Connections to Primary Medical Care after Psychiatric Crisis

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Background: **Patients presenting with a psychiatric emergency face a unique set of challenges in connecting to primary care.**

Objectives: **We tested the hypothesis that, in contrast to usual care, case management will result in higher rates of connection to primary care. We examined variables affecting primary care entry, including insurance status, hospital admission, and concurrent linkages to mental health care.**

Research Design/Methods: **This article reports on a preliminary outcome of an ongoing randomized controlled trial conducted with 101 patients presenting in an urban psychiatric setting. Patients were randomized to a case management team or to usual care. The need for medical care was assessed by documenting medical comorbidity.**

Results: **Average age of the sample was 37.5; 65% were male, and 78% had low income; 37% were African American and 9% were Hispanic. Within 3 months of study enrollment, 57% of the intervention group was successfully linked to primary care compared with 16% of the usual care group, a difference that was statistically significant ($P < .001$). Associated positive predictors for linkage to primary care included mental health care visits and success in obtaining health insurance. Inpatient hospital stay at the time of psychiatric crisis was negatively associated with later attendance at primary care.**

Conclusions: **Case management intervention was effective in establishing linkage to primary care within 3 months. Ongoing work will evaluate primary care retention and physical and mental health outcomes. (J Am Board Fam Pract 2005;18:166–72.)**

Patients with significant psychiatric disorders are likely to have concomitant medical problems.[1] Persons who need psychiatric care also need general medical care, and those with severe mental disorders suffer excess morbidity and mortality compared with the general population.[2]

Integrated medical care for persons with psychiatric illness makes a positive difference in health care quality and outcomes.[3] So far, efforts to integrate mental and physical health care have focused on patients appearing in a primary care setting.[4,5] However, many patients with coexisting physical and mental health problems fail to appear in primary health care systems, increasing the risk of poorer health outcomes. Barriers to accessing primary care include inadequate skills or experience to negotiate the health care system, poor support networks, and transportation difficulties.[6] Homeless persons, approximately one third of whom may have a chronic mental illness, are at a particular disadvantage. Often, they are without insurance and find it difficult to navigate the service system.[7] This study addresses one such set of particularly vulnerable and underserved patients—those presenting to the emergency department in psychiatric crisis.

Case management approaches in the community and collaborative efforts such as "stepped care" have yielded improved outcomes for patients with depression, suggesting that many patients with psychiatric problems can be managed effectively within primary care practices.[8–10,11] Moreover, there is evidence that homeless persons can be identified and linked to physical health care and

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obtain appropriate treatment of mental illness and substance use.[12]

However, getting connected to the doctor may pose a problem for the patient emerging from psychiatric crisis, and simply providing to patients the name of a primary care provider or site does not seem to result in effective linkage.[13] An opportune time for connection to and engagement in a primary care setting may be after a psychiatric crisis. This point may serve as an opportunity to initiate linkages between medical and mental health services, bridging the gap between mental health and primary care and initiating care continuity in both settings.

This study focuses on patients without a primary care "home" emerging from psychiatric crisis, comparing facilitated linkage with primary medical care with standard practice after a psychiatric emergency visit. We test the hypothesis that, in contrast to usual care, community-based care management will result in higher rates of connection to primary care. The study also examines variables that may facilitate or deter primary care entry, including insurance status, whether patients were admitted to the hospital at the time of psychiatric crisis, and linkages to community mental health care.

Methods

This article reports preliminary results on the rate of linkage to primary care within 3 months as part of an ongoing randomized control trial. So far, 101 patients have been enrolled and are being observed for 1 year. Patients present at an urban Comprehensive Psychiatric Emergency Program (CPEP). CPEP is accessible 24 hours a day, 7 days a week. Eligibility criteria for the study require that persons be older than 18 years and have a DSM-IV-R–defined Axis I disorder.[14] Patients are eligible if they either have no regular source of primary care or have not seen a primary care provider within 6 months. "Primary care provider" is defined as a clinician with whom the patient has an ongoing relationship on a regular basis. Patients are ineligible if deemed unstable, actively suicidal or homicidal, or unable to give informed consent. In the case of patients being admitted for stabilization, they are eligible for enrollment once stabilized and ready for discharge. The prospective follow-up occurs from the point of discharge. The study is approved through our University's Institutional Review Board.

