



Accelerating
Change Today

A.C.T

FOR AMERICA'S HEALTH

M A Y 2 0 0 2

Curing the System

Stories of Change in
Chronic Illness Care

THE NATIONAL COALITION ON HEALTH CARE
THE INSTITUTE FOR HEALTHCARE IMPROVEMENT

Accelerating Change Today (A.C.T.) FOR AMERICA'S HEALTH

A.C.T. is a collaborative initiative of the National Coalition on Health Care and the Institute for Healthcare Improvement. It aims to improve the quality of health care in the United States through the identification of “best practices” and administrative and clinical innovations that are: (1) yielding better patient outcomes; (2) making the delivery of care more efficient; (3) increasing access to timely medical care; (4) making the health system easier to use; (5) lowering costs, and (6) reducing medical errors and inappropriate care. The initiative seeks to accelerate the spread of best practices and innovations throughout the health system by publishing them and through presentations at medical meetings and health care and business symposia. A central purpose is to make a broad range of health care stakeholders, including consumers and those who pay the health care bill, more aware of cutting-edge efforts to improve the quality of health care. The initiative will actively encourage the replication of best practices in health care facilities.

About This Publication

This report presents the stories of individuals, institutions, and organizations that made a commitment to change and innovation to improve chronic illness care. The profiles reflect some of the most promising pioneering efforts underway in this field. The team of experts identified in the Credits and Acknowledgments developed selection criteria and determined those to be profiled. Their final choices represent the larger group of meaningful and laudable efforts underway nationwide to improve chronic disease management.

THE NATIONAL COALITION ON HEALTH CARE

NCHC is the nation's most broadly representative alliance working to improve America's health and health care. It is comprised of 80 member organizations. They include some of the nation's largest businesses, labor unions, health care providers, consumers groups, religious organizations, foundations, and health and pension funds. The Coalition was founded in 1990. It is non-profit and non-partisan. Its members are united in the belief that America needs better, more affordable health care and that all Americans should have health insurance. Former Presidents George Bush, Jimmy Carter, and Gerald R. Ford serve as the Coalition's Honorary Co-Chairs. Former Iowa Governor Robert D. Ray and former Congressman Paul G. Rogers of Florida are the Coalition's Co-Chairmen. NCHC is in Washington, DC. Founder and President Henry E. Simmons, M.D., M.P.H., F.A.C.P., is a widely respected pioneer in the field of health quality assessment and improvement.

THE INSTITUTE FOR HEALTHCARE IMPROVEMENT

IHI is an independent, non-profit education and research organization based in Boston, MA. It was founded in 1991 with the goal of fostering collaboration among health care organizations to improve the quality of health care. IHI each year holds a wide array of educational forums, symposia and workshops, and demonstration projects for medical professionals and health care administrators. IHI's co-founder and president, Donald M. Berwick, M.D., M.P.P., a practicing pediatrician and clinical professor at Harvard Medical School, is one of the nation's leading authorities on health care quality.

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Profiles of individuals,
institutions, and
organizations that
have demonstrated
excellence in chronic
disease care

THE NATIONAL COALITION ON HEALTH CARE
THE INSTITUTE FOR HEALTHCARE IMPROVEMENT

Credits and Acknowledgements

Team Co-Leader

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Team Co-Leader

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Team Member

CHARLES J. HOMER, M.D., M.P.H.

Dr. Homer is Executive Director of the National Initiative for Children's Healthcare Quality, an education and research organization dedicated to improvement of the quality of children's health care. He is an associate professor of pediatrics and of public health at Harvard University and is a member of the third U.S. Preventive Services Task Force. He currently serves as chair of the American Academy of Pediatrics Steering Committee on Quality Improvement and Management and is also principal investigator of several federally funded studies of quality improvement in child health.

Team Member

STEVEN D. HAGEDORN, M.D.

Dr. Hagedorn, assistant professor of Family Medicine, is a member of the Mayo Clinic Rochester Family Medicine staff. For 12 years he has been involved in numerous activities related to disease management and clinical quality improvement. From 1997 to 2001, he served as Vice Chair of the Mayo Clinic Rochester Continuous Improvement Council and is currently its Acting Chair. He is studying complexity theory and its implications for health care through a doctorate program on organizational change at the Center for Complexity and Management at the University of Hertfordshire, U.K.

Team Member

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Brian Austin is Deputy Director of "Improving Chronic Illness Care," with responsibility for overall administrative leadership of the program. He is active in all aspects of ICIC, with a special interest in incorporating new technologies into the primary care setting and the development of expert systems and improved practice team communication methods to enhance care delivery.

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Abbi Kaplan conducted the interviews and wrote this publication. An award-winning writer, Kaplan specializes in health care. She has authored numerous articles and publications on a wide range of health care issues and has served as a spokesperson, consultant, and media trainer to leaders of regional, national, and international organizations. She is Of Counsel to Pyramid Communications, a Seattle-based public affairs firm serving clients from the non-profit, advocacy, and philanthropic communities.



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The Changing Face of CHRONIC DISEASE CARE

BY EDWARD H. WAGNER, M.D., M.P.H., F.A.C.P.

DIABETES, CHILDHOOD ASTHMA, DEPRESSION, HYPERTENSION, HEART DISEASE, RHEUMATOID ARTHRITIS

Some of these chronic illnesses affect adults, others children; some reduce life expectancy, while others mostly cause discomfort. Yet, they have many commonalities. These illnesses last for years, often for life; and cause major morbidity and mortality. Patients and their families play the central role in their successful management by appropriately monitoring their health, using medical care, adhering to treatment, regulating lifestyle behaviors, and dealing effectively with the emotional and social stresses associated with being chronically ill. All



these diseases are becoming increasingly prevalent because the rapid aging of the population increases the pool of susceptible older adults, advances in treatment prolong life, and changes in the environment increase risk.

Primary care practice, which used to include heavy doses of minor illnesses and the care of healthy younger people, is now often dominated by care of chronically ill older adults.

The good news is that care of most major chronic illnesses has become substantially more effective through recent progress in clinical and behavioral treatments. When properly applied to well-informed patients, newer treatments can lead to major reductions in suffering and avoid complications, including death.

But the bad news is that studies show that only a minority of people with these conditions is receiving appropriate treatment. Especially lacking is support for patients' efforts to manage their own health. These deficiencies in the quality of chronic illness care have been found in all



types of medical settings—prepaid or fee-for-service, managed care and private practice, academic and community. The recent Institute of Medicine (IOM) report, “Crossing the Quality Chasm,” highlighted this discrepancy (the “chasm”) between the medical care made possible by advances in clinical and behavioral therapies and the care received by the majority of Americans. The report recommended that chronic illnesses, because of their human and financial costs, are the place to start working on improving the quality of care. Until recently, deficiencies in quality of care were attributed to the failings of doctors and other health care providers. The IOM report shifts the focus from the caregivers to the systems in which they work: “Current care systems cannot do the job. Trying harder will not work. Changing systems of care will.”

What's wrong with our current medical care system; isn't it the finest in the world?

Simply put, the design of medical office practice has not kept up with the changing face of medical practice. It still relies heavily on the private office visit, physician memory, written medical records, and inadequate patient involvement, despite growing evidence of better ways of interacting with patients, assuring the application of appropriate treatments, and managing patient information. It is a “system” that developed in response to the then prevailing burden of acute infectious diseases and injuries. In part because they are practicing in out-moded work settings, most clinicians are working harder and harder, struggling to meet the needs of an older and sicker population. But can hardworking clinicians and administrators redesign their care system while still meeting the day-to-day needs of their patients?

Health care organizations around the country, large and small, are doing just that.

This report chronicles the experiences of 12 very different organizations that have redesigned systems so as to provide better care to patients with diabetes, asthma, heart failure, depression, and other chronic illnesses. Although the specific changes made have varied, all of the organizations used a similar recipe with three major ingredients:

1. A clear definition of optimal care
2. A roadmap for changing the system
3. An effective improvement strategy.

INGREDIENT 1

A Clear Definition of Optimal Care

First, the organization determines the specific clinical and behavioral interventions that characterize optimal care. These are the tests, medications, and behavioral modifications proven by rigorous scientific evidence to improve the health and satisfaction of patients. Prescribing the right tests and medications is only half of the battle. Patients must also be able to manage their health and treatments

THE CHRONIC
CARE MODEL
IS NOT A
QUICK FIX OR
A MAGIC BULLET;
IT IS A MULTI-
DIMENSIONAL
SOLUTION TO
A COMPLEX
PROBLEM.

and the thousands of decisions that confront them with skill and confidence. The development of self-management skills and confidence can be assisted by supportive interventions

INGREDIENT 2

A Roadmap for Changing the System

For decades innovative clinicians and researchers have been testing new ways to care for people with chronic conditions, and this experimentation has paid off. We now have strong evidence that an integrated set of system changes can substantially increase the likelihood that optimal care will be rendered and patient health and satisfaction improved.

Our Robert Wood Johnson Foundation national program, Improving Chronic Illness Care (ICIC), tries to assist busy health systems to make these system changes through quality improvement initiatives, dissemination, and by supporting relevant research.

The Chronic Care Model Provides the Roadmap

We at ICIC have tried to summarize what we know about improving chronic illness care through system change in a single framework—the Chronic Care Model. It is not a quick fix or magic bullet; it is a multi-dimensional solution to a complex problem. The Model distills the myriad improvement activities that have shown success into six interrelated elements.

THE CHALLENGE

System change must begin at the top.

THE SOLUTION



A supportive health care organization.

Given the challenges of packed appointment schedules and tighter budgets, changes at the level of practice are unlikely to happen unless it is a priority for the organization and its leaders. Strong senior leadership plays an instrumental role in providing motivation, securing resources, and removing the barriers that may stall quality improvement activities.

THE CHALLENGE

Relying on the physician and 15-minute, acute care visits initiated by patients with problems doesn't lend itself to effective chronic disease management.

THE SOLUTION



Delivery system design.

Central to assuring high quality chronic illness care are planned visits and active follow-up. Planned visits (or other forms of interaction) use relevant patient information, evidence-based guidelines, and organized approaches to assure that all patients receive recommended services. Such visits can be individual or in groups, and include attention to self-management and preventive interventions as well as acute problems. High quality chronic illness care also entails close follow-up of the patient's condition

and treatments. This can be done by telephone or e-mail as well as in person. Planned visits and close follow-up are team sports, requiring planning and the coordinated actions of multiple caregivers. Many of the critical tasks do not require clinical training and could be most efficiently and consistently performed by non-professional team members.

THE CHALLENGE

The practice team must have the information needed to make appropriate clinical decisions at the time those decisions are made.

THE SOLUTION



Decision support.

Data indicate that guidelines become effective provider behavior change agents only when they are woven into the fabric of patient care through effective professional education, reminders, and ongoing feedback and reinforcement. Incorporating guidelines into a registry, flow sheets, and patient assessment tools, coupled with educational support from clinical opinion leaders such as medical specialists, increase guideline adherence.

THE CHALLENGE

Timely access to critical clinical information about individual patients or their population of chronically ill patients makes it possible to deliver high quality chronic illness care.

THE SOLUTION



Clinical information system.

A registry or database of key information on all patients with a chronic condition is the glue that holds an effective chronic care system together. Registries facilitate monitoring and planning care for individual patients and for the practice as a whole. An effective registry reminds caregivers of needed services and can generate materials for providers and patients that support plan-

ned visits. To enhance the care for the practice as a whole, an effective registry provides feedback on performance and can identify which patients are in particular need of attention.

THE CHALLENGE

Patients need to “own” their health conditions and have the skills and confidence to make the decisions and changes that lead to better outcomes.

THE SOLUTION



Self-management support.

There is now considerable evidence that individual and group interventions that promote patient empowerment and the acquisition of self-management skills are effective in diabetes, asthma, and other chronic conditions. They emphasize the crucial role that patients play in setting goals, establishing action plans, identifying barriers to effective self-management, and problem-solving to overcome the barriers. The integration of collaborative goal-setting, action planning, and problem-solving into routine care is a priority. The inclusion of self-management goals in a disease registry has helped many organizations maintain ongoing attention to self-management.

