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Routledge
Taylor & Francis Group

EMPIRICAL PAPER

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Abstract
Objective: The Center for Collegiate Mental Health (CCMH) was created through a grass-roots initiative among university and college counseling centers to standardize assessment procedures, conduct empirical studies, and advocate clinical services. **Method:** At present, CCMH has over 240 college counseling center members and oversees a research infrastructure based on these centers' routine services, describing approximately 90,000 individual clients annually. These data are used to provide clinical tools, which can be useful for ongoing clinical services as well as program evaluation, quality assurance, and advocacy on behalf of the counseling centers and clients. **Results:** There have been substantial obstacles to overcome, and there remain numerous challenges in day-to-day operations. This article provides a brief overview of the challenges and current solutions. **Conclusions:** Large-scale collaborations between researchers and practitioners are possible, and some recommendations can be made based on the experience of CCMH.

Keywords: mental health services research; outcome research; process research; psychotherapist training/supervision/development; technology in psychotherapy research & training

University and college counseling centers (UCCs) are often the first-line treatment setting for mental health difficulties on college campuses, especially at residential colleges and universities. Like other out-patient clinical settings, UCCs have faced increasing pressure in recent years: pressure to provide evidence of their own efficacy, and pressure to justify their continued value within a college or university setting (Sharkin, 2004; Varlotta, 2012). The movements to identify empirically-supported treatments (ESTs; Chambless & Hollon, 1998) and toward evidence-based practice in psychology (EBPP; APA, 2006) demand that psychotherapists base their clinical practice on sound empirical footing. Another pressure is the clinical needs of the clients seen in

UCCs (Benton, Robertson, Tseng, Newton, & Benton, 2003). Studies of college student mental health have revealed that college students suffer from mental illness at similar rates to the national population. For instance, Eisenberg, Hunt, and Speer (2013) conducted a representative survey of 26 colleges and universities, and found an estimated 9.0% prevalence of positive screen for current Major Depression, not dissimilar from the Kessler, Chiu, Demler, Merikangas, and Walters (2005) estimate for 12-month prevalence of any mood disorder in the general population (9.5%). Since 2000, the rate of students being diagnosed with depression has increased 10–15% (Hunt & Eisenberg, 2010). Given the pressures to demonstrate value, and simultaneously respond to

rapidly escalating demand, UCCs would benefit from a mechanism that provides for self-evaluation and outcome monitoring without unduly interfering with clinical services.

The Center for Collegiate Mental Health (CCMH) was developed in order to fill this role. Over nearly 9 years, it has matured into a large-scale practice research network (PRN), with numerous interrelated goals and a diverse group of stakeholders. Similar to the National Institute on Drug Abuse's Clinical Trials Network (see Szapocznik, Muir, Duff, & Schwartz, in press), CCMH is composed of a network of separate centers, each with its own clinical needs and procedures, and an administrative/leadership core.

In this paper we first describe the CCMH infrastructure with an emphasis on the goals and work that led to the current organization. We then summarize a few studies that have been conducted using data generated within CCMH. Following this is a review of several major obstacles encountered during the establishment of CCMH and current day-to-day operations, along with some of the solutions. A description of the benefits achieved through CCMH follows, emphasizing the benefits to different stakeholders in the system. And finally, we conclude with some of the lessons learned during the process of developing and maintaining this large practice-oriented infrastructure.

CCMH Development, Goals, and Operations

Origin and Early Development

CCMH is a grass-roots effort among counseling centers aimed at meeting the changing needs and demands of UCCs discussed above. As a result of these demands and the emphasis on clinical service, UCCs have generally lacked the time and resources to accurately describe, through research and dissemination, the students they serve, their resource needs, and the efficacy of their services. Given the high demand for services, lack of funding, and time constraints, conducting research has necessarily been a lower priority than providing direct services at UCCs. In the past, UCCs have often have relied on statistics from treatment-seeking college students that were retrospective and hard to generalize (Castonguay, Locke, & Hayes, 2011). As such, UCCs have been left in a vulnerable state: Unable to fully describe the nature of students seeking services or the value of the treatments offered, while struggling to meet an escalating demand.

CCMH was formally established in 2005 as a multidisciplinary research center at Penn State University. Since this time, it has grown to become a collaborative effort of many mental health stakeholders including clinicians, researchers, university administrators, and funders with shared goals including accurately describing clinical college student mental health at a national level, supporting self-advocacy for centers, conducting large-scale psychotherapy research, and improving the range of clinical tools available to clinicians in the college setting. The overarching goal of CCMH is to facilitate these mutually beneficial and interdependent relationships between the collaborators for the purpose of enhancing the clinical resources available to UCCs while also improving the mental health services provided to college students (Castonguay et al., 2011; Locke, Bieschke, Castonguay, & Hayes, 2012).

CCMH initially operated on a shoestring budget, and focused on developing grassroots support and buy-in from UCCs, researchers, and funders. It officially became a center after obtaining the support of invested colleagues, reaching a critical mass of UCC members (about 35), and receiving a small amount of seed funding, along with an endorsement, from the leadership organization of UCCs, the Association of University and Counseling Center Directors (AUCCCD). Critical to the establishment of CCMH was administrative support at Penn State University from Counseling and Psychological Services and Student Affairs, which provided support for the project's goals by providing the staff member who founded CCMH with time to coordinate the project during its infancy (Castonguay et al., 2011; Locke, Bieschke, et al., 2012).

Data Standardization

In order to achieve the necessary collaboration between clinicians and researchers, it was imperative for CCMH to establish a sense of community, "including shared ownership of the kinds of data gathered and the research conducted" (Locke, Bieschke, et al., 2012, p. 238). To address this goal, while avoiding the pitfall of creating more work for already strained UCCs, CCMH began by standardizing the data gathered during routine clinical practice (Locke, Bieschke, et al., 2012).

As a first step, CCMH gathered and synthesized intake materials from more than 50 counseling centers, which led to the development of a proposed Standardized Data Set (SDS). The proposed SDS then served as the base for an inaugural working conference in 2006 that consisted of more than 70 counseling staff members from 55 colleges and universities. Together they reviewed the proposed data standards and worked towards consensus, question by question, via small groups and plenary

reporting/discussion. Over a period of 2 days, conference attendees made critical progress on the SDS and agreed to the creation of a 12-member Advisory Board composed of staff from member centers. The Advisory Board ensures that the activities and decisions of CCMH are reflective of the UCC field and consistent with the founding mission of CCMH. After extensive discussions and further debate, the CCMH Advisory Board finalized the SDS in the summer of 2007. The SDS, which measures client demographics and mental health history, serves as the foundation of the data collection for CCMH (Castonguay et al., 2011; Locke, Bieschke, et al., 2012). Refined each subsequent year, the SDS underwent a major revision in 2012 aimed at improving the accuracy of the information collected. After 2 years of work, the advisory board approved a new set of response options focused on both recency and frequency of past mental health concerns, drug use, and past traumatic events. In response to feedback from member centers, additional questions were added to more accurately assess gender identity and sexual orientation. To ensure that counseling centers continue to guide the work of the SDS, and therefore maintain a sense of shared ownership, feedback from members is gathered and reviewed annually. The advisory board is tasked with reviewing feedback from member centers in the context of current research and making final decisions about the iterative development of the SDS.

