



CBO's Analysis of Potential Savings from Disease Management Programs in Medicare

By Ellen Bayer, Teresa Chovan, and Jeff Lemieux¹

The Congressional Budget Office (CBO) recently released a letter to Senate Budget Committee Chairman Don Nickles discounting the prospects for estimated cost savings from disease management programs in Medicare.

Importantly, CBO did *not* find that disease management programs don't work. Instead, CBO's review of published research concluded that there was insufficient evidence to indicate that disease management programs could generally reduce overall health spending. Therefore, CBO remains reluctant to estimate or "score" Medicare savings from new or expanded disease management initiatives in its official cost estimates.

America's Health Insurance Plans (AHIP) agrees that more comprehensive evidence of savings from disease management will emerge only gradually as programs evolve and are further tested.

Moreover, in early 2005 AHIP will publish an issue brief highlighting the most recent research and industry experience.

In the meantime, this memo provides some perspective on CBO's letter and identifies some additional studies that indicate significant savings from disease management programs. We also consider the market response to disease management, which suggests that health plans and employers are finding that disease management provides good value. Taken together, the latest peer-reviewed research and the positive experience among health plans and employers suggest that disease management programs are "scoring" well in the health care marketplace.

CBO's Analysis.

Based on a review of studies on disease management programs for three health conditions -- diabetes, congestive heart failure, and coronary artery disease -- CBO stated that there is "insufficient evidence to conclude that disease management programs can generally reduce overall health spending." CBO discounted the evidence on cost savings that can be achieved through disease management programs, noting that most studies do not directly address costs, and that the few studies reporting savings generally do not account for all health care costs, including the costs of the intervention itself. CBO also noted that many studies have methodological limitations. For

¹ The authors are with the Center for Policy and Research at America's Health Insurance Plans.

example, they typically do not have a randomized design and often are conducted in “controlled and limited settings,” for a specific group of high-risk patients rather than for a large population.

Clarifying CBO’s Conclusion.

CBO's main conclusion was that research studies are not yet comprehensive enough to prove that disease management programs can reduce overall health spending. However, CBO did not conclude that disease management programs do not save money. This is a very important distinction.

CBO previously has testified about the potential for health care improvements and cost savings from disease management initiatives, case management and care coordination efforts, and other measures designed to improve health care for patients with chronic illnesses. For example, in testimony before the Senate Aging Committee, CBO pledged to further analyze the potential for chronic care improvements in Medicare.²

New Peer-Reviewed Research Provides Additional Evidence of Savings But Was Not Included in CBO’s Analysis.

CBO's review of the research literature did not include some new studies which indicate that disease management and chronic care programs are increasingly successful, both clinically and financially. While some of these studies focused on patients with certain diseases or in specific age groups or geographic locations, their results are nonetheless compelling. Here are some examples:

Diabetes

A national study by Villagra and Ahmed published in *Health Affairs* used data from a large health insurance plan in 10 urban areas to evaluate the effectiveness of disease management for patients with diabetes.³

- The study used two methods of analysis among the sites: a pre-post analysis and a parallel group analysis. Both analyses found significant net savings.
- Both types of analyses demonstrated that overall costs were significantly lower for full-year program participants than for non-participants, and purchasers of the disease management program saved more than was spent.

² Congressional Budget Office (September 19, 2002). *Disease Management in Medicare: Data Analysis and Benefit Design Issues*. Testimony before the Special Committee on Aging, United States Senate. <http://www.cbo.gov/showdoc.cfm?index=3776&sequence=0>).

³ Villagra, V. & Ahmed, T. (2004). Effectiveness of a disease management program for patients with diabetes. *Health Affairs*, 23(4): 255-266.

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- Overall costs for full-year participants in the pre-post analysis were \$39 (8.1%) less per diabetic member per month when compared to non-participants.
 - In the parallel group comparison, overall costs for full-year participants were \$137 (24.7%) less per diabetic member per month when compared to non-participants.
 - The most important source of savings was a 22-30% reduction in hospitalization.

Congestive Heart Failure

A study by Wheeler published in *Medical Care* evaluated the impact of a heart disease management program on hospital service utilization, as well as the potential costs savings over and above the cost of delivering the program.⁴ The randomized controlled study included 443 women aged 60 or older with diagnosed cardiac disease who were seen by a physician approximately every six months.

