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## Need, Access, and the Reach of Integrated Care: A Typology of Patients

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Need, Access, and the Reach of Integrated Care: A Typology of Patients

## Abstract

**Introduction:** In this paper, we report on a study exploring a potential typology of primary care patients referred for integrated behavioral health care (IBHC) services. We considered whether primary care patients could be grouped into meaningful clusters based on perceived need for behavioral health services, barriers to accessing care, and past-year service utilization. We also describe the development of a working partnership between our university-based research team and a federally qualified health center (FQHC). **Method:** A total of 105 adult primary care patients referred for same-day behavioral health appointments completed a brief self-report questionnaire assessing past-year behavioral health concerns, service utilization, and perceived barriers to utilization. **Results:** Hierarchical and k-means cluster analyses revealed three groups: (1) Well-served patients, characterized by high perceived need for services, high service utilization, and low barriers to service use (40%); (2) Underserved patients, characterized by high perceived need, low service utilization, and high barriers to service use (20%); and (3) Subclinical patients, characterized by low perceived need, low service utilization, and low barriers to service use (20%). Clusters were reliably differentiated by age, primary language, insurance status, and global functioning. **Discussion:** We found primary care patients could be grouped into three categories and that 60% (Underserved and Subclinical) represented groups less commonly seen in traditional mental health settings. IBHC may be a promising approach for extending the reach of mental health care, and partnerships between FQHCs and university-based research teams may be a promising approach for conducting research on the IBHC service delivery model.

*Keywords:* integrated behavioral health; primary care; perceived need; barriers; service utilization

### **Need, Access, and the Reach of Integrated Care: A Typology of Patients**

Roughly half of the U.S. population will suffer from a mental disorder in their lifetime (Kessler & Wang, 2008), but only one in three receives treatment (Alegría et al., 2000; Wang et al., 2005). Both structural and attitudinal barriers influence individuals' **decisions and abilities** to seek mental health care. Structural barriers include financial costs (Bridges, Andrews, & Deen, 2012), uncertainty about where to find help (Sareen et al., 2007), transportation challenges (Bridges & Lindly, 2008), time required (Sareen et al., 2007), and language differences (Bridges et al., 2012). Attitudinal barriers include stigma and doubts about the need for care (Farberman, 1997), distrust of service providers (Lewis, West, Bautista, Greenberg, & Done-Perez, 2005), fear of disclosing (Komiya, Good, & Sherrod, 2000), fear of an unresponsive or coercive therapist (Kushner & Sher, 1989), and, for undocumented persons, risk of deportation (Lewis et al., 2005).

Innovative approaches to service delivery are one strategy for addressing barriers to mental health care (Kazdin & Blase, 2011), and integrated behavioral health care (IBHC) is a promising option (Bount, 1998). Primary care providers (PCPs) are typically the first point of contact for those needing mental health treatment (Thompson, Hunt, & Issakidis, 2004); therefore, integrating mental health services into primary care could facilitate help-seeking. Because prior mental health contact is associated with positive help-seeking attitudes (ten Have, de Graaf, Ormel, Kovess, & Alonso, 2010), **and given reduced stigmatizing attitudes towards help seeking for mental health concerns from primary care providers versus traditional mental health care providers (Polaha, Williams, Heflinger, & Studts, 2015)**, a primary care portal to mental health services should increase future treatment-seeking. At issue is whether the promise of IBHC includes groups who are underserved by current service delivery models.

Several IBHC models exist (Peek, 2013), but all use a team-based approach to address mental health problems in primary care (Felker et al., 2004). PCPs refer patients with mental health concerns to BHCs using “warm hand-offs” for same-day visits typically lasting 30 minutes (Price, Beck, Nimmer, & Bensen, 2000). This approach means service delivery capacity for IBHC is as high as 200-300 patients/month (Robinson & Reiter, 2007). These numbers greatly exceed what is expected from professionals working in specialty mental health clinics. **For instance,** Greenwood and colleagues (2000) found providers averaged **only** 38.8 patients/month **in traditional community health care teams**. The diversity among primary care patients can be challenging for providers and BHCs. IBHC-trained providers must be familiar with the basic principles of behavior change and apply them flexibly while working with an array of patients and presenting concerns (e.g., Robinson & Reiter, 2007).

To date, research on IBHC has considered the range of problems for which patients are referred (Auxier et al., 2012), the interventions conducted (Funderburk et al., 2011), and short- and long-term outcomes (Bridges et al., 2015; Ray-Sannerud et al., 2012). Missing in this knowledge base is information about the types of patients who access services. The ability to identify distinct patient groups could enhance service delivery (for instance, by targeting interventions to those patients who are most likely to benefit from this moderate level of care versus those who may need more intensive services or outside referrals), making IBHC more feasible, increasing the efficient use of clinic resources, identifying gaps in service provision, and allowing for more targeted screening and intervention.

