

Improving Identification and Treatment of Depression in College Health

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Editor's Note: The U.S. Preventive Services Task Force recommended universal depression screening for all adults in clinically prepared practices, that is, those with systems in place to ensure accurate diagnosis, effective treatment, and follow-up.¹ This recommendation is particularly relevant for college students at a time when need is rising and outreach efforts need to be maximized. This article will support the case for systematic screening for depression in college students (important because of the challenges of accurately and efficiently detecting this disorder in a university population) and describe methods for improving quality of care for depression in university health services and counseling centers utilizing a well-established model of quality improvement.

Most college and university health systems offer both primary healthcare services as well as counseling and psychological services. Whether these services are offered under a single administrative and budgetary structure or are administered separately, university health services theoretically qualify as “clinically prepared practices” because the means to provide effective diagnosis and treatment for depression are available. However, there have been no published reports of university health centers having systematically implemented the recommended depression screening and documentation of evidence-based care. The continuum of depression care offered in Student Health Services (SHSs), runs the gamut from primary medical services that do not offer any treatment for depression and refer all depressed students to counseling services, to medical services that take primary responsibility for treatment and only refer when there is not a satisfactory response to treatment or their capacity limitations have been reached. Obviously, the variability of depression treatment offered in college health is associated with the resources accessible and available on- and off-campus. Irrespective of the model of care offered, the need for high-quality treatment for depression and other mental disorders in college students is critical.

A large nationally representative study of more than 27,000 four-year college students indicated that serious

psychiatric conditions are highly prevalent among such students throughout the United States, across all geographic settings and types of institutions. The rate of major depression reported in this study was approximately 5%.² Several recent studies indicate increasing levels of mental health needs in students attending college, e.g. 10.3% of students reported seriously considering ending their lives during the preceding 12 months.³ More alarming is that 6.7% of students actually made suicide plans, while only 17.6% of college students nationwide reported receiving information on suicide prevention from their institution.

The data are even more worrisome when the demographics of utilization in college health centers are considered. Mortality data indicate that over 90% of people who die by suicide at any age have a diagnosable mental illness, most often depression.⁴ The 2005 National Survey of Counseling Center Directors reported that only 27 out of 154 (17.5%) of student suicides in the past year were current or former counseling center clients, suggesting that the majority of completed suicides are by students who have never been to the counseling center. Furthermore, although females make more suicide attempts than males, especially in the age range between 18 – 24, males are 6.5 times more likely to kill themselves within this same age group.³ Further evidence of gender discrepancy in treatment is the fact that female rates of counseling service utilization are consistently two to three times that of males.^{5, 6} The most recent data reported by the American College Health Association (ACHA) also highlight just how many students with mental health problems are left untreated. Among students who reported having been diagnosed with depression in the last year, just 26.4% reported current treatment in therapy and 36.6% reported current antidepressant medication treatment.⁷

The evidence suggests that many students who possess especially high risk factors for suicide are not being identified and treated in college counseling centers. Data is unavailable for the prevalence of depression in

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students who seek primary care medical services, however, some data suggest many students who are not presenting at counseling centers may enter the system via medical services, given the literature on somatic symptoms and depression. This offers college medical services an alternate pathway for identifying and helping potentially depressed students. A primary goal for our longitudinal quality improvement project (detailed below) is to fill the gap in our knowledge of the prevalence of clinically depressed students who seek medical services at their college health center.

Treating Students in Primary Care: A Critical Point of Entry

The evidence overwhelmingly suggests that many at-risk college students with a diagnosable mental health disorder, including those with the highest risks, such as males and racial and ethnic minority students, are frequently not seeking help at college counseling centers. Research on primary care service utilization suggests that an important opportunity to reach many of these students may be in the general medical setting. Although research on college students in particular is sparse, much evidence suggests that the majority of people with common mental disorders frequently present at primary care clinics during the course of the illness.^{8, 9} In fact, Regier and colleagues described primary care as the “de facto mental care health system” in the U.S.;⁸ a point supported by the landmark Surgeon General’s Report on Mental Health in 1999.¹⁰ Although evidence is currently lacking on how many college students with depression utilize medical services during the course of the illness, our clinical experience in primary care settings, both outside of and within college health, support the notion that many depressed patients may present solely in college medical settings. Many residential campuses report utilization percentages of medical services at a minimum of 50% to a maximum of 85% in an academic year; this opportunity for depression screening, or reinforcement of existing counseling treatment, is simply too great to ignore.

