The Effect of Behavioral Health Consultation on the Care of Depression by Primary Care Clinicians

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ABSTRACT

Purpose: The aim of this study is to assess the impact of an integrated care model, called the Behavioral Health Consultation model, in the delivery of care for depression in an urban Federally Qualified Health Center, and to gauge the receptiveness of primary care clinicians to increasing their responsibility for the mental health care of their patients.

Methods: We reviewed electronic medical records to measure referral rates to mental health specialty care, patient engagement in care, management of psychotropic medications, and initiation of antidepressant medication, comparing data from the year prior to program implementation to that from the third year post-implementation. Clinician attitudes were assessed using an online anonymous questionnaire.

Results: Statistically significant findings included post-implementation increases in the use of standardized measures of depression, documentation of behavioral goals and patient visits to the primary care clinician (increased engagement), decreases in initiation rates of antidepressant medications, and decreases in referrals to mental health specialty care. No significant difference was found in rates of dosage changes or change to new medications among patients who were already on psychiatric medications. Clinicians reported near universal acceptance of the behavioral health consultation program and willingness to increase their role in managing patient mental health issues.

Conclusions: This study demonstrates that a behavioral health consultation program in an urban community health center can improve adherence to evidence-based indicators in the care of depression, making it possible to manage the majority of patients presenting with depression in the primary care setting.

INTRODUCTION

In many communities, the primary care setting is where mental health disorders are detected and managed.[1] This is the result of a combination of factors, including poor access to mental health specialists, poor referral completion rates to specialty mental health, and patient preference in maintaining care with their primary care clinic (eg, reduced stigma, convenience).

According to unpublished data provided by United Way of Dane County (Wisconsin), the county bears a significant burden of mental illness, with 105,000 adults and 16,000 children suffering from behavioral health problems, leading to more than $200 million in annual treatment costs. Due to the aforementioned barriers to specialty mental health care, efforts have been made to integrate behavioral health services into the primary care setting. Primary care behavioral health models are an attractive solution in that they address the access-to-care problem while also reducing the strain on already overburdened specialty mental health services.

A review of the literature on integrated care (ie, delivery of mental health care integrated into the primary care setting) reveals a growing sentiment that traditional care for depression (ie, referral to specialty mental health care) is no longer acceptable. In the current treatment model, less than one-third of all patients with mental health conditions ever meet with a psychologist or mental health professional.[2] In addition, primary care medical professionals currently prescribe 60% to 70% of the psychotropic medications prescribed in the United States.[3-5] A growing body of data suggests that patients who receive integrated care report improved mental health outcomes, including more anxiety- and depression-free days, increased remission rates, improved quality of life, and decreased functional impact of symptoms, compared to patients receiving routine primary care interventions.[5-9] In addition, integrated care models have been shown to produce better patient engagement and similar clinical outcomes than traditional models of mental health care.[7]

However, there are limited studies that specifically address the impact of integrated care on referral rates to specialty care, explicit management strategies for psychotropic medications, and how the behavioral health consultation model affects these

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Table 1. Summary Statistics of Variables Studied Pre- and Post-Behavioral Health Consultation

	2005		2009	
Variables	**Number**	**Percentage**	**Number**	**Percentage**
Symptomatic	264	93.62	268	95.04
Initiated selective serotonin reuptake inhibitor (SSRI)	136	48.23	115	40.78[a]
Adjusted dosage	79	28.01	77	27.30
Changed medication	53	18.79	57	20.21
Documentation of behavioral goal	15	5.32	223	79.08
Documentation of a standard measure	7	2.48	118	41.84
Referred out	136	48.23	25	8.86
Other diagnosis	50	17.73	88	31.21
Alcohol and Other Drug Abuse (AODA)	67	23.76	64	22.70
Involved BHC	N/A	227	80.5	

[a] Of patients not already on an antidepressant medication, there was a statistically significant drop in initiation of SSRI.