THE CHALLENGE

Many practices simply cannot provide all of the services and supports that patients and families need for optimal chronic illness care.

THE SOLUTION



Community resources.

With all that there is for clinician and patient alike to do, there certainly is no reason to go it alone. Organizations large and small, in urban and rural areas, in solo practices and integrated health systems have found that community resources supplement and support their efforts to improve the care of patients with chronic illnesses.



Chronically ill patients can benefit from a variety of services and resources that are not available from their health care provider—such as educational offerings, peer support groups, and exercise programs. Many of these may be available in their communities. Increasing access to effective community resources through linkages with relevant organizations and agencies is a cost-effective way to optimize care, and, for small practices, may be the only way.

INGREDIENT 3

An Effective Improvement Strategy

Ingredients 1 and 2 in the chronic care improvement process provide the clinical and system change ideas required to assure optimal care, but the ideas are expressed generally to encourage flexibility and local creativity in their implementation. The 12 case studies in this report illustrate the manifold ways in which the elements of the Chronic Care Model can be put into practice. Thus, the third ingredient in chronic disease improvement is to use an improvement strategy that enables motivated organizations to “reinvent” these ideas for effective clinical management and system change by tailoring and testing them in their practice. Growing experience suggests that focusing on clear goals for improvement, designing measures to track the accomplishment of the goals, and using brief pilot tests of change bring greater quality improvements than older models that emphasize analysis and planning.

The Institute for Healthcare Improvement has given life to this quality improvement strategy by using it in the context of a collaborative learning experience called a Breakthrough Series. A Breakthrough Series brings together multiple health care organizations to work together for 12–13 months with faculty to improve care. Chronic Conditions Breakthrough Series work on care for one or more chronic illnesses using the Chronic Care Model as the source of system change ideas. Several hundred health care organizations have now used these three ingredients to improve chronic illness care in collaborative quality improvement programs.

The case studies that follow in this report largely document the experience of a diverse group of health care organizations that have participated in either a Chronic Conditions Breakthrough Series or a similarly designed regional collaborative. Some had developed promising programs that were refined and improved further by their involvement in a collaborative. But most began only with a vision of better care for their patients, reduced costs, and a more rewarding practice for their beleaguered clinicians. All were guided by the Chronic Care Model and made changes in most of the six elements. But several organizations gave emphasis to one or two changes of particular relevance in their context—e.g., specialist support of primary care (Decision Support); planned group visits (Delivery System Design); electronic monitoring of self-management goals (Clinical Information Systems). While the 12 organizations featured are exceptional, their system changes and results are not atypical of the several hundred medical organizations (two-thirds of all participating organizations in chronic illness collaboratives) that have demonstrated measurable improvements in the quality of their care.

Edward H. Wagner, M.D., M.P.H., F.A.C.P.

Director, Improving Chronic Illness Care, National Program, Robert Wood Johnson Foundation

THE CHRONIC CARE MODEL



ORGANIZATION OF HEALTH CARE

A health system's business plan reflects its commitment to apply the Chronic Care Model across the organization. Clinician leaders are visible, dedicated members of the team.



DELIVERY SYSTEM DESIGN

Regular, proactive planned visits which incorporate patient goals help individuals maintain optimal health and allow health systems to better manage their time and resources. The visits often utilize the skills of more than one member of the care team.



DECISION SUPPORT

Clinicians have convenient access to the latest evidence-based guidelines for care for each chronic condition. Continual educational outreach to clinicians reinforces utilization of these standards.



CLINICAL INFORMATION SYSTEMS

Health systems harness technology to provide clinicians with a comprehensive list of each of their patients with a given chronic disease. This list, also known as a patient registry, provides clinicians with the information they need to track their patients' health status and minimize complications.



PATIENT SELF-MANAGEMENT

Patients are encouraged to set goals, identify barriers and challenges, and monitor their own conditions. A variety of tools and resources provide patients with visual reminders to manage their health.



COMMUNITY RESOURCES

Community resources, from schools to government, non-profits and faith-based organizations, bolster health systems' efforts to keep chronically ill patients supported, involved and active.

It's a Team Sport

DELIVERING UNIFIED CHRONIC ILLNESS CARE
IN RURAL COMMUNITIES

"Robbie had acted like he had been cornered for awhile. It started when he was in Junior High when he had a tough time with bullies at school. One time, he became so frustrated, he put his fist through a wall. I began to think: 'this child has rage.' It was right after Columbine and I tried to talk to the school about it, but they were no help at all."

Janet Webster and her son Robbie, 16-years-old, were struggling with his mood disorder and didn't know where to go for help. "One day, we were taking a trip to the dentist to have his wisdom teeth pulled, and he went to pieces in the car. I had to pull over. He was having so much anxiety over the surgery. We talked, and that was the point when I decided that we really needed to do something about it," she related. But fearing the stigma associated with mental health care, Janet wasn't sure on the best course. Then she took Robbie to CareSouth Carolina.

"Right off, the CareSouth Carolina counselor recognized Robbie was having a problem and identified exactly what it was. The treatment has made a world of difference. Before we started participating in this, it was like my son saw everything through a gray veil. Now, it's like he sees things through a sunlit window. He's just a few degrees happier and that has made a big difference. He feels like he's in control again. I've recommended this (program) to other people who are having problems because it has made such a big difference in our lives," Janet concluded.



ORGANIZATION
OF HEALTH CARE



DELIVERY
SYSTEM
DESIGN



DECISION
SUPPORT



CLINICAL
INFORMATION
SYSTEMS



PATIENT
SELF-
MANAGEMENT



COMMUNITY
RESOURCES

CareSouth Carolina PEE DEE REGION SOUTH CAROLINA

High Plains Community Health Center COLORADO

If you don't expect to find state-of-the-art chronic disease care in a rural community health care setting, you'd be surprised if you visited any of the clinics of High Plains Community Health Center in Colorado or CareSouth Carolina.

Both community centers have enjoyed great success from adoption of the Chronic Care Model, developed by Improving Chronic Illness Care, a national program of the Robert Wood Johnson Foundation.

CareSouth Carolina

CareSouth Carolina is a community health center, operating four centers in four different rural communities in the Pee Dee Region of South Carolina. CareSouth Carolina uses the Chronic Care Model to manage care for diabetes, depression, and asthma and plans to add cardiovascular disease and hypertension.

Ann Lewis, CareSouth Carolina's Executive Director, says clinicians are

CareSouth Carolina Outcomes Tell the Story

- *"Our depression outcomes were one of our biggest successes. In national data for depression, follow up beyond eight to 12 weeks is about 25% of the cases. In our program, 72% of our patients were in follow up after six months."*
- *"Of the clients receiving treatment, more than 73% reported a decrease in depression symptoms after six months."*
- *"Nine percent is the nationwide average HbA1c (measuring the range of blood sugars for a three-month period, the main indicator for how well diabetes is being controlled.) The average for our patients is 7.5%, making an astounding impact on the quality of life for these individuals."*

almost always surprised when they start working to improve chronic conditions. "They usually think that they're doing the best they can. All of a sudden, they realize that the current level of thinking is much more advanced or has left them behind a little bit. That's not anything against the clinicians. They're in busy ambulatory practices, and chronic care management is usually last on the list for staying on top of everything," she added.

The second big surprise, according to Lewis, is the difference between patient education and patient self-management. The former gives the patient information, the latter gets the patient involved. "A lot of what's happened in health care is we think we know what's best for the patient. Wrong. We only know what is happening in the office at that setting. They know what they're doing 24 hours a day. When they become engaged in that process, they no longer have the excuse not to improve their health," Lewis said.

Whether for diabetes, depression, or asthma, CareSouth Carolina found each of the Chronic Care Model's six elements

provided critical success factors. Taken together, their impact grew exponentially.

The Case for Data or How Will We Know When We Get There?



It would be a lot easier not to have to deal with data, but as Lewis pointed out, though developing a patient registry and tracking outcomes can be hard work, it pays off. "It's the single most important thing you can do. With data outcomes, you know right away what's working, and it keeps you in intimate contact with your patients. You begin doing things proactively with your patients instead of reactively. You're planning their care with them ahead of time. You just can't do that if you don't know that you have planned care visits," she said.

Recognizing the importance of data, CareSouth Carolina decided to organize their disease management by investing in an electronic database that works off the electronic medical records. That way, Lewis believes they'll be most effective at incorporating additional conditions and managing all the patients' needs.



Making a difference for patients with asthma: Betty Railey, LPN at CareSouth Carolina Bishopville Center enjoys a hug from a five-year-old patient. (photo by Steve Roos)

Why Patient Education Isn't Enough for Chronic Disease



Chances are, if you break a bone, get hit by a car, or need surgery, you're going to follow the doctor's orders. But if you have been living with a chronic disease for awhile, you've had to adapt to the limitations it places on your life, and you soldier on. As Lewis sees it, that's one of the big reasons why patient self-management plays such an important role in improving health for patients with chronic disease.

"Our health care model has been one of dictation. 'Do this. Take this. Don't do that.' That approach doesn't work

in chronic care management,” Lewis remarked. “It’s behavior modification and lifestyle changes that achieve the results, and clinicians have to be willing to be participants in that.”

If patients aren’t engaged in the change process, they’re probably not going to take the steps to improve their health. They have to be willing to change their diet and to exercise regularly, to track their blood sugars or check their lung function, and they need to understand the difference that will make in the way they feel. Because the Chronic Care Model is patient-centered, patients actually become involved in the management of their own disease process.

Lewis related a group session she attended with patients with diabetes who live in a rural area. All the patients knew what their Hemoglobin A1c (blood glucose control) levels were. They knew where they started and they knew what their goals were. “They were charged up. They would say, ‘I know if I wasn’t doing this that I would be gaining weight and feeling bad.’ Many patients with chronic disease are also severely depressed. Well, these patients aren’t,” Lewis enthused.

Lewis described the differences in depression as even more “staggering” than in diabetes. Clients are re-engaged in life, whether holding a job, going back to school or getting involved in the community.

The Rosa Lee Gerald Center, CareSouth Carolina’s \$1.4 million state-of-the-art medical facility, provides care to the underserved in the Society Hill community. *(photo by Reid McBride)*



“I’ve had diabetes for four years and nobody has ever told me this stuff.”

Why (Medical) Practice Doesn’t Always Make Perfect



At the beginning of each Chronic Disease Collaborative, participants receive the most recent evidence-based guidelines for care. Lewis said it’s a great way to make sure that clinicians are using the best information for treating their patients. “One of the first things we realized is that we had to flag medical charts for chronic conditions,” she noted.

For patients with diabetes, the chart includes an assessment and a flow sheet. For depression, the guidelines and the assessment were the same. For asthma, it’s an assessment which is conducted at every visit.

Engaging the Team



Part of the major problem in our health care system today is that physicians feel like they’re on their own, responsible for managing the health of their patients with acute conditions and with chronic diseases. They have neither the systems to identify patient conditions, nor the tools to improve health, much less the support from the other providers on their team and the community. The Chronic Care Model paves the way for an organized system of care.

“We did group visits for all three conditions,” Lewis recalled. “That’s one of your biggest payoffs. That’s where patients interact with each other and that’s where once again the clinicians begin to understand they don’t have all the answers. Patients share with each other, and it’s very effective.”

Lewis believes that better chronic illness care is compatible with high productivity. And she has the numbers to back it up, “The average productivity for CareSouth Carolina is one of the highest in the state, and we’ve participated in three Collaboratives. The mental health counselors are saying the same thing.”

The national average is 4,100 encounters per full-time provider per year. At CareSouth Carolina, their productivity measures are at 6,572 encounters. The difference? A lot of little things, according to Lewis. Fifteen-minute visits don’t turn into disorganized 45-minute visits, because the clinicians are engaged in planned care that’s proactive and doesn’t get side-tracked. An entire care team is involved in the comprehensive care of chronically ill patients, not just the clinicians. Patients are engaged in their visits and come in energized. If a clinician identifies someone who is depressed, for example, the patient is immediately referred to a mental health counselor. “The subsequent visits for that patient medically are a lot less time consuming,” Lewis explained.

