ICSI

INSTITUTE FOR CLINICAL SYSTEMS IMPROVEMENT

The Value of Providing Collaborative Care Models For Treating Employees with Depression

Summary

Depression is one of the costliest health issues for employers because of its high prevalence and co-morbidity with other conditions. It is estimated to cost U.S. employers $44 billion annually.

Most patients with depression are treated in primary care, yet according to an article in JAMA, less than 22% of patients diagnosed with depression receive adequate care.

This paper describes a collaborative care approach to treating depression that adds a care manager and consult with a psychiatrist to the primary care clinic to increase patient contact, coordinate care and increase self-management of the patient with depression.

This team approach has shown a positive return on investment (ROI) in numerous trials. These trials have typically been funded through grants and research.

There is now a program called DIAMOND (Depression Improvement Across Minnesota, Offering a New Direction) that not only features a collaborative care model, but is funded by Minnesota health plans. Two-year results show that patients recover from depression much faster in the DIAMOND program, providing a ROI that justifies providing coverage for employees.

Depression is a common and debilitating illness. Individuals with untreated depression find it difficult to function in both their private and professional roles. A study published in 2003 by the *Journal of the American Medical Association (JAMA)* concluded that depression is treatable but less than 22% of affected people receive even minimally adequate treatment.

Depression contributes to pain and suffering, reduced productivity and economic loss. A 2007 study by the World Health Organization (WHO) of more than 245,000 people across 60 countries showed depression decreased the quality of their health more than other chronic diseases such as diabetes, arthritis and asthma.

In their study, *The Cost of Lost Productive Work Time Among U.S. Workers With Depression*, researcher Walter F. Stewart and his colleagues said:

"Evidence consistently indicates that common conditions including migraine, low back pain, diabetes, allergic rhinitis, gastroesophageal influx and depression dominate health-related lost labor costs. Depression is among the most costly

because it is highly prevalent and co-morbid with other conditions. Furthermore, although workers with depression are usually present at work, their performance can be substantially reduced."

The Cost to Employers

Study results continually find that workers with depression have a higher rate of absenteeism than workers without depression. Productivity lost on a yearly basis due to depression is also costly. In fact, according to another study published in JAMA in 2003:

"Because [depression] exacerbates physical illness, it is a significant factor in driving up the cost of care. Inversely, when depression is treated successfully, overall health improves and costs go down. The economic cost of traditional depression care has been estimated to be 8.4 hours lost per worker per week, a reduction in productivity estimated to cost U.S. employers $44 billion a year."

In 2001, the Minnesota Department of Health and the Minnesota Department of Human Services published a report entitled *Mental Health in the Workplace*. It states, "In Minnesota alone, approximately 800,000 people have a diagnosable mental disorder, and 92,000 live with a serious and persistent mental illness. Though the cost per employee with depression in Minnesota varies, some studies show a cost range to employers from $3,000 to $4,000 per year."

Usual Care

Primary care providers treat about 75% of the patients with depression. Their "usual care" consists of prescribing antidepressants and/or physician- or self-referral to specialty mental health care. With psychiatrists in limited supply, primary care physicians provide most antidepressant prescriptions but have little time for monitoring. Many patients stop taking antidepressants before they have a chance to help.

While primary care providers treat most of the patients with depression, a study published in the JAMA found that they detect only 35-50% of adult patients with major depression. Only about half of these patients get treated, and just 20-40% of treated patients show substantial improvement within 12 months of diagnosis. This is in part because more than 80% of them have an additional health condition or disease, and primary care physicians are usually better trained to address physical versus mental health problems.

Collaborative Care

With usual primary care proving less effective in helping patients with depression, new models of care have been explored. Collaborative care models have shown that appropriately screening patients, psychiatric consult, and the use of a care manager to ensure coordinated and consistent follow-up resulted in much better outcomes than achieved through usual care.

