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Integrating Behavioral Health and Primary Care in Community Health Centers: The Harris County Community Behavioral Health Program

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Abstract:

This column describes and evaluates the Community Behavioral Health Program (CBHP), a new integrated care program operating in community health centers serving low-income uninsured residents in Houston, Texas. Patient service data, provider satisfaction, patient outcome data, and appointment waiting periods were obtained to evaluate the initial operation of the program. The integrated care program has been successfully implemented on a large scale at an annual cost of about $800,000 or $268 per patient served. About 3,000 patients were treated for behavioral problems by behavioral health staff during the first 11 months of the program. In addition, efforts were made to expand the scope of behavioral health interventions provided by primary care physicians. Providers were satisfied with the program, improvement was detected in patients treated, and there was an increase in the average number of community-based behavioral health services received per patient since the program was implemented.

With a county population of 3.5 million in 2003, Houston/Harris County has extensive medical services with more than 60 hospitals, scores of specialty health clinics, and physicians per capita, well above the state and national average. Notwithstanding this seemingly bountiful supply, the large number of uninsured, estimated in 2003 at 32% of people under age 65 (1), creates access problems for a significant portion of the population, particularly regarding behavioral health services.

The primary safety net provider in the county is the Harris County Hospital District (HCHD); the largest publicly funded health care provider in the U.S., HCHD operates three hospitals, 11 community health centers, eight school-based centers, a dental center, a program of healthcare for the homeless, and a center for patients with HIV/AIDS. Until 2004, all HCHD behavioral health services were provided at one hospital-based psychiatric outpatient clinic with an average waiting period of six months for new appointments.

In July 2004, HCHD launched a pilot project to place behavioral health staff into community health centers in order to better meet the behavioral health and primary care needs of a growing population of uninsured people in the county. The integrated care model being followed has been shown to be effective in managing behavioral health problems (2-6). Successful programs have a high level of direct involvement of behavioral health specialists, well-defined treatment protocols targeted at specific populations, and structured follow-up and monitoring of patient treatment adherence and outcomes (7, 8).

Based on the success of the pilot, in July 2005, the program was expanded and CBHP was formally created to provide behavioral and medical care services at all centers. By co-locating behavioral and medical providers and by furthering the scope of behavioral interventions of PCPs in the centers, CBHP intends to provide behavioral services to more patients, shorten waiting periods for behavioral health appointments, and reduce transfers for hospital-based behavioral health services. Consistent with the Best Practices theme of providing pertinent and timely information about the effectiveness of new programs, this column describes the features and preliminary impact of the integrated care model implemented on a large scale in Houston.

The CBHP Model

CBHP integrated behavioral health staff into the daily patient care process at 11 community centers. Psychiatrists were hired to provide psychiatric services 1 to 2 days per week and master's level behavioral health specialists were hired to provide psychotherapy throughout the week at each community center. A director was hired and

some hospital-based psychiatrists were also reassigned to provide services in the community centers. To coordinate behavioral services at each center, CBHP staff collaborate with the HCHD Clinical Case Management Social Work Department, the Council on Alcohol and Drugs Houston, and HCHD's substance abuse InSight Project. Together, these entities deliver behavioral health and substance abuse screening, counseling, and treatment at each community center in close collaboration with the existing primary care staff.

The centers are large multi-service primary care sites serving the primary care needs of low-income uninsured in the county. Most centers provide routine medical services, dental, mammography, ophthalmology, podiatry, prenatal and pharmacy services, lab, x-ray, substance abuse counseling, as well as nutrition, health education, and social services. The majority of patients treated in the centers are female (126,818/65.1%), ages 19 to 64 (147,735/75.9%). Hispanics accounted for 58.6%, African Americans 25.3%, and Whites 10.9%.