Table 2. Population Sample Characteristics

	2005		2009	
Descriptors	**Number**	**Percentage**	**Number**	**Percentage**
Gender	190 females	67.38	189 females	67.02
Already on selective serotonin reuptake inhibitor (SSRI)	106	37.59	115	40.78
Already have specialty mental health	41	14.54	33	11.70
More than 1 mental health diagnosis	50	17.73	88	31.21
Substance abuse diagnosis	67	23.76	64	22.70
Involved Behavioral Health Consultant	N/A	N/A	227	80.5

	2005			2009		
	Mean	**Std dev**	**Median (Min, Max)**	**Mean**	**Std dev**	**Median (Min, Max)**
Age	39.7	13.3	39 (11, 72)	41.0	13.0	41 (15, 86)

Abbreviation: Std dev = standard deviation.

factors.[10] The purpose of this study is to investigate the impact of a specific primary care behavioral health model, called the behavioral health consultation model, in the delivery of integrated care for depression in an urban Federally Qualified Health Center in Madison, Wis, which began its program in 2006. This study compares the care of depression, using evidence-based indicators, prior to the initiation of the behavioral health consultation program to the care provided after more than 3 years of program development (2009).

METHODS

The study was conducted using a review of electronic medical records comparing the year 2005 and the year between July 1, 2008 and July 1, 2009, corresponding to 1 year prior to initiation of the integrated behavioral health program and 3 years post-implementation. The behavioral health consultation model is a model in which the behavioral health specialist acts as an immediate support to the primary care clinician providing expertise to the clinician and same-day intervention to the patient, often in the same exam room.[3] One of the principal components of the behavioral health consultation model is that the primary care clinician (PCC) retains full responsibility for patient care. In addition, as a population-based model of care, the behavioral health consultant (BHC) seeks to maximize impact by seeing a greater number of patients, scheduled and unscheduled, in 15- to 30-minute primary care style visits. The BHC also acts as an intermediary between the primary care clinician and the consulting psychiatrist who provides 1-time psychiatric evaluations to selected patients and verbal and/or written feedback based on chart reviews or conversations with the BHCs or primary care clinicians. At the time of the study, Access Community Health Centers (ACHCs) had 3 staff BHCs (2.5 full-time equivalent [FTE] psychologists) and a .2 FTE consulting psychiatrist supporting the work of about 11 FTE primary care clinicians; the clinic patient population was approximately 10,000 patients.

Using the electronic health record (Epic Systems Corp, Verona, Wisconsin), a list of all adult patients who had been assigned a diagnosis of depression during any of those years was produced. For 2005, all 282 patients with a diagnosis of depression were included in the study. For 2008 to 2009, 282 patients were selected randomly from 617 patients with a diagnosis of depression in order to provide roughly equal comparison groups. No other efforts were made to match the patient samples on any additional variables. Patients with dual psychiatric diagnoses, eg, depression and bipolar disorder, were not excluded. Variables assessed are included in Table 1.

In this study, psychotropic medications were defined as all medications used for the purposes of treating depression, including antidepressant medications and medications in other classes with antidepressant effects, such as some mood stabilizers and antipsychotic medications. Symptomatic patients were defined as patients who had active symptoms of depression during the time periods specified (compared to patients with an existing diagnosis of depression but no symptoms).

Because the comparison samples were not completely inde-

pendent (16 symptomatic patients overlapped both samples) additional analyses were made to confirm the findings of the complete sample. When these patients were excluded from the analyses, the assumptions of the chi-square test were met, and the results remained qualitatively the same. In addition, the distribution of total visits was skewed, so this number was log-transformed before analysis with the student *t*-test or with analysis of variance. After transformation, the assumptions underlying these analyses were reasonably met (groups with equal variances and normal distribution). Also, 7 patients (6 in 2005, 1 in 2009) had 0 PCC visits and 0 BHC visits. These patients were excluded from the analysis. The standard deviation is not indicated because it is not representative of the spread of these skewed distributions. The Wilcoxon rank sum test and the Kruskal-Wallis test, which are nonparametric tests, yielded identical conclusions when applied to the analysis of visit-frequency data.

Clinician perspectives and attitudes toward treating mental illness were collected using an anonymous electronic survey developed by the authors and distributed by e-mail in September 2009. Fourteen clinicians responded (3 pediatricians, 2 nurse practitioners, 1 internal medicine clinician, 5 family medicine clinicians, and 3 midwives.) This sample constituted more than half of the clinicians working at ACHC at the time. Upon a request for review, it was determined by clinic leadership that the study did not require a Human Subjects Protocol Review because it was part of an internal standard quality improvement activity and because of the nature of the data collection.

RESULTS

Each group consisted of 282 patients with very little overlap (19 patients were sampled in both years). The 2 groups were similar at baseline (see Table 2) across a variety of characteristics. For the purposes of comparison, symptomatic patients were used in the analysis.

