Issues In
Permanente Medicine

Focus: *Care Management*

Care management, also commonly referred to as "disease management," has been widely acclaimed by forward-looking health care experts as the next, major, evolutionary step beyond the cost-focused innovations of "managed care." "The next phase has to be managing care better, and disease management is another word for that," says Uwe S. Reinhardt, a health care economist at Princeton University.

Care management's promised impacts on future health outcomes and on the care delivery system itself are expected to be profound, given its potential to manage chronic diseases that account for nearly 60 percent of all medical costs in the United States.

But what is it? Hasn't health care always been about managing diseases? What's really new about care management?

Certainly physicians have always managed their patients' diseases – one on one and one at a time. But until recently there have been only limited efforts to leverage the vast and growing base of medical knowledge about particular diseases by systematically managing care for entire populations of patients.

Care management programs identify and group people into disease-specific populations that can be targeted for appropriate, evidence-based prevention and health maintenance interventions – interventions that have been identified through research as the "best practices" for a given condition. Their care is closely monitored and coordinated across all specialties, so that all important clinical interventions are provided at the right time and in the right place. The strategy also depends on educating patients to take more active roles in managing their own health care.

Thus, the Health Care Horizons group at the Institute for the Future defines disease management as "an integrated, systematic approach to delivering care to populations of patients with specific chronic diseases."

Kaiser Permanente, which pioneered the population-based preventive health care revolution more than 50 years ago, applies a similar definition to what it prefers to call "care management:" "coordinated health care for logical groupings of members that is intended to prospectively improve or limit the degradation of their functional status."

That's a multifaceted definition. Let's look at each component of it:

◆"Coordinated" means care that is delivered by a multidisciplinary health care team, usually consisting of a physician, nurse practitioner, medical assistant, health educator, and sometimes a behavioral specialist and physical therapist. Usually, a "care manager" oversees the treatment to ensure that the care is, indeed, coordinated.

◆"Logical groupings" means disease- or condition-specific populations of patients (such as those with diabetes, asthma, or depression, or demographic/physical conditions such as the frail elderly or pregnant women).

◆"Prospective" means that forward-looking prevention and/or health maintenance strategies are aggressively pursued for each individual patient on the basis of customized care plans, and that health status is monitored longitudinally so that any deterioration can be addressed early.

This "systems approach" to care focuses not only on populations of patients – such as those with the major chronic diseases — as opposed to isolated cases; it also pulls together the knowledge of the entire health care delivery system, rather than individual components of the system, such as specialty care, primary care, inpatient care, or pharmacy.

Thus, while the traditional approach to patient care attempts to optimize resource utilization and costs within

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each individual, separate department, the care management approach optimizes costs and outcomes for any given condition across the entire delivery system. Higher utilization in one area of the system, such as education or phar-macy, can be compensated for by reduced demands in other areas, such as hospitalization, and it is the total out-come that matters in the end.

Treatment for chronic disease populations accounts for nearly half of total national health expenditures.

But what's the point of all this systematic coordination, population grouping and prevention? The point, first of all, is to improve the health and functional status of millions of Americans by keeping patients with chronic conditions healthier and more engaged in managing their own care.

Secondarily, prospective, preventive care management can greatly reduce the growing, ever-more costly demand for acute care to patients with chronic diseases. According to a 1995 study by the Institute for Health and Aging at UC-San Francisco, treatment for chronic disease populations accounts for nearly half of total national health expenditures, including 55% of all emergency room visits and about 80% of hospital days. (See related article, page 3.) If a significant fraction of those acute care episodes can be reduced through prospective care management, which keeps people healthier, the national savings could translate into better and more affordable care for virtually all Americans.

Care management clearly has the potential to benefit everyone. But for now, at least, its clinical application is limited mostly to the major chronic disease populations. The populations that can benefit most, at this early stage in the development of the science, are those with conditions that share certain characteristics, including high treatment costs, high prevalence in the general population, and the availability of effective, evidence-based treatments.

