BRIEF REPORTS

The Need for Integrating Behavioral Care in a College Health Center

Kevin Alschuler, Flora Hoodin, and Michelle Byrd
Eastern Michigan University

Objective: A trend toward the integrated care model is evident in community primary medical care settings, where behavioral services are provided alongside medical services. The present study explored the potential need for implementing an integrated care model at a Midwest University Health Center by investigating whether the use of two behavioral questionnaires influenced providers’ prescription of psychotropic medications and referrals for behavioral intervention. Design: Participants were randomly assigned to condition. The 109 participants in the experimental condition completed two behavioral questionnaires and the 91 control participants received treatment as usual. Main outcome measures: The behavioral questionnaires were the mental health-oriented Patient Health Questionnaire and the college-adjustment-oriented College Health Questionnaire. Postvisit, all participants rated their satisfaction with treatment; providers documented psychotropic medication prescriptions, and behavioral treatment referrals. Results: The experimental condition displayed significantly higher rates of discussion of behavioral problems and prescription of psychotropic medications but not referrals for behavioral treatment. Patients in the experimental condition and all providers indicated a desire to use the questionnaires in future visits. Conclusion: The findings suggest that increased awareness of behavioral problems influences treatment-decision making at a university health service, and therefore this setting would be fertile ground for implementation of an integrated care model.

Keywords: integrated care, college health care services, college student

The prevalence of psychological problems ranks high among all health problems in college and university settings. For example, depression (18.8%) and anxiety (11.5%) are ranked as the fourth and sixth most common health problems in the college population (American College Health Association, 2005). These behavioral problems directly affect a student’s ability to perform well in school. In fact, the American College Health Association’s (2005) report of the top 10 reported health impediments to students’ academic performance includes seven problems that could be considered behavioral in origin: stress (32.0%, the highest rated), sleep difficulties (24.1%), concern for a troubled friend or family member (18.4%), relationship difficulties (15.8%), depression/anxiety/seasonal affective disorder (14.6%), death of a friend or family member (8.8%), and alcohol use (7.8%). Prevalence of substance use disorders among college students ranges from 10% to 30% (Ross & Tisdall, 1994; Svanum & Zody, 2001); 13% use marijuana and other drugs each month (American College Health Association, 2005). Furthermore, among college students with psychiatric disorders, 48.6% suffer the onset of their symptoms during their college enrollment (Megivern, Pellerito, & Mowbray, 2003).

The behavioral problems students bring with them when they present at college health centers may be independent of the medical problems being treated, but may also predispose patients to medical problems or exacerbate medical symptoms. The proportion of students in need of mental health services initially present at college health centers is unknown. However, in traditional community settings, over 50% of patients with mental health problems seek care through their primary care providers (Blount, 1998; Byrd, O’Donohue, & Cummings, 2005; Strosahl, 1998), who either treat the patient or make a referral to a specialist. Consistent with medical models, the most common form of treatment is biomedical, such as antidepressants for depression (Blount, 1998; Robinson & Strosahl, 2000), thus bypassing psychological treatments, which have been shown to be equally or more effective compared to psychotropic medications for many psychological conditions (DeRubeis & Crits-Christoph, 1998). When physicians do refer patients to behavioral providers, as many as 80% of patients never follow through with their appointment (O’Donohue, Cummings, & Ferguson, 2003). That is why primary care has been declared the de facto mental health care system (Blount, 1998; Robinson & Strosahl, 2000; Strosahl, 2002).

Improvements to treatment of psychological problems presented in traditional community medical settings have been made through the cost-efficient integrated care model, with psychologists and physicians working together to treat patients (Blount, 1998; Byrd et al., 2005; Strosahl, 1998). The integrated care model has three principal goals: producing healthier patients, doing so with more efficient expenditures (Friedman, Sobel, Myers, Caudill, & Benson, 1995; Kaplan & Groessl, 2002), and removing barriers to access by offering services that are both more convenient and carry less stigma (O’Donohue et al., 2003). Meeting these goals starts
with diagnosis: psychologists have identified complicating psychological factors in 75% to 80% of cases with somatic complaints (Blount, 1998). It continues with treatment: psychologists in integrated care have effectively intervened with conditions such as mood disorders, anxiety disorders, substance abuse, weight loss, chronic headaches, chronic pain, diabetes, medication adherence, and asthma (for details, see O’Donohue, Byrd, Cummings, & Henderson, 2005). Most importantly, integrated care allows for psychological care to be provided where patients present with their problems—in the primary care setting itself (Blount, 1998).