Rate of Documentation of Behavioral Goals and Use of Standard Measures

The rate of documentation of a behavioral goal increased significantly in 2009 (82.5%) compared to 2005 (5.7%) as did the rate of documentation of the use of a standard measure of depression: 41.8% vs 2.7%, respectively.

Type and Rate of Medication Adjustments

The proportion of patients who had a change of medication or adjusted dosage (or both) was not statistically different between 2005 and 2009 ($N = 532$, $\chi^2 = 0.10$, $df = 1$, $P = 0.75$). However, the 2009 symptomatic patients were somewhat less likely to initiate psychotropic medication (42.9% vs 51.1%), a marginally statistically significant difference. In addition, the 2009 symptomatic patients were less likely to have 1 or more changes to their medication regimen: 61.2% of symptomatic patients initiated psychotropic medication, had a change of medication or had a dosage adjustment, vs 71.6% in 2005. This difference is moderately significant statistically.

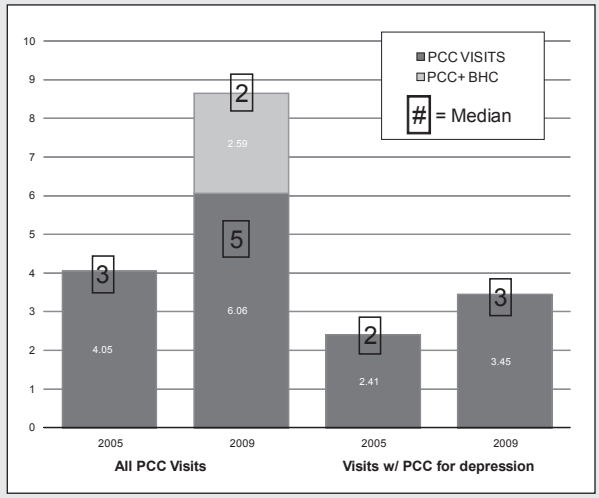

Figure 1. Impact of behavioral health consultation program on visit frequency. Abbreviations: PCC = primary care clinician; BHC = behavioral health consultant.

Symptomatic patients not already on psychotropic medication also were isolated for analysis. These patients were less likely to have 1 or more changes overall in psychotropic medication in 2009 compared to 2005 (61.1% = 99 out of 162 vs 82.3% = 135 out of 164) and were less likely to initiate psychotropic medication in 2009 than in 2005 (98/162 = 60.5% versus 135/164 = 82.3%). Both of these differences were strongly significant.

In contrast, symptomatic patients already on psychotropic medication were slightly more likely to experience 1 or more changes in 2009 compared to 2005 (61.3% vs 54%), but this difference was not statistically significant. Symptomatic patients already on psychotropic medication also were more likely to initiate psychotropic medication in 2009 (16%) compared to 2005 (0%), and this difference was strongly statistically significant.

Rate of Specialty Mental Health Referrals

Patients were far less likely to be referred out in 2009 than in 2005 (8.9% vs 48.2%), and this difference was significant (Table 1).

Impact of BHC Involvement on the Number of Visits for Depression and for Overall Visits to the PCC

In 2009, BHC involvement was associated with a 34% increase in the total number of Primary care visits. This increase was moderately significant statistically ($t = 2.34$, $df = 265$, $P = 0.020$).

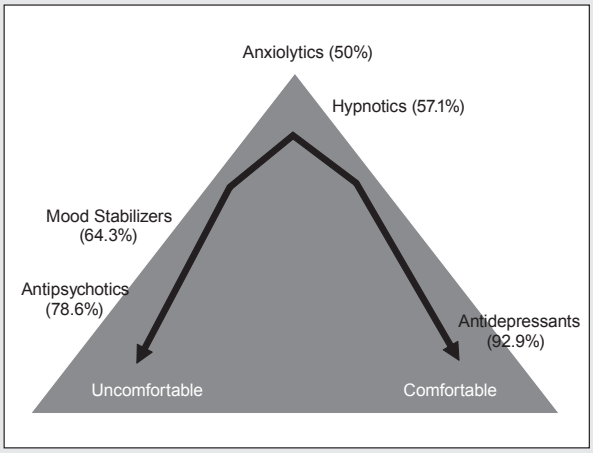

Figure 2. Comfort level with prescribing psychotropics, n=14

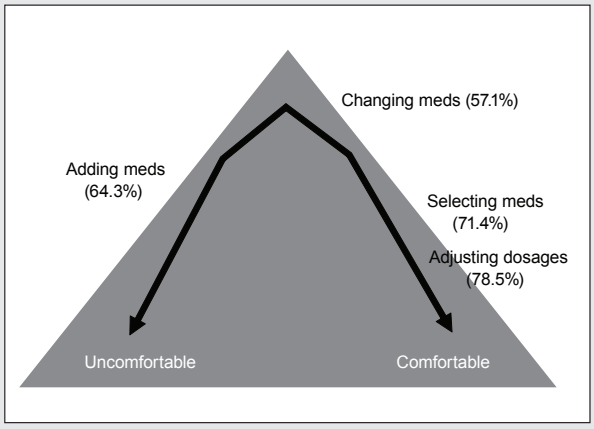

Figure 3. Comfort level with managing psychotropics, n=14.