Blood Glucose Reductions Pay Off

Longitudinal studies demonstrate that a one percentage point reduction in Hemoglobin A1C (blood glucose) results in:

- 14% decrease in total mortality
- 21% decrease in diabetes-related deaths
- 14% decrease in myocardial infarction
- 12% decrease in strokes
- 43% decrease in amputations
- 24% decrease in renal failure
- \$800 reduction in health care costs

Going forward, Lewis said CareSouth Carolina will expand its business plan to include staffing for certified chronic care managers who speak “both languages,” English and medical.

And their connections don’t stop at the doors of their clinics. “Patients don’t live in your clinic, they live in the community. If you’re going to effect change with them, you’ve got to be part of the community,” Lewis said.

CareSouth Carolina’s community commitment is so strong that they have a whole division of community development that works both with the private sector and with other agencies in the community to sponsor programs and expand the reach of their clinics.

“As a society we’re spending huge amounts of money on medical education, and we don’t have a system that works for chronic care,” Lewis pointed out. “The Chronic Care Model works.”

High Plains Community Center

High Plains Community Center in Lamar, Colorado, serves a population that’s 29 percent uninsured, 43 percent privately insured, with the remaining 28 percent on Medicare or Medicaid. Because approximately 14% of their patients only speak Spanish, all their materials and their care need to be provided in both English and Spanish.

The first evaluation of their pilot diabetic population of 172 patients showed that more than 98 percent had uncon-

trolled diabetes, with blood glucose levels averaging 9.5 percent, according to Monette Sutphin, Operations Officer. (Less than 7% is the goal.) Eighteen months later the average blood glucose was down to 8.4%.

Collaborative Helps Set the Course



Dr. Hilton Ray, M.D., High Plains Medical Director was so convinced that the Chronic Care Model would elevate the clinic’s quality of care that he persuaded the clinic’s leadership and Board to give it a try. By participating in a national Collaborative with teams from across the country, guided by the expert staff from Improving Chronic Illness Care and the Institute of Health Care Improvement, High Plains had the opportunity to learn and implement quality chronic disease improvement quickly.

High Plains went to work developing guidelines and protocols based on the latest evidence. “The very first thing we did was include standing lab orders so nurses could draw all the necessary labs for our patients with diabetes,” Sutphin explained. They also sent their nurses to state training programs and specialized foot assessment trainings.

Data Drive Improvement



In order to track all of their patients with diabetes, and later with cardiovascular disease, High Plains uses CVDEMS, a PC based electronic patient registry. The system simultaneously manages the patient database for both diabetes and cardiovascular disease measures. It took a few years, but

the organization is now sold on budgeting a data entry position, “because of all the good that comes out of these numbers, the feedback to patient charts and providers,” Sutphin said.

“Early on, I said if we can’t get this information on computer, we ought to forget it,” added Dr. Ray. “Once data entry is done, it’s not hard to pull out all the relevant information.”

“Hey doc, aren’t you going to check my feet today?”



The idea of patients as partners in their health care is becoming part of the health care zeitgeist, bubbling up from policy circles, quality improvement programs and patient advocates. It’s a timely trend, given the shortage of health care workers vis-à-vis the aging baby boomers, and the burgeoning increase in chronic conditions. Since most chronic conditions are heavily impacted by patient actions, emotions and lifestyle choices, the movement toward patient involvement in chronic disease is a potential match made in heaven with a sound basis.

To make sure their patients got a high dose of information and involvement, High Plains decided to jump-start their diabetes program by holding diabetic clinic days. The days were organized so that about six patients at a time would be in the clinic for an hour and a half to two hours, with a team of providers available to visit with each patient. The day would begin with a nurse who conducted a foot exam, showed patients how to check and clean their feet and recommended good shoes. Patients then received booklets they could take home that reinforced the information given in the clinic. Next to come in, a dietitian, who could offer training tailored to the patient’s level of need and information. The third leg of care would come from a dental hygienist or dentist who would discuss the importance of oral health for patients with diabetes, and provide a referral to a dentist if

"People got individual attention, but they also got attention as part of a larger group."

appropriate. Finally, the physician would come in and address things such as medication adjustments, foot problems, lab tests and overall health. At the first clinic, the physician would also work with the patient to set a self-management goal.

Follow up from the clinics would occur, within one to three months, depending upon the patient's condition. "When they returned, we'd review their labs and review their self-management goals," Sutphin said.

While these planned visits may sound daunting to organize, Dr. Ray said they developed a model where they were able to deliver 12 comprehensive visits in a half day. "We came out OK," he said. And the patient surveys after the clinics were uniformly positive. "I've had diabetes for four years and nobody has ever told me this stuff," one patient wrote.

The clinics were so popular with their patients, according to Dr. Ray, that a buzz started in the community with patients from other practices calling to see if they could enter the program. "I hear from people in the community that they believe our patients are getting better care than some people with private insurance," Dr. Ray said.

Innovation Delivers



What could lead to either the perception or the reality that formerly underserved patients are receiving superior care to patients with private insurance? Dr. Ray believes success lies in taking a prevalent chronic disease and finding an innovative way to approach the delivery of care. Once you identify all of your patients with a given chronic condition, and begin to manage those patients as part of a unified system of care, "it changes the encounter. We didn't have all the tools before. It changed the way I practiced in terms of checking the data on each patient each time they came in. The other providers and I started talking about population stats and data, rather than just talking about individual cases. It meant people got individual attention, but they also got attention as part of a larger group."

Ironically, one of High Plains' most vocal critics of the approach early on was so impressed that he's now leading the effort to manage patients with hypertension using the Chronic Care Model. The spread to hypertension was a natural, since many patients have both conditions. At the beginning of 2002, High Plains had 218 patients in their diabetes registry and 114 people in their cardiovascular disease registry.

Reaching Out to the Community



Because High Plains is in a rural community, there wasn't access to the plethora of programs and organizations available in an urban area. However, High Plains took advantage of partnerships where they could find them. Contracts with home health agencies and local dental offices supplemented their services. "Both the Spanish and English newspapers have published quite a few things about the program," Sutphin added. Reports are sent to the state's Diabetes Control Program monthly and the program received two grants for patient and staff education.

System Support for the Model



"When you're trying to control somebody's blood glucose, you have them come in more often, once they're in control you have the savings," Sutphin remarked. "For the long term, it definitely keeps folks out of the hospital."

Between Sutphin and Dr. Ray, the leadership of High Plains was kept regularly involved in the outcomes from the Model and the philosophy behind the change. "This work gets to our mission of providing quality health care with particular attention to the unserved and underserved," explained Dr. Ray. •

High Plains Cardiovascular Sample Tracking Indicators*

TRACKING INDICATOR	INITIAL RATE	CURRENT RATE
Percentage of patients with blood pressure less than 140/90	35.3%	62%
Percentage of patients with documented blood pressure check twice a year	47.1%	87%
Percentage of patients with a documented self-management goal	34.1%	59%
Percentage of patients who smoke	16.5%	25%**
Percentage of patients with creatinine checked annually	81.2%	89%
Percentage of patients screened for hyperlipidemia (cholesterol)	69.4%	82%

* Results after seven months

** Additional smokers were identified during the process, as clinicians began asking all cardiovascular patients if they smoked

Engaging the Patients

PRIVATE PRACTICE RE-DEFINED

If system changes guided by the Chronic Care Model improve care in settings as diverse as community health centers, academic medical centers, integrated health systems and health plans, what impact does the model have on a regular private medical practice? The Polyclinic is an 85-physician multi-specialty clinic in urban Seattle, Washington. Dr. Natalie Roberts, D.O., operates a one-person practice in Wasilla, Alaska, a 40-minute drive from Anchorage. Both organizations assert that there's a lot to be gained from this innovative approach to chronic disease management.

The Polyclinic

The Polyclinic learned the chronic care ropes at the 2001 regional collaborative on diabetes, organized by the Washington state Department of Health, PRO-West, a quality improvement organization, and Improving Chronic Illness Care. In an era of physician and nurse burnout and frustration, working with the Chronic Care Model gave a renewed sense of enthusiasm and satisfaction to the entire care team,

according to Colette Rush, Coordinator of Disease Management Programs. And that enthusiasm and progress was mirrored by the patients who were pleased to become partners in their own health care process and watch their conditions improve.

Self Management: New Roles for Patients and Providers



Mark Cordova, M.D., one of the collaborative team members, acknowledged that establishing self-management goals for patients has been a very different concept for him as a physician. "When I first heard about it, I thought it meant I'd walk in and say, 'I want your blood pressure to be this' and then walk out," he chuckled. "Of course that's not it at all. It's their goal."

Physicians are trained to have all the information and be the ones who pronounce what kind of care will be provided and what the patients' goals should be, according to Dr. Cordova. "This is much more collaborative with the patient, investing them in their own care and feedback about what's important to them. Through this process

The Polyclinic
SEATTLE, WASHINGTON

Natalie Roberts, D.O.
Solo Practitioner
WASILLA, ALASKA



ORGANIZATION
OF HEALTH CARE



DELIVERY
SYSTEM
DESIGN



DECISION
SUPPORT



PATIENT
SELF-
MANAGEMENT

The Polyclinic Tracking Measures

MEASURE	INITIAL PERCENTAGE, JAN 2001	IMPROVED PERCENTAGE, FEB 2002
Hemoglobin A1c (blood glucose) less than 9.5%	75%	90%
Blood pressure less than 140/90	38.5%	54.20%
LDL (cholesterol) less than 130	55.7%	81.00%
Percentage of patients who have had HbA1C in previous six months	63%	85.80%
Percentage of patients with LDL checked in previous 12 months	73%	92.12%
Patients whose kidney functions were checked in previous 12 months	50.4%	84.70%
Patients with annual retinal exams	19.7%	50.00%
Percentage of patients with self management goals	0%	33.16%

I learn that they may be most concerned about blindness or something that I haven't even worried about."

The self-management aspect of the Chronic Care Model also provides new roles for nurses. Dr. Cordova found that the function brings nurses closer to the patients in terms of their motivations and concerns about their disease. "The nurses become partners in the team, with a much more proactive role," he added.

The Polyclinic introduced patients to the new concept with a letter, outlining some of the practice changes they could anticipate. At the first visit, patients would discuss their ideas for self-management goals and compare where their condition was to target benchmarks. "I think the patients see a real difference in the way our visits are structured and the way in which information is delivered," Dr. Cordova said. "Some of my patients have told me they've waited all their lives to get this kind of information."

Not all patients are ready to set a self-management goal at their first visit, and not every staff member has been trained

in the technique. The Polyclinic anticipates that their progress in this area will continue to grow.

Rush said it's important to have all the tools ready for the visit. So each exam room now has a file box filled with a variety of materials and tools—from referral forms to educational materials—

that providers need to give a visit the greatest possible impact. Rush said they've designed the office around the concept of organized systems of care and patient involvement.

Guidelines and Information: New Systems for Providers

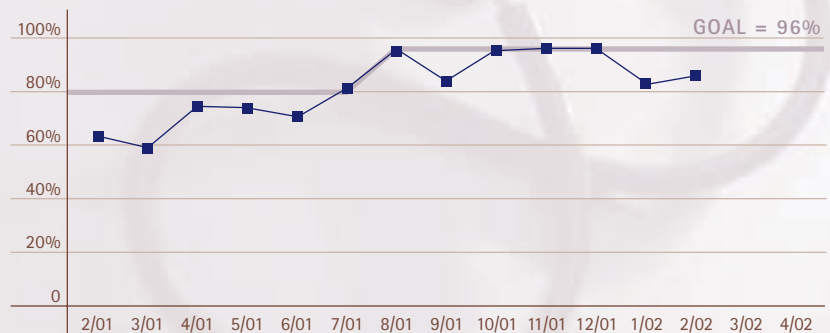


The Polyclinic developed a model for the clinic to deliver diabetes care derived from evidence-based guidelines. While that may sound like an obvious step for the management of a chronic disease, Dr. Cordova, like others who've worked with the Model, found that putting this kind of discipline into the practice improves it significantly and consistently. The clinic follows updated American Diabetic Association guidelines for diabetes and also developed referral guidelines for specialists.

"Insurance companies are now coming to the physicians telling us we have a possibility of getting better reimbursement based on the confirmation that we're providing better quality care. This is a system that allows us to do that," Dr. Cordova said.

