



Report on Chronic Care Management & Wellness Promotion



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Executive Summary

At the request of Delegate Peter A. Hammen, Chairman of the Health and Governmental Operations Committee and Delegate James W. Hubbard, Chairman of the HGO Public Health and Long Term Care Subcommittee, the Maryland Health Care Commission has conducted a study of chronic care management and wellness promotion as strategies for improving health care delivery and reducing overall health care costs. This has not been solely a project of the Commission: the Department of Budget and Management and the Department of Health and Mental Hygiene made substantial contributions to the sections of this report dealing with the costs of chronic disease and with Medicaid disease management programs. The principal research and initial drafting of the report was performed by the School of Public Health at the University of Maryland, College Park under the direction of Assistant Professor Judith A. Shinogle.

Chronic diseases are the leading causes of death and disability in Maryland and cost the State nearly \$200 million a year just for the direct costs of medical care for State employees. Medical care costs borne by other private and public programs are substantially greater, and the indirect costs of these illnesses borne by our economy are even greater.

Increasingly purchasers of health care are turning to two programs to attempt to control these costs: wellness programs and disease management. Many of these programs include financial incentives as a key component to improve adherence or improve enrollment in these programs. The reviews summarized in this paper find mixed results of these programs. While some programs find preliminary evidence of cost savings or improved quality of care, most evaluations are not rigorous nor do they present full cost effectiveness analysis. A series of recommendations are made.

Introduction

Chronic diseases are the leading causes of death and disability in the United States. Chronic diseases account for 70 percent of all deaths in the U.S. These diseases also cause major limitations in daily living for almost 1 out of 10 Americans or about 25 million people.¹ Chronic diseases are long-standing, persistent illnesses that are often not easily managed or quickly resolved. They are among the most prevalent and costly of all health problems. They are also the most preventable. Two main programs attempt to control the outcomes of chronic diseases – Wellness Programs and Disease Management.

Wellness programs focus on treating risk factors such as smoking, physical inactivity, and obesity. The goal of many wellness programs is prevention of chronic diseases within the healthy population. While treating these risk factors are important in those with diseases, disease management programs focus on those with chronic conditions and attempt to decrease the progression of the disease and lower morbidity.

Many employers are implementing wellness programs and disease management programs with aims at decreasing health care costs, decreasing absenteeism, and returning the investment in the programs. While we have seen many reports in the news of these programs, few have adequate evaluations attached to the programs.² The ideal evaluation involves random assignment of participants into one or more active treatment groups and a comparison group, providing each group with similar amounts but different types of contact with program staff. More commonly, when evaluations have been conducted, they merely look at measures taken before and after the program – so-called “pre-post” designs. Such evaluations frequently do not control for bias that can occur when people self select into these programs (termed “selection bias”). Often healthier people or those who already are exercising, losing weight, etc. will agree to participate in these programs. Despite a lack of evaluative data, it is clear that employers as well as policymakers are looking at these programs as ways to encourage healthy behavior and subsequently address the rising cost of health care.

The Commission’s goal is to provide an objective analysis of policy issues drawing from the most meaningful and reliable data available. As such, this report has three goals: to address the extent of chronic disease in Maryland, to summarize the effects of wellness and disease management programs, and to examine the use of financial incentives in these programs.

Extent of the Problem in Maryland

A recent Milken Institute report estimated that more than half of Americans suffer from one or more chronic diseases that result in direct medical costs of over \$200 billion and indirect

¹ Centers for Disease Control and Prevention. U.S. Department of Health and Human Services. <http://www.cdc.gov/nccdphp/>

² Many only examine the effects pre and post the intervention, thus not adequately attributing the effects to the intervention as other factors besides the intervention may affect the results, such as the increased awareness of obesity in the general population.

cost to the economy estimated at more than \$1 trillion.³ The State ranking of the chronic disease composite index calculated in this report places Maryland as 27th out of 50. This report has estimated that by 2023 Maryland will have 4,585,000 people with one or more chronic diseases.^{4,5} In comparison with other states' incidence, Maryland has disease rates in the worst quartile for prostate cancer, other cancers, and pulmonary conditions and in the next to worst quartile for colon cancer, lung cancer, diabetes, hypertension, heart disease, stroke, and mental illness. Maryland fared better when compared to other states by having lower risk factors for chronic diseases such as smoking, obesity, and high cholesterol.

The Behavioral Risk Factor Surveillance Survey (BRFSS) conducted by the U.S. Center for Disease Control and Prevention (CDC) provides another estimate of chronic illnesses in Maryland. Examining these data on the percent of the population ever reporting specific chronic conditions, we find that Maryland does not differ from the U.S average (see Table 1).

Table 1. Percent population ever reporting these Conditions in 2006		
	Maryland	U.S (states and DC)
Asthma	13.4	13
Angina/CHD	4.5	4.5
Stroke	2.6	2.6
Diabetes	7.9	7.5
Arthritis*	27.5	27
*2005 data		

While Maryland may be on par with the U.S as a whole regarding percent of population reporting specific chronic conditions, the costs to treat these conditions are a large component of the State budget. In the health plan year 2007, State employees who had one or more chronic diseases cost the State over \$75 million in medical costs and another \$125 million in pharmaceutical costs, as illustrated in Tables 2 and 3, respectively.⁶ For medical expenditures, this represents a 13 percent increase over the 2006 costs. Prescription drug costs did not increase; however, this may be a result of the State revising its drug benefit to increase the amount paid by the patient. On a per case basis, cardiovascular conditions reported the largest per case cost at \$2,207 while hypertension reported the lowest at \$353. Yet when we examine the growth of cases, we see that diabetes grew the most from 2006 at 15 percent. Growth in costs was the highest in asthma at 36 percent. These growth figures are also reflected in the

³ DeVol, R. and Bedroussin, R. 2007. An Unhealthy America: The Economic Burden of Chronic Diseases. *The Milken Institute*.

<http://www.milkeninstitute.org/publications/publications.taf?function=detail&ID=38801018&cat=ResRep>

⁴ The report estimated that over 3.2 million Marylanders reported having one of the following chronic diseases in 2003: cancer, diabetes, heart disease, pulmonary conditions, hypertension, stroke and mental disorders.

⁵ According to the U.S. Census Bureau, Maryland's projected population in 2023 will be approximately 6,656,626. www.census.gov/population

⁶ Data provided by the Maryland Department of Budget and Management.

growth of prescription drug expenditures, with costs for the treatment of diabetes and asthma increasing 5 percent.

	2006		2007	
	n	\$	n	\$
Arthritis	2,793	\$ 5,003,074	3,030	\$ 6,237,654
Asthma	6,933	\$ 3,642,902	7,364	\$ 5,112,830
CV	15,837	\$ 34,356,722	16,286	\$ 35,945,723
Depression	2,620	\$ 745,701	2,770	\$ 999,461
Diabetes	16,211	\$ 10,722,272	18,674	\$ 14,668,607
Hypertension	35,129	\$ 10,982,111	39,540	\$ 13,954,343
Total	79,523	\$ 65,452,782.00	87,664	\$ 76,918,617.21

	2006		2007	
	n	\$	n	\$
Arthritis	41,704	\$ 11,099,910	40,951	\$ 9,284,677
Asthma	25,384	\$ 12,607,200	26,669	\$ 14,505,702
CV	76,295	\$ 52,241,997	78,300	\$ 52,002,104
Depression	32,436	\$ 17,954,353	33,121	\$ 17,009,302
Diabetes	18,645	\$ 16,997,035	19,665	\$ 17,299,296
Hypertension	47,391	\$ 15,052,141	49,165	\$ 15,273,922
Total	241,855	\$ 125,952,637	247,871	\$ 125,375,003

Wellness, Health Promotion, and Disease Management

Health Promotion is defined by the World Health Organization as the process of enabling people to increase control over, and to improve their health. In the U.S., health promotion is much more narrowly conceived as "the science and art of helping people change their lifestyle to move toward a state of optimal health."⁷ Nonetheless, ambiguity about the meaning of health promotion and wellness programs exists. For example, programs targeted to the general population that seek to improve nutrition and increase exercise are clearly wellness programs. But programs targeted to obese or overweight individuals are a form of secondary prevention focused on reducing the impact of a medical condition, and might be viewed as either wellness programs or precursors to disease management programs.