More than 37 randomized controlled trials involving 12,000+ people treated for depression in primary care provide a solid base of evidence for the effectiveness of collaborative care versus usual care. The Collaborative Care Model, developed by Wayne Katon, MD, University of Washington, and put into practice in a depression study (known as IMPACT) conducted by Jürgen Unützer, MD, University of Washington, is the most comprehensive work in this area.

Dr. Unutzer's work showed that under collaborative care, study participants had fewer suicidal thoughts, higher remission rates and improved function. They also reported 100 more depression-free days over

a two-year period. A study published in 2008 in the *American Journal of Managed Care* showed potential overall health care savings of $3,300 per individual over a four-year span compared to individuals in usual primary care treatment. Much of these costs savings was attributed to patients not requiring more intensive medical care or hospitalization due to unmanaged depression. Also, since so many people with depression are plagued by another disease or illness, eliminating depression gave patients the energy and motivation to tackle it.

According to JAMA, only one-third of the cost of depression falls on health care. The remaining two-thirds of its burden is in lost productivity and disability. The impact of various collaborative care approaches for depression on employee absenteeism and productivity are shown in Figure 1.

Dr. Rost noted that absenteeism is a critical business-relevant metric, reflecting that employers spend about 1.9% of payroll expenditures on sick leave benefits. Employers who pay replacement workers overtime, hire temporary workers, or incur productivity losses from coworkers when depressed workers are absent may realize additional benefits.

Figure 1. Impact of Various Collaborative Care Models On Employee Absenteeism/Productivity

The Effect of Improving Primary Care Depression Management on Employee Absenteeism and Productivity: A Randomized Trial. Rost K et al.	**Modeling the Impact of Enhanced Depression Treatment on Workplace Functioning and Costs: A Cost-Benefit Approach**. Lo Sasso AT et al.	**Telephone Screening, Outreach, and Care Management for Depressed Workers and Impact on Clinical and Work Productivity Outcomes: A Randomized Controlled Trial.** Wang PS et al.
Results: Employed patients reported 6.1% greater productivity and 22.8% less absenteeism over two years. Among consistently employed subjects, the intervention improved productivity by 8.2% over two years at an estimated annual value of $1,982 per depressed full-time equivalent, and cut absenteeism by 28.4% or 12.3 days over two years at an estimated annual value of $619 per employee.	**Results:** Treatment resulted in an average net benefit to the employer of $30 per participating worker in year one of the intervention and $257 per participating worker in year two, for an estimated ROI during the two-year period of 302%.	**Results:** Combining data across 6- and 12-month assessments, the group had significantly lower QIDS (a fully structured assessment that correlates significantly with the Hamilton Rating Scale and has good sensitivity to change), significantly higher job retention, and significantly more hours worked than the usual care groups that were employed.

Cost-Benefit

Research shows that not only do collaborative care models for managing depression reduce absenteeism and boost employee productivity, they also show a good return on investment. Lo Sasso's study, *Modeling the Impact of Enhanced*

Depression Treatment on Workplace Functioning and Costs: A Cost-Benefit Approach, found the treatment costs and benefits displayed in Tables 1 and 2.

Table 1 shows the two-year costs of enhanced depression treatment to cover provider training, the program itself, and outpatient costs attributable to the program (e.g., care manager services). The right two columns show the aggregated costs for the enhanced treatment for a hypothetical employer with 1,000 employees, 5% of which are assumed to have sought primary care during a depression episode. Table 2 shows the incremental benefits from improved absenteeism and productivity, valued in terms of the average full wage ($24,174 plus 0.5 fringe benefits). Note: fringe benefits in Minnesota are closer to 0.35). It shows the average benefit per employee who visits primary care during a depression episode, and extrapolates those savings over two years based on an employer with 1,000 workers, 5% of which seek primary care during a depression episode. This is a cost savings of $286,600 for a company with 1,000 employees.