Patients with HbA1c test in last six months

By tracking patients with diabetes, the Polyclinic was able to dramatically increase the number of patients whose blood glucose was being checked on a regular basis. The Polyclinic's rate of checking patients' blood glucose levels every six months rose from 63% to almost 86%.



The Polyclinic has 900 patients with diabetes in their registry, a program that not only tracks who the patients are but also what their clinical targets are and what labs they might need. “The registry is the cornerstone of chronic disease management and the Chronic Care Model,” noted Rush.

Planned Care Reaps Benefits



Rush said patients with diabetes now have planned visits. Before they leave the clinic, they make appointments to return in three months and the database ensures that the visits take place. Before the Polyclinic instituted the Chronic Care Model, patients were advised how soon to come back, but the responsibility for making the appointment lay with the patient. “People would have good intentions, but sometimes forget,” explained Gloria Dillon, M.A., one of the key members of the nursing staff at the start of the project. “This way, we don’t let them slip through the cracks.”

Another simple change that’s made a “huge impact” has been asking patients to have their labs drawn in the week prior to their visit. “Staff review the labs and they’re prepared to talk with the patients when they come in,” Rush noted.

The Polyclinic also had great success convening group visits. Approximately 20 patients replace one of their regular quarterly visits with a two-hour group visit. The visit begins with introductions, and then patients go around to different stations. Patients have their labs drawn if necessary, go to the nurse’s station for vital signs and self management updates, foot exams, and vaccinations if they’re due. Then the doctor meets with them individually and reviews their charts, their reports on self-management goals and their labs. “In between the stations, the patients have an opportunity to provide emotional support to each other, talk

“Some of
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information.”

to a pharmacist and review educational materials,” described Rush.

In the second hour of the visit, the clinic organizes some type of clinical presentation. Rush said that for some patients this format works really well, “Different patients learn differently. For the right group, this is significant.”

Rush noted that they’ve actually increased revenues with the group visits while “providing better care.” The Polyclinic plans to conduct group visits quarterly and hopes to expand the number of groups they conduct.

The Chronic Care Model is now part of the Polyclinic’s strategic plan. While diabetes was the first target, plans are to add cardiovascular disease in 2003. They’ll apply the same approach, beginning with a pilot group of physicians and patients, then spreading the Model to additional physicians and patients as the program develops.

“Costs are so out of line,” Rush added, “Prevention makes sense.”

Natalie Roberts, D.O.

The solo medical practice of Natalie Roberts, D.O., is located in Wasilla, Alaska, which offers a rural lifestyle with access to some of the most spectacular sites nature has to offer, including three mountain ranges, four state game refuges and six recreational rivers. Some 30 percent of the population commutes to work in nearby Anchorage.

Easy to Change, Challenging to Implement



You may not have a lot of resources when you operate a solo practice, noted Dr. Roberts, but “if I want to change things, I get them changed in two days. It actually works really well, because you don’t have to discuss it with 10,000 people.”

The team that worked with the Chronic Care Model at Dr. Roberts’ practice included the doctor, the office manager Joyce Johnson, and a medical assistant. The team participated in the regional Alaska collaborative, organized by PRO-West and Improving Chronic Illness Care. Participating in an improvement effort was challenging for Dr. Roberts. Things that are normally difficult for a single doctor practice, like staff turnover, take on a whole new level of difficulty during a collaborative. In addition, in order for Dr. Roberts to attend a learning session, the office would have to close for that day.

Incorporating evidence-based guidelines wasn’t hard for Dr. Roberts, who already knew much of the information. However, she did learn a more focused approach to diabetes management and new information about heart disease. “I knew it was important to get patients’ blood glucose levels down, but I didn’t spend as much time before getting them down. I recently went to a lecture where I learned that everyone with diabetes

should be on ace inhibitors because it prevents heart disease.”

Education and a Whole Lot More



Getting patients involved in their own care means Dr. Roberts spends a good deal of time educating her patients and giving them options. For example, if patients' blood glucose level is above 7%, she'll let them try to manage it with diet for three months. In between visits, her staff will call patients and reiterate the goal. If there's no improvement, she'll add a medication.

In the meantime, patients go home with graphs, generated by an electronic database program, where they can chart their progress on blood glucose, cholesterol, blood pressure, LDL and weight. “That's part of our self-management work, to try to get them to see their numbers to understand where they are and to change because they want to see their graph improve,” explained Johnson, whose role includes managing the practice's registry of patients with diabetes.

Johnson recalled one patient who had refused to admit he had diabetes. His wife convinced him to come in when the

office started the Collaborative and “he's been incredible. He loves his graphs; it's just something that's really positive for him. He lost 60 pounds in seven months. He was just not defeated anymore. When we started treating him like he could make the change, it empowered him to take control and he did it.”

Johnson said for the most part, there's been a very positive response from patients who appreciate the extra “TLC.”

Dr. Roberts' approach with her patients has been, “Ok, here's what I'm going to do, what are you going to do? A lot of my patients had been educated but when you survey them, they didn't know what they needed to know in order to make a difference.”

Dr. Roberts said regular contact with patients with a chronic disease is vital. “All my patients are scheduled for follow-up visits when they leave here. We do crisis care in between,” she noted. Patients also receive personal congratulations cards from the office if they meet the basic measures.

Once their electronic database identified all of their patients with diabetes, Johnson set up a system where all charts are flagged with special stickers and

“When we started treating him like he could make the change, it empowered him to take control and he did it.”

she enters information into the database after every visit.

There aren't extensive community resources in Wasilla, Alaska, but the practice takes advantage of what's available. They work with the diabetes educator at their local hospital and a statewide resource for smoking cessation. They also rely heavily on pharmaceutical representatives. “We get as many free materials from them as we can,” said Johnson.

The practice now plans to extend the Model and its elements beyond the pilot population of 74 patients. For example, the practice has adopted self-management goals across the board, in a variety of conditions.

Dr. Roberts and Johnson both acknowledge that it's more work to provide patient care this way, but neither would have it any other way. “High quality medicine keeps your business booming,” said Dr. Roberts. “And you go home with a sense of satisfaction because you're doing the right thing for your patients.” ●

Dr. Roberts' Sample Tracking Measures

GOAL	INITIAL PERCENTAGE, JAN 2001	IMPROVED PERCENTAGE, DEC 2001
80% of patients with HbA1c (blood glucose) less than 8%	69%	78%
50% of patients with LDL (cholesterol) less than 100	33%	61%
90% of patients w/LDL less than 130	80%	89%
60% with blood pressure below 140/90	39%	50%
90% with annual foot exams	5%	94%
Percentage of patients with self-management goal	5%	64%

RIVALING PRIVATE CARE

COMMUNITY HEALTH CENTERS MEET THE NEEDS OF THE URBAN POOR

If there's a startling trend in chronic disease management today, it's this: Patients in a number of federally qualified community health centers are receiving higher quality health care for their chronic conditions than many patients with private insurance. These patients typically come from underserved populations, often have Medicaid, Medicare or no insurance and may be combating challenging life issues on top of their chronic diseases.

Case in point: Hill Health Center's pediatric asthma program, Project AIR, (Asthma Improvement Resources) in New Haven, Connecticut. "I think that our kids with asthma are getting better care than they are at a lot of places in this city because we're providing comprehensive management," explained Genevieve Mack, Pediatric Nurse Practitioner and Director of Hill Health's pediatric asthma program. "We've had patients who have transferred here because their child wasn't getting better and the parents heard about our programs."

Or Clinica Campesina, in Lafayette, Colorado, where both providers and patients have gone from feeling "hopeless" about chronic conditions to feeling engaged and excited about the changes and improvements that are occurring day in and day out, according to team leader Cory Sevin, R.N., M.S.N.

The driving force behind the success for these clinics can be traced to a decision made by the Department of Health and Human Services' Bureau of Primary Health Care. The Bureau recognized that proactive, organized chronic disease

management represented a key strategy for reducing the disparities in health that afflict low-income and ethnically diverse individuals around the country. Hill Health Center and Clinica Campesina were two of the Bureau's 88 centers that participated in groundbreaking diabetes management efforts beginning in 1998 using Improving Chronic Illness Care's Chronic Care Model and the Institute for Healthcare Improvement's improvement model. For both centers, the diabetes work provided a springboard for organizing the care of other chronic diseases as well.

Project AIR

HILL HEALTH CENTER'S APPROACH TO ASTHMA IMPROVEMENT

Imagine, for a moment, that you're a pediatric provider. Your training, your practice and your health care system all are geared to handle acute health care crises. A patient breaks a bone or gets strep throat. You patch them up, prescribe medication and send them home until the next time something goes wrong. For

Hill Health Center
NEW HAVEN, CONNECTICUT

Clinica Campesina
LAFAYETTE, COLORADO



"YOU CAN'T EXPECT PEOPLE TO JUMP SHIP AND DEVELOP A NEW BOAT WHILE THEY'RE TRYING NOT TO DROWN. YOU HAVE TO GIVE THEM A NEW BOAT."

a portion of the population with only acute conditions, that kind of approach works reasonably well. But when it comes to individuals with chronic disease, that approach leaves patients with little help to personally manage their condition and avoid exacerbations.

Take asthma, for example. The National Institute of Health established guidelines for asthma treatment in 1991. But the only way providers can be sure they're meeting those guidelines is if they can identify which patients have asthma. And chances are, unless the clinic or system has established a mature disease management system, there's no way to do that. That was one of the first things Hill Health Center discovered as practitioners began working on asthma improvement in 2000.

The pilot program was established at a school-based health center, with services provided by a nurse practitioner, a social worker and a health educator. As Hill Health Center developed a patient registry, identifying all their pediatric patients with asthma out of the 500 middle

school students at the school-based center, Mack said they were able to track a wide variety of measures both for individual patients and for the population as a whole. The registry can be used to schedule appointments and to identify the development of patterns. "For example, I can query what children have winter as their time period with greater triggers so that we get to them ahead of time before they have problems and increase the medications that control their conditions. We use it to see if patients are slipping through the cracks. It helps us learn about our patients as a whole," Mack explained.

As the program spread beyond the pilot population, the team found that more work needed to be done. Even when patients were identified, Mack said the team still wasn't conducting severity assessments, addressing asthma triggers and trigger avoidances, scheduling follow ups, appropriately referring to specialists or utilizing community resources. "What we needed to do was establish a structure and support that allowed our pediatric providers to deliver that kind of care routinely," Mack explained. "You can't expect people to jump ship and develop a new boat while they're trying not to drown. You have to give them a new boat."

DESIGNING A DIFFERENT KIND OF SYSTEM



As the program spread to Hill Health Center's clinics, changing the design of the delivery system, one of the Chronic Care Model's six elements, was "critical," according to Mack. The Clinic established a division of responsibilities, so that physicians could begin relying on Community Health Workers and R.N.s to provide some of the key functions that make comprehensive care possible. Community Health Workers began taking the initial history and made sure all of the necessary asthma tools—including guidelines and referral sources—were prominent in the patients' charts. The asthma nurses were trained to provide more education ranging from medication usage to trigger avoidance, environmental control and an emergency plan. The pilot program that began with one clinician and 30 patients grew to

incorporate 10 Pediatric providers and a registry of more than 900 patients in Hill Health Center's main comprehensive clinic and its eight school-based and primary care satellite clinics.

THE COLORS OF A STOPLIGHT

will help you use your asthma medicines

RED
DANGER ZONE

PATIENT'S ASTHMA IS GETTING WORSE FAST:

- Medicine is not helping
- Breathing is hard and fast
- Nose opens wide
- Ribs show
- Can't talk well

GET HELP FROM A DOCTOR

YELLOW
CAUTION ZONE

PATIENT HAS ANY ONE OF THESE:

- First signs of a cold
- Exposure to known trigger
- Cough or mild wheeze
- Coughing at night

ADD QUICK-RELIEF MEDICINE

GREEN
GO ZONE

PATIENT HAS ALL OF THESE:

- Breathing is good
- No cough or wheeze
- Sleep through the night
- Can work and play

USE PREVENTIVE MEDICINE

Project AIR uses color coding to help patients understand their conditions, use the right medications, and seek appropriate treatment.