### **The Present Study**

This study explored whether IBHC can reduce barriers to mental health care by serving patients distinct from those seeking traditional mental health care (Bryan, Morrow, & Appolonio,

2009). We were especially interested in whether IBHC serves patients who face long-standing barriers to mental health treatment or patients with newly emerging mental health concerns. Because our first study aim was descriptive, we made no *a priori* hypotheses. A secondary aim of this article is to describe the collaborative process we utilized to conduct this study. We describe how partnerships, such as the one between our academic institution and a primary care clinic, can be mutually beneficial and may elevate the quality evaluation of health care services so that results can contribute to the scientific literature.

## Method

### Settings

The study involved a collaborative relationship between a large state university and a local Federally Qualified Health Center (FQHC). The university has approximately 27,000 students. The Department of Psychological Science at the University has approximately 20 faculty members, two doctoral programs (Clinical and Experimental), about 1,000 undergraduate majors, and about 40 doctoral students. The FQHC has four primary care medical clinics, seven school-based health centers, and two dental clinics. Altogether, the FQHC serves approximately 35,000 patients per year, half of whom are children. Approximately half of the patients who visit these clinics are ethnic and linguistic minorities, and over 90% are at 200%-or-below the Federal Poverty Level (Uniform Data System, 2007).

### Establishing a Partnership with a Local FQHC

Approximately eight years ago, the first author contacted local organizations offering services to underserved populations. Driven by an interest in health disparities, Bridges sought to learn about services available in the community with an eye toward possible research and clinical collaborations. Administrators from the local FQHC were eager to meet and learn about the

potential benefits of a collaborating with psychologists who had both clinical and research expertise. Attending that first meeting were the center's Executive Director, the Director of Development, the Medical Director, and the Director of Nursing. Key stakeholders were identified and invited to the meeting by the clinic's Executive Director. The meeting focused on the Clinic's mission, its patient populations, and its role as a critical resource for underserved populations. Clinic personnel voiced questions and concerns they had about patient outcomes and barriers faced in fulfilling the clinic's mission; they also asked about opportunities for collaborative research, evaluation, and clinical service provision. At subsequent meetings, this newly formed partnership identified grant opportunities for and launched a small-scale behavioral health needs assessment with primary care patients. In 2009, the FQHC hired its first Director of Behavioral Health and welcomed its first two graduate student trainees (one doctoral student in clinical psychology, one master's student in social work). To facilitate research and evaluation efforts, FQHC administrators modified the patient consent form to request access to medical records for research purposes. Since 2011, the FQHC expanded its behavioral health program to all of its primary care sites and two of its school-based health clinics and hired six full-time staff, a behavioral health interpreter, a case manager, and two patient advocates. In addition, the partnership includes graduate clinical training in primary care behavioral health (details about the graduate training component of the partnership are in Larkin, Bridges, Fields, & Vogel, 2015).

The present study built on this established infrastructure and was driven by multidisciplinary case discussions with primary health care providers. Providers noted that clinical service provision, and the issue of BHC referral more specifically, was driven largely by an informal "cataloging" of patients according to behavioral health needs. They noted that brief,



focused behavioral health interventions might be appropriate for many primary care patients with newly emerging symptoms, but many other patients had long-standing behavioral health concerns, difficulties accessing other health services, or faced daunting structural barriers to help seeking (e.g., financial, linguistic, cultural). Providers asked the university research team for help in distinguishing among these possible patient groups, based on the assumption that optimal care (brief integrated care interventions vs. specialty care referral vs. case management) could vary greatly across groups. We describe next how we addressed this clinical question and articulate in Table 1 details of the collaboration.

### **Participants**

Participants were 105 consecutive patients (age 18 years or older) seen for behavioral health services by two clinical psychology doctoral trainees during a 3.5-month period (late January to early May, 2014) at one of two FQHC primary care medical clinics (other clinics were not used because we had no trainees at these locations). Demographics for participants are detailed in Table 2. One participant's patient account number was recorded incorrectly; therefore, their demographic data are missing.

PCPs referred patients for behavioral health services primarily because of emotion-related symptoms (81.9%), including depression (45.7%) and anxiety (31.4%). Because the BHCs were bilingual (Spanish and English), IBHC visits were conducted in Spanish for a majority of patients (63.8%). For 81.0% of patients, IBHC visits were the first opportunity to discuss their current concern with a behavioral health consultant; however, 58.1% of study patients had previously seen a BHC.

### **Procedures**

Patients identified by their PCP as having a behavioral health issue were referred to a BHC for a same-day appointment. For a complete description of typical behavioral health appointments, see Bridges et al. (2014). At the end of their visit, patients were invited to participate in a 5-minute study on service utilization. After giving verbal consent, participants completed measures in their preferred language. Medical records were culled for demographic and health-related data. The FQHC Executive Director and the university's Institutional Review Board approved all study procedures.