CBHP's services include evaluation and treatment of scheduled patients, walk-in services for patients in crisis, and curbside consultations to PCPs in order to support behavioral health interventions implemented by PCPs themselves. Any center provider can refer patients to the behavioral health specialists or psychiatrists for screening, assessment, and treatment. Psychotherapy sessions are provided to individuals, families, and groups. Initial interventions usually involve three to five sessions with the therapists. More sessions are provided as needed. Patients with substance abuse problems are referred to the InSight substance abuse specialists. Only patients with more serious safety concerns or in need of hospital admission/intensive hospital services are referred to

HCHD's psychiatric emergency center. CBHP also implemented lectures and DVDs on symptoms and medications of major psychiatric disorders for PCPs to encourage psychiatric interventions by PCPs themselves.

By co-locating behavioral and medical providers and by furthering the scope of behavioral interventions by PCPs, CBHP intended to provide behavioral services to more patients, shorten long waiting periods for behavioral appointments, and cut down on transfers for expensive hospital based behavioral services.

Evaluation of the Program

A preliminary evaluation of the program was required by the funding sources to document whether the initial objectives of the program were achieved. The authors, including outside evaluators from universities in Houston and CBHP program administrators formed a team to conduct the evaluation.

Daily patient service logs were used to document the total number and characteristics of patients seen and the types of behavioral services provided. With this data, a total of 2,895 patients were seen during the first 11 months of the program (July 2005 through May 2006). The total cost of the program was $774,791, or $267.63 per patient treated.

A psychiatrist saw 801 patients, a behavioral health specialist saw 1,824 patients and both saw 269 patients for a total of 6,532 sessions. Frequent reasons for referrals included depression, anxiety, bipolar disorder, and substance abuse problems. The majority of patients were female (2075/71.7%), ages 19 to 64 (2376/82.1%). Hispanics

accounted for 42.3%, African Americans 28.8%, and Whites 26.0%. About two-thirds were totally uninsured and another 20% were on Texas' Medicaid or SCHIP program.

A questionnaire was developed to assess provider satisfaction with the program. The questionnaire included 1) impact of CBHP on accessibility to mental health services; 2) impact of CBHP on general quality of primary care; 3) understanding of the goals of CBHP; 4) time flexibility to allow providers to adequately meet the needs of patients; and 5) quality of interaction between behavioral health and medical staff.

One hundred questionnaires were distributed and 45 were returned of which 11 were from all the behavioral health specialists, seven of 11 psychiatrists, and 27 of 124 PCPs. As shown in Table 1, both the behavioral health staff and PCPs believe that CBHP achieved its objective of increasing accessibility to community-based behavioral health services (mean scores of 4.58 and 4.18 respectively on a five-point Likert scale). Providers also perceived that CBHP has improved significantly the general quality of primary care at community health centers. Time flexibility received a less positive response with both behavioral health specialists and PCPs indicating their working schedule does not allow them to see all the referred patients as quickly as desired and there was not always enough time for more extensive curbside consultations.

To examine the quality of services being provided, we monitored changes over time in symptoms of treated patients using the BASIS-24. The BASIS-24 measures a broad range of mental health functioning including: depression, relationships, self-harm, emotional lability, psychosis, and substance abuse (13). CBHP staff administered the BASIS-24 to patients on the first and follow-up visits.

Through May 2006, initial BASIS-24 data and at least one follow-up were available for 416 patients. This number represents 72% of the 579 patients who were eligible to receive the follow-up BASIS-24 because they were seen by a CBHP provider more than once during the study period, with a follow-up visit occurring at least 30 days after the initial visit. Statistically significant improvement was detected in terms of the overall score and four out of six domain scores, including depression/functioning, self harm, and emotional lability (Table 2). The effect size between baseline and follow-up was .23 in the overall score, and subscale effect sizes ranged from .07 to .33. Since the interventions are generally short-term, changes in the BASIS-24 scores indicate how patients feel before and after receiving treatment.