Group education was another supplement to a physician-only model of health care. While the asthma team found there was a lot of interest, there were also a lot of barriers to overcome, including timing, flexible scheduling and transportation. Two people would run the group; one with medical expertise and another who could provide child care if that was an issue for parents. The asthma team was able to enlist community and corporate support, ranging from supplying transportation to donations to providing food, door prizes, raffles and asthma equipment.

"In order to really make a change, education of our providers was vital," Mack emphasized. Ongoing in-services were used to reinforce use of the latest evidence-based guidelines and protocols for care, the Chronic Care Model element known as Decision Support.

Hill Health Center created a flow sheet that guides the provider through an asthma assessment and treatment plan based on guidelines which are printed in condensed form on the back of the flow sheet. They also posted the guidelines in color coded laminated charts at stations and displayed user-friendly books in exam rooms.

PATIENT SELF-MANAGEMENT:

SO WHAT HAVE I DONE FOR ME LATELY?



Another important aspect of the Chronic Care Model lies in its emphasis on patient self-management, or enlisting patients in improving their own care. For this program element, Hill Health Center's goal was that every patient with asthma be given an asthma action plan. Use of an action plan was one of Hill Health Center's tracking indicators. Research shows an action plan contributes to reductions in asthma morbidity and deaths because it gives patients a tool that includes guidelines for what to do if their health condition changes. "We're giving patients a lot of information. Kids with moderate, persistent asthma may have three to five medications to use at different times. This can get very confusing," Mack noted. "The action plan helps them track their symptoms and manage their medications."

HILL HEALTH CENTER'S TRACKING INDICATORS

TRACKING INDICATOR	RATE OF SUCCESS
CONTROLLER MEDICATION <i>(daily asthma medication that's preventive or anti-inflammatory) used with mild or moderate asthma</i>	100%
SCHOOL ABSENTEEISM <i>due to asthma less than one day per two weeks</i>	Absenteeism less than one day per two weeks since Jan. 2001
EMERGENCY VISITS <i>due to asthma</i>	Less than 1% on average, per two weeks since Feb. 2001
PEAK FLOW RATE PERFORMANCE <i>(lung function test that patient can monitor at home) average increased</i>	Greater than 80% in both the pilot and spread populations
ASTHMA ACTION PLAN <i>given to patients</i>	Achieved and sustained 100% rate in pilot population, achieved 100% in July 2001 with spread population with slight drop subsequently
SYMPTOM-FREE DAYS <i>90% for two week periods (this was the collaborative's only long-term goal)</i>	Started at 36% in January 2000; reached almost 80% (the national standard is 70%)

Mack described the process of developing the action plan as "patient-centered." The clinic developed a format, tested it with patients, got feedback and revised it. In addition to guidelines for medication, the action plan also incorporates a patient goal. Does a patient want to play basketball, sleep well, miss less school, go to the second floor of the house? Whatever the goal the patient wants is included. "Sometimes kids are so adjusted to the chronicity of their disease that they can't think outside the box. We ask them, 'what can't you do because of your asthma that you'd like to be able to do?'"

Use of the action plan has been so successful—given to 100 percent of the pilot population and close to that in the spread population—that Hill Health Center's internal medicine department has begun to adopt it in order to meet their chronically ill patients' needs as well.

In addition to the action plan, self-management tools include kits for every

patient, videos, comic books, peak flow meters and patient brochures.

The Chronic Care Model is such an integral part of Hill Health Center that it's reflected in the mission and business plans as an absolute priority and focus in chronic care. That total commitment has given Mack the ability to negotiate with HMOs to cover key medications and durable medical equipment. "We used to have problems getting reimbursement for certain things and had to fight each and every time. Once we developed more of a relationship with the claims administrator, we were able to say, 'we're reducing costs here, these patients have fewer hospitalizations and emergency visits.' Some managed care companies have been very accommodating, agreeing to cover things on a group basis and taking out a lot of the administrative and bureaucratic steps that made it difficult," Mack said.

Mack noted that while the clinics have not tracked hospitalization rates, asthma

used to be a very frequent reason for hospital admissions of their pediatric patients. “Now we get really upset when we have a single patient who is hospitalized for asthma. We meet just to determine what went wrong in our care,” Mack added.

HARNESSING COMMUNITY RESOURCES



As an urban community health center addressing what can be an environmentally-triggered disease, community resources have played a significant role in Hill Health Center’s success. For example, close partnerships with school nurses led to the development of comprehensive asthma management plans for the schools. “No matter how high a standard of care you deliver at the clinic, if the child is still being exposed to asthma triggers at home and at the school, medication and teaching are useless. We had to reach the community to address these other issues,” Mack explained.

Other partnerships included a city-funded grant program with Visiting Nurses Associations and local public Community Action Agency, an organization that addresses issues affecting low-income residents with home environment problems. Mack said visiting nurses, under a pilot program, are conducting home assessments for 20 families who have children with asthma to review such environmental issues as pest control, cockroaches, dust, mold, ventilation systems, and carpets that need to be pulled up. The Community Action Agency then actually makes those changes when indicated. “We’re hoping to demonstrate significant quality of life and lung function improvements so we can go back and tell the insurance companies or other funding sources this is something you should invest in,” said Mack.

Hill Health Center has worked closely with the American Lung Association in terms of asthma camp, fairs and educational materials. And pharmaceutical companies have donated “everything we’ve needed from educational materials to peak flow meters, patient samples and money to buy equipment to set up a state-of-the-art asthma program,” Mack described.

CLINICA CAMPESINA'S TRACKING INDICATORS

MEASURE	INITIAL RATE	IMPROVED RATE
<i>Average HbA1c (Blood Glucose)</i>	<i>10.5% in Oct. 98</i>	<i>8.7% Sept. 01</i>
<i>Percentage of patients with two HbA1cs measured three months apart, twice a year</i>	<i>14.7% in Oct. 98</i>	<i>45% Sept. 01</i>
<i>Percentage of patients receiving eye exams</i>	<i>7% Feb. 99</i>	<i>27% Sept. 01</i>
<i>Percentage of patients receiving foot exams</i>	<i>15% Feb. 99</i>	<i>56% Sept. 01</i>
<i>Percentage of patients with a self-management goal collaboratively set</i>	<i>0% Feb 99</i>	<i>46% Sept. 01</i>

Hill’s Mack doesn’t go a week without multiple requests for information about their program from the media, politicians and other health care systems around the country. At a time when massive numbers of people are disillusioned with our health care system across the country, Hill Health Center’s staff is enjoying a renewed commitment to the practice of medicine. “We can actually change health care in this country if we support the use of this Model to change care.”

Changing Roles

DIABETES IMPROVEMENT AT CLINICA CAMPESINA

THE CASE FOR QUALITY IMPROVEMENT



The proportion of patients with diabetes is very small at Clinica Campesina’s three community health centers in urban Colorado, according to Cory Sevin, R.N., Vice President. “But diabetes ends up as one of the top 10 reasons for a patient using a clinic, so these patients are high users of health care,” she explained, making it strategically important to better manage the course of their illnesses.

A normal Hemoglobin A1c (HbA1c or blood glucose) level is around 6%. But patients with uncontrolled diabetes can

have HbA1c levels of 12% or higher. Before adapting the Chronic Care Model, the physicians would see patients with levels above 10% and think, “No way am I going to get that down to 6%,” Sevin explained. But at the same time the clinics began using the Model, a research study was released indicating that even dropping the blood sugar level one percent, from 12 to 11 for example, makes a difference in terms of quality of life, morbidity and mortality.

“Now the whole organization was lined up to figure out what it would take to help this patient and provider make progress,” Sevin said.

Coupled with the new approach to chronic disease management was the rapid improvement process from the Institute for Healthcare Improvement. Prior to the collaborative, it took two years to get consensus about a diabetes flow sheet. “Here was an expert saying, ‘Try it on Tuesday. Try something different on Wednesday.’ It really changed the practice of medicine for our providers,” Sevin said.

“We were definitely a provider oriented system,” acknowledged Sevin. “Very few of our providers had worked to get the patients involved, it’s not something they teach you in school. Providers understand now that there’s an expecta-

tion that they engage the patient and involve them in their own care in more of a patient-focused way.”

By the time Clinica Campesina worked through the diabetes collaborative, these patients with previously unmet needs had new roles, as did their care teams.

ORGANIZING CARE



Using a patient registry, providers would regularly learn which of their patients have diabetes and receive updated information on all of the tracking indicators. “We could look at who we weren’t reaching and determine their biggest need. That information became the impetus for developing diabetes fairs, for example, because we found we weren’t impacting the whole population,” Sevin explained. “You can’t do the Chronic Care Model without a registry.”

Clinica Campesina hosted diabetes fairs twice a year at two clinics, with more than 130 patient visits, including repeat customers. The fairs provided patients with a broad range of information, from managing blood glucose to eating healthy and getting eye checks. Sevin recalled one patient who hadn’t been able to take off from work to get regular check ups who was able to take advantage of a dilated eye exam at the fair. It turned out that he had retinal damage. “It was a great way to reach patients who have a hard time making regular visits and it really makes them feel supported,” she said.

Using the latest evidence-based guidelines, Clinica Campesina developed a flow sheet with simple algorithms of care for the providers. According to Sevin, the flow sheet guides the provider, step by step, through a series of decisions. “For example, if there’s protein in the urine, then the flow sheet provides guidelines for treatment. Another example is guidelines for putting patients with high blood pressure on the right medications,” she described.

Developing the guidelines and making sure they’re utilized can be two separate tasks, so the guidelines were reinforced at clinician meetings once a month.

“WE STARTED EDUCATING SMALL GROUPS OF PROVIDERS ON THINGS THEY COULD DO IN 15-MINUTE VISITS.... PART OF IT WAS LEARNING TO ASK QUESTIONS DIFFERENTLY.”

TEAM BUILDING



The team also worked to identify who besides the physicians could perform key tasks. How could medical assistants become part of the team? “We found many things they can do. For example, they can review the diabetes flow sheet for needed tests and begin the progress notes with things that are needed. They also are able to conduct foot exams and check in with patients regarding their self-management goals,” Sevin added.

What it came down to, Sevin related, was creating a team approach so that more people are able to cover all the bases. And the patient response? “We found that engaging them differently was effecting their blood glucose control. We also got verbal feedback that they were more hopeful and more involved with their care,” said Sevin.

Clinica Campesina’s commitment to the Chronic Care Model is long term and

lasting. “We’re looking at how to institutionalize it so it’s not dependent on a particular person. You need champions, but it has to be institutionalized enough to continue,” Sevin said.

EMPOWERING THE PATIENTS



Based on prior experience, providers knew that they weren’t going to be able to shift their patients’ health care without involving them in the process. When the clinics began measuring the number of patients with documented self-management goals, they started at zero and the physicians would get a report once a month where they’d see that. “We didn’t say you’re bad because you don’t know how to do this,” Sevin emphasized. “After a couple of months, we started educating small groups of providers on things they could do in 15-minute visits that wouldn’t be overwhelming for them or their patients. Part of it was learning to ask questions differently.”

Sevin noted that evidence shows if providers and patients collaboratively set self-management goals, a follow-up phone call in two weeks really reinforces the goal. “It doesn’t have to be the provider, just someone with reasonable skill in communicating.”

In addition to raising the issue with providers, Clinica Campesina went straight to the patients. Patients received series of guidelines on a regular basis to engage them on what their care should look like so they come to each visit with a different set of expectations. They know their feet should be examined at every visit and their eyes checked once a year.

They learned what their blood glucose levels were and how often they should be measured.

In an era of cutting corners, how does Clinica Campesina justify taking on this level of systemic change? “We did it because our primary goal is quality for our patients. And in a sense we’re managed care because no one else is going to take care of our patients. This kind of care provides patient and provider satisfaction and in the end our quality of care does help us financially,” Sevin added. ●

Full Court Press

AN INTEGRATED SYSTEM TACKLES CHRONIC ILLNESS CARE

You're a primary care physician with a busy practice, under pressure to see more patients.

You don't have enough time.