These distinctions are important in assessing the effectiveness of programs. Is the prevention program *universal* (targeted to the general population), is it *specific* (targeted to a specific at-risk population), or is it *indicated* (targeted to individuals with a disease with the goal

⁷ World Health Organization. www.who.int

of preventing complications and avoiding hospitalization)? Similarly, it is essential to define the kinds of benefits likely to arise from wellness programs and disease management programs – or in the language of prevention, the kinds of benefits likely to arise from universal, specific, and indicated interventions. Broad wellness programs with universal interventions are unlikely to have substantial near-term effects on health care expenditures, but may affect employee well-being, absenteeism, morale, and motivation. Specific interventions such as weight management programs are more likely to have delayed effects on health status and health care expenditures, making the short-term benefits less obvious. Only indicated interventions such as disease management programs are likely to have near-term effects on major health care expenditures such as hospitalizations – although they too may have quantifiable benefits other than reduced health care expenditures.

Finally, in evaluating the costs and benefits of programs, it is vital to examine the “business case” for each type of stakeholder – for the business sponsoring the program, for the health care payer (who may also be a self-insured business), and for the individual. A business initiating a wellness program may experience little direct effect on health care expenditures in the near term, but determine that the program is worthwhile either because it pays for itself through quantifiable non-medical benefits such as decreased absenteeism or increased productivity, or because it generates goodwill, improved morale, and enhanced motivation. Disease management programs provide somewhat clearer metrics to assess the business case for the payer – reduced health care expenditures and improved outcomes for individuals with the disease. Evaluating the indirect, non-medical benefits to the employer or the individual pose many of the same challenges as wellness programs.

Wellness and Health Promotion Models

Various states are experimenting with developing wellness and health promotion programs. This section will highlight several states’ initiatives in this area.

Vermont

The Vermont Coordinated Healthy Activity, Motivation & Prevention Programs (CHAMPPS) is a program under the Vermont *Blueprint for Health*, which uses a state wide partnership to improve health and the health care system for Vermonters.⁸ The program first developed an advisory committee whose job was to determine a model of prevention, conduct an inventory of current practices in the state, and outline steps for giving grants to the community. While individuals are the core of their model, the model realizes that individuals are supported by their social relationships, organizations, communities, policy and systems to further improve their health. As a result, Vermont is focusing their effort by using community grants to improve health status in their state.

During this development, the state created a Blueprint that contains information, support and tools that Vermonters with chronic conditions can use to manage their own health and for

⁸ All information related to the Blueprint for Health was provided by the Vermont Department of Health, Agency of Human Services. <http://healthvermont.gov/blueprint.aspx>

doctors to use to keep their patients healthy. The Blueprint focus is on preventing illness and complications rather than reacting to health emergencies. The Blueprint focuses on four areas to assist it in achieving its goals.

The first focus is on teaching Vermonters to live healthier, by conducting self help workshops that teach individuals with chronic conditions how to manage their conditions and improve their health status (individual focus). The second and third foci emphasize communities taking action to improve community health status and professionals finding new ways to practice medicine. The communities host *Fit and Healthy Vermonters* events and healthier living workshops that encourage everyone to take care of their health. They also focus on finding a new way to practice medicine. As part of the community focus, Vermont has established grants to fund either capacity building or program implementation. Capacity building grants include needs assessment and coalition development with five grants at \$60,000 each being funded. The state also funded four implementation grants ranging from \$70,000 to \$100,000. These grants included the following activities: reduction of lead poisoning; education and outreach on physical activity and diet; youth substance abuse interventions; and nutrition and physical activity interventions.

The final focus is on developing a new health care information system. Blueprint's Chronic Care Information System is a web-based chronic care patient information system that is free to health care providers and requires only Internet access.

Employer Programs

Employers are developing health promotion or wellness programs, but the effects of these programs are often not rigorously evaluated. While the announcement of large employers initiating these programs often makes news, the effects of these programs are often not evaluated or if so, the results are not presented. Recently, North Carolina Blue Cross and Blue Shield reported that patients adopting a healthier lifestyle saved nearly \$200 a year.⁹ The program, *Healthy Lifestyle Choices* included self management programs for members, office tools and patient education for providers, and enhanced benefits (four office visits for assessment, six nutrition therapy visits a year). However, it should be noted that this news report (like many others) had no reference to an evaluation, no discussion of controls, and no true cost effectiveness analysis attached to the program (i.e., how much did the program cost to implement in relation to how much it saved). These limited evaluations make the true effectiveness of this and other employer-based programs hard to evaluate.¹⁰

Wellness/Health Promotion Offices

⁹ Jackson, P. 2007. Healthier Lifestyle pay off Financially, Wall Street Journal. Dec. 7, 2007

¹⁰ One study did evaluate an employer's wellness program focused on worksite physical activity program. The randomly assigned people to wellness program and control and evaluated reductions in sick leave, energy expenditures, cardiorespiratory fitness as well as a cost benefit analysis. The 9 month evaluation found improved cardiorespiratory fitness but the program was not cost effective as the costs were high to achieve these outcomes. Proper, K. et al., 2004. Costs, Benefits, and Effectiveness of Worksite Physical Activity Counseling from Employer's Perspective. *Scandinavian Journal of Work Environmental Health*. 30(1):36-46.

Many states have teamed with the CDC and developed offices of health and/or wellness. These offices often house information regarding programs that communities or employers can adapt for their population. The programs generally are either from the CDC or other health promotion entities. For example, the Texas Department of Health has developed “The Cardiovascular Health and Wellness Program.” This program offers a variety of programs and materials, mostly from the CDC, which can be used in a worksite or community setting to engage employees or community members in fun and supportive activities that lead to healthier lifestyles.¹¹ Many states have followed this model of passively providing information and not actively funding wellness models. Maryland has a Nutrition and Physical Activity/Obesity Prevention Program that has developed a worksite resource kit and is now developing grants to fund worksites.¹² States are also involved in the Diabetes Prevention and Control programs that provide educational materials, assess diabetes prevalence and fund small intervention programs. The CDC has developed a report of state best practices regarding each of these diseases but overall evaluations have not yet been presented.¹³

Summary

Wellness programs, despite their growing popularity, remain poorly researched, particularly from a health economics perspective. There is very limited evidence that reduced health care expenditures occur and that they offset the costs of the program, making the business case for the payer problematic. Because of this, health plans are unlikely to be able to present clear actuarial justification for a premium reduction for fully-insured employers instituting wellness programs. On the other hand, many employers – particularly those with little employee turnover – believe that these programs, if well-targeted and well-designed, will reduce health expenditures in the out years. Often these employers are large, self-insured companies who believe there are non-medical benefits from these programs in the form of reduced absenteeism, higher productivity, and increased loyalty to the firm. Thus, large businesses may be able to build a business case for wellness initiatives. Health plans both public and private, are less likely to have a clear economic justification for premium reductions based on a universal wellness program targeted to all employees.