Included within the intake paperwork from 50 counseling centers used to create the SDS, there were also more than 35 self-report assessment instruments in use. Counseling centers have historically used several different instruments that are common in psychotherapy settings for initial assessment and treatment outcome monitoring, including the Outcome Questionnaire-45.2 (Lambert, 2004), Symptom Checklist-90-R (Derogatis, 1992), and the Behavioral Health Monitor-20 (Kopta & Lowry, 2002). After reviewing each of these instruments, the executive director of CCMH (Benjamin D. Locke) chose four to be considered by the CCMH membership/advisory board for selection as a common instrument for assessing clinical college student mental health. Each instrument was discussed at the 2006 conference and the CCMH Advisory Board reviewed additional feedback from over 100 centers. From this conference and discussion, it was clear that a free or low-cost instrument, designed for the college population, which assesses multiple areas of concern, was preferred by the CCMH membership. The Advisory Board, after much discussion and debate, selected the Counseling Center Assessment of Psychological Symptoms (CCAPS; see Locke et al., 2011; Locke, McAleavey, et al., 2012;

McAleavey et al., 2012) because it was (a) multidimensional, (b) psychometrically sound, (c) developed by counseling center staff specifically for college students, (d) open for refinement to meet the needs of participating centers, and (e) it could be provided at no charge to counseling centers for their use (Castonguay et al., 2011; Locke, Bieschke, et al., 2012). After the CCAPS was chosen, it was donated to CCMH for continued development on behalf of the field (as discussed below).

Technological Partnership

With the initial instruments selected, CCMH partnered with Titanium Software to integrate the CCAPS and SDS into their electronic medical records (EMR) software (Titanium Schedule is a commonly used EMR software by counseling centers). This step of technological partnership and data integration guaranteed that standardized questions and answers would not be edited over time, thus ensuring that only high-quality, reliable data would be generated. A potential problem with data standardization is a lack of flexibility or customization, which can result in reduced participation by many member centers. To avoid this pitfall, the SDS was integrated into Titanium Schedule in a manner that permits centers to add custom items, change the order in which items are presented, and turn individual items on or off (Locke, Bieschke, et al., 2012). This solution balances the needs of researchers (e.g., high-quality, standardized data) with the needs of practitioners (e.g., flexibility; center-specific data needs) and contributes to the mutually beneficial nature of the PRN. CCMH was fortunate to be able to partner with a business partner interested in a mutually beneficial partnership. Starting in 2006, Titanium Software supported CCMH through large in-kind donations of technical work/time and financial support for conferences in 2006 and 2009. In-kind support for CCMH has included the integration of standardized data materials into Titanium Schedule, refinements of these materials over time, and helping to design and build our data pooling infrastructure. While CCMH has been able to pay for some work over the years, much of the work has been completed for no charge. In turn, CCMH has benefitted Titanium by pooling feedback from members to guide new feature prioritization, helping to design and publicize a unique feature set that attracts new customers, and providing an attractive mechanism for counseling centers to contribute to national research. Over time, counseling centers began to use the linkage between Titanium and the ability to contribute to CCMH research as a primary factor when deciding which software to purchase.

This unique partnership has been mutually beneficial for CCMH and Titanium over time, as well as counseling centers in general, and underscores the value of a multi-disciplinary PRN and the role of technology.

The SDS and CCAPS became available within Titanium Schedule in January 2008, which allowed participating centers to gradually convert their intake materials to the CCMH standardized materials by September 2008 (Castonguay et al., 2011; Locke et al., 2012). Since then, CCMH has continued to grow and UCCs that do not use Titanium Schedule have expressed interest in accessing the CCAPS instruments. CCMH is working to address this need by distributing the CCAPS via additional authorized EMR vendors that pay a fee to make the instruments available to their customers. This approach enables CCMH to grow, meet the needs of more UCCs, and generate income by leveraging the influence of our membership within the EMR marketplace. CCMH now comprises over 240 counseling centers as members, many of which regularly submit data from approximately 80,000 counseling center clients per year. The centers vary widely in geographic location across the country, student body size (from fewer than 1000 to over 50,000 students), location (urban, rural), and services offered (see http://ccmh.squarespace.com/participating-centers/ for a complete list). The SDS and CCAPS, which serve as the data foundation of CCMH, have made it possible for UCCs to collaboratively gather large sets of high-quality data which can then be used to describe services, demonstrate value, advocate resources, and develop beneficial clinical tools.

Current Organization and Data Collection

As mentioned earlier, CCMH is best considered a network of individual UCCs. Within each center, the administrative staff (e.g., counseling center directors) oversee the many decisions necessary for the UCC's aims, along with the counselors who regularly provide assessment and treatment to clients (depending on the size of the center, these roles may be completely fused or completely separated). The 12-member CCMH Advisory Board provides broad oversight and final decision-making authority for CCMH. Board members are selected from a pool of applicants from member centers. The CCMH central organization, which is currently located at the Counseling and Psychological Services of The Pennsylvania State University, coordinates the creation and maintenance of data standards across participating centers, receives and stores incoming data, and provides the participating counseling centers with "refined data products": tools that assist in clinical practice, reporting, and self-advocacy. In addition, the CCMH central organization is host to numerous collaborations between researchers and practitioners, with a primary goal of conducting practice-relevant research through the CCMH infrastructure. The CCMH research team is composed of faculty and graduate students in Counseling and Clinical Psychology, as well as clinical staff members from the UCC at Penn State. Through regular meetings, this group discusses ongoing and prospective research projects, and aims to conduct clinically relevant studies. A smaller group of faculty, staff, and graduate students also work on CCMH organizational projects, such as maintaining Institutional Review Board approval across all member sites, recruiting new centers, and other necessary functions. Thus, at every level of CCMH organization, there is an inherent collaboration between clinicians, researchers, and students.

The main source of data generated in CCMH is ongoing, real-world data collection that is conducted at each member center on each of their (participating) clients, and includes SDS, CCAPS, and appointment information. That is, in many cases (depending on the local IRB agreement), CCMH receives a nearly complete electronic record for many if not all clients at a counseling center. These data are completely de-identified once they are uploaded, so that not only are the clients' identities protected, but also the counseling centers are not identifiable. This data flow is the primary data output of CCMH centers, and apart from monthly data uploads, requires almost no time from individual counseling centers. So far, four major data sets have been defined. The first, called the CCMH Pilot data set, is data collected during the Fall 2008 academic semester, from 66 institutions. Following that pilot, data sets have been created for the 2010–2011, 2011–2012, and 2012–2013 academic years. The most recent annual data set includes data on over 90,000 individual clients, and over 3000 counselors. These data comprise almost one million lines of data each year, since each client may appear in any number of observations: Each CCAPS, SDS, and appointment is recorded when appropriate consent is obtained. These data are available for outside researchers for the benefit of the counseling field, through the data sharing mechanism discussed below.

Other data collection mechanisms have been established by CCMH and its partners for specific purposes. For example, a large national nonclinical data collection mechanism has been created with CampusLabs (described below) in order to conduct a national survey of college students who are not necessarily in counseling. This nonclinical data

collection has grown to survey over 10,000 students per year, and uses measures developed by CCMH (the SDS and CCAPS-62). In addition, comparison data have been collected through a university subject pool, composed of nonclinical, non-treatment-seeking individuals. And for certain projects, ad hoc data collection has been conducted in counseling centers, with the consent and participation of several member centers and their clients.

Studies Conducted in CCMH

A number of scientific papers and conference presentations have stemmed from the CCMH data sets. Many of these studies have either been led by or included graduate students, demonstrating the feasibility of integrating research and clinical interest early in the career of mental health professionals, as in the scientist-practitioner model (see Castonguay, 2011; Castonguay, Pincus, & McAleavey, in press). All of these studies, however, also involve the collaboration of research mentors, and rely on CCMH clinical staff and administrators, including, for several studies, full-time clinicians as authors on publications and consultants during study development and manuscript preparation. Studies from CCMH have focused on topics of assessment, impacts of minority identity, UCC service utilization, and outcomes of counseling. Here, we summarize some of the key papers that have been or will soon be published across the wide areas of interest represented by CCMH researchers and clinicians.