If the majority of patients seek help from their general practitioner for mental health problems, it is essential to improve the quality of illness detection in medical settings. Research suggests that medical providers’ ability to identify mental health problems, especially in

Figure 1: Six Components of Chronic Care Model*

Clinical Information Systems: Establishing a patient registry is essential for proactive follow-up. The registry needs to provide data on both patient and population levels. Feedback from the information system helps inform care for individual patients and for the health system to benchmark aggregate outcomes.

Practice Redesign: Systems that are reactive are redesigned to be proactive, keeping the system as barrier-free for patient engagement as possible (ie, facilitated referrals to counseling with minimal wait time or starting evidence based treatment without undue delay). It involves clearly defined roles for all providers of care. Providers usually work together as a team.

Decision Support: This starts with evidence based treatment guidelines and ongoing interactive continuing medical education activities. It also includes active collaboration between specialists and primary care providers.

Self-Management: this includes more than patient education. The goal is for clinicians and patients to work together to define problems, set priorities, establish goals, and create treatment plans that target troublesome symptoms or barriers to improvement.

Community Resources and Policies: Can support or expand a health system’s care, i.e. preferred arrangements for community referrals to include feedback on engagement or if students drop out of needed treatment. May include community policies such as redesigning insurance benefits and improving access to counseling services on- and off-campus.

Health System: Includes senior leadership support for the changes and inclusion of the model into business plans and financial planning. It is important that system incentives support the new model.

*The Chronic Care Model was developed by Ed Wagner, MD, MPH, Director of the MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, and colleagues of the Improving Chronic Illness Care program with support from The Robert Wood Johnson Foundation.¹⁴

college-aged populations and minorities further complicates the challenge of identifying at-risk students. Borowsky, Rosenberg, Meredith et al. found that patients under the age of 35 were less likely to be identified as having mental health problems, while male and African American status were also associated with lower rates of detection.¹¹

Other studies have found that patients' race or ethnicity can increase the risk of non-detection of mental health problems in primary care.¹² These studies, confirmed by our own clinical experience, indicate a serious need to develop systematic methods of improving the detection of depression among students using primary care services in university health centers.

In a recent report of the Presidential commission for assessing and improving the mental health services system in the United States, the most frequently cited subgroups as unlikely to be properly identified and treated included adolescents and individuals from ethnic minority backgrounds.¹³ Again, this age and demographic background fit a college and university population. A major conclusion stated in this report was that improved mental health care will take place at the interface of general medicine and mental health. They emphasize the long-standing but spurious split between traditional medical care and specialty mental health and the need to develop systematic and evidence-based treatment protocols that will make it possible to evaluate outcomes in an objective manner.

Improving Evidence Based Care for the Detection and Treatment of Depression

The collaborative learning approach, dubbed the Breakthrough Series (BTS) by the Institute of Health Improvement, has been used to improve treatment for many chronic health conditions.^{14, 15} It was developed, in part, because of gaps in clinicians' knowledge of the current evidence base, as well as the lack of sustained impact of professional education vehicles (e.g., CME lectures, seminars, etc.). Collaborative learning was designed to identify and disseminate evidence for sustainable improvements in health care practice.¹⁶ This BTS model of collaborative learning allots a minimum of 12-18 months for change processes to allow evidence-based improvements to take root and spread throughout the entire health system.

The BTS brings together participating teams for three, two-day learning sessions that involve intensive lectures and workshops led by expert faculty on topics that have been supported by the evidence-base for that specific chronic condition. A key component of the learning session is to allow ample time for site teams to

plan how to implement specific evidence based change concepts within their particular organization. *Figure 1* on the previous page describes each of the six core change concepts that have been found critical to sustainable health care change for chronic illness care.

The main premise of BTS is that sustainable change in healthcare services requires support from senior leadership, sustained motivation, team-based learning, shared experiences to develop best practices and overcome barriers to change, and coaching through small, rapid, systematic changes in health practices over a focused period, commonly referred to as plan-do-study-act or "PDSA" cycles.