TABLE 1. Incremental Enhanced Depression Treatment Cost Assumptions, Treated Worker, and Hypothetical Company Aggregate

	Treated Worker		Company Aggregate	
	Year 1	Year 2	Year 1	Year 2
Training	*	$0	$46,600*	$0
Enhanced Treatment	$158	$130	$7,900	$6,500
Treatment	$457	$223	$22,832	$11,175
Sum	$615	$353	$77,332	$17,675

*Physician practice training represents a fixed cost of implementing enhanced depression treatment. We assume there are 10 physician practice sites that must be trained at a one-time cost of $4,660 per site.

TABLE 2. Incremental Enhanced Depression Treatment Benefit Assumptions, Treated Worker, and Hypothetical Company Aggregate

	Treated Worker		Company Aggregate	
	Year 1	Year 2	Year 1	Year 2
Absenteeism	+$351	+$1,299	+$17,550	+$64,950
Productivity	+$1,793	+$4,190	+$89,625	+$209,475
Sum	+$2,144	+$5,489	+$107,175	+$274,425

Average worker salary from the sample is $24,174. Fringe benefits are assumed to cost 50% of average salary.

Employer Obstacles in Funding

Based on the magnitude of depression-related absenteeism and lost productivity, employers want to invest in proven depression treatment programs. However, in a study by Philip Wang, MD, and colleagues, they noted that widespread uptake has not occurred due in part to employers' uncertainty over the return-on-investment.

While more and more employers are contemplating and paying for treatment of depression for their employees, they may have not paid for collaborative care models

to date because they have been research projects funded through grants and other unsustainable means.

DIAMOND

ICSI—the Institute for Clinical Systems Improvement, a non-profit organization dedicated to improving the quality and lowering the cost of health care, set out to establish a sustainable collaborative care model for managing depression. It brought together providers, psychiatrists, employers, health plans and patients to develop a program called DIAMOND (Depression Improvement Across Minnesota, Offering a New Direction).

The DIAMOND program changes how care for the patient with depression is delivered and paid for in primary care. Its scope is "to assist primary care in developing systems that support effective assessment, diagnosis and ongoing management of new or existing diagnosis of major depression in adults age 18 and over, and to assist individuals to achieve remission of symptoms, reduce relapse and return to previous level of functioning."

The Katon/Unützer model became the foundation for the DIAMOND model, and the program uses six key components of the IMPACT model to treat depression:

1. The use of the PHQ-9 (Patient Health Questionnaire), a validated screening tool for primary care providers to detect and monitor a patient's symptoms of depression
2. Systematic patient follow-up tracking and monitoring (based on repeat PHQ-9 measurements and use of a patient registry) to help the provider monitor a patient's status
3. Use of evidence-based guidelines and a stepped-care approach for the provider to know how to best change or intensify treatment if needed
4. Addition of a care manager to educate, coordinate, and troubleshoot services for patients
5. Addition of a consulting psychiatrist to review patient case load with the care manager and offer evidence-based recommendations for patients with depression that is severe or not improving
6. Tools to help the provider prevent a patient who is getting better from falling back into major depression.

The ICSI DIAMOND program involves collaboration between the primary care physician, a care manager and a consulting psychiatrist. It allows medical groups to support patient self-management, more frequent patient follow-up, better monitoring of outcomes, and timelier referrals to mental health specialists when necessary.

