Integrating Primary Care Services Into Psychiatric Care Settings: A Review of the Literature

Joseph M. Cerimele, MD, and James J. Strain, MD

Objective: This review assesses the outcomes of integrating primary care medical services into psychiatric care settings.

Data Sources: PubMed, the Cochrane database, and PsycINFO were searched using the key words *integrated care*, *family medicine*, *primary care*, and *internal medicine* in combination with *psychiatry* or *psychiatric clinic* and *ward* to identify reports published between 1980 and December 2009 in English.

Study Selection: Four studies evaluating medical care services on a psychiatry ward or in a psychiatry clinic were found. Trials involving psychiatric services in primary care clinics (the medical-psychiatric model) were excluded.

Data Extraction: Data describing setting, patient population, intervention, measured outcomes, and discussion points were collected.

Data Synthesis: It was learned that several models of integrated care exist, and patients in these integrated groups received more preventive health measures and showed improved scores on the Medical Outcomes Study 36-item Short-Form Health Survey and Behavior and Symptom Identification Scale and reduced rates of specialist referral.

Conclusions: These data indicate that placing primary care physicians in psychiatric care settings improves health maintenance, care coordination, and satisfaction with nonpsychiatric medical care. Future studies should further address costs, the training of primary care physicians to deliver care in these settings, and whether this integrated model is more effective in specific populations such as those with schizophrenia.

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Corresponding author: *Joseph M. Cerimele, MD, Department of Psychiatry, Mount Sinai School of Medicine, One Gustave L Levy Pl, Box 1230, New York, NY 10029-6574 (joseph.cerimele@mssm.edu).*

Several studies have described that patients with psychiatric illness are at increased risk of developing nonpsychiatric medical disorders compared with age-matched controls.[1] For instance, patients with schizophrenia were found to have a higher prevalence of HIV infection, osteoporosis, obesity, diabetes mellitus, and cardiovascular disease than the general population.[2] Additionally, some of these chronic conditions such as diabetes mellitus, hypertension, and dyslipidemia may frequently go untreated. One report from the Clinical Antipsychotic Trials of Intervention Effectiveness[3] noted that rates of nontreatment for diabetes, hypertension, and dyslipidemia were 30.2%, 62.4%, and 88.0%, respectively, suggesting that patients managed primarily in the mental health care setting are not receiving comprehensive care. One way to improve nonpsychiatric (for this article) primary care in these patients is to bring primary care services into psychiatric care settings.[4] Patients with schizophrenia may be a population that would benefit from integrated psychiatric and primary care because these patients generally use the mental health care sector as the main source of health care.[5] Patients with chronic psychiatric disorders other than schizophrenia also use the mental health care sector as a source of care, have co-occurring nonpsychiatric disorders, and could also benefit from integrated primary and psychiatric care.

Recently, several groups have integrated primary care into psychiatric care settings and explored processes and outcomes through descriptive studies and randomized controlled trials.[6–9] No review (or meta-analysis) exists examining these results. This review assesses the outcomes of integrating primary care services into psychiatric care settings.

METHOD

PubMed, the Cochrane database, and PsycINFO were searched using the key words *integrated care*, *family medicine*, *primary care*, and *internal medicine* in combination with *psychiatry* or *psychiatric clinic* and *ward* to identify reports published between 1980 and December 2009 in English. Trials included in the review involved integrated primary care services on a psychiatry ward or in a psychiatry clinic. Trials involving psychiatric services in primary care clinics (the medical-psychiatric model) were excluded. Reports examining medical care

Clinical Points

- Providing primary care services in psychiatry care settings can improve outcomes on standardized health measures.
- Several models of integrated care have been studied.

in psychiatric settings were analyzed, and information regarding subjects, methods, and outcomes was examined.