You're a patient with uncontrolled diabetes and you are not sure how to manage your condition. *You don't have the right skills.*

You're an administrator wanting your health system to deliver care that improves health and follows best practices. *You don't have the right system.*

Premier Health Partners DAYTON, OHIO

Premier Health Partners in Dayton, Ohio, is a complex integrated health system with two hospitals, 100 physician practices, a long-term care facility and a home health agency. When the system decided to tackle comprehensive diabetes improvement, the team recognized that it would take a “full court press”, according to Evan Steffens, R.N., M.S., Director of Clinical and Quality Systems, Primary Care Physicians Network, part of Premier Health Partners.

Like many pioneers in systemic quality improvement, Premier Health Partners launched their improvement process with a small, committed core team. Steffens' counsel to other health systems: make sure you give physicians the right tools and enough training. “You can't just hand them a standard, beat them over the head, and say ‘bad doc.’

You have to give them the tools and say, ‘great doc, crummy system.’”

Before signing up for the diabetes collaborative that got underway at the end of 1998, Premier Health Partners had tackled diabetes improvement by disseminating care standards to their physicians. But the team quickly recognized that simply distributing more forms to physicians with busy practices wasn't going to achieve their goal. A better strategy: use the Chronic Care Model to identify health system changes needed to manage chronic illness more effectively and improve patient outcomes. Because the Model focuses on involving patients and giving practice teams the right systems and the right tools to proactively manage the conditions, it delivers greater results.

“We dramatically shifted our focus from process to outcomes,” Steffens explained.



ORGANIZATION
OF HEALTH CARE



DECISION
SUPPORT

Plan Your Work



The first order of business was developing ambulatory diabetes treatment guidelines. The next step was developing Premier's Diabetes Innovation Tool Kit, which contained a variety of tools and a range of options. Materials for physicians included:

- Diabetes Documentation Flow Sheets
- Adult Summary of Care Forms, that included problem list, preventive interventions and a mechanism to customize the form with stickers for multiple chronic disease conditions
- Chart stickers for diabetes and smoking
- Patient visit cards
- Nursing visit documentation forms
- Standing laboratory order forms
- Foot exam documentation forms
- Pertinent diabetes research articles
- Guidelines for planned visits
- Patient information and reminder letters

They also made sure that physicians had guidelines for specialist referrals and monofilaments in exam rooms so that they could easily conduct critical foot exams. Physicians were taught to use these tools in planned visits and to restructure how they supported patients in their self-care.

Materials for patients included:

- Patient education posters for exam rooms
- Blood sugar home forms
- Diabetes checklists

Work Your Plan



Steffens and Meenakshi Patel, M.D., Chair, Quality Committee, Miami Valley Hospital, another part of the Premier system, individually visited every office in the pilot project,

"You can't just hand them a standard, beat them over the head, and say 'bad doc.' You have to give them the tools and say, 'great doc, crummy system.'"

and over time, every office in the rest of the organization. "We took the physicians chart review results, and the tool kit. We talked about what we were trying to do and we offered them the tools to help them get to targets," Steffens said. "We understand that there's no way every physician can remember everything she or he should do for patients with diabetes."

Steffens continued the "academic detailing" of the physicians' practices on a quarterly basis to learn what was and wasn't working. The response to the Chronic Care Model was strong initially because the pilot team consisted of volunteers. However, the team also recruited a couple of physicians who tend to be "skeptics," and Steffens reported they also did very well. "I think they responded positively to the concept of a menu of ideas. We didn't dictate, but suggested that the tools might help their outcomes," she said.

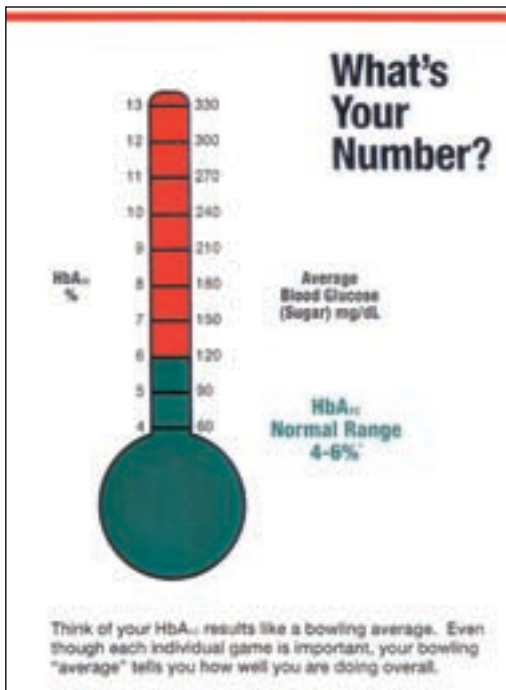
The team's philosophy was to help the clinicians figure out how to do the work in the context of very busy practices under pressure to see more patients, more

quickly. Steffens found that once the first 20 percent of physicians were successful, the remaining 80 percent would follow.

Premier's team started working with one physician and over the course of six to nine months, added 18 practices. Eventually, the entire network of 100 physician practices incorporated the Chronic Care Model in their approach to diabetes care, with each physician caring for between 100 and 200 patients with diabetes. With diabetes appropriately managed, the network is adapting the Model to the full range of chronic illnesses, including cardiac disease, asthma, as well as to preventive care.

Steffens said the entire Premier organization received American Diabetes Association certification so that they could get reimbursement for all their teaching programs in order to support education. They were successful at negotiating with one of the local HMOs to pay for diabetes education that supplements the formal, hospital-based education programs with a two-hour "survival skills" curriculum delivered to patients individually. According to Steffens, the nurses that provide the survival skills program undergo more than 16 hours of additional education in diabetes and adult education. "They teach the basics to patients who, for whatever reason, are unable to get into the formal education program at the main hospital in a timely manner," Steffens explained.

Organizing a health system to support quality improvement work is a key element to the Model. Disease management has been part of Premier's business plan since 1999, and in 2001 meeting certain disease management criteria became part of the executive bonus structure. Steffens also notes a growing trend among employers to provide bonuses to health plans that meet certain quality targets. The health plans in turn are beginning to partner with the physicians to help meet those targets.



This chart, displayed in all of the exam rooms, gives patients a visual reminder of how to manage their diabetes.

"In order to make gains in diabetes management, we must shift from the current model of a random event in the middle of a busy day to a planned event in a managed day."

In 2002 Steffens is looking forward to the implementation of a disease management registry and reminder system that will print sheets showing what patients need to have done. This will mark the first time Premier has had a registry in more than a handful of practices and the first time the registry will be electronic. The network received grant money to purchase an enhancement to their billing system with a new clinical module.

Measuring success

The tracking indicators for success include:

- Hemoglobin A1c (HbA_{1c}—blood glucose) checked twice each year
- HbA_{1c} less than 7 percent
- Weight and blood pressure checked at every visit

- Blood pressures below 130/80
- Diet counseling provided on an annual basis
- Eye exam, foot exam, urine protein, conducted annually
- Patients with positive urine protein given ACE inhibitors
- LDLs (cholesterol) less than 100
- Evidence that home glucose testing is being performed (as evidenced by documented home charts).

For patients, one of the most compelling aspects of this approach to care is that they're empowered to make changes and improve their health. Collaborative member Dr. Patel told of one patient who came to her with uncontrolled diabetes and a leg already amputated. "We switched her to an oral regimen and then counseled her on diet, exercise, the importance of foot and eye exams and she just took off. Her HbA_{1c} is around 6.1% and every visit she brings me beautiful charts of her blood sugar mapped out. Her quality of life has improved dramatically and she feels 100 percent better," Dr. Patel added.

For physicians, the Model has the same effect, according to Dr. Patel. "They absolutely feel empowered that they are

actually making a difference in people's lives and they have a process that someone is helping them with."

In addition to improving the care and health of patients with chronic disease and providing a more rewarding system for clinicians, Steffens believes a strong business case can be made for employing the Chronic Care Model. At the beginning of the project, she reviewed approximately 200 patients with diabetes from one practice. Of all of the patients, less than 10 percent were up to speed with all their quality criteria. They'd been in to see the doctor frequently, as many as 35 times the previous year, typically for an acute condition. But the diabetes care never took place. "If the patient would come in twice a year for intense diabetes visits, with the right documentation to be coded at an appropriate level for a comprehensive visit, it would drastically change the nature of the physician's billing," Steffens said.

"You have to change the system," Steffens emphasized. "The delivery of medicine is not just about what Dr. Smith does in his practice. You have to re-think every aspect of how you deliver care, from how you make appointments to how you put your charts together, to how you put patients in the room to what you do in the visit." •

Sample Results

MEASURE	BEFORE	AFTER
HbA _{1c} (blood glucose) under 7%	1999: 42%	2001: 70%
HbA _{1c} checked twice a year	1997: 67%	2001: 90%
Foot exams using monofilament testing	1997: 61%	2001: 78%
Annual urine protein measures	1997: 52%	2001: 78%
Ace inhibitors with positive urine protein	1999: 38%	2001: 80%

Connecting the D.O.T.S.

HEALTH PLANS' PIVOTAL ROLE IN CHRONIC ILLNESS IMPROVEMENT

Health plans can play a significant role in the management of chronic disease, from reimbursing for quality outcomes to providing sophisticated case management to bolster providers' services.

Univera Health Care, an Excellus Company, in New York State, HealthPartners, in Minnesota, and Rocky Mountain HMO in Colorado, are very different kinds of plans, yet all three are committed to proactive disease management. Univera originated as a staff-model HMO using employed physicians, merged with another plan and is now part of Blue Cross Blue Shield, covering most of New York State, outside of the city. HealthPartners, both a health plan and a health care delivery system, includes the HealthPartners Medical Group and Clinics, a set of clinics that serves between one-quarter and one-third of the population of the health plan's 660,000 enrollees. Rocky Mountain HMO is an independent, non-profit IPA-model

health maintenance organization that was founded by physicians in 1974.

All three plans have employed the Chronic Care Model to support care of their patients and enrollees, all with significant results.

Univera Focus: CONGESTIVE HEART FAILURE



Univera's initial foray into disease management using the Chronic Care Model began in 1999 with congestive heart failure, a condition that is responsible for a significant portion of overall health care costs in the U.S. According to Peggy Calogero, R.N., Manager for Univera's Chronic Illness Program, there are a variety of reasons for spiraling costs for congestive heart failure, including lack of coordination in the delivery of care and a wide variation in the application of care. "Heart failure disease management programs have been

Univera Health Care
AN EXCELLUS COMPANY
NEW YORK

**HealthPartners
Medical Group**
MINNESOTA

Rocky Mountain HMO
COLORADO



ORGANIZATION
OF HEALTH CARE



DELIVERY
SYSTEM
DESIGN



DECISION
SUPPORT



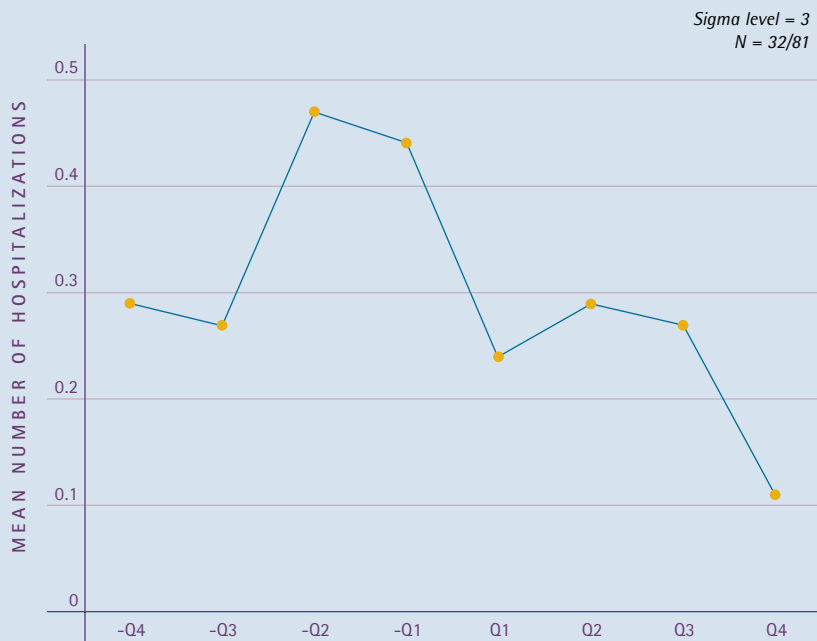
CLINICAL
INFORMATION
SYSTEMS



PATIENT
SELF-
MANAGEMENT

CHF Admissions

Hospitalizations Before/After Enrollment



For the 12 months prior to instituting the congestive heart failure disease management program, 33 out of the 81 continuously enrolled members were hospitalized. For the 12 months after the program was instituted, hospitalizations declined to 12 members.

shown to improve the quality of care delivered to patients by coordinating and focusing an effective management approach which results in improved patient outcomes and decreased hospital admissions,” Calogero explained. “That inevitably leads to lower costs.”