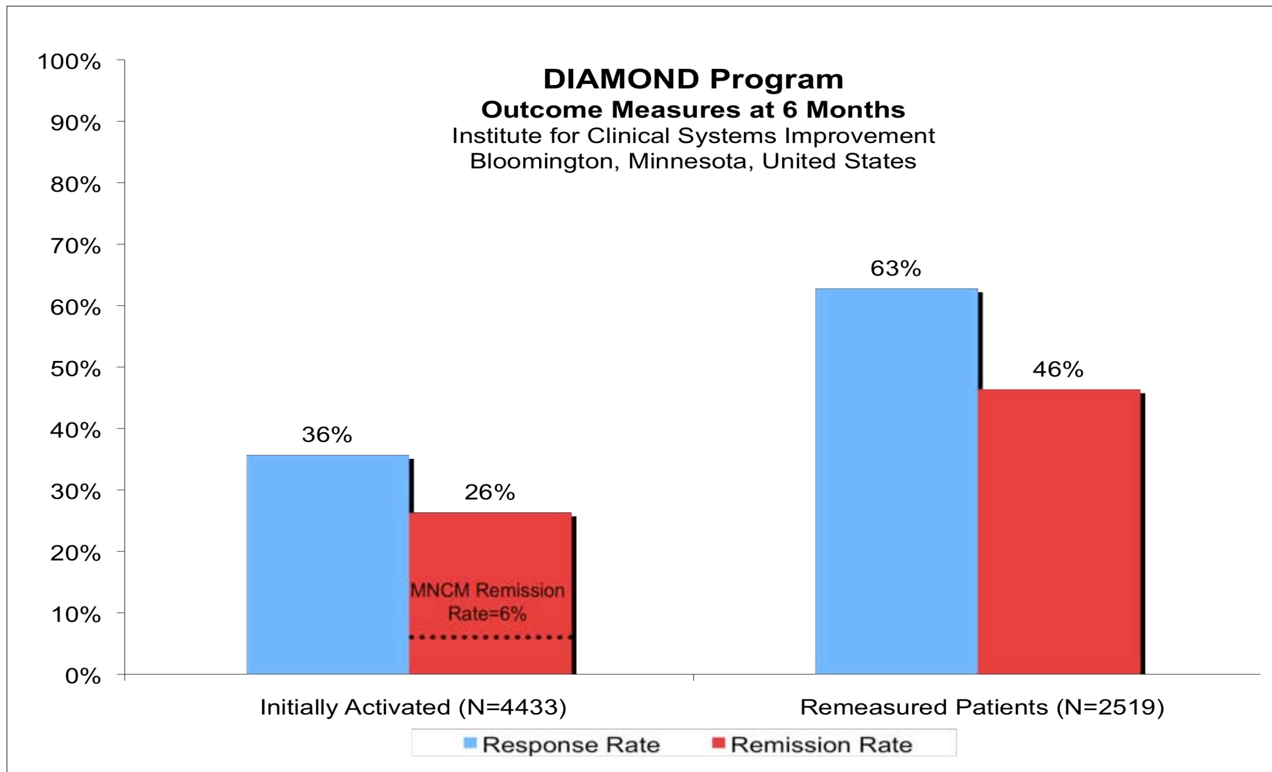
The DIAMOND program is most unique because of its reimbursement model. Many Minnesota health plans agreed to make a monthly payment to participating clinics for the bundle of DIAMOND services that includes the roles and tasks of a care manager and consulting psychiatrist. Only clinics trained and certified to deliver the DIAMOND program are reimbursed, and all use a single, established billing code. Each medical group and health plan has negotiated a care management fee, which may increase or decrease depending on the medical group's results with patients.

DIAMOND Results

In March 2008, DIAMOND was launched in 10 primary care medical clinics in Minnesota. At the end of 2010, 73 clinics were offering the DIAMOND program.

More than 6,500 patients have been enrolled in the DIAMOND program to date. Of 2,519 patients contacted who have been activated in the program for at least six months, 46% are in remission—they have recovered from their depression. Another 17% of these patients have seen at least a 50% reduction in the severity of their depression. These results are 5 times better than remission and response rates noted under usual primary care treatment.

Association's 2010 Gold Award for Community-based Programs. The National Business Coalition on Health (NBCH), a non-profit organization of employer-based health coalitions, honored Minnesota health plans HealthPartners and PreferredOne with a 2010 eValu8 Innovations Award that recognizes the innovative work of plans developing and implementing programs that address critical health care issues.



DIAMOND Program
Outcome Measures at 6 Months
Institute for Clinical Systems Improvement
Bloomington, Minnesota, United States
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
36%
26%
63%
46%
MNCM Remission Rate=6%
Initially Activated (N=4433)
Remeasured Patients (N=2519)
Response Rate
Remission Rate