### Measures

**Perceived need, service utilization, and barriers.** We assessed these variables using a brief questionnaire adapted from the National Comorbidity Survey Replication (Kessler et al., 2005). The questionnaire had three questions, each with multiple response options (see Appendix). The first assessed perceived need for mental health services, the second assessed past-year service utilization, and the third asked patients to indicate reasons for not seeking help. Possible barriers were both attitudinal (e.g., wanting to handle the problem on their own) and structural (e.g., problems with transportation). All items were coded dichotomously and "yes" responses were summed to yield total scores for perceived need, service utilization, and barriers to service utilization, respectively. For perceived need, scores could range from 0–7 ( $M=3.71$ ;  $SD=1.67$ ). Internal consistency for this scale (Kuder-Richardson formula = .58) was considered adequate given that the scale covered a range of behavioral health concerns. For past-year service utilization, scores could range from 0–9 ( $M=1.10$ ;  $SD=1.30$ ;  $KR-20=.52$ ). Finally, for past-year barriers to service utilization, scores could range from 0–13 ( $M=3.68$ ;  $SD=2.78$ ;  $KR-20=.77$ ). These variables were entered into two cluster analyses to develop groups of patients who responded similarly to these items.

**Demographic and health indicators.** Information from patients' electronic medical included age, gender, race, ethnicity, insurance status, diagnoses, chronic health conditions (type II diabetes, hypertension, and hyperlipidemia or hypercholesterolemia), and Global Assessment of Functioning (GAF). These variables were used to compare patient clusters by serving as predictors in a discriminant function analysis.

## Results

### Creating Patient Clusters

Two clustering techniques (SPSS v. 21) were used to identify patients with similar patterns of perceived need, service utilization, and barriers. First, a hierarchical cluster analysis using a squared Euclidian distance measure with a between-groups linkage method performed after first standardizing scores on the three clustering variables. Because this approach makes no *a priori* assumptions about what clusters exist, it was used to estimate the appropriate number of clusters. Examination of the agglomeration schedule and coefficient values, as well as dendograms, suggested a three-cluster solution. A second cluster analysis specifying a three-cluster solution was performed utilizing a k-means partitioning procedure.

Table 3 presents results from that partitioning procedure. Cluster 1, *Well-served patients* (38%), was characterized by patients with highest perceived need for behavioral health services and the highest service utilization for mental health concerns across all clusters. Importantly, patients in this cluster experienced relatively few barriers and thus reported accessing myriad services. Cluster 2, *Underserved patients* (20%), was characterized by patients with high perceived need for behavioral health services but low rates of service utilization for mental health concerns. This cluster also reported the highest perceived barriers to service utilization, which appeared to impede their ability to access services outside of primary care. Cluster 3,

*Subclinical patients* (41%), was characterized by patients with the lowest perceived need, low levels of previous service utilization, and few perceived barriers to service. This cluster appeared to represent patients who accessed IBHC services soon after problems arose and lacked a history of repeated access attempts.

Clusters were created using summed scores on the perceived need, services accessed, and barriers encountered scales. Individual items on these scales were examined to more narrowly identify the specific factors that most significantly differentiate groups. Results are presented in Table 4. Significant differences were found for all items assessing perceived need, for four service utilization items, and for all but one item assessing barriers to service.

### **Validating Patient Clusters**

Validation analyses compared cluster groups on demographic and health-related variables (i.e., GAF, chronic health condition, previous depressive disorder). Results are presented in Table 5. Patients in the Underserved group were significantly older than patients in the other two clusters. There were significantly more Spanish speakers in the Subclinical cluster than in the other clusters, with the Well-served group having the fewest. GAF scores were significantly lower for patients in the Well-served cluster compared to those labeled Subclinical, **but did not differ between Well-served and Underserved clusters**. Clusters did not differ on other variables.

As a final validation step, discriminant function analysis was used to examine which demographic and health-related variables predicted cluster membership. Results are presented in Table 6 and cluster centroids are illustrated in Figure 1. Using base rate data only, 35.9% of cases were correctly classified. The variables as a set significantly predicted group membership with 61.1% of cases correctly classified. The first discriminant function was significant, Wilks'  $\Lambda = .641$ ,  $\chi^2(18) = 36.85$ ,  $p < .001$ ,  $R_{\text{canonical}} = .461$ . As shown in Figure 1, this discriminant function

maximally separated the Subclinical cluster from the Well-served and Underserved clusters. Variables predicting cluster membership by this first discriminant function (i.e.,  $r_s$  with the function  $>.33$ ) were preference for a Spanish-language BHC, higher GAF score, and uninsured status. The second discriminant function was also significant, Wilks'  $\Lambda=.815$ ,  $\chi^2(8)=17.00$ ,  $p=.030$ ,  $R_{\text{canonical}}=.430$ , and maximally separated the Underserved cluster from the Well-served and Subclinical clusters. Only age differentiated the clusters with Underserved patients showing a tendency to be older.