Chronic Care/Disease Management Models

Chronic care and disease management encompass a variety of programs ranging from lower level management programs such as prior approval programs or claims based feedback to physicians to higher level management programs such as chronic care improvement models integrating nurses and management into a monitoring system. While not assessing the lower level programs in detail, there is some limited evidence that using sophisticated algorithms to analyze claims and provide feedback to patients and physicians can improve outcomes, identify recommended care not being provided, and although increasing some expenditures, reduce total

¹¹ See <http://www.dshs.state.tx.us/wellness/default.shtm>

¹² See <http://www.fha.state.md.us/cphs/cdp/npa/>

¹³ Centers for Disease Control and Prevention. *State Programs in Action. Exemplary Work to Prevent Chronic Disease and Promote Health*. Atlanta: U.S. Department of Health and Human Services; 2005. Available at <http://www.cdc.gov/nccdphp/publications/Exemplary>

costs by preventing complications, suggesting more cost-effective medications, and reducing hospitalizations.

Active disease management (disease management) programs seek to reduce health care costs and/or improve quality of life for individuals with chronic disease conditions by preventing or minimizing the effects of a disease or chronic condition through integrative care. Commercial disease management programs generally identify high-risk patients with a disease and provide education and self management programs to these patients. Many employers have contracted with these programs; one study reports that two thirds of employers with over 200 employees have a disease management program.¹⁴ Through a combination of enhanced screening, monitoring, and education, the coordination of care among providers and settings, and the use of best medical practices, disease management seeks to identify chronic conditions more quickly, treat them more effectively, and thereby slow the progression of those diseases. The presumption is that better care today will mean better health and, perhaps, less expensive care tomorrow. According to a 2004 Congressional Budget Office analysis, there is insufficient evidence to conclude that disease management programs can generally reduce overall health spending; most of the studies analyzed did report improvements in processes of care or in intermediate measures of health, although an overall impact on spending could not reasonably be inferred from those improvements.¹⁵

Another more integrated model exists that, in contrast to typical medical practice, emphasizes early identification of patients at risk through specialized assessment tools; greater attention to treatment planning that provides a schedule of tasks and delineation of roles; evidence-based clinical management; greater attention to techniques that promote patient self-monitoring; and sustained, proactive follow-up.¹⁶ Implementing this model would require important delivery system changes, including greater reliance on clinical information systems; patient self-management interventions that rely on expanded responsibilities for nurses in education and patient support; delivery system redesign that modifies traditional practice roles and promotes a team orientation to care; and various decision-support aids.

Asheville Project

The Asheville Project began in 1996, as an effort by the city of Asheville, North Carolina, a self insured employer, to provide education and personal oversight for employees with chronic health problems such as hypertension, diabetes, asthma and high cholesterol. In this program, Asheville acts as a prudent purchaser of health care. The Asheville project is distinct because it is payer driven and patient centered. The implementation of the project began in 1997. Recognizing that health care costs continued rising even though more and more costs were being shifted to employees, the Asheville Project began a diabetes management program that eliminated copayments for diabetic medications. Instead, employees would be required to

¹⁴Geyman, J. 2007. Disease Management: Panacea, Another False Hope or Something in Between? *Annals of Family Medicine*. 5(3):257-260.

¹⁵ Congressional Budget Office. 2004. An Analysis of Literature on Disease Management Programs. Oct 13. www.cbo.gov/ftpdocs/59xx/doc5909/10-13-DiseaseMngmnt.pdf

¹⁶ Wagner, E. et al., "Organizing Care for Patients with Chronic Illness," *Milbank Quarterly* 74, no. 4 (1996): 511–544.

meet with a pharmacist on a monthly basis from whom they would receive education and monitoring. At first, health care expenses seemed to grow (the immediate effect). However, inpatient claims eventually decreased dramatically (within one year). Research indicates that the Asheville Project soon reduced the city's total mean medical costs for these employees with diabetes by \$1200 per-patient per-year.¹⁷ Missed work hours were reduced by 50 percent and not a single diabetic went on dialysis for eight years.¹⁸ An estimate by the American Journal of Managed Care indicates the program ultimately realized more than \$6 million in total health cost savings.¹⁹

The Asheville Project also saw cost savings with asthma patients through decreased ER visits, hospitalizations, and missed work hours. On average, there was a decrease in total health care costs for asthmatics by \$725 per patient per year. Positive results were also realized for patients being treated for hypertension.²⁰

Maryland P3 Program

The Maryland P3 (Patients, Pharmacists, Partnerships) Program is patterned after the Asheville Project and provides participating employers and their employees with links to pharmacists who are trained to help patients manage their diabetes through regular counseling sessions. These sessions complement, but do not replace, regular visits to the patient's physician and other health care providers. The P3 model encourages patients to better manage their chronic diseases, such as diabetes, thus improving their overall health. The Maryland P3 Program is a partnership between the American Pharmacists Association Foundation (HealthmapRx), the Maryland Pharmacists Association (MPhA), the University of Maryland School of Pharmacy, the Maryland Department of Health and Mental Hygiene and the Maryland General Assembly. In the summer of 2006 the program was launched for patients with diabetes in Allegany County. The program has expanded to Harford and Cecil Counties. The University of Maryland's School of Pharmacy provides supplemental training to the pharmacists. The School of Pharmacy, working with private employers in other parts of the state, plans to roll out more P3 collaborations in the first quarter of 2008. The Maryland P3 model can be used for other chronic diseases, and in at least one program it will be used for patients with cardiovascular disease.²¹ Evaluation of the program has yet to be presented but initial results have shown that patients are better controlling their diabetes.²² It should be noted, however, that these preliminary findings have not controlled for potential self selection issues, nor do they include a control group.

Maryland Medicaid Program

Encouraging healthy behaviors among Medicaid recipients is viewed by many as important to promoting the health of the Medicaid population and possibly reducing Medicaid expenditures. *HealthChoice*, Maryland's risk-adjusted capitated managed care program is almost

¹⁷ The Journal of the American Pharmacists Association. 2003 issue 43 is devoted to Asheville Project.

¹⁸ Ibid.

¹⁹ American Journal of Managed Care. Jan. 2006, 12(1):22-28.

²⁰ Miall, J. Presentation for the APhA Foundation. <http://www.cacvoices.org/organizations/mmhc/miallpresentation>

²¹ Bittner, M. Presentation to Joint Committee on Health Care Delivery and Financing, Sept. 6, 2006.

²² Ibid.

10 years old and has slowed the growth of costs considerably.²³ *HealthChoice* enrolls approximately 80 percent of Maryland's Medicaid enrollees, and has had a demonstrable effect on improving healthy behavior among the Maryland Medicaid population. The most recent evaluation of *HealthChoice* showed that between 2002 and 2006 there were increases in:

- The percentage of enrollees receiving ambulatory care visits from 67 to 72 percent;
- The percentage of well child visits from 48 to 55 percent;
- Children receiving a dental visit from 35 to 46 percent, and;
- One-year olds receiving lead screening from 44 to 51 percent.

Financial disincentives to influence the behavior of Medicaid recipients are limited, in part because these are generally low income individuals and thus cost-sharing is disproportionately burdensome, and in part because the federal Medicaid statute severely limits the use of cost sharing in mandatory populations. Children, pregnant women, and individuals residing in institutions are excluded from co-pay requirements. Prescriptions currently cannot be denied to enrollees for failure to pay, which forces pharmacists to absorb the co-pay. Maryland charges recipients a nominal co-pay for prescription drugs, e.g., \$1 for generics and drugs on the state's preferred drug list and \$3 for brand-name drugs and drugs not on the state's preferred drug list. The *HealthChoice* managed care organizations (MCOs) can waive pharmacy co-pays for their enrollees.