Using the Chronic Care Model, Univera’s approach boils down to this: Shifting the focus of care away from crisis management to prevention by:

- Concentrating on patients’ self management of their conditions
- Making sure appropriate levels of medications are prescribed
- Providing critical nutritional counseling
- Ensuring consistent contact with a health care professional.

Calogero admits that these are not the types of services providers are used to getting from health plans. “You have to

be very gentle when you’re working with the doctors,” she acknowledged.

To minimize the built-in tension between the plan and the providers, Univera’s program was strictly voluntary, requiring consent both from the providers and the patients. “It’s not a required service for all members with heart failure,” Calogero noted. Univera’s approach was built around two strategies, the first a series of eight care calls to patients, the second, a comprehensive case management program, with a one-on-one relationship between a Univera nurse case manager and a patient, and involving their physicians.

PATIENT IN THE DRIVER’S SEAT



The development of two separate approaches evolved from close consultation with the staff at Improving Chronic Illness Care. “They really helped us realize that it’s the person with the condition that’s in the driver’s

seat. You can educate till you’re blue in the face, but if the patient is not ready to take steps, it doesn’t work,” Calogero related.

After trying out a couple of different ways to identify patients for the program, Univera settled on targeting their members who had been hospitalized for heart failure along with accepting referrals from clinicians or patients themselves. “We have had very positive feedback from doctors and patients because it’s another set of eyes and ears reinforcing their self-management,” Calogero added.

The Care Calls Program is tailored to the individual, so, for example, if a patient is knowledgeable about their heart medications, but needs to learn more about managing their diet or incorporating exercise, the nurse will spend more time on that. “The service is delivered over the phone. For some people, that anonymity is a good thing. It’s really been very well received,” Calogero said.

Univera worked with private practice physicians in advisory teams to develop guidelines for the case management program, beginning with congestive heart failure, and later incorporating diabetes, asthma and depression. Each team approves all the materials Univera uses with patients and sees the outcomes measures and reporting.

Case managers have a wide range of responsibilities including:

- Maintaining the database and reporting outcomes
- Providing telephonic follow up using an assessment tool
- Adjusting medications over the telephone using protocols approved by the Heart Failure Team, as long as they have standing authorization from the physician
- Communicating with physicians using a standard form
- Organizing patient education activities through home care or teaching sessions
- Monitoring and encouraging diet and medication compliance

“Even with the increase in pharmacy costs, savings in hospitalization alone still created overall savings.”

- Assisting with identifying barriers and challenges and helping patients plan coping strategies.

By the time Univera completed the Chronic Disease Collaborative with the Institute of Healthcare Improvement and Improving Chronic Illness Care, there were around 100 patients participating in the program and a reduction in hospital admission rates for heart failure. “Even with the increase in pharmacy costs, savings in hospitalization alone still created overall savings,” Calogero said.

The impact of the program and its promise for the future is undeniable. In 1997, Univera provided care to 729 congestive heart failure patients requiring approximately \$10 million in medical expenses, \$1.3 million of which were for congestive heart failure related services. With membership growth in the plan’s senior population, Univera anticipates that the number of over-65 congestive

heart failure patients will double, requiring approximately \$2.4 million in congestive heart failure-related expenses. The medical literature suggests that case management, applied in these populations can produce 30% savings on inpatient expenses, which could conservatively represent \$400,000 for Univera.

Arthur Orlick, M.D., Univera’s Medical Director during the Collaborative, believes that even if the program is cost neutral, it offers great value. “It’s what health plans should be doing, instead of managing cost, managing care,” he said.

With a firm understanding of the Chronic Care Model and the one-year experience with the Collaborative under its belt, Univera was able to develop disease management programs for diabetes, asthma and depression. “When you’ve

done it once, it transfers fairly easily to other disease states, as long as you have the right indicators,” said Dr. Orlick.

HealthPartners Focus: DIABETES AND HEART DISEASE

The HealthPartners Medical Group, with more than 570 physicians practicing in over 31 primary clinics, including more than 35 medical and surgical specialties, has a long, rich history of quality improvement innovations.

The HealthPartners Medical Group began working on the diabetes collaborative in 1998, focusing on the medical clinics. Recognizing that heart disease often occurs along with diabetes and that it can develop with little or no warning, HealthPartners Medical Group

HealthPartners Medical Group Tracking Indicators*

JANUARY – DECEMBER 2000
7,000 PATIENTS

GOAL	1999 RATE	2000 RATE
HbA1c (Blood Glucose) Screening during the reporting year	87.6%	91.6%
HbA1c less than or equal to 8%	58.1%	67.2%
LDL Screening	72.6%	75.5%
LDL (Cholesterol) less than 130	44.6%	51.4%
Blood Pressure Control (less than 130/85)	32.5%	37.4%
Aspirin Use (for those 40 and above)	38.4%	44.5%
Tobacco Assessment	82%	83%
Tobacco Advice	33.2%	49.4%

*The results are based upon an annual chart audit of more than 1,400 patients

incorporated appropriate management of cardiovascular disease risk factors into their measures. So in addition to the management of blood sugar levels and the range of preventive diabetes checks, the HealthPartners Medical Group added in blood pressure control, lipid management, controlling LDL (the bad cholesterol), use of aspirin, and reduction in smoking to their outcomes measures.

ADVANCING THE USE OF DATA THROUGH INFORMATION TECHNOLOGY



The HealthPartners Medical Group relied on its Information Systems (IS) and Health Services Analysis and Reporting Team to develop a registry of diabetes patients. “In 1998, we started providing a list of registry patients to providers that identified their patients with diabetes and stratified their risk based on available lab values and other diagnostic codes,” explained Terry Crowson, M.D., HealthPartners Medical Director for Disease Management. “This became a tool for clinicians to manage their patients with diabetes.”

Dr. Crowson said this population-based approach makes sure that the highest priority patients are visible to the provider team so that appropriate care can be delivered.

DECISION-MAKING SUPPORT: A ROADMAP FOR CARE TEAMS AND PATIENTS



The next building block is making sure physicians have access to the latest guidelines. HealthPartners Medical Group had played a substantial role in helping to develop community-based practice guidelines, taking into account national recommendations, scientific evidence and local practitioner input. They provided the medical groups with education, distributed the guidelines, provided ongoing continuing medical education and implemented a program called Staged Diabetes Management. Dr. Crowson described the program as decision-making

“If there’s anyone who will slip through the cracks, it’s someone with depression.”

support for care teams, developed by the International Diabetes Center in Minneapolis. “It’s like a roadmap for care teams and patients to follow,” he said.

EMPOWERING PATIENTS IN SELF-MANAGEMENT



When it comes to getting patients involved in their own care, the HealthPartners Medical Group’s one-stop-shopping model offers an ideal platform. “The medical group has an American Diabetes Association-recognized diabetes education program. We’ve got the educational support. Each clinic has a designated diabetes resource nurse spending time with patients on self-management,” Crowson explained. “The medical group has a structure to make sure patients are getting access to programs. Registered dietitians are available and involved, offering classes, or one-on-one visits as necessary. Educators and counselors help patients understand what they need to do daily on meal planning. We have on-site mental health professionals

who participate in diabetes classes and/or individual counseling.”

HealthPartners also designed handy wallet cards to help patients track results and remind them of the kinds of things they should be doing for their care. The card lists everything from targeted blood glucose range, goals and dates for blood glucose checks, weight checks, blood pressure readings, cholesterol checks, annual foot, urine, eye and dental exams, flu and pneumonia shots. It lists the key indicators patients should track, such as daily foot checks, avoidance of tobacco and maintenance of a low-fat diet. It even lists questions to ask the health care team and offers a chart for tracking medications. The card includes the number to a phone line, which offers health experts trained to support and teach patients. “Our health plan offers this phone-based health counseling to all members, and the medical group has fully utilized this service,” said Jan Wuorenma, R.N., B.S.N., Senior Director for Disease Management. “The program offers health counseling on stress management, healthy eating, increased physical activity, all the lifestyle management options that patients can use to bring their diabetes under control.”

RE-ORGANIZING HEALTH CARE



“Our leadership is committed to quality improvement,” added Wuorenma. “Everybody is targeted and focused on the same thing. When we pay attention, things improve.”

At the health plan level, HealthPartners has decided to align outcomes and income. “The organization sets targets for care improvement for medical groups and if they hit their targets, there’s a substantial financial reward,” explained Dr. Crowson.

Because of the commitment to quality, HealthPartners is now managing heart disease using the Chronic Care Model and is evaluating its use for depression. “We have 13,000 patients with coronary artery disease, and between 3,000 and 4,000 with congestive heart failure. We’ve seen

a decrease in hospital and emergency admissions in the population with congestive heart failure over the last three years,” said Dr. Crowson.

Rocky Mountain HMO Focus:

DEPRESSION



“Chronic illness takes a lot of money out of the coffers and decreases quality of life for people,” said Lori Stephenson, Director of Quality Improvement for Rocky Mountain HMO. “As a health plan, we are committed to significant chronic disease management.”

With quality medical care a primary objective, the pieces were in place to launch an innovative quality improvement project on depression. Stephenson said their team chose to focus on depression because it often accompanies other chronic illnesses. “We like to screen everyone we have in our diabetes or asthma programs for depression. If you get the depression treated, it may be easier, for example, to bring blood sugar under control in patients with diabetes,” she said.

Dr. Gregg Omura, of Rocky Mountain HMO’s depression team, said using the Chronic Care Model improved care in a number of ways. First, it provided the basis for a training program for physicians and nurses, increasing their comfort in working with depression. Second, it encouraged use of patient education handouts, a critical component in caring for patients with depression. Third, “if there’s anyone who will slip through the cracks of the health care system, it’s someone with depression. By using a registry of all patients with depression, we can monitor improvement in care and identify patients who are not responding well or who are missing appointments. We can then make phone contact and encourage them to continue treatment,” added Dr. Omura.

“The majority of our patients don’t

Rocky Mountain HMO's Tracking Indicators

AUGUST 2000 – OCTOBER 2001
684 PATIENTS

GOAL	RATE OF SUCCESS
<i>50% reduction in depression symptoms at 12 weeks</i>	52%
<i>Making contact with the patient by phone or in a follow-up visit within two weeks of initiating treatment</i>	32%
<i>Use of antidepressant medications for a minimum of six months</i>	98%

know they’re depressed. Eight to nine percent of the population is being treated for depression. The real number is double that,” Dr. Omura explained. “A lot of patients out there have fatigue or back pain that’s actually caused by depression. If you treat depression, maybe their back pain or their heart palpitations will go away or get better.”

Dr. Omura said his team uses PHQ-9, a depression assessment tool that includes the nine most common symptoms of depression. The tool is quick and simple to administer. It is used at every visit and provides the physician with an objective measure of the patient’s progress. Dr. Omura’s team showed over a 50 percent improvement among patients identified with depression at 12 weeks and ultimately a much higher improvement at six months.

The key to success with this approach is motivated clinical staff, according to both Stephenson and Dr. Omura. “It’s important to collaborate with physicians who are eager to work with this. Once those physicians enjoy success, they become champions with other physicians,” Stephenson said.

With 16 physicians and more than 450 patients in the depression registry, Rocky Mountain HMO hopes soon to have strong clinical outcome data to make a persuasive business case for clinics to add case managers.