- Results demonstrated that hospital cost savings exceeded program costs by a ratio of nearly 5:1.
- Program participants experienced 46% fewer inpatient days and 49% lower inpatient costs than the control group, but no significant differences between the two groups were reported in ER utilization.

Multiple Chronic Conditions

A study by Cousins and Liu published in the journal *Disease Management* examined cost savings associated with a disease management program for three conditions (asthma, diabetes, and coronary artery disease).⁵

- Preliminary results show that the program produced a return on investment of \$2.84:\$1.00. Savings were calculated by comparing expected medical claims costs predicted by a model based on a control group (n=2,491) to actual medical claims costs for the study group (n=1,009).
- Financial data used in the analysis included all claims costs for program participants; it was not limited to specific conditions.

⁴ Wheeler, J. (2003). Can a disease self-management program reduce health care costs? The case of older women with heart disease. *Medical Care*. 41(6): 706-715.

⁵ Cousins, M. & Liu, Y. (2003). Cost savings for a preferred provider organization population with multi-condition disease management: Evaluating program impact using predictive modeling with a control group. *Disease Management*. 6(4): 207-217.

Health Insurance Plans are Demonstrating Savings.

As disease management programs mature, health insurance plans are reporting significant savings.

Blue Cross and Blue Shield of Minnesota

In *Managed Care*, Gold and Kongstvedt reported findings from a study of a large health management program (n=120,000) for individuals having, or being at high risk for, one or more of 17 chronic conditions or diseases.⁶ Analysis of the program included application of rigorous predictive modeling across multiple conditions. Program findings for the first year are as follows (comparisons are made between the study group and the control group):

- A return of at least \$2.90 for every dollar invested in the program;
- Average overall savings of \$41 per program member per month;
- 14% fewer hospital admissions;
- 18% fewer ER visits;
- Significant improvement in diabetics' HbA1c levels; and
- Absenteeism from work or school was reduced significantly (7-11%) among members participating in the program.

AHIP Survey

In 2003, America's Health Insurance Plans commissioned a study of member health plans that conduct disease management programs. Results of the interviews demonstrate that disease management programs reduce utilization and costs associated with chronic conditions common in the Medicare population.

For example:

- Commercial and Medicare members enrolled in one health plan's program for congestive heart failure had total per member, per-month costs that were 33% lower than those for members in the control group. Inpatient admissions and emergency room visits were reduced by 33% in the intervention group. Pharmacy costs were 5% higher in the intervention group.
- A disease management program for patients with diabetes enrolled in a health plan and an employer's self-insured plan found that in one year, total costs fell 6.4%; inpatient costs

⁶ Gold, W. & Kongstvedt, P. (2003). How broadening DM's focus helped shrink one plan's costs. *Managed Care Magazine*. (accessed on November 2, 2004) www.managedcaremag.com.

decreased 14.4%; pharmacy costs were reduced 3.3%; inpatient admissions declined 5.9%; and total return on investment was estimated to be between 1.75:1 and 2:1.

- In a disease management program for patients with lower back pain enrolled in a health plan and an employer's self-insured plan, return on investment was estimated to be between 1.3 and 1.5:1.
- In a disease management program for commercial, Medicare, and Medicaid health plan members that addressed multiple chronic conditions (including diabetes, coronary artery disease, and asthma), preliminary analysis found a net savings of 90 cents per member, per month and an estimated return on investment of 2.94:1.

While findings in these health plans may not be generalizable to the health sector as a whole, they provide examples of the magnitude of savings that can be achieved in disease management programs.

Market Response and Evolution of Disease Management Programs.

The ongoing commitment that employers and health insurance plans have made to disease management indicates that it is providing a good value for their investment.

According to Mercer HR Consulting, the percentage of employer-sponsored health plans offering disease management programs grew to 58% in 2003, up from 41% in 2002.⁷ AHIP's industry survey shows that virtually all member health plans offered at least one disease management program.⁸

To be sure, health plans and employers are interested in more than cost savings. Health improvements may reduce absenteeism and increase employee satisfaction and productivity. Improved health care is a value in itself.