Usual Care

Services routinely offered through CPEP include complete psychiatric assessment and management, targeted therapeutic approaches, and linkages to community mental health services. Referral to primary medical care is provided on patient request or if a significant medical condition is identified in the emergency ward. Uninsured patients are given on-site assistance with health coverage. All patients receive needed medications.

Study Intervention

Care managers meet with intervention patients on study enrollment, within the first week of facilitation and routinely at primary care appointments. They maintain regular contact through face-to-face visits, and by phone. They also provide the following case-based assistance in regular meetings:

- Information regarding sliding scale or "free" primary medical care sites.
- Facilitation of access to primary care, with shared decision-making regarding primary care site location, provider preference, and travel routes.
- Reinforce patient education and teaching that occurs at primary care visits.
- Index cards for primary care providers with psychiatric hospital discharge diagnosis, pharmacotherapy, and mental health treatment site referral.
- Follow-up, including home visits and mobile outreach when appropriate.
- Assistance through peer connections to community mental health sites and social services.

Process

The CPEP patient logs are screened on a daily basis to determine patient eligibility. Those patients who meet the eligibility criteria are approached by a member of the research team and invited to join the study. Those patients who agree are given a series of baseline assessments and randomized to either the intervention group or the usual care group. The research team contacts both intervention and control groups on a monthly basis, tracking primary care utilization, insurance status, and mental health visits.

Outcome and Associated Variables

The primary outcome of interest for this article was the relative connection rate to primary care for each study group. "Connection" to primary care

was defined as a completed visit within 3 months of study entry. This definition was based on criteria currently used for measuring quality of access to care by behavioral organizations.[15] In pilot work for this study, even those patients without medical insurance completed a first visit within this time frame.

Associated variables of interest included investigating how other factors such as inpatient admission, insurance status, and linkage to mental health services related to successful primary care linkage within the specified time frame. Moreover, the rate of linkage for those persons with chronic disease, arguably those most in need of primary care, was of special interest.

Analysis

Basic descriptive statistics were used to characterize the participants in the usual care and intervention groups with regard to demographics and psychiatric and medical diagnosis. χ^2 tests were used to ascertain the relationship between the categorical variables of interest and the dichotomous outcome variable (linkage to primary care within 3 months of study enrollment). Odds ratios were calculated where appropriate. Variables of interest were condition (intervention versus usual care), insurance status at baseline and at 3 months from enrollment, linkage to mental health services before entering CPEP and at 3 months after enrollment, psychiatric diagnosis, medical diagnosis, and hospital status at the time of enrollment (regardless of whether the participant was admitted to the inpatient psychiatric ward).

Thereafter, variables with a statistically significant bivariate relationship with linkage to primary care were entered into a logistic regression model. Odds ratios from the final logistic regression analysis were examined to determine the association between each of the variables in the model and the outcome variable, controlling for the other predictors.

Results

Sample Characteristics

The demographic and diagnostic characteristics of participants in the intervention and usual care groups are presented in Table 1. As a result of randomization, the distributions of these variables were very well balanced across the intervention and usual care groups, suggesting that the 2 groups of

Table 1. Sample Characteristics

Characteristic	Intervention % (n = 56)	Usual Care % (n = 45)	Total % (n = 101)
Demographics			
Average age (SD)	37.9 (15.0)	37.0 (10.9)	37.5 (13.3)
Female	36	33	35
African American	39	33	37
Hispanic	7	11	9
Unemployed	71	66	69
Annual income <$10,000	74	82	78
High school grad/GED	70	64	67
Psychiatric diagnosis			
Mood disorder	45	38	42
Adjustment disorder	20	18	19
Anxiety disorder	7	11	9
Psychotic disorder	30	42	36
Substance use disorder	39	47	43
Dual diagnosis*	30	42	36
Medical diagnosis			
At least one comorbidity	50	47	49
Diabetes	5	7	6
Hypertension	21	20	21
Hyperlipidemia	7	9	6
Cancer	4	4	4
Cardiovascular disease	9	18	13
Arthritis	9	20	14
Asthma	16	11	14
Chronic disease†	48	42	46

* Dual diagnosis refers to having both a substance use disorder and any Axis I diagnosis.
† Chronic disease includes diabetes, hypertension, congestive heart failure, hyperlipidemia, stroke, arthritis, and asthma.

participants were largely equivalent across several important dimensions. The average age of participants was relatively young (~37 years), and both groups had a majority of male participants. Although the gender presentation to the psychiatric emergency ward was equal, more men presented without a designated primary care physician. Minority participation in the study was high, accounting for approximately 50% of the sample. Nearly 70% of subjects were unemployed, and approximately 80% had incomes below $10,000 per year. Most participants in both groups had either completed high school or had earned an equivalency diploma.