HealthChoice MCOs have a variety of disease management programs, and in addition, have numerous activities that promote healthy behavior by providing incentives and collaborating with community programs. Some programs are also specific to a geographic area or demographic characteristic, as MCOs recognize the need for multiple methods of reaching their diverse populations. Many programs focus on children's health issues and chronic illness. The MCOs have also emphasized the importance of prenatal health by devoting resources to efforts that promote prenatal education.

State Medicaid Disease Management Programs

More than 30 states are now engaged in developing and implementing Medicaid disease management programs for their primary care case management and fee-for-service populations. These states differ from Maryland's model, where 80 percent of enrollees are in managed care. While most of these programs are in an early stage of development, a small number of states began implementing these programs in the 1990s and have already gained several years of experience.

A number of states have elected to work with disease management organizations/vendors in administering disease management programs for Medicaid enrollees.²⁴ Washington recently completed contracts with two disease management vendors to provide services to members with asthma, diabetes, congestive heart failure, and renal disease. Florida is currently contracting with

²³ Maryland Department of Health and Mental Hygiene. Encouraging Healthy Behavior and Proper Utilization of Services. *Response to 2006 Joint Chairmen's Report*.

²⁴ Summary of state programs was provided by the National Conference of State Legislators. www.ncsl.org/programs/health/StateDiseasemgmt1.htm

six disease management vendors to manage care services for Medicaid enrollees with nine different medical conditions. Several states have also designed disease management programs that have been administered in house. Virginia and West Virginia have created pilot programs for their asthma and diabetes disease management programs.

The disease management programs in Florida, North Carolina, Texas, and West Virginia have focused broadly on patient care management, which includes all medical services and relevant lifestyle counseling for patients with specific diseases. Others, such as the current programs in Virginia and Mississippi, focus primarily on managing pharmaceutical services. In Mississippi, pharmacists are reimbursed by Medicaid for performing patient assessments, drug therapy reviews, and patient education. The goal is to establish care coordination, reduce duplicate and contraindicated drug prescriptions, and increase adherence to clinical guidelines. Pharmaceutical disease management programs are less labor intensive than comprehensive disease management programs, but may also offer less potential for care improvements and savings unless they take a broader perspective.

The types of measures that states can use to assess the effectiveness of their disease management programs include:

- Overall cost savings usually based on the amount spent per member per month as compared to some baseline;
- Component cost savings, like reductions in emergency room visits or hospital admissions;
- Return on investment which accounts for disease management program costs as well as medical savings;
- Secondary prevention activities;
- Clinical measures;
- Adherence to clinical guidelines; and
- Education of providers and patients.

The emphasis on particular measures varies by state. For example, Florida's evaluations focused primarily on cost savings, while North Carolina's focused heavily on health and clinical indicators.

Florida, which operates one of the oldest—and by far the largest—Medicaid disease management program in the country, has now completed evaluations for four diseases: asthma, diabetes, hemophilia, and HIV/AIDS.²⁵ In general, Florida officials believe that the programs have been successful in generating improvements in care quality and expenditure reductions (e.g., unnecessary emergency room visits), but that disease management program costs have generally offset these savings. An evaluation of Florida's small initial asthma program indicated that disease management led to a net savings in Medicaid costs. In 2001, an independent

²⁵ Office of Policy Analysis and Government Accountability. Office of Florida Legislature. Progress Report. May 2004. <http://www.oppaga.state.fl.us/reports/pdf/0434rpt.pdf>

evaluation of the asthma program found a decline in inpatient hospital costs of \$70.86 per month; asthma-related outpatient costs decreased \$38.06 per month for program participants.²⁶

However, these savings estimates do not factor in the costs of conducting the disease management program, which included among other things, six health fairs that instructed asthma patients on how to manage their condition. Florida's disease management programs for diabetes, hemophilia, and HIV/AIDS provide more direct support to enrollees, assigning care nurses to patients and coordinating their care. The HIV/AIDS programs reduced medical claims costs 39.7 percent for HIV/AIDS patients, versus previous years' expenditures. The same study found that Medicaid expenditures for program participants in the hemophilia program decreased by 33 percent (approximately \$3,525). However, spending reductions for disease management participants relative to non-participants were not statistically significant for either program. Florida's state budget office estimated program only saved \$13.4 million compared to anticipated savings of \$112.7 million from 1997-2001. This same study found that manufacture sponsored programs saved less than cash only rebates.²⁷

These results illustrate the importance of baseline selection in assessing program outcomes. The evaluations showed conclusive savings in some categories of spending. The hemophilia program produced substantial savings for medical services against both baselines, and the HIV/AIDS program demonstrated significant inpatient savings. However, while medical and pharmacy costs in the HIV/AIDS program both showed savings against the prior year baseline, they showed losses when compared to non-participants in the program. In addition the evaluations did not include the cost of the program so the true cost effectiveness of the program could not be evaluated.

A systematic evaluation of disease management for depression found that lack of a clear definition of "disease management" makes interpreting the findings difficult, but in general they found an improvement in patient satisfaction, adequacy of prescribed treatment, and other quality of care markers.²⁸ They also found increases in costs associated with hospitalization and treatment costs among the intervention groups as compared to controls. A recent systemic evaluation conducted by the RAND Corporation found consistent evidence that disease management improves processes of care and disease control but there is no conclusive support for its effect on health outcomes.²⁹ The study found that overall, disease management does not seem to affect utilization except for a reduction in hospitalization rates among patients with congestive heart failure and an increase in outpatient care and prescription drug use among patients with depression. When the costs of the intervention were appropriately accounted for

²⁶Commonwealth Fund. Disease Management: Florida's MediPass Program.

http://www.commonwealthfund.org/innovations/innovations_show.htm?doc_id=234406

²⁷ Ibid.

²⁸ Badamgarav, E. et al. 2003. Effectiveness of disease management programs in depression: a systematic review. *American Journal of Psychiatry*. 160(12):2080-90.

²⁹ Mattke, S. et al. 2007. Evidence for the Effect of Disease Management: Is \$1 Billion a Year a Good Investment? *American Journal of Managed Care*. 13:670-676.

and subtracted from any savings, there was no conclusive evidence that disease management leads to a net reduction of direct medical costs.³⁰

Medicaid Benefit Redesign and Incentives

As of March 31, 2006, the Federal Deficit Reduction Act (DRA) allowed states new flexibility to scale back Medicaid benefits and implement cost-sharing for a limited group of beneficiaries, mainly adults who are not disabled or pregnant and have income that exceeds the eligibility standard for the old Aid to Families with Dependent Children program. The new benefit flexibility and recipient cost-sharing allowed by the DRA could be used to promote healthy behaviors and appropriate health care utilization, although the impact would vary depending on what a state may already be doing under existing federal waivers.

Some states offer two levels of benefit – a reduced benefit to non-participants and an enhanced benefit to those that choose to participate in the wellness program. Maryland, in contrast provides a comprehensive benefit package to all Medicaid recipients, and requires managed care enrollment. Creating new benefit packages would mean a reduction in benefits for Medicaid expansion populations not participating in disease management or wellness programs.

Some states are creating financial incentives that would encourage Medicaid recipients to take greater care of their own health. Through such an approach, money would be deposited in individual health care accounts established for Medicaid recipients. The recipients would accrue funds in the accounts when they engage in behaviors designated by the state as health promoting. Such services might include receiving preventive care services or participating in disease management programs. The funds deposited in the accounts could be used by the recipients to pay for out of pocket health related costs, such as over-the-counter drugs.