It is notable that employers are investing in disease management even though some workers may not stay with the company or the health plan long enough for the programs to pay off. Strong continued investments -- despite employee turnover -- indicate that employers perceive powerful savings from disease management.

In its study of disease management programs in 12 representative communities across the nation, the Center for Studying Health System Change found that many health plans and employers are

⁷ Landro, L. (October 20, 2004). Does disease management pay off? *Wall Street Journal*. D4.

⁸ America's Health Insurance Plans (April 2004). *2002 AHIP Survey of Health Insurance Plans: Chartbook of Findings*. Washington, D.C. (<http://www.ahip.org/content/default.aspx?bc=38|82|2244>)

expanding disease management programs.⁹ However, not all disease management programs produce success. One employer in the Center's study halted some of its disease management programs because they were too expensive to administer or did not provide positive outcomes. And in some cases, employers re-focused their disease management programs to more closely match their younger workers' needs. Clearly, the application of disease management programs in the private sector continues to evolve.

Forthcoming Research on Disease Management and Chronic Care in Medicare.

Most Medicare beneficiaries are living with at least one chronic illness; many suffer from two or more. Thus, the Medicare population represents a huge untapped potential to demonstrate improvements in the treatment of chronic illness. Recognizing this potential, Congress directed CMS to undertake a comprehensive evaluation of chronic programs in Medicare. MedPAC (the Medicare Payment Advisory Commission) has also launched a research project to support and evaluate the potential for disease management and chronic care initiatives in Medicare's fee-for-service program.¹⁰

- **Medicare's Disease Management and Chronic Care Initiatives and Evaluations.** In 2005, Medicare will launch an expanded disease management and chronic care initiative, based on provisions of the Medicare Modernization Act of 2003. The program will be implemented in 10 regions, collectively serving an estimated 150,000-300,000 chronically ill beneficiaries. It will focus initially on beneficiaries with congestive heart failure, complex diabetes, or chronic obstructive pulmonary disease. In contrast to the single disease focus of many disease management initiatives, the new Medicare initiative is designed to help participants manage all of their health conditions. The pilot phase of the program will occur over a three-year period and will be evaluated through randomized controlled trials.¹¹

Full Experimental Proof Is Not Always Practical.

CBO is correct that many studies of disease management programs do not account for all health care costs associated with disease, do not include the costs of administering the program, and do not have an experimental study design. However, the ideal study from CBO's point of view could be implausible. Whereas CBO's analysis focused by necessity on costs alone, businesses decide

⁹ Short, A. et al. (October 2003). *Disease Management: A Leap of Faith to Lower-Cost, Higher-Quality Health Care*. Issue Brief no. 69. Center for Studying Health System Change. Washington, D.C.

¹⁰ MedPAC (November 4, 2003). *Disease Management in Traditional Medicare*. Testimony before the Special Committee on Aging, United States Senate. (http://www.medpac.gov/publications/congressional_testimony/110403_SenateAgingonDM.pdf)

¹¹ <http://www.cms.hhs.gov/medicarerereform/ccip/>

whether to implement disease management programs based on a series of practical and clinical considerations. For example, health plans, providers, and employers are finding that disease management programs have important benefits such as improving health outcomes, reducing costly hospitalizations, and improving employee productivity. They are finding that these benefits are worthwhile from a business standpoint, and they are not waiting for absolute experimental proof before implementing and expanding disease management programs.

Conclusion: Estimating Medicare Savings from Potential “Win-Win” Policies Like Disease Management.

In Congress, Medicare policy sometimes gravitates toward those policies for which it is easy to estimate cost savings -- such as fee or payment reductions -- and away from difficult-to-estimate policies such as competition, chronic care and disease management, or consumer information and technology.

Disease management, like competition, is a potential "win-win" proposition for Medicare beneficiaries and the federal budget. If the programs can simultaneously improve care and reduce costs, both seniors and taxpayers will be better off. The potential for "win-win" policies such as improved chronic care and competition among health plans and providers is what drives policy work on Medicare reform.

We encourage CBO to undertake additional research on the economic logic of chronic care improvements as the agency sets the framework for legislative debate on health insurance and Medicare issues for the next Congress.



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America's Health Insurance Plans
601 Pennsylvania Ave., NW
Suite 500
Washington, DC 20004

202.778.3200
www.ahip.org