Within the sample as a whole, there was a wide diversity of psychiatric diagnoses; however, there were no significant group differences at baseline. The most common diagnoses of study participants fell under the umbrella of mood (primarily Major Depression), psychotic (Schizophrenia and Schizoaffective Disorder), and substance use disorders. A substantial portion of participants (36%) was diagnosed with both a substance use disorder and another Axis I disorder.

In addition to the aforementioned psychiatric disabilities, nearly half of the study participants suffered from one or more medical comorbidities—despite their relatively young average age (37 years). Many of these medical comorbidities were chronic conditions, including diabetes, hypertension, hyperlipidemia, arthritis, and asthma. The presence of medical comorbidity to such an extent provided further evidence of the necessity for and potential benefit of prompt linkage to primary care for study participants.

Linkage to Primary Care

A summary of the statistically significant results from the subsequent bivariate relationships is displayed in Table 2.

Condition

There was a significant relationship between condition (intervention versus usual care) and successful linkage to primary care within 3 months of enrollment in the study. Whereas 57% participants in the intervention group were successfully linked, only 16% of the usual care group completed a primary care visit within the critical time period. This relationship is statistically significant χ^2 (1) = 18.21, $P < .001$; odds ratio (OR) = 7.24 (95% CI = 2.76 to 18.99). It is arguable that it is most important for those with a medical comorbidity to obtain linkage to primary medical care. More than half (54%) of these patients were linked to primary care within 3 months.

Insurance

At baseline, there was no difference in rates of insurance coverage between groups. Approximately 48% of both the intervention and control groups had some form of insurance coverage; the vast majority who had insurance were publicly insured (Medicaid). At the 3-month follow-up point, 78% of the usual care and 86% of the intervention group had managed to obtain insurance coverage. Although there was no relationship between baseline insurance status and linkage to primary care, there was a relationship between insurance status at 3-month follow-up and linkage. In particular, 45% of those who were insured at the 3-month time

Table 2. Relationships of Variables of Interest to Linkage to Primary Care

Characteristic	No. of Patients Linked	Percentage Linked	OR	95% CI	*P*
Condition					
Usual care	7 of 45	16	7.24	2.76 to 18.99	<.001
Intervention	32 of 56	57			
Insurance with 3-month follow-up					
Yes	37 of 83	45	6.44	1.39 to 29.79	.008
No	2 of 18	11			
Inpatient at hospital					
Yes	15 of 55	27	0.34	0.15 to 0.79	.01
No	24 of 46	52			
Linked to mental health with 3-month follow-up					
Yes	31 of 64	48	3.29	1.30 to 8.30	.01
No	8 of 36	22			

OR, odds ratio; CI, confidence interval.

point were linked to primary care compared with only 11% of those without insurance [χ^2 (1) = 6.99, P = .008; OR = 6.44 (95% CI = 1.39 to 29.79)].

Inpatient Status

Approximately 55% of the sample required inpatient hospitalization after the psychiatric crisis and entry to CPEP. Those enrolled from the inpatient ward comprised approximately equal portions of both the intervention and usual care groups (58% of usual care and 52% of intervention). Requiring inpatient hospitalization at the time of psychiatric crisis may serve as a proxy for the severity of the crisis and may, in turn, relate to subsequent participation in primary care. Of those persons who were hospitalized at the time of psychiatric crisis, only 27% were linked to primary care, whereas 52% of those with routine discharges from CPEP obtained linkage. This relationship was statistically significant [χ^2 (1) = 6.55, P = .01; OR = 0.34 (95% CI = 0.15 to 0.79)].

Linkage to Mental Health Services

Approximately half of the participants in both the intervention and usual care groups were linked to mental health services before psychiatric crisis and subsequent enrollment in the current study. Three months after enrollment in the study, approximately 46% of the usual care group and 53% of the intervention group reported linkage to mental health services. Although there was not a significant relationship between mental health linkage before crisis and linkage to primary care, a significant relationship did emerge for mental health linkage at the 3-month time point [χ^2 (1) = 6.66, P = .01; OR = 3.29 (95% CI = 1.30 to 8.30)]. Forty-eight percent of those linked to mental health services were also linked to primary care, whereas only 22% of those not linked to mental health services obtained linkage to primary care.

