

## Care Management Plus Model



In primary care clinics, Care Management Plus provides information technology systems to facilitate the work of a care manager and the interdisciplinary team to ensure care coordination for older patients with multiple health needs. Drawing from computerized records, a summary worksheet allows the care manager and patient to access the patient's medical history and medications for use in ongoing assessment and adjustments to the care plan when needed. For one common chronic health condition, diabetes, older patients served by Care Management Plus experienced a 24% reduction in hospitalization rates, saving hundreds of thousands of dollars, avoiding likely complications, and sparing their caregivers the stress of having a loved one in the hospital.



## Using Technology to Improve Outpatient Care for Older Adults

INTERMOUNTAIN HEALTH CARE in Salt Lake City, Utah, has a national reputation for chronic disease care, quality improvement, and innovations in electronic medical records. Building on the pioneering work to integrate technology with care management led by Paul Clayton, PhD, Chief Medical Informatics Officer; Laurie Burns, PT, MS; and Adam Wilcox, PhD, Senior Medical Informaticist, the Foundation awarded Intermountain a 63-month grant of \$1,248,373 in 2001 to develop the Care Management Plus model.

In a smooth leadership transition, Cherie P. Bruncker, MD, Chief of Geriatrics for LDS Hospital and David Dorr, MD, MS, then assistant professor of medicine at the University of Utah, took over direction of the demonstration and brought it to a successful conclusion.

When patients receive care from several physicians and other health care providers, those clinicians may not communicate effectively with one another and often do not put together comprehensive care plans. Important tests and procedures may not get done and patients may become confused about their medication and treatment regimens. This can result in worse health problems and unnecessary hospitalizations.

To illustrate the problem, Dr. Dorr describes the following typical older patient: Maria Viera is a 75-year old woman with diabetes, high blood pressure, mild congestive heart failure, arthritis, and recently diagnosed dementia. She comes with her husband to see Dr. Smith, her primary care physician (she also sees five other physicians sporadically for her various illnesses), to discuss hip and knee pain, questions about her medicines, dizziness, low blood sugar, and a recent fall. In a typical primary care physician's office, the ability to track these multiple concerns is limited. Likely, Dr. Smith, a busy practitioner, has limited time to address all of Mrs. Viera's complaints or to communicate with her other doctors. Dr. Smith may make recommendations that conflict with instructions by Mrs. Viera's other doctors or she may prescribe medications that interact with drugs she is not aware that Mrs. Viera is taking.

Without a coordinated care plan and follow through, Mrs. Viera's diseases are likely to lead to frequent hospitalizations and emergency visits.

The Care Management Plus model was developed to improve care for patients like Mrs. Viera who have complex illnesses. The model



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redesigns care in practices of ambulatory care physicians through a team-care approach. It has two main components: the introduction of a care manager (a nurse or social worker) and effective use of an electronic information technology system.

Based on the demonstration's strong results in improved quality of care and financial benefits, the Foundation made a dissemination award of \$2,477,509 to Oregon Health & Science University, where Dr. Dorr had relocated as assistant professor of Medical Informatics and Clinical Epidemiology. Colleagues at Utah continue to contribute to the project and Dr. Brunner serves as co-principal investigator for the effort.

With the support of the dissemination grant from the Foundation, interest in and adoption of the Care Management Plus model has exceeded expectations. From the original seven sites, the project expanded to reach 30 sites serving over 8,000 older adult patients in 2007. The developers of the model actively promote Care Management Plus and they continue to receive enthusiastic responses and requests for training in use of the model.

#### **Description of the Model: Care Management Plus**

In the Care Management Plus model, physicians in a primary care practice identify patients with complex care needs and refer them to a care manager. These patients with long-term chronic diseases require more education or more time to understand their medications or other aspects of their care. For example, they may need to learn about controlling their diabetes, they may be frail, or they may be at high risk for complications.

The care manager—in consultation with the patient, family, physicians, and other health care providers—assesses the patient's needs, creates a care plan, and acts as a catalyst to make sure the care plan occurs. Care managers help patients and caregivers to self-manage their disease and navigate the health care system. They provide links to community resources and ensure that patients receive the highest quality care. The care manager also can identify possible coexisting conditions, such as depression, or other barriers that may be preventing the patient from effectively managing their illness.

“My job is to do all the things that a care manager does—screen, assess, plan, coordinate, and monitor,” says Ann Larsen, RN, CDE, Care Manager, Intermountain Healthcare Medical Group, Roy, Utah.