IHI recommends that any organization planning to launch a collaborative answer three critical foundation questions prior to beginning. Only after completing this initial task can appropriate PDSA test cycles be performed. The first question involves setting out aims that are both time-specific and measurable. For example, previous collaborative projects include: reductions in c-section rates of 30%, reducing wait time and delays by 50%, and reducing costs in the ICU by 25%. Note that although the aims differ in some basic ways (e.g. cost vs. appointment efficiency), all aims are specific and measurable. The second question asks how an organization will know that a change is an improvement, that is, how will change be measured quantitatively? The final question is intended to have leadership teams strive to plan for changes that will impact the organization directly. Changes which result in improvement in some key area of health service delivery is the goal.

The PDSA lies at the heart of the BTS approach to quality improvement and becomes the basic unit of inquiry once the basic three questions have been answered. Acknowledging that resistance to change is an unavoidable factor, (that is all human systems resist change and seek to maintain homeostasis), the PDSA recognizes that "trying out" new practices, and different skill sets can overcome some of this resistance. These "test cycles" are akin to small experiments, in which a practice improvement team might try out a new procedure with a small number of patients in a systematic manner. For example, a single provider might administer a depression screening measure to all patients seen over a one week period to assess the work burden, results, and

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where strains in the system might occur. Team emphasis is placed on planning, executing, documenting the results, and finally acting on what is learned. Expectations are set in advance so that the team understands that several small steps might be necessary before arriving at a satisfying solution that is clinically beneficial and sustainable. In summary, the PDSA is the primary method used for action-oriented learning.

Because change is created initially on a small scale with select providers and only a subset of patients, the challenges of “scaling up” of new procedures, policies and systems must be considered from the outset of any BTS collaborative project. It is expected that as early adopters develop consensus around the new way of improving care and have accumulated supporting evidence that documents the improvement, that this approach will be expanded and then repeated and “spread” to other clinicians and health personnel in the system. At a certain point, with appropriate incentives or mandates (educational, philosophical or economic), the system begins to change and improve. Ultimately, a change process that began on a small scale, with just a few carefully selected team members becomes a standard of care that is utilized system-wide. This approach addresses directly the difficulty of getting a consensus from every health provider to agree to make changes before any innovation is initiated or mandating change that breeds resentment, loss of morale, resistance, and confusion for staff and patients.

Developing a Depression-Specific Collaborative

Adaptations are necessary to implement the chronic care model for a complex illness such as depression that involves physical, emotional, and behavioral factors. Emphasis is placed on training multidisciplinary teams comprised of mental health specialists, nurses, primary care clinicians who are providing counseling, and patient educators. This approach teaches partnership principles between primary care and counseling services, fosters sustainable system changes that increase screening and detection; uses evidence based treatment guidelines and approaches; decreases stigma; uses care (case) management methods to improve adherence to treatment

plans and to prevent vulnerable students from getting “lost” in the system, and teaches self-management as an augmenting modality of treatment. The true innovation of this learning approach is that the sites are encouraged to share their best practices in how to make the necessary changes in order that these principles be systematically applied for depression treatment. In addition, sites share their “failed experiments” as well as lessons learned when barriers are encountered, in an “all teach, all learn” forum. Finally, sites are taught to collect and interpret data that are entered into a single centralized database that guides individual treatment planning and system-wide continual quality improvement and sustainable change.

Emphasis on measurable data that can be evaluated and used to adjust and develop best practices is a challenge for depression, which faces greater difficulty in arriving at an objective measure of pathology. The decision was made to determine what measure existed that gave the best combination of validity, ease of use, and added minimal additional burden. The Patient Health Questionnaire (PHQ-9) is the depression screening module of the full Patient Health Questionnaire, a self-administered version of the Primary Care Evaluation of Mental Disorders (PRIME-MD) diagnostic instrument for common mental disorders.¹⁷ The PHQ-9 consists of nine questions based on the nine DSM-IV criteria for a major depressive episode and one question on functioning, which is not scored. Each of the questions asks patients to select the frequency of the depressive symptoms that they experienced in the two weeks before survey administration. Scores for each item range from 0, not at all, to 3, nearly every day. Scores between 10 and 14 indicate a moderate level of depressive symptoms, scores between 15 and 19 indicate moderately severe major depression, and scores 20 and above indicate severe major depression. Validity research has shown a strong positive correlation between the PHQ-9 and the Hamilton Depression Rating Scale, which is the most commonly used measure of depression severity in randomized controlled trials.¹⁷ The PHQ-9 was successfully used in the very first BTS collaborative in 1999 and thereafter¹⁸ and recently was used successfully by psychiatrists and other mental health professionals in a national collaborative.¹⁹

only a subset of patients, the challenges of “scaling up” of new collaborative project.”