West Virginia redesigned their Medicaid program for low income mothers and children. In this new program the beneficiary has the option of enrolling in reduced basic services (i.e. only 4 prescriptions per month) or an enhanced plan. If they enroll in enhanced services and sign a Medicaid Member Agreement. This agreement would include keeping appointments, recommended screenings, taking medications as prescribed, and following a healthy lifestyle. Notifications are sent if the agreement is not been followed, and credits are given for parts they follow.³¹

California Medicaid offered movie tickets or gift certificate to parents who had well-child visits. They discovered that every eligible participant actually claimed the reward. Florida Medicaid has developed \$15-\$25 credits for approved health-related expenses such as over-the-counter medications, smoking cessation classes, and other currently non-covered health services. In a recent report between September and November of 2006, despite 57,000 beneficiaries earning credits, only 2,000 individuals had collected them. Future programs focused on

³⁰ The study notes that there is limited evidence about the effect of disease management programs on costs and suggests that payers and policymakers remain skeptical about vendor claims and require supporting evidence of cost effectiveness based on transparent and scientifically sound methods.

³¹ Redmond, P.et al., 2007. Can Incentives for Health Behavior Improve Health and Hold Down Medicaid Costs. *Center for Budget and Policy Priorities*. (June).

incentives in Medicaid should continue to be monitored. In Idaho they have developed the Behavioral Preventive Health Assistance Program. This is a voluntary program for smoking cessation. Medicaid beneficiaries receive \$100 credits (capped at \$200/year) once they visit their physicians and develop a smoking cessation plan. They may use these credits towards smoking cessation programs.^{32, 33}

Medicare Chronic Care Improvement Program (Phase I results)

Medicare has developed pilot studies in chronic care improvement in patients with diabetes, congestive heart failure, and/or chronic obstructive pulmonary disease. Organizations around the country bid to be part of the evaluation and patients were randomly assigned to either a Medicare Health Support Organization (MHSO) to provide chronic care management (using IT-reported measures) or in a control group with traditional fee-for service Medicare. There were a variety of programs that included: nursing case management; health education via internet, telephone; health coaching and disease management through various resources (including the internet); medication management; health promotion and disease management coaching. These programs have only been evaluated at the six month mark and currently find no differences in six months in the quality of care.³⁴ The MHSOs are at risk for these patients and must report a savings in order to retain their bonus payments. At the six month evaluation, the fees paid to the plans by Medicare had far exceeded the savings in health care expenditures in the intervention group. In addition, the initial evaluation suggested that the plans were failing to engage the most expensive Medicare patients in the voluntary program, thus limiting their ability to achieve significant savings. The report notes that these conclusions apply only to the first six months of the programs and may reflect start-up challenges. Nonetheless, this was not an auspicious start.

Other Chronic Care Models

Group Health Puget Sound adopted a chronic care model for diabetic patients in 1995 and found that although pharmacy costs increased, overall costs decreased.³⁵ Kaiser Permanente of Northern California implemented a chronic care model for patients with coronary artery disease, heart failure, diabetes, and asthma from 1996 to 2002. They found no cost savings but did see quality improvements.³⁶

One review of the effectiveness, definitions and components of integrated programs for chronically ill patients found that despite considerable diversity in interventions, patient populations, and processes and outcomes of care, integrated care programs seemed to have

³² Ibid.

³³ Of note, one potential shortcoming in the design of this program is that the \$200 credit would purchase only 8 weeks of generic nicotine replacement patch

³⁴ McCall, N. et al., 2007. Evaluation of Phase I of Medicare Health Supplement (Formerly Voluntary Chronic Care Improvement) Pilot Program Under Traditional Fee-For-Service. Report to Center for Medicare and Medicaid Services contract #500-00-0022.

³⁵ McCullough, D. et al., 2004. Constructing a Bridge Across Quality Chasm: A Practical Way to Get Healthier, Happier Patients, Providers and Health Care Systems. *Diabetes Spectrum*. 17:92-96.

³⁶ Fireman, B. et al., 2004. Can Disease Management Reduce Health Care Costs by Improving Quality? *Health Affairs*. 23(6):63-75.

positive effects on the quality of patient care. No consistent definitions were present for the management of patients with chronic illnesses. In all the reviews, the aims of integrated care programs were very similar, namely reducing fragmentation and improving continuity and coordination of care, but the focus and content of the programs differed widely. The most common components of integrated care programs were self-management support and patient education, often combined with structured clinical follow-up and case management; a multidisciplinary patient care team; multidisciplinary clinical pathways and feedback, reminders, and education for professionals. So while these disease management and/chronic care programs appear to have positive effects on the quality of care, the programs have widely varying definitions and components. A failure to recognize these variations may lead to inappropriate conclusions about the effectiveness of these programs and to inappropriate application of research results. To compare programs and better understand the (cost) effectiveness of the programs, consistent definitions must be used and component interventions must be well described and, of course, the effectiveness and the costs of the programs must be measured. In fact, few programs present a cost-effectiveness analysis.³⁷

Several papers, described in Appendix A, summarize the reported effects of chronic care models. These systematic reviews and meta-analyses point to mixed effects of chronic care and disease management. Most of the positive effects have been associated with the more integrated and complex chronic care models. Limited evidence exists for the cost effectiveness of any of the models of disease management programs. As previously mentioned, the Congressional Budget Office found insufficient evidence on the cost savings effects of disease management programs due to the fact that much of the literature on these programs does not directly address health care costs.³⁸ The few studies that report costs savings do so for controlled settings and generally fail to account for all health care costs, including the cost of the intervention itself.

Use of Financial Incentives in Chronic Care Management and Wellness Models

Direct provision of financial incentives has reliably altered a number of common human behaviors, including relatively intractable habits, and lies at the basis of public policy in such important areas as welfare, job training, preventive care, and substance abuse treatment. Most studies have shown that monetary incentives, in some cases very small payments, can increase success in behavior modification programs.³⁹

³⁷ Ouwens, M. et al., 2005. Integrated care programmes for chronically ill patients: a review of systematic reviews. *International Journal for Quality in Health Care*. 17(2):141-6.

³⁸ Congressional Budget Office. 2004. An Analysis of Literature on Disease Management Programs. Oct. 13. www.cbo.gov/ftpdocs/59xx/doc5909/10-13-DiseaseMngmnt.pdf

³⁹ See for example: Stone, E. et al., 2002. Interventions that increase use of adult immunization and cancer screening services: a meta-analysis. *Annals of Internal Medicine*. 136(9):641-51; Wiersma, U. 1992. The effects of extrinsic rewards in intrinsic motivations: a meta-analysis. *Journal of Occupational and Organizational Psychology* 6:101-14; Svikis, D. et al., 1997. Attendance incentives for outpatient treatment: effects in methadone- and nonmethadone-maintained pregnant drug dependent women. *Drug and Alcohol Dependence*. 48(1):33-41; and Giuffrida, A. and Torgerson, D. 1998. Should we pay the patient? Review of financial incentives to enhance patient compliance. *British Medical Journal*. 315(7110):703-7.

Some employers, such as Pitney Bowes and the Polk County School Board in Florida, have incorporated variations of the multi-tier formulary structure to encourage compliance. Under this new formulary, all medications for selected chronic conditions, regardless of generic or brand status, are moved to the lowest tier with the lowest patient cost-sharing requirement. The idea behind this plan design is that patients may be more adherent to their medications when financial barriers are kept at a minimum. As a result, overall health care spending could decrease because the need for additional medical services, such as emergency room visits, hospitalization, and procedures, would decrease. Results from these programs have not been published as yet.