RESULTS

Four studies evaluating medical care services on a psychiatry ward or clinic were found. Two of these studies were randomized controlled trials,[6,7] and 2 were prospective, descriptive studies.[8,9]

Druss et al[7] integrated primary care services into an established general adult psychiatry clinic at a Veterans Affairs hospital in Connecticut. One hundred twenty outpatient veterans were randomized to an integrated care team (medical care in a psychiatric clinic) or to routine care in 2 clinics (psychiatric clinic and primary care clinic). The psychiatry service managed the integrated clinic, which consisted of the routine psychiatry staff plus 1 half-time family physician, 1 nurse practitioner, a case manager, and a half-time administrative assistant. The routine care group received psychiatric care at the disparate general psychiatry clinic and primary care in the primary care clinic.[7]

The patients randomized to the integrated care group showed greater compliance with preventive services specified by the US Preventive Services Task Force.[10] For instance, 84.7% of the patients in the integrated care group had weight and blood pressure measurements compared to 59.0% ($P = .002$) and 65.6% ($P = .01$) of those receiving routine care.[7] The patients in the integrated care group also received more preventive care for diabetes screening (71.2% vs 45.9%, $P = .005$), lipid screening (79.7% vs 57.4%, $P = .009$), and influenza vaccinations (32.2% vs 11.5%, $P = .006$) and more often received educational counseling on exercise (81.4% vs 52.5%, $P < .001$), nutrition (83.1% vs 62.3%, $P = .01$), and smoking cessation (84.7% vs 63.9%, $P = .009$).[7] The Medical Outcomes Study 36-item Short-Form Health Survey ([SF-36] a measure of general health status) demonstrated improved scores over 1 year in the integrated care group compared with controls (mean 12-month score 50.9 vs 45.3, $P < .001$). Patients in the integrated care group attended more appointments than control patients.[7]

Costs were calculated by including all services used by veterans (outpatient visits, hospitalizations, emergency department visits, consultations) and multiplying the number of times each service was used by the mean cost for that service.[7] Direct costs for the integrated clinic (salaries, benefits, equipment costs) were calculated. The mean costs for patients in the integrated care group were $13,010 per patient and did not exceed costs for those in routine care, $14,543 per patient ($P = .67$).[7]

One randomized controlled trial examined the intervention of including an internist in an acute care psychiatric inpatient team.[6] Patients were randomized to usual care (routine in-house psychiatric team) or intervention team care (routine team plus internist) to determine if the addition of an internist to the treatment team would affect the process of care and resource use. The primary outcomes included the number of patients receiving health maintenance care (eg, vaccinations, lipid screening, cancer screening, substance use risk plan), coordination of care (scheduling outpatient follow-up with primary care physicians), process of care (eg, completed physical examination, medication reviews), and scores on the SF-36 and the Behavior and Symptom Identification Scale.[6]

Process of care outcomes including completed review of systems (93% vs 46%, $P < .001$), medication list review (96% vs 22%, $P < .001$), and family risk plan (64% vs 6%, $P < .001$) were significantly improved in the intervention group. Patients in the intervention group also received improved health maintenance care. For instance, no patients in the usual care group received Pap testing, while 20 patients (41%) in the intervention group did ($P < .001$).[6] Additionally, patients in the intervention group received more vaccinations, lipid screening, substance use risk planning, and cancer screening (mammograms, digital rectal examinations, prostate-specific antibody testing, and stool occult blood testing) ($P < .001$). Total costs, assessed using the reported charges in the hospital's administrative database, were $8,527 ± 6,521 in the usual care group and $8,558 ± 5,703 in the intervention group ($P = .68$).[6]