“But I also treat the whole patient. For example, a patient might be referred to me for diabetes, but the patient is depressed. We can't work

*“Health care providers tend to struggle with complex chronic illness care; but it can be very rewarding with the right tools in the right environment.”*

*David Dorr, MD, MS  
Principal Investigator,  
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The InterMountain Healthcare (Salt Lake City) Care Management Plus Team: Cherie Brunker, MD (front right), and her Primary Care Team (clockwise): Liz Garcia-Leavitt, LCSW (Care Manager), Vikie Durrant (Receptionist), Kip DeWeese, APRN, GNP (Nurse Practitioner), Mary Carpenter, LPN (Licensed Practical Nurse). The Team applies the Information Technology tools and works together with their patients and caregivers to provide efficient, high quality health care.

on the diabetes until the depression is addressed. My job is to find out what's causing the patient to have a difficult time managing his or her illness. Most patients want to be well. They just may not know how."

An electronic information system facilitates the work of the interdisciplinary team by incorporating protocols and reminders for optimal care of patients. For example, the Care Management Tracking database keeps track of tasks, such as following up with other clinicians, calling patients to check in with them, and assuring tests are ordered. It also keeps track of patient outcomes. A Patient Summary sheet contains pertinent health information. Electronic messaging systems help providers gain access to care plans, remind them about the best health care practices for the patient's condition, and facilitate communication among the health care team. The system also creates reports for ongoing assessment and administration of a care management program.

"Having these tools helps the clinic to be more efficient," says Cherie Brunker, MD, co-principal investigator, Care Management Plus. "Before I see a patient, the system has identified lab work, such as liver function tests or other routine tests for a specific patient, and the office staff puts that in the queue to be ordered. It's done automatically."



IDENTIFIES PATIENT AT RISK IN PRIMARY CARE PRACTICE



Care Management Plus patients at risk for complications and worsening of their health are referred to a care manager. The care manager—in consultation with the patient, family, physicians, and other health care providers—assesses the patient’s needs, creates a care plan, and acts as a catalyst to make sure the care plan occurs. Care managers help patients and caregivers to self-manage their

disease and navigate the health care system. Information technology (IT) systems complement the role of the care manager. IT tools include a tracking database, patient summary sheet, and electronic messaging systems. Reports are generated for ongoing assessment and administration of a care management program.



The Care Manager





Dr. Cherie Bruncker meets with patient John Walton and his wife Ruth. Care Management Plus's information systems have allowed the three of them to work together to control John's diabetes through a combination of exercise, changes in diet, and insulin regimen.

These freely available information technology tools were developed by Drs. Clayton and Wilcox at Intermountain Healthcare as part of the project supported by the Foundation. Care managers can use these tools to access disease-specific recommendations and reminders. This technology is specifically created for and by care managers and care teams that are responsible for the care of older adults.

### **Measuring the Success of Care Management Plus**

This straightforward approach of integrating care managers into the primary care team and using information technology tools improves health and decreases complications for older adults. In initial research and testing of the model, people with diabetes had better control of their blood sugar levels and were more likely to be tested, which corresponded to 15 to 25 percent fewer long-term complications. This translates into significant cost savings and allows patients to live independently far longer. Seniors with diabetes had a 20 percent reduction in death and a 24 percent reduction in hospitalizations, saving Medicare up to \$274,000 per clinic.<sup>18,19,20</sup>

Benefits to practices are derived in several ways. For example, through the use of information technology systems, physicians can create a

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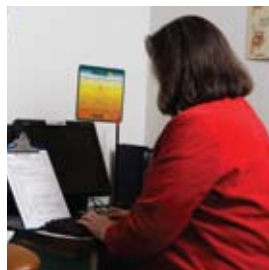
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more efficient medical practice and can see more patients. A study by Dr. Dorr and colleagues demonstrated an 8 to 12 percent improvement in productivity of health care providers who actively send patients to a care manager versus those who do not.<sup>21</sup> This translates to over \$99,000 per clinic in additional revenue. With the increase in productivity and the right clinic environment, care manager services can be cost effective, even in Medicare fee-for-service.

The benefits extend to the larger society as well, both in terms of health and dollars. For example, implementing the program in 60 clinics is estimated to prevent 259 hospitalizations per year and to eliminate 253 unnecessary deaths per year.<sup>22</sup> Medicare will save approximately \$9.1 million on reduced costs of the seniors treated.

### **The National Search for Quality Health Care Finds Care Management Plus**

The positive results of the Care Management Plus model have caused many primary care clinics, health care plans, health systems, and Medicare to take notice. Through the diligent work of Dr. Dorr,



Dr. Cherie Bruncker uses the Patient Worksheet, an information technology tool, to provide goal-directed evidence-based medical care for her patients.