Assessment. As described above, one of the first major tasks completed by CCMH was the selection of a self-report instrument for use in member centers. After selecting the CCAPS for this purpose, it was important to ensure that the measurements provided were valid and reliable estimates of distress. So far, three development and validation papers related to the CCAPS instruments have been produced. The first paper (Locke et al., 2011) documented the development of the CCAPS-62 from the initial pool of potential items, to the 70-item version used by the counseling center at the University of Michigan. It also included results from an exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) of the CCAPS-70, which was used in CCMH's Pilot Study, and which was trimmed to the 62-item CCAPS-62 based on the empirical findings of this paper. The CCAPS-62 has 8 factor-analytically derived subscales covering a broad range of Axis I symptoms: Depression, Generalized Anxiety, Social Anxiety, Eating Concerns, Substance Use, Family Distress, Academic Distress, and Hostility. This paper also included analyses of data collected

specifically to test the validity of the subscale scores of the CCAPS-62, providing some evidence for convergent and divergent validity of the CCAPS-62 subscales.

A second paper (Locke, McAleavey, et al., 2012) described the development and validation of a short form of the CCAPS-62, for the clinical and research purposes of obtaining repeated measurement of outcomes in counseling. This instrument was developed in direct response to feedback from CCMH members. Using the Pilot data set, collected in 2008, the authors used classical test theory and item-response theory methods along with input from practicing counselors to determine which items from the CCAPS-62 were most valuable. The result of this process was the 34-item CCAPS-34, which has seven subscales (Family Distress was removed from the CCAPS-62, and the Substance Use subscale was changed to only assess Alcohol Use on the CCAPS-34). Though these subscales are shorter, the results of validation studies suggested that they had nearly equivalent construct validity to the CCAPS-62 subscales (though less construct coverage overall).

A third study, McAleavey et al. (2012), focused on the clinical uses of the CCAPS-62. Specifically, the subscales' convergent and divergent validity was tested in a multi-site sample of counseling center clients, which CCMH collected at over 10 volunteer member centers. This data collection reflects a benefit of establishing CCMH as a PRN: By diffusing the burden of data collection across multiple sites, each center only administered one additional measure at a time, but 16 measures were collected in total. This study also used item-response theory analyses to show that the subscales of the CCAPS-62 are especially sensitive around the mean of counseling center clients, making them good screening measures in UCCs. The relationships among subscale scores were also explored using a second-order factor analysis, suggesting that some subscales may be closely related to one another—a finding that eventually led to the development of the Distress Index for the CCAPS instruments, which is a measure of general distress derived from items across several subscales. Finally, this study also provided empirical evidence for the development of clinical cut scores for the CCAPS-62, showing that some CCAPS-62 subscales were quite effective at discriminating diagnostic groups from clients who had not been diagnosed with specific disorders (e.g., an optimal cut point was derived for the Social Anxiety subscale to predict diagnoses of Social Phobia). As a whole, these three CCAPS development papers represent a significant effort to address one of the foundational needs of CCMH: To provide a low-cost, multi-dimensional, reliable, and

valid instrument to counseling centers with direct clinical utility. A large part of this process required direct collaboration among counseling center staff, administrators, and researchers in data collection and interpretation. Future studies will continue to examine the validity and utility of the CCAPS instruments as well as other potentially useful instruments in counseling.

Minority and underserved populations. Culture and diversity play an important role in most clinical settings because minorities are subject to additional stressors and prejudice, and may experience increased levels of mental health difficulties and thus require particular clinical care. Not surprisingly, therefore, several studies from CCMH have examined correlates and effects of minority status in counseling centers. For instance, Nelson, Castonguay, and Locke (2011) examined the prevalence of high scores on the CCAPS-62 Eating Concerns subscale across sexual orientation and race/ethnicity categories at the first administration of the CCAPS at counseling centers. This study found that though there were different effects associated with each demographic category, these differences were not large. The authors interpreted these findings to challenge the stereotype of eating disorders as a "white women's disease." In addition, they compared scores on individual CCAPS items that assess dissatisfaction with body shape and body weight and found that males—including heterosexual males— evidence high rates of dissatisfaction with body shape. Though somewhat lower than women, over half of the males in the sample endorsed this item at least at a moderate level. This suggests that assessing for male clients' body image issues may be important.

Another study, conducted by McAleavey, Castonguay, and Locke (2011), investigated sexual orientation minority students and heterosexual students across the subscales of the CCAPS-62, investigating both in-treatment and not-in-treatment students. One of the findings indicated that sexual minority groups (individuals who identified as gay, lesbian, bisexual, and questioning) reported differences in the types of symptoms experienced, on average, when seeking treatment. For instance, bisexual students reported more Hostility than other groups, while Questioning students reported more Social Anxiety. This study suggests that treating sexual minorities as one group (e.g., heterosexual or not heterosexual) may not accurately reflect real differences in the experiences of these groups.

Another study, conducted by Hayes, Chun-Kennedy, Edens, and Locke (2011), examined whether students of different minority groups report different levels of distress and, in particular, whether students who identify with two minority groups (i.e., race/ethnicity and sexual orientation minorities) report especially high distress. In general, they found that race/ethnicity minority students experienced more distress than did White students, and that sexual minority students experienced more distress than did heterosexual students. In addition, though "double minority" status did not universally predict increased distress over single minority status, sexual orientation minority students who were also racial/ ethnic minorities did experience more distress than heterosexual racial/ethnic minority students. Building on this study, Kawamoto, Youn, Castonguay, and Locke (manuscript submitted for publication) examined international students in particular compared with minority domestic students. They found that while Asian-American and international students reported higher levels of clinical difficulties on several CCAPS domains, White students reported higher level of substance abuse concerns than other students. Further, they compared international students of different continents of origin and found that both Asian and African students had higher levels of symptomatology than other international students, with the exception of substance abuse.

Utilization of counseling services. Several projects conducted through CCMH have examined predictors and correlates of service utilization at UCCs, hoping to address the question of what determines whether a student seeks help at a counseling center or not. This type of study can address both clinical and administrative purposes, such as how to direct outreach efforts and how to manage counseling centers' resources to best address the needs of their clientele. For instance, Hayes, Youn, et al. (2011) compared the racial/ ethnic composition of 45 institutions' general student bodies to the race/ethnicity of counseling center clients at those institutions. They found little to no evidence of underutilization of counseling center services by racial and ethnic minority students, suggesting that, at least on average, these students make initial contact with UCCs at similar rates to White students. Note that this study did not examine dropout rates during treatment, nor does this suggest that a pattern of underutilization does not exist at some particular centers. However, these authors did find that UCC staff racial/ethnic composition was a significant predictor of utilization rates by ethnic minority students (e.g., a higher percentage of African-American students used UCC services at centers with greater proportions of African-American staff). In addition, among students of color,

being a first-generation college student significantly predicted an increased likelihood of seeking treatment at a UCC, as did current and past financial difficulty.

Interestingly, using two large samples of students of various ethnic backgrounds, Nordberg, Hayes, McAleavey, Castonguay, and Locke (2013) found that being the first person in one's family to go to college differentiated treatment seekers from non-treatment seekers: Even after controlling for other factors, first-generation students were more likely to attend counseling than people who were not the first in their family. Also predictive of seeking treatment in this study were high levels of Depression, Generalized Anxiety, Family Distress, and Academic Distress.

Studies of change and outcome. One of the primary goals of CCMH is to study the process and outcome of counseling. As such, one focus of research has been on predictors of improvement as well as characterizing "typical" improvement during counseling. For instance, Boswell, McAleavey, Castonguay, Hayes, and Locke (2012) examined whether clients who had previously been in treatment would show more rapid or slower response in a new course of counseling than clients without a treatment history. They found that clients who had previously had counseling for psychological or emotional reasons showed slower progress and less change overall than clients without it, but this was not the case for previous medication use. This was somewhat surprising, since it suggests that a history of mental health problems in and of itself was not the primary contributing factor (else all previous treatments might be expected to predict slower change), but that previous counseling in particular seems to predict slower response to treatment in UCCs, perhaps due to lowered outcome expectations.