Figure 2: Inclusion/Exclusion Criteria

Inclusion:

A candidate for the CBS-D depression registry is a student with a diagnosis of Major Depression, Dysthymia, or Depressive disorder NOS (as defined in DSM-IV) who has:

1) Scored 10 or greater on the PHQ-9

AND

2) Rated (very difficult) or (extremely difficult) on the final PHQ-9 functional item.

Note: common anxiety comorbid diagnoses such as panic disorder, generalized anxiety disorder and others are not excluded.

Exclusion:

Any student who has a primary diagnosis of bipolar disorder, schizophrenia, eating disorder, substance dependence, or whose depression diagnosis is ruled out by medical illness, hypothyroidism, or Traumatic Brain Injury would be disqualified from entering the registry.

The College Breakthrough Series for Depression (CBS-D)

Our current project is an 18-month shared learning project to improve evidence-based identification of depression, systematic treatment, and suicide prevention among college health services. With grant support from the Aetna Foundation and New York Community Trust (NYCT), Henry Chung, MD, currently Assistant Vice President of Student Health, is the principal investigator leading the College Breakthrough Series – Depression (CBS-D), a regional initiative to improve depression care on college campuses, with a special emphasis on reaching racially diverse students. The Co-PI on the project is Christopher Lucas, MD, PhD from the NYU Child Study Center and the Co-Investigators are Daniel Silverman, MD from Princeton, Janet Corson-Rikert, MD from Cornell and Siu Ping Ma, PhD from Hunter College of the City University of New York.

The collaborative consists of eight colleges and universities representing a range of institutions varying in

locale, size, onsite resources and demographic composition. Each school has assembled a practice improvement team that consists of a senior leader and participating clinicians. Five urban schools include Hunter College, Baruch College, Northeastern University, New York University, and Case Western Reserve University. The senior leaders from these sites are Siu Ping Ma, PhD, Caroline Kasnakian, PhD, Roberta Berrien, MD, Henry Chung, MD and Eleanor Davidson, MD, respectively. Sites that are set in more rural/suburban locales include Princeton University, St. Lawrence University, and Cornell University. Senior leaders from these sites are represented by Daniel Silverman, MD, Patricia Ellis, RN, FNP, and Janet Corson-Rikert, MD, respectively. All senior leaders hold senior positions either as directors of counseling services or directors of the university health services.

The ultimate goal of the initiative is to establish and disseminate best practices for depression treatment in college students to other university health centers to assist them in meeting the complex physical and psychological needs of their students. Part of the collaborative effort involves challenging each site to reach long-term goals for depression assessment and treatment set by the program directors. The goals are intended to specifically define standards of depression treatment considered to be “minimally adequate,” based on information culled from federal agency recommendations, experimental research, and experts in the field.

An initial consensus meeting was held with all senior leaders in August 2006 to review the most current literature on depression outcomes and reach consensus about the most critical areas of diagnosis and treatment delivery and outcomes to be measured. *Figure 2* lists the inclusion and exclusion criteria agreed upon by the senior leadership team, which was refined over time and finalized after the first learning session held in October, 2006. *Figure 3* (on page 18) illustrates the seven measures of depression treatment and process that were agreed upon by the leadership team.

The CBS-D requires attendance from all practice improvement team members (5-7 individuals chosen from the site) from every participating site at three multi-day, intensive centralized face-to-face “learning sessions” spread over nine months comprised of lectures, workshops, group activities, and coaching through listserv

Figure 3: Process and Treatment Goals

Process goals are benchmarks of quality screening, treatment initiation, and management; with special attention given to accurately identifying students seen in primary care who are suffering from clinical depression.

CBS-D Process Goals

- Percentage of all students seen at the health center for primary care screened for depression with the PHQ-2* or PHQ-9 at least once during the academic year. (Goal: 80%)
- Percentage of students who receive at least one follow-up PHQ-9 reassessment within four weeks of CBS-D enrollment (Goal: 80%)
- Percentage of students who receive evidence-based treatment (defined as any student who receives antidepressant medication or attended a counseling session with a licensed mental health specialist initiated within four weeks of CBS-D enrollment) (Goal: 50%)

* PHQ-2 = a briefer validated two-question version of the PHQ-9 full form. It consists of the first two DSM criteria: depressed mood and anhedonia

- Percentage of students who have a documented self-management goal within eight weeks of CBS-D enrollment (Goal: 60%)

Treatment goals are benchmarks of student symptom relief and functional improvement.

