

Promising results of Project ImPACT: Depression pilot study

Program results in improved depression severity and reductions in total health care costs

Patients in the first year of a Project ImPACT: Depression program showed significant improvements in depression severity scores, and total health care costs per patient per year were reduced compared with projected costs without the program. The clinical and economic results of the pilot project appear in the January/February 2011 *Journal of the American Pharmacists Association (JAPhA)*. Finley and colleagues noted that “the preliminary success of this

ships), economic consequences also can result. “Among those who are employed, mood disorders have been shown to be a leading cause of work absenteeism, and reports indicate that employees with depression will have an average of 9.9 sick days annually,” wrote Finley and colleagues. “The costs of presenteeism with depression are probably even higher, with decrements of job productivity ranging from 10% to 20%.”

Many cases of depression go unde-

environments, and the applicability of these approaches to other care settings remains somewhat unclear.”

Study methods

In the prospective study, the researchers emphasized the role of clinical pharmacists in improving the outcomes of depressed patients, primarily through a structured program featuring enhanced employee outreach, patient education, and systematic follow-up. Conducted in Asheville, NC, from July 2006 through December 2007, the Project ImPACT: Depression pilot project involved 130 patients who remained under pharmacist care for a minimum of 1 year.

Self-insured employers (the City of Asheville and Mission Hospitals) agreed to offer a care management program for covered health plan members with depression. The employer/health plan invested in incentives (i.e., waived copayments for antidepressant medications, free pharmacist consultations) for patients and reimbursed pharmacist providers for services.

Participants were identified through self-referral (>90%) resulting from staff meetings and circulating flyers that coincided with the program's launch. Other participants were referred through their employer's employee assistance program, relationships with local pharmacists, or other health care providers. The collaborative treatment model featured two pharmacist care managers who received approximately 16 hours of depression management training (8 hours of self-study and 8 hours live) provided by the APhA Foundation and based on national treatment guidelines.

Positive clinical and economic outcomes

Study participants were mostly women, white, and aged 45 to 54 years. Of the 130 patients in the aggregate cohort, 104 (80%) showed a decrease in Patient Health Questionnaire (PHQ)-9 scores between the baseline and final follow-up visits. Mean (\pm SD) PHQ-9 scores were 11.5 ± 6.6 (i.e., moderate severity depression) at baseline and 5.3 ± 4.7 (i.e., mild severity depression) at latest follow-up ($P < 0.0001$), and the greatest clinical



promising and exportable model may serve to inspire future investigations.”

“Depression is now widely recognized as one of the most common and disabling chronic diseases affecting industrialized nations,” wrote study authors Patrick R. Finley, PharmD, BCCP; Benjamin M. Bluml, BPharm; Barry A. Bunting, PharmD; and Stephanie N. Kiser, BPharm. About one in six U.S. adults will experience an acute episode of major depressive disorder during their lifetime, noted the authors, and more than 10% will suffer from a depressive illness during the next 12 months.

Beyond the profound social impact of depression (e.g., emotional withdrawal and isolation, neglected familial relation-

tected. In addition, when treatments are prescribed, evidence suggests that fewer than 50% of patients adhere to the therapeutic course. Because initial presentation of many depressed patients occurs in nonspecialty settings (e.g., primary care), these treatment deficiencies are considered by many to be a systems problem. Attempts to redesign health care delivery systems have emphasized a collaborative, multidisciplinary approach spearheaded by a committed case manager, and randomized controlled trials have demonstrated significant improvements in clinical outcomes with this strategy. Finley and colleagues pointed out, however, that “most of this research has been conducted in managed care

improvements and outcomes were seen for patients with severe depression at baseline (PHQ-9 > 14; 83% achieved remission) compared with those with mild or moderate symptoms (PHQ-9 ≤ 14; 20% achieved remission).

Annual average medical costs decreased from \$6,351 to \$5,876 per patient, and total health care costs to the employer were \$983 lower than projected per patient. Annual employer costs for prescription medications increased by 21% compared with projected costs (\$3,670 vs. \$4,440/patient).