Also addressing therapeutic change, Lockard, Hayes, McAleavey, and Locke (2012) conducted a study focused on the Academic Distress subscale of the CCAPS-34. Since most clients in UCCs are students, especially undergraduate students, Academic Distress is an important marker of functional competency—somewhat like self-efficacy for job performance. However, it is rarely the case that counseling focuses solely on academic concerns instead of emotional and psychological symptoms and/or interpersonal problems. In this paper, Lockard et al. found that academic distress significantly decreases in counseling. Further, the change observed during counseling is greater than the change observed in students who are not in counseling. In this study, the authors were able to collaborate with the counseling center at one university to collect clinical data and directly compare them to nonclinical data collected from the same university during the same semester.

The studies briefly discussed above represent only a portion of the research that has been conducted so far through CCMH, covering a range of college student mental health concerns. Even more exciting is the potential for future studies that will benefit from this unique clinical and data generation collaboration, some of which are briefly mentioned in the conclusion of this paper.

Obstacles and Working Solutions

In developing and running CCMH, a number of difficulties have emerged, along with some successful (and less successful) strategies for solving these problems. Here, we have organized some of these challenges into broad categories: Organizational and operational challenges, challenges for researchers, challenges for counselors, and challenges of funding.

Organizational and Operational Challenges

Implementation of standardized materials. Since one of the primary goals of CCMH has always been to standardize some aspects of UCC data collection (particularly questionnaires given to clients at first contact to allow for cross-center comparisons), implementing these standardized materials has been a tremendously important task. However, the challenges inherent in this task include ensuring that the materials reach clients in the same format every time; that the measures are easily administered by and meet the needs of each UCC; that the data from clients are efficiently and accurately recorded, scored, reported to the counselor and transmitted to CCMH; and that any future updates to the standardized materials can be accommodated.

In order to meet these challenges, CCMH partnered with a popular electronic medical records (EMR) and scheduling company, Titanium Software. Through Titanium Schedule (EMR software), CCMH has been able to provide the Standardized Data Set (SDS), CCAPS instruments, and other standardized questionnaires using electronic data entry methods. Clients complete these measures, often directly on a computer kiosk or iPad, and the appropriate data are stored in their clinical record. This system not only allows for the accurate recording of data directly as a part of clinical routine, but also allows CCMH to update the standardized materials as necessary (for instance by changing the wording of items related to gender and sexual orientation on the SDS). Without this EMR integration, it would be very difficult, or impossible,

to maintain up-to-date data across hundreds of institutions.

Communication. With the number of centers currently involved in CCMH, managing the communications between counselors, UCC directors, and CCMH central organization is a major challenge. This is important, because good communication allows CCMH to provide updates and trainings, and allows member centers to ask questions and offer input of CCMH and other member centers.

Given the size of CCMH, the tools used to communicate are often large-scale mass communication utilities. These include email lists for communication between centers, which are often useful when one UCC has run into some clinical difficulty or question that other member centers may have encountered and resolved previously (such as: "How can we implement the CCAPS and SDS on iPads?"). For direct communications with CCMH, web-based form submissions and direct email have been most efficient, generally when a particular issue unlikely to be replicated by another member center is at hand. Though these are the most common forms of communication, less frequent communications have also been invaluable, including annual meetings of the Advisory Board, meetings at conferences (including some conferences organized entirely by CCMH), webinars to disseminate information and train counseling center staff on using CCMH-related clinical tools, and multiple print publications to summarize findings and progress, such as an annual report.

Recruitment of centers and ongoing collaboration. Though CCMH is now quite large and covers a broad swath of the UCCs in the US and a few in Canada, it started as just an idea stemming from conversations among counseling center staff. One goal of CCMH is to include member centers from institutions representing diverse populations and geographic regions, in order to accurately reflect the mental health needs and services at UCCs. To continue recruitment, CCMH reaches out to centers via email over the summer (a time when centers tend to see less student traffic) to inform them about the purpose and goals of CCMH and inviting them to become a member center. Often, all that is necessary is providing centers with information on the purpose and benefits of CCMH, to make them see the advantages of contributing data for their own center and the field of college counseling. Over the last few years, awareness of CCMH in the college mental health field has grown and UCCs have started to reach out to CCMH to become members. However, there are still barriers to entry and reasons that

member centers may choose not to renew membership in any given year.

One such barrier, which has emerged from a solution to another problem, is that centers not using Titanium Software were reluctant to join CCMH because electronic data entry and scoring for CCAPS instruments were not initially available outside Titanium. Recently, several other EMR providers expressed interest in meeting their customers' requests for these instruments. Anticipating that CCAPS scoring and reports will evolve over time, CCMH was reluctant to invest time in facilitating complicated custom integrations across multiple software platforms. To address this, CCMH sought to build a web-service that vendors could contract to access for scoring services. In 2010, CCMH received a $70,000 grant to design such a service capable of receiving raw data from approved vendors and returning a scored CCAPS report which can be stored in the EMR software. As a result, non-Titanium EMR providers (Point and Click, PyraMED, and Medicat) have implemented this service, helping to meet the needs of new member centers while also supporting CCMH financially. These relationships illustrate how clinical needs, when coordinated nationally, can influence research, technology, and corporate practices: By advocating their clinical practice through membership with CCMH, UCCs were able to indirectly create a change in the type and quality of service provided by multiple EMR vendors to meet their needs.

Schools without an EMR have the more difficult task of administering the SDS and scoring the CCAPS instruments by hand, which is more time-consuming and cumbersome. While CCMH will continue to explore options for making the CCAPS and SDS available to all UCCs (e.g., Excel-based scoring programs), EMR integration remains one of the most promising.

Data management. One challenge relevant to any data collected in a clinical setting is ensuring that the data are accurate and comprehensive. This challenge is multiplied in multisite studies due to the need for data uniformity and merging process. This is, therefore, a central challenge in the enterprise of operating CCMH: Managing the incoming data from clients and counselors, at each center, and then the transfer to CCMH's data repository. At each stage in this process, different people and computer systems assume responsibility for data integrity and confidentiality. One major boon to CCMH in this endeavor has been the partnership with Titanium Software, which has provided critical technical expertise during the data transfer process

including security, server management, and data export and variable creation.

Titanium Schedule, installed at many UCCs, is a confidential electronic medical record system, which provides an excellent foundation for securely collecting data from clients, entering those data into client files (generally with the approval of an administrator), and storing the data once it is accepted. CCMH asks member centers using Titanium to upload de-identified data once per month, which allows for a nearly continuous flow of data into CCMH's data repository. This repository houses data from all participating centers. As described earlier, this continuous data flow is ultimately divided by data "seams" according to the American academic years. These have the effect of creating discrete data sets that can be analyzed separately. Not only does this partition the data into more useful packets, but it also helps ensure that the data reflects typical practices in UCCs. That is, UCCs are often heavily impacted by the academic calendar: Not only do many of their clients (undergraduate students) leave campus during summer months, staff numbers may be considerably lower during summer, new counselors may be hired to start the school year, and trainee therapists mostly begin and end their training at UCCs with the academic calendar. By keeping academic years separate, CCMH is able to minimize (though perhaps not eliminate) the noise inherent in these data. Four data sets have been defined to date: The Pilot Study, which occurred in the Fall of 2008 across 66 UCCs administering the CCAPS-70 and SDS; the 2010–2011 data set which comprised over 60,000 clients from 97 UCCs; the 2011–2012 data set consisting of over 80,000 clients from 120 UCCs; and the 2012–2013 data set, which includes data on over 95,000 clients and 130 UCCs.