Thus, diseases like diabetes, asthma, depression, congestive heart failure, and coronary artery disease – among the most common, most expensive, and most amenable to treatment of all chronic diseases – are the initial, major candidates for care management. Kaiser Permanente's Care Management Institute – KP's national center for care management – has developed comprehensive, integrated management programs and regular outcomes studies for each of these populations.

Basic Steps in Care Management

In practice, care management involves a very concrete, commonsense series of critical activities. They include:

Identification: Patients with specific conditions and chronic diseases, such as diabetes or lower-back pain, must be identified through screening processes. Their health status must be assessed and the data on each patient entered into a population care registry, or database.

Care delivery: For each specific condition or disease, evidence-based best practices, or clinical guidelines, must be developed on the basis of the latest clinical research. These guidelines must be disseminated throughout the care delivery system and translated into daily clinical practice by all health care team members. Dissemination and implementation of best practices and clinical care guidelines for specific conditions are best effected through an electronic clinical information system and decision-support tools.

Patient education: Health plan members with diabetes are encouraged to participate in groups that provide an opportunity to talk with others who face similar problems and to increase the number of educational encounters with health care teams. Patients are asked to set and pursue specific, attainable goals and to develop individual self-management skills.

Outcomes measurement: Periodic measures of clinical performance, including members' health status, provider use of clinical guidelines, and resource utilization are recorded to evaluate the success of every care management program.

Feedback: Outcomes measures are provided to health care teams responsible for the care of specific populations. The teams use the measures as a basis for continuous quality improvement.

Chronic Disease

Care Management's Big Impact Targets

Chronic diseases, meaning long-term diseases that may never be "cured" in the traditional sense, represent the greatest potential payoff for emergent systems of care management. The reasons are simple: chronic diseases represent the leading causes of death and disability in America (1.7 million lives a year, according to a 1995 study by the Institute for Health and Aging at UC-San Francisco), and they claim the lion's share of U.S. medical costs.

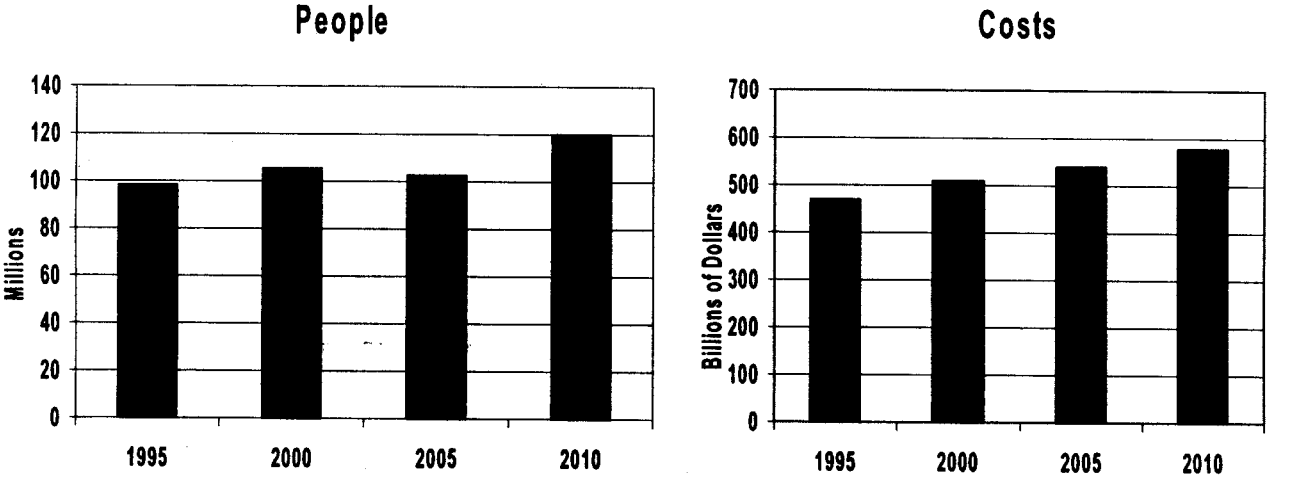
In addition, the leading chronic diseases – such as cardiovascular disease, cancer, diabetes, depression, and asthma – which affect an estimated 117 million people, are subject to effective management through identified, evidence-based best clinical practices that achieve measurable improvements in health outcomes.