### Discussion

The current study fills an important gap in the research on IBHC by identifying groups of patients who are similar in perceived need for behavioral health services, prior history of accessing services, and barriers to seeking help. Because primary care clinics serve a wide range of patients and there is no single unifying condition that patients share, the ability to identify subgroups of patients accessing behavioral health services can help elucidate who is accessing care, why care is accessed, and how integrated services might better serve patients. In the current sample, we found patients accessing behavioral health services clustered into three groups.

In summary, cluster analyses of perceived need **for behavioral health services**, history of service utilization **for these concerns**, and potential barriers **to service access** revealed three distinct patient groups. Approximately 20% of IBHC patients were classified as *Underserved*. These patients reported high perceived need for services across a broad spectrum of behavioral health concerns. **Although they utilized primary care services at a rate comparable to that of the other two clusters, they reported accessing significantly fewer resources for mental health concerns.** Approximately 40% of patients were classified as *Subclinical*. Despite having the lowest perceived need across the board, over half had sought help for behavioral concerns in the

prior year. Finally, about 40% of patients were classified as *Well-served*. Patients in this cluster reported numerous behavioral health concerns in the past year and relatively few barriers to accessing care, with concerns about cost being an exception to this trend. Results suggest that, in the absence of IBHC, approximately 60% of patients (**Underserved and Subclinical clusters**) may have struggled to access needed care or may have delayed care until their problems became significantly worse. Should these findings replicate, they would support our assertion that IBHC holds promise as an innovative model of service delivery.

In exploring how sociodemographic variables related to cluster membership, we found Well-served patients were less likely to speak primarily Spanish compared to the other clusters. However, Hispanic ethnicity did not differ significantly among clusters. We did not assess the extent to which language was a barrier to seeking services, but it is possible that patients in the Underserved cluster faced difficulties accessing services because of limited English proficiency. This is consistent with the tendency for Underserved patients to report greater difficulty getting appointments and knowing where to get help. Underserved patients also reported more cost and insurance barriers than other clusters, suggesting impediments other than language. Additionally, Underserved patients reported the most attitudinal barriers (i.e, beliefs that problems would go away on their own, stigma, desire to handle problems oneself). Endorsement of these barriers **may suggest** limited acculturation, which is associated with lower rates of service utilization (Alegría et al., 2007; Miville & Constantine, 2006). Because level of acculturation was not measured in this study, and spoken language is just one aspect of acculturation, this supposition awaits future testing.

**Although preliminary in nature, our** results support the notion that patients who experience barriers to traditional mental health care **may find it easier to** access IBHC services.

IBHC patients are typically seen the same day as their primary care visit, when perceived need for services is likely to be high, and in the same setting (often in the same examination room where medical services are provided), where stigma for help-seeking is reduced (Polaha et al., 2015). We also found that patients whose behavioral health concerns were just emerging accessed IBHC. If replicated, these findings have implications for IBHC in preventing serious mental health disorders. Taken together, current findings suggest IBHC may show promise in its ability to extend the reach of mental health care by providing access to high need, previously underserved patients, and creating early intervention opportunities for Subclinical patients.

The findings provide an initial organizing framework regarding the types of patients IBHC practitioners might encounter. By recognizing potential differences among patient groups, practitioners might tailor services accordingly. Patients fitting the Underserved cluster might need help addressing attitudinal barriers (for instance, through motivational interviewing) to continued care and assistance from a patient advocate or case manager to address structural barriers. Conversely, Subclinical patients may only require a single behavioral health visit with a focus on psychoeducation and prevention. Assuming these patient clusters are validated in new samples, future studies could examine the use of protocols that range from “minimal” to “robust” based on patients’ level of need, prior service utilization, and barriers to care. Such protocols are consistent with recommendations for stepped care treatments that titrate intensity of clinical services to the patient needs (e.g., Bower & Gilbody, 2005).

In addition to specific information about the groups of patients referred for IBHC services, if replicated, our results suggest integrated clinics can implement policies to target and serve particular patient subgroups. For instance, clinics with many Underserved patients might hire patient advocates who can help patients access community resources (e.g., food banks,

prescription assistance programs, enrollment in health insurance programs). Clinics may also incorporate these typologies into quality improvement efforts to evaluate their approach to referral to behavioral health services, and to determine whether services result in improved outcomes across specific patient groups. In addition, patients and other clinic stakeholders could be polled to identify group specific needs and service preferences.

Results should be interpreted with the following limitations in mind. **Our study was exploratory in nature and we offered no specific hypotheses.** We did not assess key correlates of patients' preferred language, our sample comprised a small number of patients seen over a brief period of time, and patients were referred for IBHC services by PCPs who likely use idiosyncratic criteria when making referrals. A replication **with a larger sample** using standard screening procedures for patient referral would allow for greater generalizability. BHCs were graduate students completing a year-long clinical clerkship; it is unclear if differences would have occurred had patients been seen by full-time behavioral health staff. The FQHC from which the sample was drawn serves a community that is socioeconomically disadvantaged and heavily represented by members of ethnic/racial minority; it is unknown if results generalize to other settings. It is also unclear whether similar patient groups would appear in less integrated clinics or in other types of integrated clinics. The questionnaire used to cluster patients provided a limited assessment of patients' perceived need, prior service access, and barriers to care. It is important to replicate findings **in studies that are confirmatory in nature (to see whether the hypothesized three clusters emerge in new samples and settings)** using measures that capture the intensity or frequency of these variables.