Many employers are developing a variety of financial incentives in their health plans. For example, IBM in its effort to decrease childhood obesity has announced that it will pay \$150 to workers who sign up a child that completes a 12 week online program on diet and exercise training.⁴⁰ The company instituted wellness programs in 2003 with currently 62 percent of employees participating. IBM estimates between \$100 million to \$130 million in health care cost savings but no external evaluations of this program have been reported. Another employer, the Tribune, is utilizing penalties by charging an extra \$100 a month to family premiums of workers or dependents who use tobacco.⁴¹

Current incentives in practice include Mercy Health Plan (Philadelphia). This health plan provided a \$10 gift certificate for diapers or shoes when the child is immunized. The result of this study was a significant increase in immunization but the incentive program was part of a larger intervention on well child care and it is difficult to tease out the financial incentive effect.⁴²

A recent analysis studied a worksite intervention on paying for weight loss. One group received no payment, a second \$7 for each percentage of weight lost and a third received \$14 for each percentage of weight lost. Those offered no incentives lost 2 pounds; those in the \$7 group lost about 3 pounds. Those in the \$14 group were more than five times as likely to lose 5 percent of their weight — the amount research has shown to be clinically significant, according to the study.⁴³ The long term effectiveness the financial incentives have not yet been evaluated.

These programs highlight the two problems with financial incentives mentioned above (1) poor awareness of the program may prevent the program from achieving the desired outcomes, and (2) the incentive must match the preferences of the enrollee. Often non-cash items do not match the tastes of the enrollee and thus the desired behavior change may not be realized. The use of financial penalties as opposed to incentives has not been adequately evaluated (and may be limited by statute). Some evidence exists that penalties may be more effective than incentives. In addition, the timing and size of these payments (or penalties) has yet to be effectively evaluated.

⁴⁰ Bulkeley, W. IBM to Help Pay for Plans to Curb Childhood Obesity. *Wall Street Journal*. Oct. 24, 2007.

⁴¹ Knight, V. 2007. Employers Tell Workers To Get Healthy or Pay Up. *Wall Street Journal*. Dec. 4, 2007.

⁴² Redmond, P. et al., 2007. Can Incentives for Health Behavior Improve Health and Hold Down Medicaid Costs. *Center for Budget and Policy Priorities*. (June).

⁴³ Finkelstein, E. et al., 2007. A Pilot Study Testing the Effect of Different Levels of Financial Incentives on Weight Loss Among Overweight Employees." *Journal of Occupational and Environmental Medicine*. 49(9):981-989.

Provider Involvement and Incentives

One of the crucial design and implementation issues in disease management revolves around whether and how to involve the patient's primary physician in the disease management program. Some third party disease management strategies deal exclusively or primarily with the patient. Other interventions, such as feedback from claims review data or some provider profiling efforts by health plans, primarily provide feedback directly to the treating physician, although these programs may also report performance data to patients. Yet another health plan approach identifies either centers of excellence for specific procedures or preferred network providers based on the quality and efficiency of the care they provide. These high-performing providers may be "rewarded" through either volume or through special rates. Occasionally, health plans enter into "gain-sharing" arrangements with providers in which savings from reductions in expenditures are shared between provider and plan, as long as quality is maintained. These gain sharing arrangements can be challenging to structure, gains and care quality may be difficult to measure, and the incentive structure may improperly incentivize withholding care. These approaches have seldom been the subject of rigorous evaluation in published studies - although presumably the health plans have conducted internal evaluations of effectiveness and cost-effectiveness.

Finally, plans may deliver incentives to providers in the form of pay-for-performance/value/quality programs for their entire network. At a 2004 AHRQ conference on quality and incentives, they found that there were only 9 randomized trials of incentives to improve quality and from this, there were two general findings: (1) Providers respond appropriately to financial incentives; (2) Providers respond appropriately to public release of performance data.⁴⁴ Financial incentives to providers in fee-for-service systems showed positive outcomes in four out of the five studies. In studies in which bonuses were given for attaining a target rate of compliance with recommended care, only two of five had positive outcomes - but in two of the three negative studies, that could be attributable to the relatively low probability of getting a bonus (10-20%) for performance better than that of other groups. Some observers believe the best hope for success lies in combining smart incentives with health information technology to identify patients, suggest interventions, deliver reminders, track performance, and measure outcomes

The Role of Health Information Technology in Disease Management

Effective disease management programs rely on effective information systems at all stages of implementation. Target populations of patients must be identified and engaged in the appropriate disease management activities. In the case of disease management programs organized by carriers and carried out by third parties rather than primary providers, this is currently done primarily through either a health risk assessment (often completed on line and rewarded with an incentive) or an analysis of claims data. These programs are often highly structured, but because they are not delivered by the primary care providers and rely on separate

⁴⁴ Dudley, Dr. R. Adams. "Buy-Right for Health Care Quality: Evidence and Indicators." AHRQ Conference Presentation, Oct. 21, 2004.

sources of information, they are often not closely integrated with the flow of clinical care and clinical information.

Disease management programs based in the primary care system and rewarded through provider incentives face a different challenge: without an electronic medical record, identifying all eligible patients, delivering required elements of the disease management program, and documenting both the interventions and clinical results are challenging, time-consuming, and expensive tasks.

Once appropriate patients have been identified, the effective delivery of a disease management program in a clinical practice is markedly facilitated by an electronic medical record with reminders and decision support. The elements of the disease management program can be programmed into the record, providing reminders and prompts to the clinician, longitudinal tracking of key outcome measures such as blood pressure or hemoglobin A1c, and individual printouts for patients to help engage them in self-management. Assuming that the program incentivizes providers - and possibly patients as well - the record can provide ready documentation of both process and outcome measures in order to claim incentive payments.

Some wellness and disease management programs, instead of providing incentive payments for engaging in specific behaviors or achieving specific goals, have different benefit structures for participants than for non-participants. Thus, copayments for primary or certain specialty care visits may be waived for disease management participants, or individuals who make and then fulfill a pledge to engage in health promotion and prevention behaviors are rewarded with a lower deductible. While a differential deductible can be administered by the plan's normal claims processing, differential copayments require an effective method of checking a specific individual's benefits for a specific service.

Finally, the cost-effective management of a disease may involve incentivizing the choice of guideline-concordant and cost-effective treatments by provider and patient alike. While this can be done after the fact through claims stream evaluation, it is much more effectively delivered at the time and place the therapeutic decision is made. Sometimes this "value-based purchasing" will be achieved through influencing the provider's choice without specific incentives. However, another approach relies on value-based cost-sharing - cost-sharing based not merely on the type of service or drug, or on its price alone, but rather on the relative value of the service or drug for a specific indication. This sophisticated form of steering to guideline-concordant care will require a similarly sophisticated information system that delivers information about differential costs of different treatments to the time and place of care.

In short, in order to become widespread, comprehensive, effective, and cost-effective, preventive efforts, health promotion, and disease management programs will require substantial improvements in electronic medical records and in health information exchange.