Translating empirical findings to clinicians and administrators. Another element of communication that has proven to be vital to the continued success of CCMH has been translating research findings into meaningful and understandable information for two audiences: Clinicians who use the CCAPS and other instruments in their regular practice, and the UCC and college administrators who control the budget of each UCC. Translating empirical findings for clinicians should be a familiar task to anyone involved in collaborations between researchers and clinicians. In general, we have found that the counselors working within CCMH are eager to learn what is being done with the data that they and their clients contribute. We have worked to share our findings by providing webinars designed to disseminate findings and publications such as the annual report (Center for Collegiate Mental Health

2013a) and CCAPS Clinician's Guide (Center for Collegiate Mental Health, 2013b) that provide non-technical descriptions of research efforts.

A larger, and perhaps more unique, challenge has been translating empirical findings to administrators. Often, this challenge is greater because the questions that seem both critically important and very simple to administrators are among the most complex empirical tasks available. For example, a college vice president may wish to know, "How effective are the services offered at our counseling center?" This question, though vitally important, requires both extensive clarification (e.g., "Compared to what: Controlled trials, other counseling centers or something different?" or, "On what measurement: Client satisfaction, academic retention, symptomatic improvement?") and may lead to complex and specialized quantitative methods (e.g., the benchmarking methods described by Minami et al., 2009; linear mixed-effects modeling), which themselves may be difficult to explain. However, CCMH has tried to provide support for member centers that want to address some of these questions. For instance, CCMH created a report that centers can run with minimal input to determine how much change on the CCAPS instruments clients show, given a certain number of sessions, a date range, type of sessions, or for any particular therapy group or staff member(s). Ideally, this relatively simple calculation can then be taken as some (albeit limited) evidence of the efficacy of counseling, or may more appropriately be used to direct areas in need of future training.

Some other relevant questions, however, are easier to translate accurately. For instance, many clinic directors are interested to find out if the clients in their center differ meaningfully from clients at other centers in terms of the severity of concerns. CCMH, again with Titanium, has developed a report that allows centers to compare the scores of incoming clients' CCAPS subscale scores against the national average. So, if a particular counseling center sees clients who, on average, report more difficulty with eating concerns than clients at other centers, the counselors may benefit from focused training on that issue. In addition, through collaborations with CampusLabs, a company that offers web-based benchmarking services for higher education, CCMH provides schools with the opportunity to compare their clients' CCAPS and SDS reports to other institutions as well as a nonclinical sample of college students from a nationwide study. Member centers are able to limit comparisons to similar schools (e.g., size, location) and/or compare only their clients' responses to responses from the nonclinical survey respondents from their own school. The reports

from CampusLabs can be used to present administrators with data in a clear, concise way allowing UCCs to advocate their needs and the needs of the students based on these comparisons.

Intellectual property and other legal issues. A particular challenge encountered in CCMH has been managing the various legal contracts and intellectual property rights involved. While more could be said about this challenge than space permits, we will mention some of the issues that have arisen. One is that CCMH has a shared copyright over the CCAPS instruments along with its initial developers, and provides the CCAPS instruments to counseling centers free of charge. Despite that, other uses of the CCAPS instruments are not necessarily free to all users, requiring various contracts and licenses. Each collaboration (for instance with Titanium Software and CampusLabs) requires careful review, and some collaborations have required approval from a team of legal experts at PSU. Large-scale PRNs are very likely to include the use of intellectual property or the development of corporate partnerships, and our experience suggests planning for risk-management and legal resources is necessary for success.

Challenges for Researchers

Heterogeneity in the data. In attempting to make use of the data available from CCMH, probably the biggest single challenge (and simultaneously a potential strength) is that there are tremendous differences across different UCCs, therapists, and clients. Each counseling center has a unique set of clinical practices, from the size of the center (number of clients and therapists seen), to the frequency of regular sessions, to the services offered (individual counseling, group therapies, skills-based treatments, career counseling and various assessment-only services are offered at some but not necessarily all UCCs), to the available external mental health resources near each institution (which may draw students away from counseling centers or provide referral sources); no two UCCs in CCMH are quite the same. In addition, the therapists are heterogeneous themselves, ranging from first-year trainees to expert therapists and coming from a variety of training backgrounds. Finally, though the clients are generally more constrained by age than many mental health services (most clients at counseling centers are undergraduate students), the reasons for seeking counseling are diverse. This is particularly important when using the CCAPS instruments, which assess several different concerns that are each relevant to college student populations, but not every

client would be expected to endorse elevated distress across all subscales. Without knowing additional information, such as the reason for seeking counseling and/or diagnosis of individual clients, it is difficult to know which clients should be expected to improve in any given domain of the CCAPS (see McAleavey et al., 2012, for more information).

Much of the heterogeneity present in CCMH data is essential, in that it is a real and integral part of describing practice across these settings and individuals. Thus, though it does pose challenges to researchers, it must also be considered a necessary difficulty—not an evil. There are also a few benefits of this heterogeneity: It allows for examinations of complex questions that are not possible when data are homogeneous. Differences between clients, for example, can be examined in more nuanced ways than is possible in less varied and smaller data sets. Research must instead search for ways to use and understand this heterogeneity, rather than eliminate it.

IRB approval. Each step in CCMH's process is monitored and approved by relevant Institutional Review Boards (IRBs)—each center has to receive approval from their own IRB. This approval process allows CCMH and its member centers to collect, store, and distribute de-identified data. While this is often seen as a difficult and time-intensive task (generally speaking, each IRB approval needs to be renewed annually, and, since each center has their own approval, this is a large task in total), CCMH has found some ways to ease the process for member centers. Generally, CCMH has tried to provide examples of successful IRB applications from other UCCs and even reviewing or editing applications prior to submission. Providing this assistance has been an essential aid to member centers (many of which are not experienced in seeking IRB approval for research purposes) and makes the process of contributing data much less cumbersome for these centers.

Field setting. The fact that each member center of CCMH is primarily a clinical service provider rather than a research laboratory has its own challenges when conducting research. Every UCC is bound by the clinical needs of their clients and only able to take on tasks that do not interfere with these needs, and that are achievable within their limitations. As such, CCMH does not, and cannot, dictate, for instance, the schedule at which CCAPS instruments are administered at each center—they choose whether and when to do this themselves. And of course, working in this naturalistic setting can make randomization of treatment conditions

and interventions difficult—not impossible, as in Castonguay, Boswell, et al. (2010)—but would likely require additional funding to provide the necessary infrastructure. This challenge makes traditional experimentation and strong causal inference difficult—limiting many studies to correlational methods.

Volume of data. Counter to many research endeavors, a challenge facing CCMH is not usually a lack of data: Instead, the challenge is that there can be too much data at times, for both technological and scientific reasons. Technologically, even simple computational tasks become demanding in data sets approaching 1,000,000 lines of data: they can take several minutes on current computers, if they are even possible (some tasks require more computer memory than can be allocated without specialized computer resources). Storing large data files also requires large capacity, since data files can exceed 10 gigabytes.

The volume of data also has an effect on statistical analyses that must be considered: Large numbers of clients and therapists, generally speaking, allow even very small effects to be detectable in the data. Though this is a strength it can certainly lead to misleading interpretations, especially because the certainty that there is an effect is not the same thing as the magnitude of the effect: If an effect is so small as to be trivial in meaning and clinical significance, the statistical significance can be misleading. To help with this CCMH has developed formal policies regarding best practices when working with large samples, for instance, by asking researchers to divide samples into training and cross-validation samples, using appropriate methods of Type I error control (e.g., Bonferroni correction for family-wise error rates), and providing and interpreting effect size estimates when possible. However, this is not the most familiar form of statistical thinking for many psychologists, nor is it the most common form of research interpretation.