Our study suggests numerous areas for future research. It would be helpful to know the quality of care received by Well-served patients or the scope and severity of symptoms



experienced by Subclinical patients. Outcomes of behavioral health interventions delivered in primary care could be compared across patient clusters to see if these brief interventions have comparable efficacy, or if some patient groups require ancillary support services for behavioral health concerns. Another important question is whether similar clusters emerge in specialty mental health care settings and in other primary care clinics. If these clusters are replicated, studies could explore whether the clusters can be further subdivided based on other sociodemographic or health variables not explored here.

The current study suggests IBHC **has the potential to** extend the reach of behavioral health services for populations that experience a discrepancy between need and service utilization (Bridges et al., 2014; Sanchez, Chapa, Ybarra, & Martinez, 2012). IBHC is but one such strategy. Kazdin and Blase (2011) identified other options, including digital technologies, self-help techniques, and media campaigns. One advantage of the IBHC model is its capacity to serve communities that have less access to web-based platforms that offer interactive self-help programs, telehealth, and other advanced services.

Finally, we reflect on the process of partnering with our local FQHC for research collaborations. We are fortunate to have found a group of PCPs and administrators who see fulfillment of their mission—providing health care to all members of the community, especially those in greatest need—as requiring attention to behavioral health and research efforts to enhance services. Clinic-revised policies allowed for data collection that blended seamlessly into service delivery. Early interactions between health care providers and academic researchers led to very focused and applied research efforts, an outcome that we believe helped reduce the gap between science-based evidence and clinical practice in this one setting. A valuable aspect of these collaborative efforts is careful consideration that research activities stay within the bounds

of what is feasible and not overly burdensome to patients and providers, without sacrificing scientific rigor to answer clinically meaningful questions that feed back to patient care. We have since expanded research participation to other team members, which has helped create a culture of blending research and practice across health care provider groups. We also continue to look for creative ways to streamline the conduct of research in this fast-moving, primary care service setting. For example, if we were to repeat this study, we would ask fewer questions of each patient (e.g., eliminate questions about symptoms, services, or barriers that were rarely endorsed) but allow for greater detail to be gathered on those few questions (e.g., frequency counts instead of simple yes/no responses). We encourage others to replicate this collaborative in their own community.

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Table 1

*How We Did It: Establishing a Partnership between a University and a Primary Care Clinic*

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An Infrastructure for Collaboration

- **Be ready and willing to reach out to potential partners.**
    - For clinics, this means seeking out academic partners who can bring scientific expertise to real-world problems.
    - For researchers/academics, this means seeking out community partners who are directly involved in health care service provision.
    - In our case, contact with the local FQHC resulted from a search for a large minority patient population and an interest in studying ways to reduce health disparities.
  - **Assess compatibility.**
    - Use initial meetings to ask
      - What expertise, resources, and experiences are present?
      - What limitations or barriers might potential partners face in trying to work together (time, space, economic resources, legal or ethical concerns)?
      - What are preferred communication styles of potential partners?
      - Are there identifiable and complementary assets to the partnership?
    - In our case, the FQHC brought 10+ years’ experience successfully building a large network of primary care clinics.
      - The clinic was thriving and rapidly expanding, it had a stellar team of service grant writers and health care providers, state of the art facilities, and an electronic medical records system maintained by information technicians.
      - The clinic had access to tens of thousands of patients, a network of state FQHCs, and frequent contact with state and local government officials invested in how medical and behavioral health services were being provided to residents (e.g., directors of health organizations, legislators).
    - Researchers brought expertise in design, statistical analysis, behavioral health clinical service provision, as well as **clinical psychology** graduate student personnel who could assist with research and patient care.
  - **Make explicit priorities to ensure sustainability.**
    - For the FQHC, initial priority was to have researchers develop and evaluate an integrated behavioral health care program that could serve as a model for other community health centers in the state. More recently, the priority has shifted to questions of sustainability, including cost-benefit analyses of services.
    - For researchers, priority was publishable, rigorous, applied research that could enhance the scientific knowledge base on the effectiveness of integrated behavioral health care services for diverse, underserved patients.
  - **Make a visible and significant co-investment in the partnership.**
    - The FQHC modified patient consent forms to allow patients the option of having their electronic medical records utilized for research and program evaluation purposes.
    - Bridges helped launch the clinic’s behavioral health care program, consulted weekly with the behavioral health care team, and supervised **doctoral level clinical psychology** graduate students placed in the clinic for clerkships.
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Research and Program Evaluation Goals