To date, the need for integrated care has not been effectively empirically examined in the campus health care setting. Although Cowan and Morewitz (1995) found that using questionnaires in college health care increased dialogue about student-patients’ psychosocial concerns, they did not evaluate resulting changes in medical providers’ choice of interventions. Assessing for implementation of behavioral interventions is important as patients suffering from disorders like depression, generalized anxiety, phobias, and obsessive–compulsive disorder typically delay seeking help for up to a decade (Bailey, 2005). By that point in time, the problems have often become severe.

Any attempt to extrapolate from community-based integrated settings to the college setting must answer some foundational questions: in the course of medical visits, to what extent are college health care providers (a) recognizing psychological problems and (b) consequently changing their intervention recommendations? The primary hypothesis of the current study was that compared to treatment as usual, adding a brief psychological screen would increase the detection of behavioral problems and their treatment, not only psychopharmacologically, but also in the form of referrals to behavioral providers for treatment. A secondary hypothesis, focusing more on process than outcome, was that the experimental group participants who received the psychological screen would be more likely to discuss behavioral issues in the course of their medical visit.

**Method**

**Participants**

Two hundred patients (64% female, 36% male; mean age = 23.49 years, SD = 6.04) participated during their medical appointments at a large Midwestern University. Seventy-five percent were White, 15% were African American, and 10% were distributed among a variety of ethnicities; 50.5% presented for care for acute illness, and 49.5% presented with a variety of other concerns. Whereas none of the patients presenting with other concerns identified these as behavioral problems, one patient indicated that his or her visit was based on a referral from Counseling Services for a prescription of psychotropic medications and 12 other patients indicated an intention to get a prescription checked or refilled, though the type of medication was unspecified.

Seven medical care providers (5 female, 2 male; 2 physicians, 2 nurse practitioners, 3 medical residents) also participated in this study. Two providers worked full-time at the health center, the rest, part-time. The providers had treated college students for a mean of 4.29 years (SD = 3.16). Providers self-reported modest confidence (ratings of approximately 6 on a 1 to 10 scale; 1 = low, 10 = high) in their ability to provide behavioral treatment, and the quantity and adequacy of their behavioral training

**Procedure**

After institutional review board approval was obtained and prior to patient data collection, the medical providers completed an informed consent and a background questionnaire. During patient data collection, patients were recruited as they checked-in for their medical appointment and were randomly assigned to condition if they agreed. They then received a letter of invitation including informed consent for the study and a demographic background questionnaire. Only patients assigned to the experimental condition also received the Patient Health Questionnaire (PHQ; Spitzer, Kroenke, & Williams, 1999) and College Health Questionnaire (CHQ; created for this study). Patients completed the questionnaires in the waiting room and delivered them to their provider when called to the examining room. Patients in the control condition received treatment as usual. For the experimental condition, providers exercised their discretion whether to use the information on the two behavioral questionnaires to guide treatment. The providers had previously been oriented to the questionnaire and could use the diagnostic criteria or visually scan for endorsed items along the righthand margin. Following the patient visit, patients and providers in both experimental and control conditions completed postvisit questionnaires regarding treatment decisions and satisfaction with the visit. After patient data collection was closed, providers also completed a debriefing questionnaire.

**Measures**

**PHQ.** The PHQ (Spitzer et al., 1999) was the primary questionnaire in this study (used with author permission). The PHQ has been validated as a diagnostic screening instrument for somatic disorders, eating disorders, mood disorders, anxiety disorders, and alcohol abuse disorders (Spitzer et al., 1999). The validation study reported that 85% of the patients completed the questionnaire in less than 3 minutes. Overall accuracy was 85%, sensitivity was 75%, and specificity was 90% when the PHQ was compared with the diagnoses made by mental health professionals on the basis of a clinical interview.

The final question on the PHQ, which we refer to as “functional disruption” in the results section of this report, is consistent with a criterion commonly required for Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, diagnosis. This question is worded as follows: “If you checked off any problems on this questionnaire, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?” For the purposes of analysis, we recoded the responses to this item from a four-point scale to a dichotomous one as either “none” or “any amount endorsed.”