Legislative Action

In an effort to stem increasing health insurance and medical costs, many employers offer health insurance premium discounts to enrollees who participate in wellness programs. In 1998,

the U.S. Department of Labor estimated that premium discounts associated with wellness programs ranged from \$60 to \$500 and averaged \$240 per participant.⁴⁵ Wellness programs include such things as smoking cessation, weight management, stress management, nutrition education, and prenatal education. Other states have enacted legislation to provide wellness incentives. In 2006, Michigan enacted legislation requiring health insurance carriers to provide premium rebates to group health plans in which a majority of employees or members enroll and maintain participation in group wellness programs. The rebates apply to the individual policies of those who participate in the wellness programs. In 2004, New Hampshire authorized insurers in the small group and individual market to use a rating factor to discount premium rates for plans, giving monetary incentives for participants in wellness or disease management programs.⁴⁶

Prior to the 2007 legislative session, carriers in Maryland were prohibited from providing any form of incentive to insured in the small group market. The General Assembly corrected this provision of the law through the consideration and enactment of two pieces of legislation focused on the offer of incentives for participation in wellness programs. House Bill 157 allows carriers to offer an incentive to an individual for participation in a bona fide wellness program. It is important to note that the definition of a “bona fide wellness program” explicitly encompasses a variety of disease management activities. Any incentive offered for participation must be reasonable related to the program and may not have a value that exceeds any limit established in regulations adopted by the Maryland Insurance Commission. A carrier may not make participation in a wellness program a condition of coverage and the insured can not be required to achieve any specific outcome in order to receive the incentive. In addition, House Bill 339 allows a carrier to grant a premium reduction of up to 20 percent to an employer that establishes a wellness program. Because a “wellness program” under this bill means “a program or activity that is designed to improve health status and reduce health care costs,” this definition could also be regarded as including disease management activities, although the activities explicitly included in the bill are all broad wellness and health promotion efforts. House Bill 339 requires the Commission to develop guidelines to determine a qualifying program, and requires that the premium reduction be actuarially justified. A key challenge for these programs will be demonstrating to the health plans and the Maryland Insurance Administration that a broad wellness program would result in lower health care expenditures that would warrant a premium reduction.

Conclusions

A wide range of wellness, health promotion, and disease management programs exist. Although anecdotal evidence abounds, well-controlled studies are rare. Long-term studies of costs and benefits of programs taken to scale across different locations and populations do not yet exist.

In the case of workplace wellness programs, the evidence of savings in medical expenditures is weak, but there is somewhat stronger scientific evidence (and substantial

⁴⁵ Department of Budget and Management. Fiscal Note House Bill 157 of 2007. http://mlis.state.md.us/2007RS/fnotes/bil_0007/hb0157.pdf

⁴⁶ Ibid.

anecdotal evidence) that these programs have near-term benefits for the business in non-medical areas such as absenteeism, presenteeism, and productivity. Offering these programs becomes a management decision that may be made for a variety of reasons other than reducing health care costs.

Disease management has become a popular strategy to address health care cost and quality. There are many news articles on the implementation of programs, but few programs have rigorous evaluations and even fewer are structured as controlled trials. Evaluations and trials that have been conducted usually report short term effects, seldom have a control group, and rarely include rigorous cost effectiveness studies. Those that do examine cost effectiveness often do not include the costs of the program implementation but simply have cost savings attributed to the program.

Disease management programs have a stronger evidence base for some diseases, most notably diabetes and asthma. The strongest available evidence suggests that well-structured programs targeted to specific diseases with clear target behaviors and well-defined outcomes can improve the quality of the care delivered – and, at least in some demonstration programs, may reduce total health care expenditures. Most of these programs are early implementations, but some such as Bridges to Excellence, have now been replicated in additional locations and populations. Another promising disease management program, The Asheville Project, is currently being pursued in Maryland’s P3 program.

Future programs should include an adequate evaluation including a control group or other strategies to control for selection bias and other confounding factors. An adequate cost effectiveness analysis should be part of any evaluation to determine the return on any investment in these programs and to determine to whom the benefits flow.

Recommendations

- As a result of the limited evidence of net health care expenditure savings from employer wellness programs, retain the current law that requires that any premium discounts 1) be available to all employers in the market, 2) not be structured in a way that facilitates positive risk selection, and 3) be actuarially justified.
- New disease management programs initiated in state employee or Medicaid programs should include a strategy for meaningful evaluation, including both effectiveness and cost-effectiveness.
- Maryland’s P3 program should be carefully evaluated to determine its effectiveness and cost-effectiveness.
- Given the increasing use of financial incentives for healthy behavior and for participation in disease management, consider whether more vigorous financial incentives should be considered for the state employee health plan, for Medicaid (within the limits of federal statute), and for the Maryland Health Insurance Plan.

- In the small group market, evaluate whether the prescriptive nature of the Comprehensive Standard Health Benefit Plan inhibits the use of incentives to promote health and to manage disease. Given the increasing use of premium surcharges for unhealthy behavior such as smoking in large, self-insured plans, consider whether the additional health care costs associated with these behaviors should be reflected through a higher premium.
- The Maryland Health Care Commission and the Maryland Insurance Administration should explore legislation to bring Maryland's existing law regarding incentives for participation in a wellness program more in line with federal law. HIPAA allows an incentive to be based on achieving an outcome and includes protections for individuals who may not be able to achieve a certain health-related outcome. See Appendix B for a summary of the protections provided under HIPAA as provided by Mercer Health & Benefits LLC.⁴⁷

⁴⁷ Mercer Health & Benefits LLC. Update: Does your wellness program meet the final HIPAA rules?
http://mercerselect.com/content.asp?article_id=20076052

Glossary

Adherence (compliance): Extent to which a patient acts in accordance with the prescribed interval and dose of and dosing regime.

Chronic Disease: Disease that can be controlled but not cured. A chronic disease is one lasting 3 months or more, by the definition of the U.S. National Center for Health Statistics. Chronic diseases generally cannot be prevented by vaccines or cured by medication, nor do they just disappear. Diseases often include arthritis, asthma, cardiovascular diseases (hypertension, coronary artery disease, and congestive heart failure), cancer, diabetes, depression, epilepsy.

Disease Management: Concept of reducing health care costs and/or improving quality of life for individuals with chronic disease conditions by preventing or minimizing the effects of a disease, or chronic conditions through integrative care. Disease management is also often known as: care management, health management programs, or disease self-management.

Health Promotion: Science and art of helping people change their lifestyle to move toward a state of optimal health.

Indirect economic costs: Costs not directly associated with a disease. These indirect costs often include effects of lowered productivity, absenteeism, etc.

Selection bias or self selection: Term used to indicate any situation in which individuals select themselves into a group. It is commonly used to describe situations where the characteristics of the people which cause them to select themselves in the group create abnormal or undesirable conditions in the group.

APPENDIX A

Summary of Meta-analysis Findings

A meta-analysis of interventions to improve chronic illness care found of the 1,345 abstracts screened, 112 studies contributed data to the random-effects meta-analysis: 27 asthma studies, 21 congestive heart failure studies, 33 depression studies, and 31 diabetes studies. While the chronic care intervention did find significant effects, the size of the effects were small. No single element was found to be essential or superfluous for effectiveness. They detected evidence of publication bias for studies of congestive heart failure (all outcome measures) and asthma (clinical outcome measure).⁴⁸

A 2006 review of quality improvement strategies for hypertension management found that interventions that include team care are associated with the greatest improvement in blood pressure outcomes. Here, team care is defined as the “assignment of some responsibilities to a health professional other than the patient's physician.” Other strategies that proved effective included patient education and self-management support.⁴⁹

A literature review prepared for a conference sponsored by The National Institute on Diabetes and Digestive and Kidney Diseases found that the continued focus on acute illness, rather than proactive chronic care management, is the cause of poor-quality diabetes care processes and outcomes.⁵⁰ They cite articles showing that self-management support, improved patient-provider communication, and collaborative goal setting are linked to improved behavioral, biological, and quality of life outcomes. They also state that a population focus, inclusion of clinician prompts and reminders, and quality clinical information systems that supports disease registries are helpful tools to improve care.