CBS-D Treatment Goals

- Percentage of students with a 5-point reduction in Patient Health Questionnaire (PHQ-9)* within eight weeks of CBS-D enrollment. (Goal: 40%)
- Percentage of students with a PHQ-9 score of <10 within 12 weeks of CBS-D enrollment (Goal: 40%)
- Percentage of students with improved function who report ‘not difficult at all’ or ‘somewhat difficult’ problems meeting daily social, academic, and occupational responsibilities within 12 weeks of CBS-D enrollment (Goal: 35%)

channels and monthly conference calls. Action periods of approximately three months are allowed between learning sessions to allow sites to begin the PDSA test cycles that produce actionable data for areas in need of additional development and resources.

At this point, every site that offers primary care services has been successful in instituting systematic depression screening and has hired and trained Care Managers that have a critical administrative and support role in coordinating care among providers and ensuring systematic PHQ-9 reassessment to monitor treatment progress and outcomes. The care manager is also usually designated as the point person in compiling the results of activities that have occurred during the month and generating a report that summarizes the outcomes on the seven agreed upon measures. Early results have already shown impressive systematic screening for depression in college primary care, with over 10,000 college students screened in the first five months of the project. Importantly, over 300 students have been identified as sufficiently

depressed and functionally impaired to be entered into the depression collaborative registry. This ensures that these students will be systematically followed as they proceed in treatment and will not be lost to follow-up as so frequently happens early in the treatment of an illness that confers significant stigma, tends to reinforce sedentary behavior and is made more difficult because of the compressed and unpredictable demands of the academic schedule.

Conclusion

The IHI BTS approach appears to offer a promising approach to increasing access to comprehensive depression care for college students. Data suggests that providing this service is more important than ever due to the increased prevalence of students who arrive at college campuses with more serious psychiatric problems. Initial CBS-D data on depression screening rates and detection of depressed students in medical settings suggests we may be able to identify troubled students earlier as well as those who

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might eschew traditional behavioral health channels such as ethnic minorities and men. Coordinated transition into treatment and systematized efforts aimed at treatment retention are expected to improve treatment outcomes. We expect more specific results on treatment outcomes as the project continues to proceed beyond the initial 6-month development phase and plan to report on these once available.



Henry Chung, MD is Assistant Vice President for Student Health and Executive Director of the NYU Student Health Center at New York University. He is also Clinical Associate Professor of Psychiatry at New York University School of Medicine. Dr. Chung has a track record of leadership and achievement in strategic planning, community health, disease management and research in both primary care and behavioral health arenas. He has performed research and published articles related to the integration of mental health treatment in primary care, especially for racial and ethnic minorities. He was the Founder and Project Director of the Asian American Primary Care and Mental Health “Bridge” Program, a nationally recognized model program for primary care and mental health integration. Dr. Chung is currently Principal Investigator of the Collaborative Care for Depression Initiative in College Campuses with primary funding by the Aetna Foundation and New York Community Trust. Since 2003, he has also been Co-Principal Investigator of a National Depression Leadership Initiative which is jointly sponsored by the American Psychiatric Association, American Academy of Family Physicians and the American College of Physicians. He is also a member of the Board of the American Psychiatric Foundation. He can be reached at henry.chung@nyu.edu.



Michael C. Klein, PhD joined the Student Health Center staff at New York University as Grants Administrator/Clinical Fellow in 2006. As Grants Administrator, Michael coordinates a multi-site quality improvement project for implementing comprehensive evidence-based depression treatment using the Institute for Healthcare Improvement (IHI) Collaborative Breakthrough Model. This initiative is the first of its kind for college health, and involves eight diverse universities focused on improving the assessment and treatment of depression in college health centers. Dr. Klein’s role as Clinical Fellow involves treating individuals and couples at NYU Counseling and Behavioral Health Services located within the NYU Student Health Center. Michael earned his PhD in Clinical Psychology from Long Island University - Brooklyn in 2006. He can be reached at michael.klein@nyu.edu.

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