- **Share responsibility for setting research and program evaluation goals.**
  - Shared goals increase the likelihood of contributing to the larger scholarly community *and* to health care providers in the trenches.
    - In our case, it has been primarily the clinic’s responsibility to share “on the ground” knowledge with the research team and to generate questions informed by their clinical practice and observations.
    - Researchers have responsibility to know the scientific literature and to select research initiatives that contribute to this knowledge base.
  - Regular meetings with continued dialogue allows for shifts in research and program evaluation goals, as needed.
    - Changes could come from the clinic side
      - Changes in health care laws
      - Changes to the patient community (e.g., influx of refugees)
    - Changes could come from the research side
      - Changes in participant recruitment
      - Changes in access to electronic medical records
      - Grant writing/submission
      - Newly launched student projects

Planning and Executing this Study

- **Research idea**
    - During multidisciplinary case consultations, behavioral health clinicians noted standard behavioral health interventions could not always be delivered “by the book” because of differences in patients’ individual and contextual factors.
    - This observation was linked to researchers’ interest in patient barriers to behavioral health services and the rationale for integrated behavioral health care use in primary care settings (i.e., reduced barriers relative to traditional care).
  - **Research methods**
    - We had to balance the need for a rapid protocol (i.e., no more than a single, easy-to-read page of questions for patients to complete) and limited patient burden with the desire for psychometrically sound means of assessing perceived need, past service utilization, and perceived barriers.
    - In this case, we adapted questions from a “gold standard” epidemiological study (the National Comorbidity Survey Replication; Kessler et al., 2005) to quickly assess variables of interest.
  - **Research implementation**
    - We first sought approval for the study from the Executive Director and the university IRB, and now all proposed studies go through both channels to ensure ethical and responsible conduct of research is appropriate for patients.
    - Despite plans for behavioral health care providers to offer this questionnaire to patients, this was impractical for full-time providers. We therefore chose to have only **clinical psychology graduate student clerks** offer the questionnaire to patients.
    - The research team analyzed the data and wrote the results, but findings were shared with the executive team at the FQHC and with health care providers in a multidisciplinary team meeting.
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Table 2

*Demographic Characteristics for the Patient Sample (n = 104)*

Variable	<i>M</i>	<i>SD</i>	N	%
<b>Gender</b>				
Male			16	15.2%
Female			88	83.8%
Age, in years	42.15	11.43		
<b>Ethnicity</b>				
Hispanic			76	72.4%
Non-Hispanic			27	25.7%
<b>Language, preferred</b>				
English			37	35.2%
Spanish			67	63.8%
<b>Insurance coverage</b>				
Public insurance			15	14.3%
Other/Private insurance			16	15.2%
Uninsured			73	69.5%
<b>Chronic health condition</b>				
Diabetes			23	21.9%
High cholesterol			29	27.6%
Hypertension			30	28.6%
Any chronic health condition			54	51.4%
<b>Mental health condition</b>				
Depressive disorder			48	45.7%
Anxiety disorder			33	31.4%
Adjustment disorder			4	3.8%
Other			13	12.4%
No Diagnosis			5	4.8%
Global Assessment of Functioning	61.44	6.79		
Past year clinic encounters	8.76	6.43		



Table 3

*Descriptive Statistics for Summary Perceived Need, Service Utilization, and Barriers to Utilization Variables by Cluster Membership*

Variable	Cluster 1: Well-served <i>N</i> = 40 <i>M</i> ( <i>SD</i> )	Cluster 2: Underserved <i>N</i> = 21 <i>M</i> ( <i>SD</i> )	Cluster 3: Subclinical <i>N</i> = 43 <i>M</i> ( <i>SD</i> )	<i>F</i> statistic
Perceived need	5.15 (0.95) <sup>a</sup>	4.24 (1.09) <sup>b</sup>	2.16 (0.95) <sup>c</sup>	<i>F</i> (2, 101) = 100.04, <i>p</i> < .001
Service utilization	1.63 (1.58) <sup>a</sup>	0.67 (0.97) <sup>b</sup>	0.81 (0.96) <sup>b</sup>	<i>F</i> (2, 101) = 6.04, <i>p</i> = .003
Barriers to services	3.15 (1.70) <sup>a</sup>	8.00 (2.02) <sup>b</sup>	2.14 (1.44) <sup>c</sup>	<i>F</i> (2, 101) = 90.37, <i>p</i> < .001

*Note.* Different superscripts indicate significant mean differences.