BHC involvement was associated with a 109% increase of total number of combined PCC/BHC visits in 2009, which was strongly statistically significant (t=6.35, df= 265, P<0.00001). The number of PCC visits and the combined number of PCC and BHC visits showed a 117% and a 147% increase in 2009 when BHC was involved, compared to the total number of PCC visits in 2005. These differences were significant in both cases (Figure 1).

Primary Care Clinician Attitudes Toward Treating Mental Illness

Of respondents to the questionnaire, 92.9% agreed or strongly agreed that prescribing psychotropic medications was rightfully in their scope of practice. However, 61.6% noted that they treat mostly out of a sense of need (eg, lack of other resources such as specialty mental health). Clinicians noted a relative comfort with prescribing antidepressant medications (92.9% comfortable or very comfortable) but lesser comfort with other psychotropic classes (Figure 2). Clinicians also noted relative comfort selecting medications and adjusting dosages (71.4% and 78.5%, respectively) but less comfort with changing and adding medications (Figure 3). Diagnostically, clinicians indicated greater comfort working with depression, anxiety, and substance abuse (collectively 69.2% somewhat or much more comfortable) and lesser comfort with bipolar, personality disorders, and severe and persistent mental illness (collectively 71.4% uncomfortable or very uncomfortable). Clinicians credited the behavioral health consultation (BHC) program most highly (average rating of 9 on a scale of 1 to 10) among choices for sources of impact improving their comfort level with treating mental disorders with professional experience (8.54), with mentorship from colleagues (8.23) close behind. When asked to compare their comfort with prescribing psychotropics at present to 5 years before, most clinicians indicated greater comfort at present (53.8% somewhat more comfortable, 15.4% much more comfortable, 15.4% just as uncomfortable, 7.7% much more uncomfortable, 7.7% somewhat more uncomfortable). All respondents rated the BHC program as important (15.4%) or very important (84.6%) to their practice. Clinicians rated the psychiatric consultation (8.17 on a scale of 1 = low to 10 = high) and BHC components (9.46) of the program as having high importance to their practice.

DISCUSSION

The results of this study demonstrate that key indicators of evidence-based depression care improved post-implementation of the behavioral health consultation program. In addition, it revealed positive clinician attitudes toward taking on responsibility of caring for mental health issues in their patients.

Impact on Patient Care

Research has demonstrated that factors such as systematic implementation of screening and tracking tools and adherence to related medication and visit strategy algorithms produce better results than usual care.[11] In this study, there was a marked increase in the use of standardized instruments for tracking and screening purposes, a marked increase in the documentation of behavioral goals, and an indication of improved patient engagement, namely more visits with both the primary care clinician and behavioral health consultant in general and specifically for depression care. However, there was not strong evidence of an impact on the management of medication overall, with a few important exceptions. There was not a significant difference in the management of medications (initiation rates, change or addition of medication, dosage adjustments) among symptomatic patients between the 2005 and 2009 sam-

ples. This appears to run contrary to the goal of the program, which should facilitate more efficient and likely more frequent medication management resulting in more changes (assuming clinicians were not adequately following guidelines in 2005). Nonetheless, an unexpected finding may shed light on 1 possible explanation for this result. In the overall sample comparison, there was a trend toward decreased initiation of psychotropic medications and decreased rate of medication changes in general. Furthermore, in the subset of patients not already on psychotropic medications there was a statistically significant drop in initiation rates (less in 2009 than 2005). What this may indicate, contrary to the author's hypothesis that more patients would be medicated due to higher identification rates, is that the behavioral health consultation program brought an emphasis on behavioral management and/or that patients, once given the opportunity to choose between medication management and behavioral management, began to choose the latter more often. Another factor that may explain decreased changes in medication is increased clinician education regarding adequate trials, as opposed to patient-driven decisions to switch medications after insufficient trials. However, additional data and more detailed investigation into clinician practice habits are necessary in order to substantiate this interpretation and to determine true adherence to evidence-based guidelines.