Dr. Brunker, and their colleagues, with support and funding from the Hartford Foundation's dissemination of GIT-P initiative, the Care Management Plus model has been implemented in over 30 health care sites across the country and the number is growing.

The first step in moving innovation to practice requires identifying like-minded people who are looking for ways to transform health care to improve quality and increase efficiency. Dr. Dorr makes presentations at local and national conferences to generate interest and several organizations have been led to the model through the Web site ([www.caremanagementplus.org](http://www.caremanagementplus.org)).

*"We need to pay attention to preventing medical problems and preventing complications that can be avoided. The Care Management Plus program can help older adults, including healthy older adults, to maintain their health by focusing on prevention."*

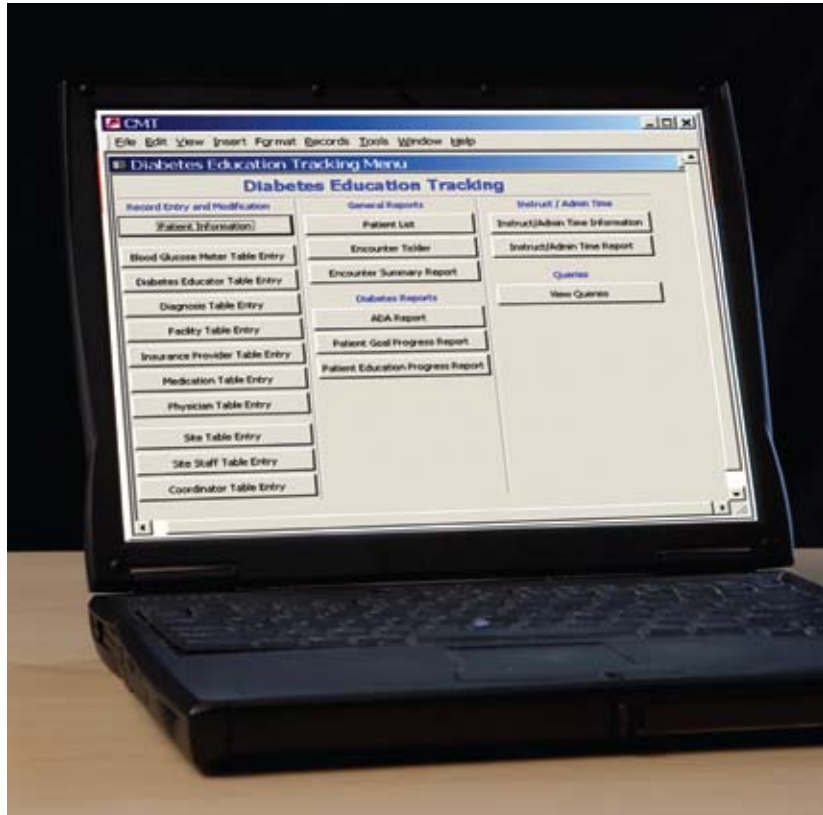
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Care Management Plus provides a variety of printed and virtual tools to assist both doctors and older patients in managing complex health conditions.





An early relationship with one of Medicare’s quality improvement organizations (QIOs) gave the model important recognition and an early boost in dissemination.

At the time the Care Management Plus model was under development, the team at Intermountain Healthcare was working with a Medicare initiative called Doctor’s Office Quality – Information Technology (DOQ-IT) to obtain Medicare data for analysis. Through the DOQ-IT project, Medicare supports the effective use of information technology by physicians’ offices to improve quality and safety for Medicare beneficiaries. It soon became evident that there was a natural fit between the missions of the DOQ-IT and the Care Management Plus team care model.

To facilitate adoption of the Care Management Plus model, Dr. Dorr and his associates developed a training program. They also disseminate the information technology components (for example, the Care Management Tracking database) and provide expertise to help clinics successfully adopt these components. For the first training in September 2006, the DOQ-IT recruited six clinics from around the state of Utah to participate. This was soon followed by a presentation of the Care Management Plus model at the national conference of Quality Improvement Organizations (QIO). A subsequent article about the Care Management Plus model published in *Quality Insight*, the official journal of the QIOs, propelled the model to national attention. As a result, several clinics contacted Dr. Dorr’s group to receive training in implementation of the model.

Adoption of Care Management Plus requires primary care clinics to make a substantial investment: hiring and training care managers, upgrading or acquiring information technology, and devoting the time and resources of other staff members to training and protocol implementation. Each clinic’s investment is about \$100,000 over the first year of the program, which should be recouped in increased productivity.