Table 4

*Descriptive Statistics for Individual Perceived Need, Service Utilization, and Barriers to Utilization Variables by Cluster Membership*

Variable	Total Sample <i>N</i> = 105	Cluster 1: Well-served <i>N</i> = 40	Cluster 2: Underserved <i>N</i> = 21	Cluster 3: Subclinical <i>N</i> = 43
<b>Perceived need</b>				
Emotions***	81.0%	100% <sup>a</sup>	85.7% <sup>b</sup>	62.8% <sup>b</sup>
Controlling problem behaviors**	16.2%	32.5% <sup>a</sup>	9.5% <sup>a,b</sup>	4.7% <sup>b</sup>
General body complaints**	79.0%	90.0% <sup>a</sup>	95.2% <sup>a</sup>	62.8% <sup>b</sup>
Making a life decision***	38.1%	60.0% <sup>a</sup>	47.6% <sup>a</sup>	14.0% <sup>b</sup>
Coping with ongoing stress**	67.6%	90.0% <sup>a</sup>	100% <sup>a</sup>	32.6% <sup>b</sup>
Coping with recent stress***	40.0%	65.0% <sup>a</sup>	47.6% <sup>a</sup>	11.6% <sup>b</sup>
Coming to terms with the past***	49.5%	77.5% <sup>a</sup>	38.1% <sup>b</sup>	27.9% <sup>b</sup>
<b>Service utilization</b>				
Any help*	59.0%	75.0% <sup>a</sup>	38.1% <sup>b</sup>	55.8% <sup>a,b</sup>
Admitted overnight in hospital*	8.6%	17.5% <sup>a</sup>	4.8% <sup>a,b</sup>	2.3% <sup>b</sup>
Internet	5.7%	10.0%	4.8%	2.3%
Self-help group	5.7%	12.5%	0%	2.3%
Hotline*	3.8%	10.0% <sup>a</sup>	0% <sup>a,b</sup>	0% <sup>b</sup>
Psychiatrist	10.5%	15.0%	9.5%	7.0%
Medical provider*	29.5%	40.4% <sup>a</sup>	9.5% <sup>b</sup>	30.2% <sup>a,b</sup>
Mental health professional	25.7%	37.5%	14.3%	20.9%

Religious or spiritual provider	13.3%	15.0%	14.3%	11.6%
Healer	5.7%	5.0%	9.5%	4.7%
<b>Barriers to services</b>				
Insurance coverage***	37.1%	35.0% <sup>a</sup>	85.7% <sup>b</sup>	16.3% <sup>a</sup>
Concerns about cost***	66.7%	75.0% <sup>a</sup>	100% <sup>b</sup>	44.2% <sup>a</sup>
Inconvenient***	17.1%	7.5% <sup>a</sup>	61.9% <sup>b</sup>	4.7% <sup>a</sup>
Could not get an appointment***	12.4%	5.0% <sup>a</sup>	47.6% <sup>b</sup>	2.3% <sup>a</sup>
Problems with transportation, childcare, or scheduling**	23.8%	30.0% <sup>a</sup>	42.9% <sup>a</sup>	9.3% <sup>b</sup>
Unsure of where to go/who to see***	39.0%	35.0% <sup>a</sup>	81.0% <sup>b</sup>	23.3% <sup>a</sup>
Thought problem would get better by itself***	56.2%	47.5% <sup>a</sup>	95.2% <sup>b</sup>	46.5% <sup>a</sup>
Didn't think treatment would work***	21.0%	10.0% <sup>a</sup>	76.2% <sup>b</sup>	4.7% <sup>a</sup>
Concerned what others would think**	18.1%	12.5% <sup>a</sup>	42.9% <sup>b</sup>	11.6% <sup>a</sup>
Wanted to handle the problem on my own***	41.9%	30.0% <sup>a</sup>	90.5% <sup>b</sup>	30.2% <sup>a</sup>
Scared of being put in the hospital against my will*	15.2%	15.0% <sup>a,b</sup>	33.3% <sup>a</sup>	7.0% <sup>b</sup>
Not satisfied with available services***	10.5%	10.0% <sup>a</sup>	33.3% <sup>b</sup>	0% <sup>c</sup>
Not bothered much by the problems	8.6%	2.5%	9.5%	14.0%

*Note.* For chi-square analyses comparing the three clusters, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Different superscripts indicate significant proportional differences.

Table 5

*Descriptive Statistics for Demographic and Health Variables by Cluster Membership*

Variable	Cluster 1: Well-served N = 40	Cluster 2: Underserved N = 21	Cluster 3: Subclinical N = 43
Female gender	84.6%	85.7%	83.7%
Age*	39.82 <sup>a</sup> (9.63)	48.48 <sup>b</sup> (13.46)	40.74 <sup>a</sup> (10.70)
Hispanic ethnicity	64.1%	76.2%	81.0%
Spanish speaker***	43.6% <sup>a</sup>	61.9% <sup>a,b</sup>	83.7% <sup>b</sup>
Uninsured	57.5%	71.4%	79.1%
Depressive disorder	50.0%	47.6%	41.9%
Chronic health condition	58.3%	50.0%	52.4%
Past year clinic encounters	8.64 (6.10)	10.62 (8.39)	7.87 (5.43)
Global Assessment of Functioning**	58.90 <sup>a</sup> (7.84)	61.50 <sup>a,b</sup> (3.44)	63.86 <sup>b</sup> (6.17)

*Note.* For chi-square and analyses of variance comparing the three clusters \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Different superscripts indicate significant mean or proportional differences.