As the figure below shows, some 105 million Americans are estimated to suffer from at least one chronic disease in the year 2000 – a number that is increasing at a 14% annual rate over the next decade to 120 million Americans, or 40% of the population, by 2010. The direct medical costs are projected to increase even faster, from $503 billion in 2000 to $582 billion in 2010, or almost half of all health expenditures. The indirect costs of these diseases – lost productivity and related health problems – add another $100 billion to the total chronic disease cost.

At Kaiser Permanente, about 15% of members are affected by one of just five diseases targeted by the Care Management Institute – diabetes, asthma, heart failure, coronary artery disease, and depression. Yet they account for about 30% of the organization's costs.

Care management cannot cure or eradicate these diseases, but when applied early enough it can prevent many, if not most, acute episodes. It can also help millions of people live longer, more productive, more independent lives, while saving billions of dollars in unnecessary acute care health expenditures.

Prevalence and Direct Medical Costs of Chronic Conditions in the United States



Source: IFTF: Robert Wood Johnson Foundation

CARE MANAGEMENT CASE STUDY:

Diabetes

Diabetes Management Means Big Savings for Employers, Better Care for Employees

In 1997, American workers with diabetes lost nearly five times more work days than those without diabetes.

That same year, more than $27 billion was spent for hospital services associated with diabetes. That means lowered rates of productivity and lost money, not to mention lowered morale and higher medical bills for employers.

"Providing good health care is not only good for employees, it's also good for employers," said Tom Davies, regional health care manager, who negotiates benefit offerings for GTE's 80,000 employees, dependents and retirees in the western United States.

The stakes are high indeed: 15.7 million Americans, or almost 6 percent of the population, are diabetic – and more than 5 million of these are not aware that they have the disease.

"It's imperative that our employees have optimal health care, especially those employees who live with chronic diseases who need regular, ongoing treatment." Davies added, "Healthy employees are happy employees; they miss less work and are more productive. It's good for everyone."

Kaiser Permanente achieves these ends through a systematic approach to diabetes and other chronic conditions. This approach is known as "care management," or sometimes "population care management."

Kaiser Permanente's diabetes care management program compiles comprehensive information about all aspects of patients' medical treatments. Through a database, or registry, doctors can see if patients have filled their prescriptions, completed laboratory tests or attended other follow-up appointments or health education classes from all health care providers involved with the patient. The system also gives physicians immediate access to comprehensive medical histories and other possibly unrelated ongoing medical treatments.

One of the most valuable features of the care management system for doctors is the fact that it gives them access to statistics and information about specific populations, in this case, patients with diabetes. Here, doctors can retrieve critical data that, for example, might provide effective treatments for diabetes and/or predict trends for the population as a whole. In short, doctors can compare patients' treatments and developments with other patients who have the same disease.

Good care management for KP's members with diabetes contributes to:

- **Prevention of blindness**
- **Prevention or delay of kidney failure**
- **Improved foot health, fewer amputations**
- **Fewer myocardial infarctions and strokes**
- **Decreased office visits and hospitalizations**
- **Less time away from work**
- **Decreased costs associated with disability**

"This program reduces complications and improves

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Fourth Annual Diabetes Outcomes Report Shows Major Gains

Thanks to the systematic, integrated care management approach to common chronic conditions at Kaiser Permanente, the screening rates for KP members with diabetes have shown steady improvement, as illustrated by findings in KP's Care Management Institute's (CMI) fourth annual National Diabetes Outcomes Report. Approximately 300,000 adult KP members are diagnosed with diabetes.

"This is the largest study of its kind anywhere in the country and represents the unique advantage of Kaiser Permanente in being able to monitor health care process and outcomes measures for all members with diabetes in our entire national population," said Paul Wallace, CMI's Executive Director.

The report is an important component of CMI's Integrated Diabetes Care (IDC) Program, which includes clinical guidelines, patient self-education tools, and outcomes studies.