What instruments to use? One of the main tasks of CCMH from conception through current practice has been determining what instruments to include in a standardized battery. This has centered on self-report symptomatic and distress measures and treatment outcome monitoring, though other measures (like the SDS) have also been part of these ongoing discussions. As previously mentioned, CCMH convened a conference of counseling center representatives, in part, to help select a standardized multi-dimensional instrument to be used by CCMH member centers. The CCAPS (now the CCAPS-62 and CCAPS-34) was originally donated to CCMH

with the understanding that it would be made available to counseling centers free or for a very low cost, and could be further developed based on psychometric data and clinical need. One goal of CCMH is to make the CCAPS-62, CCAPS-34, and any other measures developed in CCMH useful resources for all counseling centers. Other instruments, for instance assessing resiliency, client strengths, and presenting concerns, may be developed and disseminated in the future.

Prioritizing clinically valuable research. Since CCMH is a fairly large organization, and the vast majority of participating counselors do not have regular contact with CCMH research personnel, CCMH needs to make extra efforts to understand and incorporate the needs and desires of counseling center staff into research priorities. To these ends, many of the regular research meetings of CCMH researchers (full-time academics and graduate students) are also attended by several interested counseling center staff (full-time clinicians). Some of these counselors have done or are currently engaged in conducting their own research with CCMH (at all stages, from conceptualization to authoring research papers), and others simply attend out of interest. Their views are sought to provide clinical interpretations and suggestions for further studies that CCMH could conduct. In addition, CCMH has conducted a survey of counselors and clinic directors to gauge interests in various topics of research. Since we cannot know exactly what the most important projects are without receiving feedback from clinicians, these efforts help to prevent "empirical imperialism" (Castonguay, 2011): Researchers telling clinicians what is important without inquiring what practitioners want to know.

Challenges for Counselors

Time for training. As we have already stated, UCCs are very busy clinical environments. The demand for services is often high, resulting in long waits for service. Within this context, the additional time constraints required of counselors to receive training, even when the training is consistent with their clinical practices, are not a trivial concern. Perhaps the chief training requirement is that counselors understand the meaning of the standardized assessment materials (e.g., the SDS and CCAPS instruments) given to their clients. With quantitative, multi-dimensional instruments such as the CCAPS-62 and CCAPS-34, which provide both raw item responses and at least eight summary scores for each administration, this can be a time-consuming task. To help assist with this, CCMH has provided

explicit training materials in the form of in-person trainings, web-based instructional videos, and print materials targeting the clinical audience. However, more trainings like this are likely to be in perennial demand. In addition, this requires recognition on the part of UCC administrators that training in these domains will provide a clinical return-on-investment that benefits clients, even though it initially detracts from direct-service hours. This type of perception (e.g., that participation will decrease clinical hours) may be one reason why some UCCs do not join CCMH.

Time for ongoing tasks. In addition, counselors and counseling centers must be willing to devote some time, otherwise usable for other clinical practice, to the various ongoing tasks of participation in CCMH. For example, coordinating the administration of standardized questionnaires along with data-entry to Titanium may be a substantial hurdle for some UCCs whereas others already do this as part of routine practice. In addition, though it only takes a few minutes, the monthly upload of data requires someone with appropriate security clearance in Titanium to login and process the upload steps. Coordinating related tasks, such as reports on UCC effectiveness or comparisons to national data sets, requires further time-commitment from these individuals. Counselors at many UCCs find it helpful to regularly review the CCAPS-62 and CCAPS-34 reports prior to meeting with their clients, even though this requires changing the way they prepare for sessions. Thus, there is a slight but noticeable effect on everyday activities (clinical and administrative) inherent in participating in CCMH; it is hoped that this investment of time and effort by each counseling center results in increased knowledge, clinical efficiency, and effectiveness.

Confidentiality of data. Counselors, it should be noted, are sometimes also confronted with the challenges associated with data confidentiality. They may field questions to this effect from their clients, who of course may wish to know what data will be shared with whom, but the counselors themselves have every right and reason to know what of their own data is being collected and shared. At some member centers, some basic information regarding counselors—age, training background, demographics, and so on—is collected by the UCC for the purpose of sharing with the CCMH data repository. This is a voluntary procedure on the part of the counselors, and they are consented like any other research participant. And despite all of the precautions in place, concerns regarding therapist

identification and loss of confidentiality are sometimes quite significant.

In some cases, the concern is related to the possibility that therapists may be compared to one another in terms of effectiveness on CCAPS subscales. This is a concern emerging from the empirical identification of differences between therapists, which suggests that there may be ways to identify the most effective (and most ineffective) therapists (e.g., Brown, Lambert, Jones, & Minami, 2005; Kraus, Castonguay, Boswell, Nordberg, & Hayes, 2011), and that with this identification, therapists who appear to produce less change than their peers may suffer some negative consequences. This is not an unreasonable concern. In part because of this, CCMH has attempted to retain therapist confidentiality as a primary issue. Even though CCMH has no plans to impose contingencies on therapists based on effectiveness, such plans may emerge from other parties in the future. Our belief is that therapists should be able to opt-in to any such program entirely voluntarily, especially while the long-term benefits of any program like this are unknown.

Challenges of Funding

Cart before the horse. In many ways, the organization and operational responsibilities of CCMH have far exceeded initial expectations—and have done so on a shoestring budget. From 2008 to 2012, the annual budget for CCMH has ranged from $30,000 to $70,000. The expenses of starting the network were met primarily through modest membership fees, donations, and small foundation grants—funding levels that will not meet the burden of maintaining and expanding the functions of CCMH over time. Effectively, the unexpected success of CCMH has put the cart before the horse, and we are now working to establish a stable financial plan to support ongoing operations.

More specifically, CCMH exists as a non-profit research center, legally affiliated with the Pennsylvania State University (PSU). Penn State's Center for Counseling and Psychological Services provided key support (in the form of staff time) during the original formation of CCMH and this support has been critical to the ongoing operation and growth. The primary funding for CCMH comes from annual membership fees of $200 per school. Despite the fact that this is a very low annual fee (especially in comparison to fees for many psychometric instruments) it is waived for about 10–15% of members due to lack of funding. Additional resources have been given by individuals and departments affiliated with PSU, such as volunteer time from students and faculty along with shared support for funded

graduate assistants (e.g., CCMH covers the stipend and the department covers tuition).

In addition, CCMH has cultivated a wide variety of relationships to support its work including corporate partners, association partners, and even customers interested in our intellectual property. Titanium Software, a founding partner, has provided direct financial contributions through conference-support grants and in-kind donations related to technical development. Another corporate partner, CampusLabs, provides benchmarking services free to our member centers in exchange for marketplace exposure for their tools. Association partners include the Association for University and College Counseling Center Directors (AUCCCD), the American College Counseling Association (ACCA), Student Affairs Administrators in Higher Education (NASPA), and American College Personnel Association (ACPA). AUCCCD has provided funding to CCMH since it was officially established in 2005. ACCA provides financial support to CCMH as well as acting as a dissemination partner by publishing CCMH research in a peer review format. NASPA, which oversees the NASPA Assessment Consortium, maintains a profit-sharing arrangement with CCMH related to a national mental health benchmarking survey, and ACPA provides financial support by hosting CCMH webinars. EMR vendors, such as Point and Click, PyraMED, and Medicat, became customers of CCMH in order to distribute the CCAPS to their counseling center customers. Finally, CCMH has received funding through traditional grant mechanisms including grants from the Ittleson Foundation, the van Amerigen Foundation, and American Psychological Association.

Despite this range of partners and revenue streams and unprecedented success in data collection, CCMH has yet to fully fund all of its operations and remains heavily dependent on volunteer time, partnerships, and contributions from within Penn State University.

Funding options. Looking forward, CCMH must now focus significant energy on the creation of a long-term sustainable business plan that funds the "mission-critical" operations. This business plan will ideally draw from an optimal set of funding sources that will allow CCMH to stay true to its original mission, membership, and source of data: University and college counseling centers.

