses to obtain feedback about the process, to more fully understand barriers to screening, and to learn strategies that could facilitate long-term uptake of the process. In these interviews, nurses most frequently mentioned not remembering the screening. They suggested that there be a reminder within their own section of the ED tracking system that prompted them to consider the process earlier in the patient's visit. As a result of this feedback, we worked with our hospital's IT personnel to institute this computerized prompt, something that our research grant timeline did not afford us the time to accomplish during our project period. As a result of this alteration in the process, we observed a 26% increase (from 19% to 24%) in the screening rate within the first month after this change.

Ultimately, for this initiative to actually become a standard process in our ED, the responsibility for troubleshooting and monitoring would need to be transferred to stable governance within the ED itself. This is likely the nursing leadership, due to the heavy reliance on nursing initiation of the process. In this light, adolescent behavioral health screening would need to be considered a valuable and mandatory component of the care provided for adolescents in the ED. We are also taking steps to increase access to screening to all adolescent patients in the ED even if bedridden, through the use of laptop computers. We are working to develop institution-wide visibility of the project with the ultimate goal of expanding the screening initiative to other inpatient and outpatient venues. Finally, efforts are ongoing to develop interventions to improve engagement in behavioral health treatment once a referral has been made.

It is clear that much work needs to be done to refine and disseminate the behavioral health evaluation described here. This is but one of many examples of how the engagement of stakeholders early in the process can marry innovation and practice to create a system of discovering clinical details that would otherwise go unnoticed in the often chaotic emergency medical setting.

REFERENCES

1. Burns BJ, Costello EJ, Angold A, et al. Children's mental health service use across service sectors. *Health Aff (Millwood).* 1995;14(3):147-159.
2. Stark K, Laurent J, Lovingston R, Boswell J, Swearer S. Implications of research for the treatment of depressive disorders during childhood. *Applied Preventive Psychology.* 1999;8:79-102.
3. Cappelli M, Clulow MK, Goodman JT, et al. Identifying depressed and suicidal adolescents in a teen health clinic. *J Adolesc Health.* 1995;16(1):64-70.
4. Pelkonen M, Marttunen M. Child and adolescent suicide: epidemiology, risk factors, and approaches to prevention. *Paediatr Drugs.* 2003;5(4):243-265.
5. Son SE, Kirchner JT. Depression in children and adolescents. *Am Fam Physician.* 2000;62(10):2297-2308, 2311-2292.
6. Kovacs M, Devlin B. Internalizing disorders in childhood. *J Child Psychol Psychiatry.* 1998;39(1):47-63.
7. Birmaher B, Ryan ND, Williamson DE, et al. Childhood and adolescent depression: a review of the past 10 years. Part I. *J Am Acad Child Adolesc Psychiatry.* 1996;35(11):1427-1439.
8. Harrington R, Fudge H, Rutter M, Pickles A, Hill J. Adult outcomes of childhood and adolescent depression: I. psychiatric status. *Arch Gen Psychiatry.* 1990;47(5):465-473.
9. Zuckerbrot RA, Maxon L, Pagar D, Davies M, Fisher PW, Shaffer D. Adolescent depression screening in primary care: feasibility and acceptability. *Pediatrics.* 2007;119(1):101-108.
10. American Academy Of Pediatrics, Committee on Pediatric Emergency Medicine, American College of Emergency Physicians, Pediatric Emergency Medicine Committee. Pediatric mental health emergencies in the emergency medical services system. *Pediatrics.* 2006;118(4):1764-1767.
11. Singh SB, Cagande C, Boudreaux ED. Prevalence of depression and bipolar disorders in the teenage pediatric emergency department population. Paper presented at: American Academy of Pediatrics National Conference and Exhibition; 2004.
12. Scott EG, Luxmore B, Alexander H, Fenn RL, Christopher NC. Screening for adolescent depression in a pediatric emergency department. *Acad Emerg Med.* 2006;13(5):537-542.
13. Horowitz LM, Wang PS, Koocher GP, et al. Detecting suicide risk in a pediatric emergency department: development of a brief screening tool. *Pediatrics.* 2001;107(5):1133-1137.
14. Grupp-Phelan J, Wade TJ, Pickup T, et al. Mental health problems in children and caregivers in the emergency department setting. *J Dev Behav Pediatr.* 2007;28(1):16-21.
15. Grupp-Phelan J, Delgado SV, Kelleher KJ. Failure of psychiatric referrals from the pediatric emergency department. *BMC Emerg Med*. 2007;7:12.
16. Chung T, Colby SM, Barnett NP, Rohsenow DJ, Spirito A, Monti PM. Screening adolescents for problem drinking: performance of brief screens against DSM-IV alcohol diagnoses. *J Stud Alcohol.* 2000;61(4):579-587.
17. Chung T, Colby SM, O'Leary TA, Barnett NP, Monti PM. Screening for cannabis use disorders in an adolescent emergency department sample. *Drug Alcohol Depend.* 2003;70(2):177-186.
18. Barnett NP, Spirito A, Colby SM, et al. Detection of alcohol use in adolescent patients in the emergency department. *Acad Emerg Med.* 1998;5(6):607-612.
19. Hungerford DW, Williams JM, Furbee PM, et al. Feasibility of screening and intervention for alcohol problems among young adults in the ED. *Am J Emerg Med.* 2003;21(1):14-22.
20. Hoyle JD, White LJ; Emergency Medical Services for Children, Health Resources Services Administration, Maternal and Child Health Bureau, National Association of EMS Physicians. Treatment of pediatric and adolescent mental health emergencies in the United States: current practices, models, barriers, and potential solutions. *Prehosp Emerg Care.* 2003;7(1):66-73.
21. Houry D, Kemball RS, Click LA, Kaslow NJ. Development of a brief mental health screen for intimate partner violence victims in the emergency department. *Acad Emerg Med.* 2007;14(3):202-209.
22. Rhodes KV, Lauderdale D, Stocking C, Howes D, Roizen M, Levinson W. Better health while you wait: a controlled trial of a computer-based intervention for screening and health promotion in the emergency department. *Ann Emerg Med.* 2001;37(3):284-291.
23. Rhodes KV, Lauderdale DS, He T, Howes D, Levinson W. "Between me and the computer:" increased detection of intimate partner violence using a computer questionnaire. *Ann Emerg Med.* 2002;40(5):476-484.
24. Rhodes KV, Anliker EL, Drum M, Frankel R, Howes DS, Levinson W. Increased psychosocial risk communication with computer screening: impact on patient satisfaction. *Acad Emerg Med.* 2003;10(5):548-.
25. Pailler ME, Cronholm PF, Barg FK, Wintersteen MB, Diamond GS, Fein JA. Adolescents' and caregivers' beliefs about depression screening and referral in the emergency department. *Pediatric Emergency Care.* In press.
26. Beck A, Steer R, Brown G. *BDI-Fast Screen for Medical Patients: Manual*. San Antonio, TX: Psychological Corporation; 2000.
27. Ajzen I. From intentions to actions: A theory of planned behavior. In: Kuhl J, Beckman J, eds. *Action-control: From Cognition to Behavior.* Heidelberg, Germany: Springer; 1985:11-39.
28. Ajzen I. The theory of planned behavior. *Organizational Behavior and Human Decision Process.* 1991;50:179-211.