The report yielded several important findings:

◆ **Diabetes is common among KP members,** and we are increasingly able to identify our members with diabetes. 6.1 percent of adult members (330,000 members) were identified as having diabetes in 1999. This is slightly higher than national estimates (5.9%), which may reflect Kaiser Permanente's superior ability to identify members with diabetes.

◆ **Glycemic monitoring and control is improving** among KP members with diabetes. 81 percent of KP adult members with diabetes were tested for glycemic control in 1999, an increase from 71 percent in 1996. This means 30,700 more members were screened in 1999. 48 percent of all KP adult members with diabetes were known to be in good glycemic control (HbA1c <8 percent) in 1999, an increase from 33 percent in 1996. This means that 50,600 more members had good glycemic control in 1999 compared to 1996. The projected impact of such an improvement over a 10-year period includes: 1,030 averted cases of retinopathy, 1,170 averted microvascular events, and 5,060 averted cardiovascular events (heart attacks, sudden death, heart failure, and stroke.)

◆ **Improvement in lipid measurement rates.** 51% of KP adult members with diabetes received a lipid measurement in 1999, up from 39% in 1996. Lipid management has been shown to significantly reduce long-term risk of cardiovascular disease among diabetes patients.

◆ **Improvement in eye examination rates.** 75 percent of KP adult members with diabetes received a recommended eye examination (annual exam among high-risk patients, biennial exam among low-risk patients). This is a substantial increase from 59 percent in 1996. This exceeded the HEDIS 90th percentile benchmark of 57% and the Healthy People 2000 goal of 70%.

◆ **Renal screening rates are promising.** 73 percent of KP adult members with diabetes were either screened for renal disease or were on therapy for renal disease during 1999, an increase from 59 percent in 1997. This means 47,000 more members were receiving appropriate screening or preventive therapy for renal disease in 1999 than in 1997.

For more information about the Fourth Annual KP National Diabetes Outcomes Report, contact: Kendra Rothert: (510) 271-2331; or e-mail: Kendra.Rothert@kp.org

Key Elements of KP's Diabetes Care

The key elements of the diabetes care management program illustrate Kaiser Permanente's strategy:

◆ Computerized diabetes registries link electronic data from pharmacy, laboratory, hospital, and outpatient systems to identify patients and improve care.

◆ Multidisciplinary teams (such as primary care physicians, eye specialists, dieticians, social workers and health educators) provide coordinated services.

◆ Kaiser Permanente Clinical Practice Guidelines — developed and approved by Permanente Physicians — identify which medical approaches work best in which situations.

◆ Health education — one-on-one through classes, newsletters, groups and videos — helps diabetic patients learn self-care strategies from professionals andfrom each other.

◆ Outreach: friendly but firm phone calls and letters offer encouragement and remind members of appointments and important activities.

◆ Inreach: systematic, electronic prompts, faxes and reports help physicians track the status of their patients.

Using these key elements, Kaiser Permanente proactively identifies patients at risk for diabetes and diabetic complications based on information from numerous sources within the system, then undertakes the preventative screenings, monitors treatment effectiveness across multiple disciplines and provides educational and social services that would overwhelm most other HMOs.

Weaving Care Management Into the Fabric of Permanente Medicine

(The following article by Bonnie Darves appeared originally on the WebMD Internet site on May 23, 2000)

Most large employers and health care delivery systems are only now starting to look at population health management's (PHM's) potential to improve employees' and members' health while reducing the cost of their care. But not Kaiser Permanente. The widely respected forerunner in adopting population-based approaches to care delivery — well out in front of the PHM trend — is already implementing PHM (also known as Care Management) on a systemwide level.

At the center of Kaiser's efforts is the recently created Care Management Institute (CMI), an outcomes-improvement initiative designed to combine evidence-based clinical guidelines, coordinated care, and epidemiological research with information technology to improve the overall health of its members.

"If you make it easier to do the right thing than anything else, the right thing will likely get done," Wallace says.