The potential ingredients of a sustainable business plan are many, but each has pros and cons that must be weighed against the mission of the project. For example, small grants (in the range of $5000 to $150,000) can cover key expenses and specific roles/tasks, but many foundations explicitly forbid grants

to support ongoing operations while still requiring frequent, work-intensive, applications. Alternatively, CCMH could also continue to pursue large research-oriented grants from government agencies (e.g., NIH, NIMH, PCORI, NSF, etc.). In theory, a large research grant would cover all operational expenses and provide a measure of stability for the project while also supporting research. On the other hand, CCMH has already invested hundreds of hours in this domain (for more than $7 million in grant applications) without success. While the promise of such a grant is immense, so is the work required. This genre of funding amplifies the tension between research and practice—pulling the project towards currently endorsed research methodologies that may or may not be in the best interest of the membership and founding mission. Similarly, large grants of this nature do expire and could force large research efforts to shutter due to a lack of ongoing funding. Clearly, each funding source must be carefully evaluated in order to maintain operations, stay true to the mission of the project, and accomplish a wide variety of goals at the intersection of science and practice.

Benefits

Although there have been many challenges in the establishment and maintenance of such a large PRN of UCCs, member centers, clinicians, and researchers have already begun to experience some of the benefits that result from contributing standardized data to a collaborative national data warehouse.

Counselors and Clients

One of the main goals of CCMH is to provide counseling centers with clinical tools that are helpful to clinicians. The CCAPS-62, which was designed as an intake assessment tool, can be viewed by clinicians prior to their initial session with a client through Titanium Schedule. Clinicians can use the CCAPS to inform their work by examining scores on the CCAPS Profile Report and identifying clinical problems that might have gone previously unnoticed. They can then gear their intake interview to incorporate questions targeted at elevated item responses and subscales. Using the CCAPS as a talking point in session then gives clients the opportunity to clarify and/or expand on why they endorsed a question in a certain way, resulting in the clinician gathering more pertinent information on the client.

In addition, the CCAPS-34, which was designed for repeated assessment, provides clinicians with an opportunity to track trends over time for individual clients. The CCAPS Profile Report displays the

client's last 10 administrations, showing how sub-scale scores have changed over time. Clinicians are then able to discuss with the client any improvement or deterioration that has occurred since a previous session and discuss with clients potential reasons for change. Further, the profile report tracks student suicidal/homicidal responses, alerting the clinician to changes that have occurred, which is particularly important if there has been an increase in harmful thinking. Centers have reported using the CCAPS to show progressive deterioration and to support the decision to hospitalize a student.

As centers continue to see an increase in client traffic, repeated measures of the CCAPS can serve as a tool in making ongoing treatment decisions. Many centers refer students to community providers given that the limited resources on campus do not meet the growing demands of students. Tracking CCAPS subscale scores over time can provide support for terminating a client, referring a client out, or requesting extended sessions. For example, a clinician may refer a student to a community provider when the CCAPS subscale scores for the student are elevated yet stable and long-term therapy is thought to be beneficial to the client. As an administrator from a CCMH member center stated, "The CCAPS helps us measure change across sessions, or lack thereof, which is helpful in documenting improvement and a logical basis for termination of care, or document that treatment has not been helpful and the student needs to be referred out."

Counseling Centers

The ability to track changes and trends within the client population. In the past, counseling centers have not had the tools needed to detect and track trends within the overall clinical college student population. Often, "trends" that have been reported were based on anecdotal accounts instead of sound research. Within Titanium Schedule, there is a center-wide change report, which counseling center administrators can run to determine how clients as a whole are changing within their center. This report shows how many clients, over a specified timeframe, made reliable changes in symptom levels based on each subscale of the CCAPS. This provides feedback to centers regarding the effectiveness of their treatments for different symptom/problem types, including the areas in which clients make the most improvement and what areas are most problematic. In addition, administrators can run reports on which subscales are the highest endorsed at intake, which can inform their outreach efforts to staff and students on campus as well as be used to

help UCC administrators advocate services and resources within their center.

Benchmarking. In the past, counseling centers have had trouble communicating their needs to student affair administrators in ways that were easy to understand and concise. They have not had the necessary data to provide to increasingly data-driven institutions. Bishop (2006) highlighted that administrators (student affairs) are more likely to be influenced by data rather than affective arguments—and without data to support their perspectives, UCCs have struggled to influence decisions. As a way to give back to centers that contribute data to the national data set, the CCMH-CampusLabs partnership described above provides UCCs with a tool to collect and compare important data points. This comparison, or benchmarking, allows UCCs to create reports for themselves comparing the subscale scores and item responses on the CCAPS and SDS for clients in their center to those from other member centers. The comparison schools can be based on criteria such as size or location and the report can be tailored to compare specific groups of students, such as first-year students or students who identified as being involved in extra-curricular activities. One administrator from a CCMH member school stated, "The CCAPS provides our center with better data to 'tell our story' to the schools/colleges and in our annual reports, especially to be able to make national comparisons. Having this national data (that is 'hard' and not 'soft') improves our credibility as counseling centers … we can speak with greater authority as to the 'story' of college student mental health." Benchmarking provides centers with an additional tool that helps them advocate their needs.

Contributing to a national data set. The 2011–2012 CCMH data set, the second full year of data collected by CCMH, consists of approximately 80,000 counseling center clients from 120 colleges and universities. These data exist because centers have come together and agreed to contribute data to CCMH using the CCAPS and SDS. It has been noted that in the past, research has not always been a priority at UCCs given the time constraints and priority on clinical work (Castonguay et al., 2011). However, many CCMH members feel a sense of pride contributing data to a national data set that is advancing the field of college mental health. One administrator noted, "We believe that use of the CCAPS and involvement with CCMH will help research take off because CCMH makes available the data sets to people all over the country." As described above, studies have already been

conducted on topics ranging from diverse populations, counseling outcomes, and utilization of services. The size and scope of this national data set provide a very real benefit: Belief that findings from CCMH will be generalizable and valid research observations.

Ultimately, by presenting these findings to university decision makers, administrators of counseling centers might well be able to help shape mental health practice by using studies conducted in actual clinical settings. This type of study, referred to as practice-oriented research (Castonguay, Barkham, Lutz, & McAleavey, 2013), deserves to be recognized as a crucial component of an empirical knowledge base regarding clinical services—a component that should be viewed as complementary and equipoise to studies conducted in controlled settings (Barkham & Margison, 2007; Barkham, Stiles, Lambert, & Mellor-Clark, 2010).

Researchers

A data set as large as the CCMH data sets allows researchers to examine questions about college student mental health that have not previously been explored due to small data sets and complications with the data collection that come from working at a UCC. Needless to say, such data sets have allowed researchers that are part of CCMH to expand their research programs in many clinically meaningful directions. And, as mentioned above, this has been particularly beneficial for researchers at an early phase of their career (by allowing graduate students to conduct not only their masters and doctoral research but additional projects that can bolster their academic potential). To optimally make use of these data, however, CCMH has also developed a data sharing policy: Researchers outside the CCMH research team have access to the large database after a set period of time has elapsed. Researchers interested in examining questions that will benefit and add to the knowledge base of college mental health can request the CCMH data sets to use for their research projects. Given that one goal of CCMH is to produce research that informs the field, CCMH encourages research using its data conducted by outside researchers. Non-CCMH researchers can access national data sets through CCMH by following the procedures outlined on CCMH's website (http://ccmh.squarespace.com/data/). Further, there have already been collaborations between CCMH and other researchers. For example, the CCMH team is currently working with outside researchers at various institutions to have the CCAPS translated into four different languages. These projects were initiated by outside researchers to make the CCAPS

more accessible. It is the hope of CCMH that many more research projects and collaborations will be initiated with the goal of advancing the field of college mental health.