A second systematic review of diabetes shows that multifaceted interventions that “facilitate structured and regular review of patients were effective in improving the process of care.”⁵¹ The meta-analysis finds that studies rarely assess outcomes. Like the studies above, they find that clinician education with performance feedbacks and use of care teams seemed to improve care. A recent Cochrane review of diabetes finds that in 58 papers with 66 comparisons, quality improvement initiatives that used team changes and those that use case management with the ability to influence physicians' prescribing patterns showed the largest difference in post intervention HbA1c scores.⁵²

⁴⁸ Tsai, A. et al., 2005. A Meta-Analysis of Interventions to Improve Chronic Illness Care. *American Journal of Managed Care*. 11 478-88.

⁴⁹ Walsh, J. et al., 2006. Quality improvement strategies for hypertension management: a systematic review. *Medical Care*. 44(7):646-57.

⁵⁰ Glasgow, R. et al., 2001. Report of the health care delivery work group: behavioral research related to the establishment of a chronic disease model for diabetes care. *Diabetes Care* 24(1):124-30.]

⁵¹ Renders, C. et al., 2001. Interventions to improve the management of diabetes in primary care, outpatient, and community settings: a systematic review. *Diabetes Care*. 24(10):1821-33

⁵² Shojania, K. et al., 2006. Effects of quality improvement strategies for type 2 diabetes on glycemic control: a meta-regression analysis. *Journal of the American Medical Association*. 296(4):427-40

APPENDIX B

Conditions HIPAA places on Wellness Programs

(Summarized by Mercer Health & Benefits, LLC.)

Update

January 24, 2007



Does your wellness program meet the final HIPAA rules?

Summary

Wellness programs are popular among employers looking for ways to control skyrocketing health care costs. Whatever designs are used, employers need to tailor wellness programs to legal requirements, including the nondiscrimination rules of the Health Insurance Portability and Accountability Act (HIPAA). Final HIPAA nondiscrimination rules, issued last month and effective for plan years starting on or after July 1, 2007, offer employers some insights into which wellness programs raise HIPAA concerns and how best to avoid violations. The regulations also clarify HIPAA implications for a number of other health plan features.

How do HIPAA's nondiscrimination rules affect wellness programs?

HIPAA prohibits group health plans and health insurers from discriminating in eligibility, benefits, premiums or contributions because of an individual's medical condition, disability, evidence of insurability or other health factors. This means group health plans can't offer discounted premiums, lower cost-sharing or other rewards based on health-related factors, such as someone's weight or cholesterol level. But an exception in the law allows employers to offer these incentives through a health promotion or disease-prevention program that meets certain conditions.

Which wellness programs are or aren't subject to HIPAA's rules?

If your wellness program's rewards for meeting health standards are tied to group health plan premiums, contributions or benefits, the program must satisfy HIPAA's nondiscrimination rules. But the rules generally don't apply to wellness programs offering rewards that aren't linked to a group health plan or don't require participants to meet a health-related standard. So you don't have to worry about HIPAA if your wellness program only:

Similarly situated individuals defined

HIPAA allows group health plans to differentiate among groups of “similarly situated individuals” for reasons unrelated to health. So you can distinguish among “similarly situated individuals” using:

- Benefit plan status, such as participants vs. other beneficiaries
- Benefit package, such as HMO vs. PPO or individual vs. family coverage
- Employee status, such as full-time vs. part-time or current vs. former employees
- Other employment characteristics, such as date of hire, length of service, occupation, geographic location or coverage under a union contract
- Relationship to an employee, such as spouse vs. child
- Dependent characteristics, such as age or student status

HIPAA even allows treating someone differently because of a health factor, provided that treatment is more favorable than others receive. For example, your group health plan can discontinue dependent coverage once an employee’s child reaches a specified age, but waive this rule or set a higher limiting age for dependents who have disabilities.

- Reimburses all or part of the cost of health club memberships for all employees
- Rewards any employee who takes a diagnostic test, regardless of risk factors or test results
- Encourages preventive care by waiving copayments or deductibles for annual check-ups or for prenatal or well-baby visits
- Reimburses smoking-cessation program costs, without requiring proof the program worked
- Gives gift certificates to all employees who attend a monthly health education seminar

What conditions does HIPAA place on wellness programs?

If your wellness program is tied to a group health plan and conditions rewards on achieving health-related standards, it must satisfy five conditions to avoid violating HIPAA’s nondiscrimination rules:

Limited rewards. Total wellness rewards or incentives – such as premium discounts or lower deductibles – can’t exceed 20 percent of the full annual cost of employee-only coverage under your group health plan. If family members can participate in your wellness program, the 20-percent limit is calculated using the cost of coverage for the employee plus dependents. In either case, the cost of coverage is the total amount of employer and employee contributions for a particular benefit package.

Health promotion/disease prevention. Your wellness program must stand a reasonable chance of improving participants’ health or preventing disease. You don’t need scientific validation of likely health effects – for example, the Department of Labor views an aromatherapy class as a reasonable health-promotion activity. But your wellness program can’t impose bizarre, burdensome or illegal requirements on participants.

Annual opportunity to earn rewards. All participants must have a chance at least once a year to earn your wellness program’s rewards. An ongoing health program that has a one-time, permanent disqualification – for example, a premium break for new enrollees who don’t smoke – would violate this condition.

Availability of rewards to all similarly situated individuals. Your wellness program’s rewards must be available to all similarly situated individuals (see sidebar for definition of “similarly situated individuals”). If a health factor makes it medically inadvisable or unreasonably difficult for someone to reach a program goal, you must offer a reasonable alternative standard – or waive the standard and still provide the reward. You can set one alternative for all participants or tailor alternatives to each individual’s specific health factors. You also may ask participants for a doctor’s note verifying that a health factor makes it too difficult or medically unsound for them to reach the wellness goal.

Example. A wellness program gives a 5 percent premium discount to employees who have a body mass index (BMI) of 24 or less. Bob supplies a physician's note saying that his heart condition makes meeting that standard medically inadvisable. As an alternative, the program could relax the BMI standard (for example, require Bob to have a BMI of 28 or less) or substitute a different standard (such as walking three times a week). If no medically safe alternative is possible, the employer may have to let Bob receive the discount without meeting any wellness standard.

Disclosure of alternative standard. Any materials (such as summary plan descriptions or enrollment materials) describing your wellness program and how to earn the reward must mention that a reasonable alternative standard will be made available. The HIPAA regulations include this model language:

If it is unreasonably difficult due to a health factor for you to achieve the standards for the reward under this program, or if it is medically inadvisable for you to attempt to achieve the standards for the reward under this program, call us at [insert telephone number] and we will work with you to develop another way to qualify for the reward.

What other changes are in the final HIPAA nondiscrimination rules?

Other points addressed in the final HIPAA nondiscrimination regulations include:

- The permissibility of health reimbursement arrangements that allow employees to carry over balances, even though some may incur more claims and have lower balances
- The prohibitions on denying eligibility for participating in risky activities and denying benefits for injuries due to domestic violence or medical conditions, even if previously undiagnosed
- The restriction on requiring someone to be actively at work on the first day of coverage and plans' obligation to apply any service-based eligibility or enrollment requirements consistently to all similarly situated individuals
- The ban on clauses delaying coverage for someone confined in a hospital on the day coverage would begin and how they affect insurers' obligations under state extension-of-benefit laws when someone switches insurers
- Special rules for self-funded state or local government plans and for church plans

For additional information, please contact your Mercer consultant.

*This **Update** is for information only and does not constitute legal advice; consult with legal and tax advisers before applying this information to your situation.*

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