The primary objective of CMI's programs — launched in 1998 but still in development — is the use of a prospective approach 1) to improve or maintain the health of members who aren't ill but who may be at risk for certain diseases, and 2) to better manage or limit functional deterioration of members diagnosed with chronic or acute conditions. To date, Oakland, Calif.-based CMI has developed programs in asthma, diabetes, heart disease, and depression, as well as programs for pregnant women and the frail elderly.

"We wanted to not leave the opportunity unaddressed for the pre-disease stage. The other part is recognizing that the earlier you manage the disease, the fewer complications you have to deal with," says Paul Wallace, MD, Executive Director of CMI. He says CMI's initiatives — which complement Kaiser's other population health programs — are designed to manage "pre-symptomatic phases of disease, even the earliest phases of disease" and to develop preventive activities within diseases, such as diabetes, to avoid downstream morbidities.

Engaging KP's 10,000 Physicians

CMI's initiatives will be rolled out in all KP locations with the hope of engaging the health system's entire complement of 10,000 physicians and 8.3 million members. This ambitious program will be facilitated by implementation teams, comprising physicians and nonphysicians, created in each of KP's nine regions. KP also has invested in additional staff to perform the measurement and analytical work associated with CMI, with the goal of eventually being able to compare the efficacy of clinical practices across locations.

About 50 Permanente physicians are now actively involved in CMI work, Wallace says, and that number is expected to grow. He adds that physician reception to the programs has been positive — especially because their involvement is being sought in the development of the "best practice" guidelines that will be included in the electronic clinical information system.

"We have an increasing number of physicians who are very interested in the discussions about the standards we [will] use for what is being built into the information system," he says. Their contributions, he says, will help KP "move toward what I see as a potentially sharable standard of evidence-based medicine."

Multidisciplinary Teams

The Permanente physicians do not appear threatened by the idea that CMI's multidisciplinary team structure will involve nonphysicians handling key aspects of care management and patient monitoring — an issue that has arisen with some disease management initiatives undertaken by other health plans.

"This is not [about] creating a way to take business away from physicians — and that's different from disease management in the indemnity world," Wallace says. "We're an integrated health system, and the return on investment we get is capacity for physicians to deal with, in more

depth, issues that are best dealt with by physicians."

At Kaiser, the CMI initiatives and the development of a systemwide clinical information system are seen as key elements of the organization's overall plans for the future. The goal, Wallace says, is to "integrate CMI into the fabric of Permanente Medicine, particularly in how we manage populations and chronic diseases, and [to] make sure that any learning we have is diffused to people working in other realms — like prevention and genetics."

Overall e-strategy

At the heart of CMI planning is Kaiser Permanente's plan to make major capital investments over the next several years to fund its overall electronic strategy, according to Helen Pettay, CMI's director of communications. That strategy incorporates development of the clinical information system and creation of the population care management tools; investments in clinical content development by CMI and other Kaiser groups; and interactive health care communication tools including KP Online, the Internet site for plan members, and the Permanente Knowledge Connection, a web site for KP clinicians.

Wallace says KP's physicians have embraced the development of a system-wide clinical information system as a vehicle for CMI's initiatives.

"One of the precepts about [program] implementation is that if you make it easier to do the right thing than anything else, the right thing will likely get done," Wallace says. "They [the physicians] see now that we can build system support that will increase the likelihood that the right intervention will be delivered to the patient at the right time."

Given the precarious economic prognosis of U.S. health care, Wallace maintains that care management, coupled with an insistence on using evidence-based medicine to decide treatment plans, will soon become imperatives — not just options.

"The only way we're going to be able to afford all these wonderful technologies that are coming is to rationally apply the whole range of resources that we have to bring to bear for people's health," Wallace says. "I personally don't see how we can go into the future without these kinds of support to allow us to make good judgments about the care we deliver."

Diabetes Care Management Means Big Savings, Better Care

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our patients' health and quality of life by giving doctors the accurate information to prescribe the best treatments and the support systems to reach out to patients," explained Joel Hyatt, M.D., assistant medical director of clinical services, Southern California Permanente Medical Group (SCPMG).