Table 6

*Standardized Canonical Discriminant Function Coefficients*

Predictor variable	Function 1	Function 2
Female gender	.096	-.032
Age	-.175	1.017*
Hispanic ethnicity	.448	-.015
Spanish speaker	.823*	-.162
Uninsured	.238*	.367
Depressive disorder	-.115	.097
Chronic health condition	.017	-.641
Past year clinic encounters	-.450	.411
Global Assessment of Functioning	.526*	.393
Canonical <i>R</i>	.461	.430

*Note.* \*Indicates the correlation between the predictor variable and the discriminant function was  $r > .33$ .

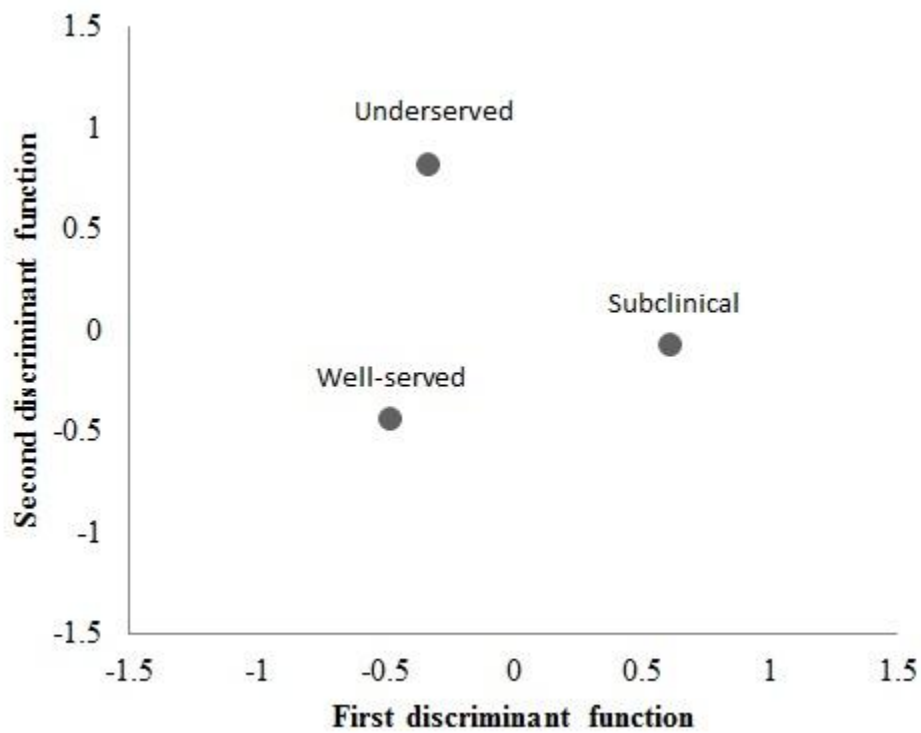


Figure 1. Plot of three cluster centroids on two discriminant functions derived from nine demographic and health variables.

Appendix

**1. In the last 12 months have you struggled with any of the following problems? Check all that apply:**

- Your emotions (e.g., sadness, anger).
- Controlling problem behaviors (e.g., drinking problems, gambling).
- Dealing with general body complaints (e.g., tiredness, headaches).
- Making a life decision (e.g., to get married or change jobs).
- Coping with ongoing stress (e.g., job stress, marital problems).
- Coping with recent stressful events (e.g., divorce, death of a loved one).
- Coming to terms with your past (e.g., feelings about your childhood).

**2. Did you ever get help for any of the above problems?**

- Yes
- No

*If yes, check all of the different kinds of resources or professionals you used to help you with your problem(s) in the past 12 months:*

- Admitted for an overnight stay in a hospital or other facility
- Internet
- Self-help group meeting
- Hotline
- Psychiatrist
- Medical provider (general practitioner, family doctor, nurse, or occupational therapist)
- Mental health professional (psychotherapist, psychologist, social worker, or counselor)
- Religious or spiritual advisor (minister, priest, or rabbi)
- Healer (herbalist, chiropractor, or faith healer)

**3. Here are some reasons people have for not seeking help even when they think they might need it. Check all that apply:**

- My health insurance would not cover this type of treatment.
- I was concerned about how much money it would cost.
- I thought it would take too much time or be inconvenient.
- I could not get an appointment.
- I had problems with things like transportation, childcare, or scheduling that would have made it hard to get to treatment.
- I was unsure about where to go to or who to see.
- I thought the problem would get better by itself.
- I didn't think treatment would work.
- I was concerned about what others might think if they found out I was in treatment.
- I wanted to handle the problem on my own.
- I was scared about being put into a hospital against my will.
- I was not satisfied with available services.
- The problem didn't bother me very much.