To determine if the program is increasing access, we examined data on the frequency of behavioral services received by patients with existing psychiatric diagnoses referred to CBHP. The data were obtained from HCHD's medical records database from July 2004 through May 2006. A mirror analysis was performed comparing the use of behavioral services in the 12 month pre and post-CBHP to test the hypothesis that the use of services for patients with mental health problems had risen. Comparing the utilization of 260 patients who were treated in the HCHD system for a diagnosed behavioral problem prior to the implementation of CBHP and received services from CBHP during the study period, there was an increase of .8 in the number of visits from the pre- to the post-CBHP periods (1.7 to 2.5, ($p<.003$).

Conclusion

CBHP is demonstrating the application of the integrated care model in community health centers in order to improve access to behavioral health for the growing population of uninsured people in Houston/Harris County. A number of successful demonstrations of the model in different settings throughout the United States have been reported (9, 10), but this is the largest that we are aware of specifically targeting the uninsured . At an annual cost of about $800,000 per year, behavioral health services have been placed throughout the HCHD system and diagnostic and treatment services have been provided to approximately 3,000 people during the year. There was a high provider satisfaction and symptoms of treated patients improved. On the other hand, behavioral health staff reported that their full work schedules do not allow them to consult extensively enough with each other at the centers.

A more systematic evaluation is needed to determine how integrated services in community centers improve patient outcomes. This can be accomplished by using relevant outcome measures systematically applied to random samples of patients and controls. For example, preliminary data suggests waiting periods for new behavioral appointments have gone down from six months to about four to six weeks at HCHD's hospital-based psychiatric outpatient clinic during the first year of the program. Admissions to the hospital-based psychiatric emergency center have declined by 18% since implementation of the program. In addition, PCPs seem to be more actively involved in treating behavioral health problems, which might account for the decline in waiting periods. These elements will be tracked and trended in the next phase of this program. Improved monitoring is needed to determine the extent to which integrated behavioral services have led to these improvements. Ultimately, the cost-effectiveness of

the intervention should be evaluated to determine the cost-benefit ratio of adding behavioral services in primary care to improvements in patient outcomes and subsequent cost offsets. Lastly, more information is needed on how collaborate/ integrated settings impact behavioral interventions by PCPs.

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Table 1. Mean Provider Satisfaction Scores by Topic and Provider Type

	Mental Health Specialists + Psychiatrists (N=18)					Primary Care Physicians (N=27)				
Variables	Obs	Mean*	Std. Dev.	Min	Max	Obs	Mean*	Std. Dev.	Min	Max
Accessibility	18	4.58	0.38	3.8	5	27	4.18	0.57	2.8	5
General quality improvement of PHC	18	4.68	0.32	4	5	27	4.53	0.40	3.8	5
Common understanding about CBHP	18	4.69	0.40	4	5	27	4.10	0.59	3	5
Time flexibility	18	3.25	1.33	1	5	27	3.78	0.89	2	5
Interaction between PCPs and BHS	18	4.00	0.60	3	5	24	3.92	0.52	3	5

*Likert scale with 1 the most negative (e.g. strongly disagree) and five the most positive (strongly agree).

Table 2. Mean (SD) BASIS-24 Scores at Initial and Follow-up Visit

	Initial Score	**Follow-up Score**	**Difference**
Depression/functioning (n = 416)	2.50 (0.93)	2.17 (0.98)	.33
Interpersonal relationships (n = 416)	1.78 (0.92)	1.73 (0.96)	.05[a]
Self- harm (n = 416)	.70 (0.95)	.54 (0.84)	.16
Emotional lability (n = 416)	2.37 (0.97)	2.09(1.08)	.28
Psychotic symptoms (n = 416)	1.12 (1.06)	1.05 (1.09)	.07[a]
Alcohol/drug use (n = 415)	.43 (0.73)	.36 (0.65)	.07
Overall summary score (n = 415)	1.96 (0.71)	1.73(0.76)	.23

[a]Not statistically significant. All other differences are statistically significant ($p<.05$).