The study by Behroozi et al[8] implemented a family medicine consultation service for the general adult psychiatry wards to assess the length of stay, rate of specialist referral, and staff satisfaction using chart reviews and staff surveys. The psychiatry care team identified patients with urgent or nonurgent matters requiring primary care attention. The family physicians then saw these patients on daily rounds. This consultation method differed from a routine internal or family medicine consultation service because 1 family physician visited the ward daily, discussed cases with the psychiatry

care team, and evaluated routine primary care issues that would generally be managed in a clinic rather than on an inpatient ward.[8] Researchers were unable to fully assess the mean length of stay, as it had been decreasing annually prior to the study. The mean rates of specialist consultations per patient per admission on the 2 psychiatry wards were 1.0 (SD = 1.15) and 1.30 (SD = 1.16) before the intervention and 0.70 (SD = 0.82) and 0.90 (SD = 1.29) after the intervention, respectively.[8]

Staff satisfaction was measured by a satisfaction survey with a Likert scale assessing 4 domains: (1) timeliness of response of the family physician, (2) appropriateness of consultation, (3) continuity of care, and (4) quality of communication. Ninety-three percent of respondents (28 of 48 questionnaires returned) were "very to extremely satisfied" with the family medicine care provided on the ward.[8]

Welthagen et al[9] organized a weekly 3-hour primary care clinic staffed by primary care physicians on a psychiatry ward to evaluate and manage self-referred patients and patients referred by the psychiatry care team. The study lasted 10 months, and the 36 physician meeting times included 123 fifteen-minute appointments with inpatients on the psychiatry ward.[9] The primary care physicians managed many acute and chronic disorders including infectious diseases (11 patients), endocrine disorders (25 patients), cardiovascular disease (14 patients), musculoskeletal disorders (23 patients), and disorders of other organ systems. The patients seen in the clinic also received 346 health promotion interventions including smoking cessation advice, dietary and exercise guidance, blood pressure screening, and lipid testing.[9]

DISCUSSION

Integrating primary care into psychiatry settings can improve quality and medical outcomes in patient care. These data suggest that placing primary care physicians in psychiatry settings improves health maintenance, care coordination, and satisfaction with medical care. Additionally, the case management services in the Druss et al[7] study provided additional patient education and management services, which may have improved adherence with outpatient treatment. This integrated care model is not commonly used in clinical care, yet we know that patients with psychiatric disorders have undiagnosed and undertreated medical disorders. At our institution (Mount Sinai School of Medicine, New York, New York), internal medicine consultants on the inpatient psychiatric wards are reimbursed by the patient's insurer, limiting the financial strain on the psychiatry or internal medicine department. Two or more physicians can bill payers for services delivered on the same hospital day; however, only 1 physician can bill as the primary physician, with the remaining physicians billing as consultants. Methods for reimbursement of primary care physicians managing patients in a psychiatry clinic would be a factor in determining the feasibility of integrated primary care and psychiatry services. Studies examining costs found no difference between routine care and integrated care.

Past studies have examined combined medical-psychiatric and psychiatric-medical wards for patients with co-occurring acute medical and psychiatric disorders requiring hospitalization.[11,12] These models addressed the acute needs for medical care in patients with psychiatric disorders on a hospital ward, but the chronic need for ambulatory medical and psychiatric care remained unmet subsequent to discharge.

This review is limited by only 4 studies, 2 of which were randomized controlled trials. All studies examined patients at an academic hospital, which may limit the generalizability of the results.

CONCLUSION

The amount of enhancement at no increased cost in the integrated care programs would justify further study in placing primary care in psychiatry settings. This could have a major impact on improving medical care for patients with psychiatric disorders. Future studies should further address the costs and specific time requirements for all staff members in an integrated care clinic. Also, as psychiatrists are trained to deliver psychiatric care in a medical setting (the consultation/liaison psychiatrist), it should be determined whether primary care physicians would benefit from additional training in delivery of nonpsychiatric medical care in a psychiatry setting. Finally, studies should address whether this integrated model is more effective in specific populations such as those with schizophrenia.

Author affiliations: Division of Behavioral Medicine and Consultation Psychiatry (Dr Strain) and Department of Psychiatry (Drs Cerimele and Strain), Mount Sinai School of Medicine, New York, New York.
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