**CHQ.** The CHQ consists of 18 questions in categories assessing weight loss, recreational drug use, sexual identity, risky sexual behavior, and college-adjustment issues, all domains of college-student distress not addressed by the PHQ (a copy of the CHQ is available on request). The CHQ was developed for this study to tap more of the key adjustment problems typically treated at college counseling centers than assessed by other questionnaires used by the American College Health Association (2005) and the Monitoring the Future group (National Institute on Drug Abuse, 2004). For the purposes of this study, a summation of risky sexual behaviors and college adjustment-related problems was calculated.
for each participant, revealing what we refer to as “total maladjustment” in the results section of this report.

Additional questionnaires. The medical care providers completed a background questionnaire assessing demographic and experience information, and an individual postvisit survey assessing treatment decisions and satisfaction. After data collection closed, providers also completed a study debriefing questionnaire (adapted from Byrd & O’Donohue, unpublished manuscript) assessing their experience of using the PHQ and CHQ. All participants completed a background questionnaire assessing demographic information and the reason for that day’s visit, as well as a postvisit survey assessing the outcome of and their satisfaction with the visit.1

The principal outcome variables, prescription of psychopharmacological medication, referral for behavioral treatment, and discussion of behavioral problems, are dichotomous variables, and were assessed in the postvisit survey.

Results

Psychological Services Provided During Medical Visits

\( \chi^2 \) analyses indicated participants in the experimental condition had statistically significantly more frequent discussion of behavioral problems (\( p < .001 \)) and prescription of psychotropic medications (\( p < .05 \)), but not referral for behavioral treatment (see Table 1).

Care of Patients Who Met Diagnostic Criteria on the PHQ

Of the 109 experimental condition participants, 31 (28%) met full diagnostic criteria for at least one condition on the PHQ. With 8 participants meeting diagnostic criteria for more than one condition, a total of 43 conditions were endorsed: 14 (12.8%) alcohol abuse, 8 (7.3%) major depression, 7 (6.4%) somatic disorder, 7 (6.4%) panic disorder, 5 (4.6%) binge eating, and 2 (1.8%) anxiety disorders. \( \chi^2 \) analyses indicated that compared with the experimental participants who did not meet diagnostic criteria, those who did were statistically significantly more likely to have a discussion of behavioral problems with their provider (\( p < .01 \)) and to be prescribed psychotropic medications (\( p < .001 \)). Relative referral rates were also higher for those who met diagnostic criteria, although not statistically significantly so (see Table 1).

Care of Patients Who Endorsed Function Disruption on the PHQ

\( \chi^2 \) analyses indicated that compared to the 57 experimental participants who endorsed no functional disruption (52.3%), the 52 patients (47.7%) who did endorse functional disruption were statistically significantly more likely to discuss their behavioral problems with their provider (\( p < .001 \)), be referred for psychological care (\( p < .05 \)), and be prescribed psychotropic medications (\( p < .01 \)) (see Table 1).

Factors Contributing to Increased Psychological Care for Experimental Condition

The number of diagnostic criteria met on the PHQ, rating on the functional disruption question, and total maladjustment score on the CHQ were all highly correlated. The number of PHQ diagnoses met was correlated with the functional disruption rating (\( r = 0.47, \ p < .001 \)) and CHQ total maladjustment score (\( r = 0.35, \ p < .001 \)). The functional disruption rating was also correlated with CHQ total maladjustment score (\( r = 0.34, \ p < .001 \)). Logistic regression indicated that endorsing functional disruption contributed statistically significantly to the prediction of discussion of behavioral problems (\( \beta = 1.28, \ p < .001 \)) and the prescription of psychotropic medications (\( \beta = 2.11, \ p < .001 \)). High maladjustment scores contributed statistically significantly to the prediction of discussion of behavioral problems (\( \beta = 0.35, \ p < .05 \)) and referrals for behavioral treatment (\( \beta = 0.50, \ p < .05 \)) (see Table 2).