In the baseline year, employer health plan medical costs represented 60% of total health care costs compared with 40% for pharmacy claims; these percentages shifted to 45% medical and 55% pharmacy in year 1 of the program. Individual out-of-pocket costs for prescriptions decreased by 41% (\$323/patient) compared with projected estimates; however, enrollee out-of-pocket medical costs increased by 24% (\$434/patient) above projected values. Therefore, participants' overall costs increased by 4.2% above projected estimates (mean increase of \$111 compared with their baseline year).

Analysis of results

The economic pattern observed in this Project IMPACT: Depression investigation mirrors that of previous collaborative care models in which pharmacists intervene among patients with chronic illness: prescription costs increase, but medical costs decrease and net health plan savings occur. Compared with the projected estimates of Finley and colleagues, medical costs were 33% lower and medication costs 21% higher, resulting in actual total health care expenditures by the employer that were 10.9% lower than expected (\$983 lower per patient, including program costs).

The significant improvements in clinical outcomes (68% of the patients exhibiting treatment response and 56% achieving remission) compare favorably with previous multidisciplinary collaborative care studies for depression. Also of note, the study's high retention rate (82% of the participants remained enrolled in the program for 1 year or more), suggests that the program was well received by participants. The reasons (e.g., financial incentives, quality of care, pharmacist care manager accessibility) for this high

retention rate are unclear; however, the payer appears to view a practical benefit of the overall approach, as evidenced by the fact that both employer groups have offered the program to beneficiaries for more than 3 years and continue to maintain it as a standard health benefit.

Enrollee out-of-pocket costs for prescriptions decreased by more than 41%, but out-of-pocket medical expenses increased by 24%. Given the reduced actual medical costs compared with those projected, this increase in prescription medication costs likely was not a result of declining health. The authors suggested that this finding could have resulted from patients in the program taking advantage of available health services more frequently than they did before the program began.

Although the employers involved in the program were not able to provide absenteeism data, improvements in these indirect costs likely occurred, considering that 36 of 44 patients recovered from moderate to severe depressive ill-

ness with randomization of patients or clinics to respective study arms. Also, complete economic data, including health care use data and productivity measures (i.e., monetary values for changes in absenteeism and presenteeism rates), should be collected and analyzed. A larger study could stratify patients based on disease severity to determine whether economic outcomes are affected by disease severity similar to the clinical outcomes observed in this study.

Well beyond dispensing functions

This Project IMPACT: Depression care model features core elements required of a collaborative care model, as it emphasizes the role of clinical pharmacists in managing care, working collaboratively with primary care providers and other mental health professionals to ensure frequent follow-up, monitor treatment adherence, and provide patient education.

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ness (PHQ-9 > 14) and achieved disease remission. Although it cannot be verified from the investigation, the true savings resulting from the program likely were underestimated because of probable increases in worker productivity.

Limitations and future study

Finley and colleagues noted that because the investigation was designed as a proof-of-concept project, limitations should be considered. These include the lack of a control group and randomization procedures, the variable length of follow-up, the small number of pharmacists and treatment facilities providing the intervention, the unavailability of complete financial data for the majority of participants, and the potential for selection bias (i.e., patients often identified through self-referral and therefore may have been more motivated to pursue treatment success).

The authors noted that the collaborative care model should be subjected to the rigors of a controlled investigation

United States were over \$83 billion, and those costs continue to grow," said Bluml, who is the APhA Foundation's Vice President for Research. "Pharmacists are one of the most accessible health care providers available to the patient, and this research adds to the evidence that pharmacist collaboration helps improve clinical, humanistic, and economic outcomes."

Bluml and colleagues believe that this process of care blends important elements of "reformed" health care delivery, integrating provider accessibility, patient centeredness, and lifestyle considerations into the model. The investigators also believe that these results published in *JAPhA* support a conclusion that continues to gain momentum—that properly trained pharmacists have skills that can contribute to the management of chronic medical conditions for which medication is a hallmark of management and that these skills go well beyond dispensing functions.

—Joe Sheffer