"The Care Management approach gives us the opportunity to see the bigger picture — that is, it gives us critical information about treatments for specific populations with similar health problems," he added.

Health plans around the country estimate that the cost of caring for people with diabetes is nearly four times more than a member without the disease due to increased outpatient visits, lab services, drugs and the costs of treating complications of the disease, including hospital care and additional medical procedures.

Diabetes is the leading cause of kidney failure, and the leading cause of new cases of blindness in people 18-74. It is also the most frequent cause of nontraumatic lower limb amputations, due to diabetic nerve damage.

According to Dr. Hyatt, all of these complications are preventable, or can be delayed, with aggressive diabetes management.

Results from a pilot program begun in 1994 showed a reduction in hospital admissions by 29 percent for diabetic patients with related heart attacks between 1994 and 1997. In addition, hospitalizations of Kaiser Permanente members with diabetes dropped from 338 per 1,000 in 1994 to 318 per 1,000 in 1997. For these patients' employers, such statistics translate to increased worker productivity and a reduction in health care dollars.

Kaiser Permanente has been able to implement this effective program due to its highly integrated structure. Unlike most health maintenance organizations, where the system is made up of a variety of independent vendors or health care providers that are loosely connected, at best, Kaiser Permanente incorporates primary care, laboratory services, outpatient and home care with each department registering information via a centralized electronic data registry.

The Care Management Institute

Among American health care delivery systems, Kaiser Permanente is widely recognized for its ability to promote the principles and practice of evidence-based care management throughout its system of 10,000 physicians. That ability to practice comprehensive care management derives in large part from the fact that Kaiser Permanente has created a unique, pioneering institution with a mandate to drive, fund, and support evidence-based care management programs.

KP's Care Management Institute (CMI) was created in 1997 for the express purpose of helping the program's regions improve the quality of care and health outcomes for Kaiser Permanente members. Drawing on the extensive clinical experience, research, and data of an integrated health care system with 9 million members, CMI synthesizes knowledge about the best clinical approaches in order to create, implement, and evaluate effective and efficient care management programs.

While CMI officially stands for the Care Management Institute, the letters of the name also represent the type of work the Institute does:

Content: CMI creates integrated, evidence-based care management programs in strategically selected clinical priority areas, including diabetes, asthma, congestive heart failure, coronary artery disease, depression and elder care. These clinical priorities were selected because they represent a great opportunity to improve care for members, as well as to improve cost effectiveness. These five clinical priorities alone affect 15% to 20% of Kaiser Permanente members and account for about 25% to 30% of the health plan's cost structure.

Measurement: CMI conducts national outcomes studies in each of its clinical priority areas. These studies are unique both for their size (up to several hundred thousand participants) and their level of detail. The outcomes reports serve as internal Kaiser Permanente benchmarking tools. They show areas where the organization is doing well, so that successful practices can be collected and shared. The studies also indicate where there is need for improvement and the key levers that can be employed to make those improvements.

Implementation: Throughout KP, physicians and staff participate in a care management Implementation Network that uses CMI's content and measurement capabilities to share lessons among providers at the local level. Physician members of the network in each local area provide a direct link between CMI and local activities.

All these activities – clinical content (such as care guidelines), outcomes measurement, and implementation among KP's 10,000 physicians – are greatly leveraged by new information technology tools that are just coming available. For example, population care registries enable the program to store patient data in each disease area, track patients health information, and reach out to patients proactively to involve them in improving their own health.

Kaiser Permanente is also implementing a systemwide Clinical Information System, with an electronic medical record and associated decision-support tools, that will support physicians with readily accessible patient data at the point of care. CMI coordinates a collaborative process that ensures that the quality of clinical content in the CIS – the guidelines and other tools – meets the high, evidence-based standards of Permanente Medicine.

With this new technology accelerating the advantages of traditional care management, Kaiser Permanente is helping its members get the right care, at the right time, delivered in the right way, to achieve the right outcome: healthier, more satisfied Kaiser members.

For More Information...

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