Lessons Learned

From the challenges that CCMH has faced since 2005, as well as the accomplishments realized, several general lessons about multidisciplinary partnership have been learned. Interestingly, many of these lessons are repetitions and variations of a single theme: Understand the needs of all stakeholders and proactively work to balance these such that all stakeholders realize a benefit. Below is a brief description of some of the lessons learned.

Look for common ground. Actively seek out shared interests and goals for all the stakeholders in the project. For CCMH, this includes UCCs, researchers, and funding organizations, along with counselors, clients, and administrative staff at numerous colleges and universities. Though all stakeholders share in the effort to improve mental health on campuses, each stakeholder is dealing with their own needs and demands, so the common ground can get lost. Specifically, while all stakeholders can benefit from more standardized data collection in UCCs, vigilance is required to maintain this focus and shared engagement.

Focus on clinical services. Though maintaining common ground is very important, we have found it essential to prioritize the needs of counseling centers and clinical processes in general. Simply put, there is no common ground if the PRN's work does not meet clinical needs or provide a clinical benefit. Though much work is required of researchers, the need to continuously understand and respond to clinical needs is paramount.

Reduce barriers to entry. We have found that membership in CCMH has grown rapidly, often because the requirements for entry are quite low, the ease of joining is apparent, and the attractiveness of contributing to a larger shared goal is high. CCMH does not mandate clinical practices, and generally prefers to offer clinical tools that can be taken up by UCCs on their own schedule. In addition, the cost of membership in CCMH is often minimal in terms of both money and time. If CCMH were to have switched to a higher bar of entry—say, requiring a particular data collection paradigm without receiving clinical input—it is likely that there would not have been as rapid an acceptance among UCCs.

Give back (to everyone). Focusing on all of the stakeholders involved is important, but it is especially important to ensure that the organization is providing clear, obvious, and valuable benefits to as many people involved as possible. This means that there have to be clinical tools provided to the counseling centers (both for therapists working with clients and for UCC administrators who need to advocate their budgets), but there also has to be a benefit to the researchers involved. No one can simply volunteer time without the promise of a reasonable return-on-investment.

Clinicians will help with research—if the research helps them clinically. This lesson is surprisingly important. We have found that many counselors at CCMH member centers are enthusiastic about participating in certain research-oriented activities. Notably, many counselors have worked to increase the frequency and intensity of the standardized assessments at their centers, and several times when CCMH has asked for assistance with a research project counselors and counseling center directors have nominated themselves to do additional work. This enthusiasm is more than simply prioritizing research: It reflects the belief that some counselors have that conducting these research projects actually improves their clinical work, directly or indirectly. That is, many counselors want to conduct or participate in research projects, but especially if those projects are important to them clinically.

Create a sustainable funding plan. This lesson is much easier said than done, yet it is extremely important. While goodwill and volunteer efforts may be necessary to create a PRN, they are not sufficient to maintain it over time. CCMH has been fortunate to receive financial support from partners, associations, and foundation sponsors, but the burden of running a large PRN now demands a sustainable financial plan. In addition to the non-profit and foundation sponsors, researchers at CCMH have also targeted other funding sources—notably governmental and health services-related organizations. In other PRNs, university or other clinical entities may be available and interested in providing some funds; such funding sources should be aggressively pursued.

It takes vision, time, and a village. Those who might consider building a large PRN infrastructure need to dream big. The vision of CCMH came out of the mind of one dreamer (Benjamin Locke), who was working full time in a counseling center (at Penn State). But to get to where CCMH is now has

necessitated two fundamental resources: Time (and a lot of it) and people (and a lot of them). In addition to many unpaid hours for Dr. Locke, building CCMH has required (1) early support from the director of Penn State's counseling center (Dennis Heitzmann) to provide dedicated time, (2) connection between faculty members in different departments (who first enjoyed occasional breakfast meetings and then decided to make CCMH the major focus of their respective research programs), (3) a large number of graduate students from several research labs volunteering time and energy to the project, (4) financial support from different departments and colleges to cover some graduate student assistantships, and (5) the commitment of members of the Advisory Board (who contribute to the development and implementation of every major initiative emerging from CCMH). Even with such extensive and committed collaborations, however, the "village" that has raised CCMH constantly needs new "citizens" (e.g., project managers, post-doctoral fellows), which, as mentioned above, may require further external funding.

Conclusion

The Center for Collegiate Mental Health is a large practice-research network encompassing nearly 200 university and college counseling centers. This PRN is focused on balancing the needs of counselors, administrators, and researchers, primarily by standardizing the data collection process in counseling centers, and returning clinical tools and data to the field in return. The data generated by CCMH have led to a number of studies covering a wide range of issues, but the majority of these studies have been based on data collected as part of the assessment procedures adopted by counseling centers.

Reflecting a new phase in the development of our PRN, some of the next studies that we envision would involve the collection of data that are not part of clinical routine. For example, using a plurality of research methods (including process-outcome, experimental, and qualitative designs) we hope to conduct investigations addressing various mechanisms of change, therapist effects, client variables, effectiveness of specific interventions, and the interaction between participant characteristics, relational, and technical variables. In planning these studies, however, we are aware of two major challenges that can jeopardize any type of practice-oriented research. First, as researchers, we need to remain constantly mindful of the risk of being engaged in some form of "empirical imperialism" (Castonguay, 2011). Thus, while we can't refrain from being excited about myriad future studies, we will have to

resist imposing them on clinicians. This is the primary reason that guided the previously mentioned survey aimed at "knowing what clinicians want to know," and what questions they are interested in enough to devote time and energy to address as part of their clinical work. Once we will have identified a potential new wave of projects that show high convergence between clinicians' and researchers' respective interests, we also plan to create an active collaboration in all aspects of the studies to be conducted, such as the design and implementation of the study protocols and the analyses and dissemination of the findings. This is possible because, within CCMH, not every center or every counselor need be involved in a research study—only those clinicians or centers who volunteer will be included. As noted elsewhere (Castonguay, Nelson, et al., 2010), asking clinicians to only fill out questionnaires (unilaterally chosen by researchers) is a likely recipe to confirm the frequently held bias that clinicians are "resistant" to participate in research.

A second challenge will be to create studies that are not only clinically relevant, but "clinically syntonic" (Castonguay, Nelson, et al., 2010). Considering how busy clinicians are, an optimal way to integrate science and practice is by designing study protocols in which the collection of data is fully confounded with the delivery of clinical services. In other words, clinicians are not likely to conduct studies if the research tasks require a substantial amount of additional time to their workload and if those tasks are not clinically informative or actionable.

It should be recognized that because CCMH focuses on a specific population and operates within a distinct clinical setting, it is a unique infrastructure. Nevertheless, it is likely that the obstacles, benefits, and lessons learned in building this infrastructure could be helpful to the creation and development of partnerships in other settings. In particular, we believe that our experience would be relevant to large infrastructures that involve the connection of many groups of researchers and clinicians, such as the development of "networks of PRNs" (Castonguay, 2011) that have been discussed as a future step of practice-oriented research in training clinics and private practice (see Castonguay et al., in press; Koerner & Castonguay, in press). The creation of a repository of data, coordination of multiple IRB agreements, connection with academic settings (including statistical expertise, resources, and help from graduate students), and the operation of an Advisory Board are just a few examples of the challenges and successes experienced by CCMH that could be relevant to other large connective PRNs. It is also likely that many of the studies

conducted in CCMH will be relevant to clinicians operating in settings outside college mental health. Optimally, the convergence of interest and the aggregation of findings across diverse practice services may bolster the influence of practice-oriented research in the scientific knowledge base about psychotherapy, and thus make research conduct by clinicians influential in planning and delivery of mental health care (Castonguay et al., 2013).

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