Diagnostic Variables

There were no significant relationships between psychiatric diagnosis or medical diagnosis and linkage to primary care.

Logistic Regression

To create a more comprehensive preliminary model for predicting linkage to primary care, all 4 of the variables listed in Table 2 were entered into a logistic regression. The model yielded a Cox and Snell R^2 of 0.35 and a Nagelkerke R^2 of 0.47. Controlling for each of the other predictors in the model, all 4 variables remained statistically significant predictors of linkage to primary care.

Of most interest perhaps for the current study is that participation in the intervention group was a significant predictor of linkage to primary care even when controlling for insurance status, linkage to mental health, and inpatient status at the time of psychiatric crisis. Adjusted odds ratios and other relevant statistics from the logistic regression analysis are displayed in Table 3.

Discussion

In this study of 101 persons, the primary outcome of successful connection to primary medical care after psychiatric crisis was significantly more likely for patients who had community case managers, relative to control subjects. In earlier studies, active linkage after psychiatric crisis improved function[16] and increased adherence to mental health care.[17]

Nurse case management of persons with serious psychiatric disabilities is feasible and effective in both community and primary care office settings.[18] We found that care managers and case-based interventions had a significant positive influence on attendance at primary care. This may speak to a "structured system" approach, as identified through focus groups discussing the management of crisis in mental illness.[19]

Table 3. Results from Logistic Regression Predicting Linkage to Primary Care within 3 Months

Predictor	β	SE	OR	95% CI	*P*
Condition	2.52	0.61	12.47	3.78 to 41.09	<.001
Insurance status (2 months)	1.98	1.01	7.22	1.01 to 52.06	.05
Linkage to mental health services (2 months)	1.80	0.62	6.03	1.78 to 20.41	.004
Inpatient status	−1.55	0.56	0.21	0.07 to 0.64	.005

OR, odds ratio.

We concentrated on 3 variables of interest that may have had an association with our primary outcome measure. In all 3 circumstances, intervention and control groups had no significant differences at baseline.

Although initial insurance status was not associated with primary care linkage, obtaining insurance within 3 months of psychiatric crisis seemed to correlate with successful primary care attendance. Persons reporting mental disorders are twice as likely to report being denied medical insurance because of a pre-existing condition, and even those with insurance may delay medical care because of inadequate coverage or access difficulties.[20,21] Although we did not look specifically at insurance type in this study, differences in health coverage may affect primary and mental health care access. There is a need for further investigation of how health insurance patterns influence care attendance and continuity.

Patients who accessed community mental health care were more likely to attend primary care. An earlier study[22] found that for patients discharged after psychiatric emergency, use of care plans emphasizing liaisons with mental health and primary care led to decreased emergency department visits.

Inpatient hospitalization had a negative effect on initial linkage to primary medical care in this analysis. Although there was no significant relationship between actual diagnosis and linkage, diagnostic severity or other factors not identified in this study, such as homelessness, may serve as barriers to primary care entry.

This study has several limitations. Although linkage within 3 months was achieved through case management, this time frame is obviously inadequate to assess adherence to care. At the completion of the study, data on changes over time and downstream effects subsequent to primary care linkage will be described. Furthermore, although there is information on mental health visits, care managers did not explicitly provide assistance with integration of mental health and primary care. This makes it difficult to assess in this study whether features within the primary care setting influence mental health care. Finally, the circumstances surrounding inpatient admission need to be explored and further evaluated with regard to primary care attendance.

Community case management did make a significant difference in primary care entry for persons without a primary care provider. Having a regular doctor can make a positive difference on access to primary care and lead to improvement in chronic care conditions.[23,24] On-going work must elucidate whether patients adhere to care, and whether a mental health-primary care connection results in improvement in health, functional status, and quality of life.

Linking patients from psychiatric crisis to a primary care home demonstrates one process of care and coverage for a vulnerable population. Research in this area may have long-term implications for better care and public health policy by identifying the features surrounding access to primary care that may improve outcomes for patients with mental disorders.

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