Qualitative Assessment of Visits

Because of a ceiling effect, patient and provider satisfaction did not differentiate between the control condition and the experimental condition visits. However, 62.5% of experimental condition participants indicated that the questionnaires made it easier for them to discuss their concerns with their provider, 55% indicated that the questionnaires reminded them to bring up certain concerns during their visit, and 67% said that they would like their doctor or nurse clinician to always use the questionnaires during regular appointments. Based on mean ratings weighted by number of patients treated, the providers also indicated that using the questionnaires was helpful (weighted \( M = 7 \) on a 10-point scale; 1 = low, 10 = high), but added a moderate amount of time to patient visits. Providers’ responses also revealed that they would welcome the opportunity to collaborate with an in-house behavioral specialist (weighted \( M = 8.14 \)).

Discussion

To the best of our knowledge, this is the first study to explore the need for an integrated care model in a college health care center. The results indicated higher rates of discussion of behavioral problems and prescription of psychotropic medications for participants who received the PHQ and CHQ questionnaires, particularly for patients who endorsed diagnostic criteria for psychological disorders and for patients who endorsed functional disruption as a result of their symptoms. Participants indicating college adjustment problems engendered increased discussion of behavioral problems and referrals for behavioral treatment. Additionally, providers and the majority of patients in the experimental condition indicated a preference for future use of the questionnaires in routine practice.

Behavioral Interventions

Consistent with previous research in college settings (Cowan & Morewitz, 1995), we found a twofold increase in the discussion of behavioral problems when health care providers used the questionnaire. This discussion facilitated assessment of the need for treatment. When deemed necessary, intervention consisted of the prescription of psychotropic medications for patients who endorsed

---

1 Copies of these instruments are available on request.
psychopathology or functional disruption, and referral to behavioral treatment for patients who endorsed college maladjustment.

Interestingly and unexpectedly, the PHQ functional disruption item was the most powerful predictor of discussion of behavioral problems (odds ratio $H_{11005}^3.6$) and prescription of psychotropic medications (odds ratio $H_{11005}^1.4$). Given the present era, which emphasizes rapid assessment, the identification of powerful single-question predictors, such as the functional disruption question, is important and worthy of further study.

The difference in the rate of psychotropic prescription between the experimental and control conditions was substantially greater than the difference in the rate of referrals for behavioral treatment. Providers were significantly more likely to choose psychotropic medications as the treatment of choice for indications of psychopathology, primarily major depression, anxiety, and panic disorders in this sample. The preference for prescription of psychotropic medications is not surprising in a medical environment, where prescription of medication is standard. The providers' self-reported uncertainty with regard to behavioral treatment suggests, too, that they would be more likely to continue with the treatment that was most familiar to them. However, this finding was surprising in that the clinic in which the study was conducted is colocated with a free campus counseling service, so minimizing financial barriers. Co-location is generally regarded as a moderate level of integrated care and should facilitate referrals to behavioral care (e.g., Blount, 1998). Our findings suggest that co-location itself might not be enough to ensure collaboration without additional facilitative intercession in the logistics of referrals for behavioral treatment. A systemic paradigm shift away from the traditional biomedical model to an integrative model would be needed at all levels, including administrative. Such a shift would make possible integrated care-oriented changes such as adjusting the counseling center’s schedule format to accommodate immediate, brief appointments with medical patients.

Of note, in the experimental condition, the providers discussed behavioral problems with only approximately 70% of the patients who met criteria on the PHQ. The other 30% did not even discuss their behavioral problems with their provider. Furthermore, fewer than 50% of the patients who met diagnostic criteria actually received treatment, whether psychopharmacology or referrals for Table 1

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Differences by condition</th>
<th>Differences by diagnostic criteria</th>
<th>Differences by functional disruption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental condition</td>
<td>Control condition</td>
<td>Met diagnostic criteria</td>
</tr>
<tr>
<td></td>
<td>$n = 109$</td>
<td>$n = 91$</td>
<td>$n = 31$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$\chi^2$ (1)</td>
</tr>
<tr>
<td>Discussion of behavioral problems</td>
<td>55 (50.5%)</td>
<td>18 (19.8%)</td>
<td>20.14***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral for behavioral treatment</td>
<td>13 (11.9%)</td>
<td>7 (7.7%)</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription of psychotropic medications</td>
<td>10 (9.2%)</td>
<td>2 (2.2%)</td>
<td>4.28*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Percentages indicate percentage of participants within each condition. $^* p < .05. ~^** p < .01. ~^*** p < .001.$
psychological care. This means that, in reality, the most common treatment for patients with behavioral problems was no treatment.