Given the need for this investment, an essential element of dissemination involves creating an environment for reimbursement and health policy that facilitates acceptance of the team care programs as cost-efficient. Toward this end, Dr. Dorr testified before the United States Senate Special Committee on Aging on May 9, 2007. Dr. Dorr stressed that care management programs can produce cost savings and also emphasized the need for reimbursement for the services

*“Care Management Plus has brought us together as a practice and provided the structure for caring for the most challenging patients.”*

*Albert DiPiero, MD  
Assistant Professor of Medicine,  
Oregon Health & Science University  
Adopter of the Care Management  
Plus model*

## Tracking Care Over Time Helps Avoid Serious Disability



When a visit to his physician at Intermountain Healthcare's Herefordshire Clinic revealed that B. Ward Turner had high blood sugar levels and a hemoglobin A1C of 10.9 (a test to assess diabetes control—the usual goal is a level less than 7), his physician wasted no time in referring him to Ann Larsen, a registered nurse care manager. Ward, who is now 84 years old, was at high risk for complications of diabetes due to a previous heart attack and multiple chronic health conditions, including congestive heart failure, arthritis, thyroid problems, and high cholesterol. Identifying and treating diabetes is critical, especially since close to 21 percent of Americans age 60 and over have diabetes, many of whom are not diagnosed.

Preventing diabetes complications such as kidney damage, loss of vision, and heart disease would require aggressive management of Ward's disease and the physician simply did not have time to properly educate him. This was almost ten years ago. Ann evaluated Ward for conditions such as fall risk, memory, and mood—all key factors that can impact his health and quality of life. She also invited him to attend a

wellness clinic where she teaches the standards of diabetes care. Ward learned about the importance of cholesterol control and yearly foot and eye exams to check for changes. His health care team followed his progress with tools of Care Management Plus: the patient worksheet and the care manager tracking database.

With appropriate lifestyle changes, including water aerobics, meal planning, monitoring his blood sugar, and taking medication, Ward met his goal of controlling his diabetes. Over time, however, his blood sugar levels began to rise and Ward and his doctor decided to begin insulin therapy. Ann provided the training and coaching to help Ward learn how to administer insulin injections and she continues to monitor his progress, dealing also with his other conditions.

"Ann is a great partner," says Ward. "I feel good and I'm happy with where I am." For Ann, having the opportunity to help patients like Ward is the best job she's ever had. "My goal is to find out what the patient needs and get it in place," says Ann.

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(Above) In Salt Lake City, B. Ward Turner does water aerobics regularly as part of a comprehensive care plan to keep his diabetes under control.

(Right) Mr. Turner with his Care Manager Ann Larsen, RN, Certified Diabetes Educator. Ms. Larsen's participation in the interdisciplinary team allows her to provide regular updates on Mr. Turner to his health care providers while helping Mr. Turner adjust to recommended changes in his treatment regimens.



offered by a care manager. U.S. Senator Blanche Lincoln and others, acknowledging the pressing need for change in the way the growing elderly population is cared for, had organized the session in support of a new bill that would pay for programs like Care Management Plus.

The Care Management Plus team also has a strong relationship with those working on the Donald W. Reynolds Foundation grant “Comprehensive Program to Strengthen Physicians Training in Geriatrics,” awarded to the University of Utah with a subcontract to Intermountain Healthcare for \$340,000 over four years. Dr. Dorr is also heavily involved in the Willamette Valley, Oregon, two-year, \$600,000 Aligning Forces for Quality grant as a technical expert and primary care redesign expert.

Care Management Plus continues to successfully leverage the funding from the Hartford Foundation to help transform health care, pursue new areas of innovation, and develop partnerships to sustain these efforts. The 24 clinics that are fully implemented and the 18 more in process of implementation have committed millions of dollars toward the redesign of primary care for older adults. As further endorsement of the Hartford-funded effort, in 2007 the Agency for Healthcare Research and Quality (AHRQ) awarded \$250,000 over two years for the Care Management Plus team to partner with the Oregon Rural Practice-based Research Network (ORPRN). Through this effort, six rural clinics will adopt the program and AHRQ will evaluate the business case and improvements in clinical outcomes.

*“Care managers augment what the doctor does. Physicians feel better about the medicine that they practice and patients feel better about the care they have received. Overall, the outcome is better health.”*

*Linda Leckman, MD  
Chief Executive Officer,  
Intermountain Medical Group*