Systemic Impact of the BHC Program

One of the most striking findings of the study was the impact of the behavioral health consultation model on referral rates to specialty mental health. This study demonstrated that the clinic could and did retain the majority of patients needing mental health care (only 8% referred out) despite a complex population (31% other diagnosis in addition to depression,23% substance abuse).

In addition to retaining patients, the behavioral health consultation program assisted in engaging patients more effectively. While this is a significant clinical finding, it can be interpreted to mean higher costs for payers in a fee-for-service environment. It could be argued, however, that compared to specialty mental health, the increase in visits from a median of 3 in 2005 to a combined median of 7 behavioral health/primary care clinician visits in 2009 are mild to moderate at best. There also are possible cost-effectiveness and cost-offset arguments that could be made; for example, increased patient engagement can have a halo effect on his/her entire health care outcomes, thus potentially minimizing long-term costs such as hospitalizations, emergency department use, and cost of inefficient care. These hypotheses require testing and validation. It may be that payers wishing to adopt this model in their systems would decide to re-evaluate the way that a health care home is reimbursed.

Primary Care Clinician Willingness to be Mental Health Clinicians

One of the most important components in any health care redesign toward integrated care is the willingness of primary care clinicians to reshape their practices. This study demonstrated what also has been shown by other studies:[12] that primary care clinicians are generally up to the task, but with the right kind of support. Results from the present study appear to replicate findings from previous research on the integration of behavioral health services with primary care, showing positive clinician perceptions of and satisfaction with integrated care programs.[12]

In the case of this study, when provided with behavioral health consultants at their immediate disposal and a psychiatric consultation system facilitated by the behavioral health consultants, clinicians felt they could take on the management of their patients' mental health concerns. They also felt their skills were enhanced and their practices were improved in substantial ways. On the clinician survey, clinicians made comments about what their practice would look like without behavioral health integration, such as:

- "It would be horrible—back to the dark days of trying to muddle through and figure out what to do with these situations. The behavioral health consultation program is one of the best things about Access Community Health Center and about practicing at Access Community Health Center."
- "I might do the same things, but with a much lower comfort level. I couldn't do the same behavioral interventions that the patients get now."
- "Patients would suffer from lack of timely treatment (both counseling and possibly medication)."
- "Patients would get less attention to their mental health due to time constraints."

LIMITATIONS

While this study replicates findings in other larger studies and adds important nuances of its own to the literature, there are some important limitations to the data and its interpretation. Chief among them is the single-site, single-program nature of the study and the retrospective nature of the clinician survey data. In addition, the data measures indicators of improved patient care, but no direct outcomes were presented in the study to ascertain the exact clinical outcomes. It also is important to contextualize the data. For example, the 8% referral rate demonstrated here may vary based on patient population and/or community. In the case of this community health center, access to specialty mental health was found to be poor in its county, thus necessitating retention of even some of the most severe psychiatric patients, (as per clinician reports). That did not, however, stop them from trying to refer in 2005. Other

communities with better access to care might find different referral patterns, or, in the case of the visit data, different visit patterns. Therefore, clinic and community factors should be taken into account when seeking to generalize these results. Finally, it is important to note that mood disorders are not the sole focus of behavioral health consultation and, as such, studies that focus on a single diagnosis miss the breadth of the more expansive mission of behavioral health consultation programs, which include supporting primary care clinicians in providing behavioral health care (eg, chronic disease management, medication adherence, etc).

CONCLUSION

This study demonstrates that a behavioral health consultation program in an urban community health center significantly and positively impacts the care of depression and makes it possible to manage the majority of patients presenting with these issues in the primary care setting. From a policy standpoint, this is a significant conclusion to draw, because it opens the possibility of redesigning the health care system to better support the work of primary care clinicians in the care of depression. Specifically, integrated care programs can increase access for patients, increase patient engagement, and improve quality indicators. They also are highly acceptable to patients and clinicians in the primary care environment. Future research will be needed to determine whether the behavioral health consultant model is similarly effective with other psychiatric and behavioral health conditions, the economic impact of such programs, and the key ingredients of the model for successful outcomes. Primary care is emerging as an important point of service for mental health in the American health care system. Therefore, it would seem to be the case that the question is not whether such support should be provided, but exactly what components of what programs will achieve the best and most cost-efficient patient care.

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