Important patterns emerge from these data. First, treatment of psychiatric and behavioral problems in the college health care setting studied appears focused primarily in one effective treatment modality (pharmacotherapy), to the relative neglect of empirically supported behavioral treatments. Second, the increased rate of discussion of behavioral problems for the experimental relative to the control condition suggests that behavioral problems may be insufficiently explored in standard university health care practice. This phenomenon may be a manifestation of problems on three levels. The first is the general systems level: the short duration of medical visits, particularly in light of the single complaint by providers about a moderate increase in time spent per visit when using the questionnaires. The second is the provider level: providers’ self-reported modest level of confidence in their training and ability to provide behavioral care. The third is the setting level: in traditional medical settings, providers are primed to care for patients through a traditional medical model.

Implications for Integrated Care

The patterns of care found in this study are consistent with the concerns that instigated the integrated care movement in community primary care: a significant proportion of behavioral problems are not being detected or treated, nor are all forms of treatment for behavioral problems being utilized. Patients and providers are indicating a desire to better address these problems, but providers are concerned about the time required for them to participate in behavioral treatments, feel only moderately qualified to provide behavioral treatment, and would like to collaborate with an in-house behavioral specialist.

The response to these problems in the community primary care population was the creation of integrated care, the inclusion of a behavioral health care specialist in the medical care setting (Strosahl, 1996, 1998). Perhaps the most important implication of the present study is that it provides empirical evidence of a need for a similar intervention system overhaul in the university health care setting, where it has potential to improve detection and early treatment. The providers in this study should be commended for recognizing their treatment of behavioral problems as less than optimal, and indicating a willingness to utilize behavioral specialists in the future. Although one third of the experimental patients saw no additional advantage to using the questionnaire, the potential benefits to most patients and the health care system of integrating care would outweigh maintaining the status quo. Specific to the college population, addressing more mental health issues may result in cost-savings to the university and improved student retention, as students with mental health disorders account for approximately 50% of annual withdrawals from school (Meilman, Manley, Gaylor, & Turco, 1992).

Study Limitations and Strengths

On the basis of random assignment to condition, experimental and control groups are assumed to have similar characteristics. However, because no psychological information was collected for patients in the control condition, a limitation of this study is the possibility one group may have actually had significantly more pathology than the other. The counterargument would be that patients in the control condition were not primed by the questionnaires to be thinking about their mental health issues, and thereby provided a truer “treatment as usual” condition. Additionally, previous or current use of counseling services and psychotropic medications was not formally recorded, other than in the context of providers’ postvisit write-in comments regarding each patient’s referrals and medication prescriptions, where they indicated whether patients were already utilizing the counseling services.

A strength of this study was that the implementation of brief screeners, the PHQ and CHQ, significantly increased attention to behavioral issues. Thus, both the PHQ and CHQ could serve as valuable additions to college health care, or may serve as the foundation for the development of a questionnaire specific to the behavioral needs of the college population. In addition, this study indicates that changes in care are feasible in this environment, as implementation of a relatively simple screening questionnaire resulted in significant modifications in practice. Given that the integrated care model could improve awareness of behavioral problems, provide the structure for including a psychologist in regular medical practice, and reduce the time commitment that campus providers indicated was problematic for them in attending to behavioral issues, this study showed that the university health community is a potential new home for integrated care.

Future Research

Because this was an exploration of assessment and related treatment in a population not previously researched, more questions were developed than answered. Do college-student patients feel comfortable bringing up behavioral concerns with their physicians without an invitation? Or is it that they forget to or expect that this is not the forum for discussion of behavioral concerns? Similarly, what are the factors that influenced the increase in discussion from the providers’ perspectives? Did the questionnaires serve as a primer? Did the questionnaires reveal information that would never have been found through questioning? How and why did the providers decide differentially to make referrals to behavioral providers or prescribe psychotropic medications? Future investigation will be tasked with unraveling intricacies and complexities involved in implementing care in the college health care setting.

References


Henderson (Eds.), *Behavioral integrative care* (pp. 1–13). New York: Brunner-Routledge.