RE-ORGANIZING HEALTH CARE



Dr. Omura employs three full-time nurses and says his practice approach revolves around a care team, one of the key Chronic Care Model elements. And his practice is more cost effective than it’s ever been. One of the more encouraging indicators: his registry of depressed patients is decreasing. “After nine months to a year, you’re terminating treatment as much as you’re picking it up. If patients are doing well, we discontinue all interventions with instructions to be cautious if symptoms return.”

With six months of experience discontinuing treatment, so far Dr. Omura’s patients have not experienced recurrent depression. “We’re catching it earlier and at this point, we may have tapped into most people in the practice with depression.”

Rocky Mountain HMO is convinced that approaching chronic disease in this systematic way will save money over time. But Stephenson acknowledged that it’s an investment for the long haul. “When you think about chronic illness care, programs that take care of people when they are the sickest cost the most money,” she noted. “Rather than spending all your resources when the population is in crisis, proactively treating the chronically ill when their symptoms can be better managed will keep people healthier and save resources over time,” according to Stephenson. ●

Primary Care

in the Driver's Seat

RE-CONFIGURED RELATIONSHIPS IN AN ACADEMIC SETTING

Profile Vanderbilt: Vanderbilt University Medical Center is a 658-bed acute care facility with almost 30,000 annual admissions. With the area's only Level I Trauma Center, Vanderbilt has 92 specialties with approximately 650,000 visits per year. The primary care practices consist of 25 academic internists who provide care for approximately 30,000 patients. Around 12 percent of all primary care visits are made for diabetes.

Vanderbilt Medical Center NASHVILLE, TENNESSEE

First, The Problem



Alan Graber, M.D., Professor of Medicine, Division of Endocrinology, Vanderbilt Medical Center identified the problem. After developing and analyzing a patient database, he realized that a significant population of patients with diabetes at Vanderbilt Medical Center wasn't being managed properly. Dr. Graber had developed a 12-week Diabetes Improvement Program designed for patients newly diagnosed with diabetes, or patients whose disease process was out of control. At Vanderbilt, as elsewhere, most patients with diabetes were cared for by primary care physicians and endocrinologists. But the right

patients weren't getting referred to the program, while some of the patients who were being referred really didn't need specialty care.

Enter into the equation, Doris Quinn, Ph.D., Director of Improvement Education and Measurement, part of Vanderbilt's Center for Clinical Improvement. The goal was to discover a way to get the primary care physicians to reflect on their own population of patients with diabetes. "Without data, individual patients come to a physician who opens the chart and may see the blood sugar is up. But that doesn't tell the clinician that out of 200 patients with diabetes, 10 are out of control. The clinicians were managing charts, one at a time," Quinn noted.



DECISION
SUPPORT



CLINICAL
INFORMATION
SYSTEMS



PATIENT
SELF-
MANAGEMENT

In January of 1998, Quinn facilitated a meeting of the primary care physicians (PCPs), Dr. Graber and the nurse instructors. They shared Dr. Graber's data, showing that patients weren't being managed as well as they could be, acknowledged the difficulty of the PCPs' range of responsibilities and proposed working together. "As the PCPs talked through their relationship with Endocrinology, I would draw pictures. When we started, the links between primary care and Endocrinology were iffy. Some

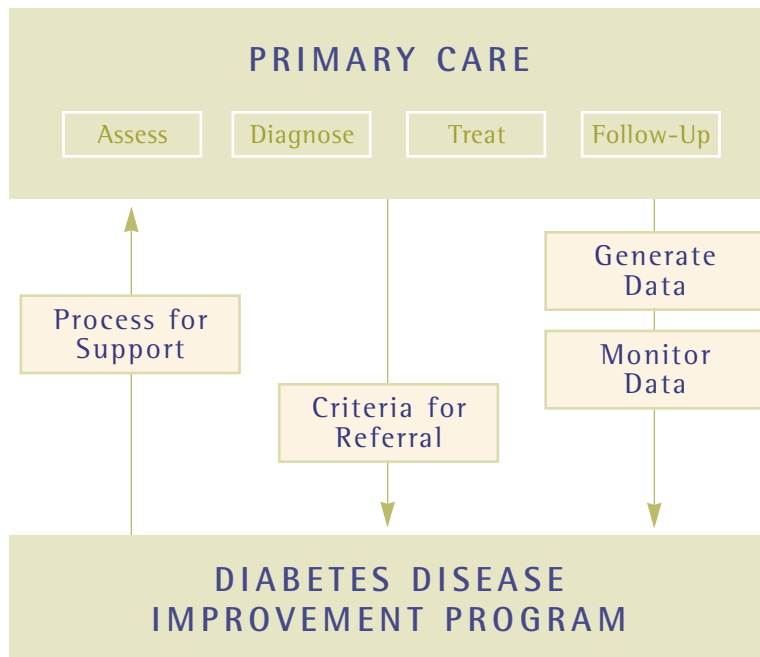
patients found their way to a good program, some didn't. The system for diabetic patients was weak. Every meeting we had, they'd say 'how do we work together?'" Quinn explained.

As the meetings progressed, the pictures began to change. The visual depiction of the relationships between the two disciplines began with side by side or parallel boxes. The "ah-ha moment" arrived with the visual image of the PCPs as the dominant box, with Endocrinology supporting their work.

Vanderbilt positioned Primary Care as the dominant focus of care for patients with diabetes, with the Department of Endocrinology in a support function.

"A physician who opens the chart may see the blood sugar is up. But that doesn't tell the clinician that out of 200 patients with diabetes, 10 are out of control."

Diabetes Disease Management



Creating a New Framework



At that point, Dr. Graber offered to give the primary care physicians a report on their panel of patients, highlighting those whose diabetes was out of control. The new concept was tested with a pilot group of four primary care physicians. Eventually all of Vanderbilt's PCPs would be invited to participate.

The group worked through criteria for referring patients to the Diabetes Improvement Program and agreed what feedback the Program would supply to the referring PCPs.

The goals at first included:

- Creating a shared model of care that worked for the pilot group of PCPs and an endocrinology practice
- Spreading the model to all PCPs in the Adult Primary Care Center

Patient Satisfaction Survey

SATISFACTION SURVEY TO PATIENTS COMPLETING DIABETES IMPROVEMENT PROGRAM IN JUNE 2000 (N = 31)

SATISFACTION (%)	EXCELLENT	VERY GOOD	GOOD	FAIR/POOR
<i>Overall health</i>	17.6	58.8	11.8	0
<i>Diabetes care received</i>	82.4	11.8	5.9	0
<i>Information presented</i>	82.4	11.8	5.9	0
<i>Questions answered</i>	82.4	17.6	0	0
<i>Lab test results shared</i>	82.4	11.8	5.9	0
<i>Lab test explained</i>	70.6	5.8	17.6	0
<i>Concern, courtesy</i>	88.2	5.9	5.9	0

- Increasing the number of appropriate referrals to the Diabetes Improvement Program and the endocrinologist
- Decreasing the mean Hemoglobin A1C (HbA1c—Blood Glucose) levels of patients of the participating PCPs
- Improving physician and patient satisfaction.

The timing was right for Dr. Graber to provide reports to the PCPs, as well as letters addressed to their patients over their signatures. The PCPs then had the option of sending the letter or discarding it if it was inappropriate.

Six months into the pilot project, in January of 1999, the team joined the Institute of Healthcare Improvement's

Breakthrough Series Collaborative on Chronic Disease and adopted Improving Chronic Illness Care's Chronic Care Model. "The Chronic Care Model provided a good unifying system for us," Quinn noted. "It's the little things that make a difference, like marking the chart and getting patients to take off their shoes and socks."

Decision Support: Common Definitions



One of the interesting findings that emerged from the meetings between the endocrinologist and the PCPs was their difference in definition of "out of control" for a patient with diabetes. The endocrinologist wanted HbA1c

levels below 7%, while the PCPs were looking for HbA1c levels below 8%. A review of current research helped them to identify common ground. They agreed to refer patients to the outpatient treatment education program if HbA1c levels were higher than 8% for longer than six months and were not responding to action taken by the PCP. The process helped the physicians build trust with one another, one of the key goals of Vanderbilt's approach.

Dr. Graber developed a template for the medical records of each patient with diabetes, which included a handy pull-down check sheet, providing reminders for the routine, preventive care for things like foot and eye checks.

With the new Model, those patients who do need a higher level of care are referred to the 12-week Diabetes Improvement Program, which is managed by the Department of Endocrinology. The nurses in the program give instructions, start and stop medications, and adjust insulin. Patients will share their home blood sugar readings with the nurse at least once a week and the nurse in turn lets the patients know if they need to adjust their medications. And one of the best aspects of the program is that the PCPs never lose touch with their patients. "It's comprehensive care and it's all done in one place," concluded Dr. Graber.

Clinical Information Systems: Managing Comprehensively



Developing a patient registry, or database, was another key component in Vanderbilt's success. "The whole notion of having a database was critical," said Quinn. "Without data, you don't know how well you're doing."

"What we're trying to develop here is a model that could be used in the private sector. The patients come from the same environment and have the same type of insurance."

Once all the patients were gathered in one database, they were able to stratify patients into three groups, based on their HbA1c levels. One group was doing fine, one was borderline and sent to Diabetes Improvement Program classes, and those who were truly complex, with levels above 10%, generally were sent to the endocrinologist.

The Results Are In



The approach was a win from all angles. Both PCP and patient satisfaction surveys were excellent. The physicians felt like they had the support they needed to provide the best possible care for their patients and a place close by to send their patients for more comprehensive treatment, should the

need arise. Patients in the improvement program expressed satisfaction because they had the tools and the knowledge to manage their own care.

More than 1,000 patients have completed the Diabetes Improvement Program at Vanderbilt. The mean HbA1c for patients going into the program was 9.3%. After three months, the average was 7%.

Dr. Graber thoroughly subscribes to the PCP-managed approach to diabetes care and views supporting primary care as an appropriate use of an endocrinologist's time, "One endocrinologist, with proper support from nurses and dietitians and a proper organizational framework can support several PCPs. The endocrinologist doesn't have to see all the patients, but can train and supervise the nurses and just see the selected difficult patients in consultation. It's better than trying to compete with a PCP and there aren't enough endocrinologists to see all the patients in any event." Dr. Graber said.

"What we're trying to develop here is a model that could be used in the private sector," Dr. Graber added. "The patients come from the same environment and have the same type of insurance. We just happen to have a group of 25-30 PCPs on site."

Quinn and Dr. Graber both acknowledge that it's not always easy to get reimbursed for providing this kind of care, but believe there's a strong business case to be made. "We know that it costs a lot more to care for a diabetic who is not in good control. A patient who goes to the emergency room and ends up in the hospital is a lot more expensive to the system than somebody you've been managing, where problems can be nipped in the bud. That's not even mentioning the patients' quality of life," Quinn explained.

"In a capitated environment, you might as well shoot yourself in the foot if you don't manage diabetic patients," Quinn said. "If you're in fee-for-service and you want to grow your practice, you want to take better care of your patients. With a program like this, we can show how well our patients are cared for, and that's not a bad thing to take to the negotiating table with a health plan."

The overall success of the program means other chronic diseases are on the drawing board at Vanderbilt. "This method would work for any condition that requires PCPs and specialists to work together, from congestive heart failure to low back pain," noted Dr. Graber. ●

Patients in Vanderbilt's Diabetes Improvement Program are satisfied because they have the information they need to manage their own health conditions and the vast majority rate the care they receive as excellent.



Reversing the Trend

CHRONICALLY ILL SENIORS' HEALTH IMPROVES IN COMMUNITY PROGRAM

People clearly are living longer these days but with the increased incidence of chronic disease, the goal of the Senior Wellness Project is to make sure that they're also living better. The brainchild of one of the senior centers of Senior Services of Seattle/King County, the Senior Wellness Project embodies two of the Chronic Care Model's key elements: patient self-management and community resources.

Senior Wellness Project SENIOR SERVICES OF SEATTLE/ KING COUNTY, WASHINGTON



Marianne LoGerfo, M.S.W., Director of the Northshore Senior Center in Northeast Seattle, realized that there was a vacuum of services for older adults who were becoming more frail and needed to better manage their health on their own. In 1996, Northshore joined forces with two health maintenance organizations and the University of Washington and developed a one-year, senior center-based chronic illness self-management and disability prevention program. Their project focused on health, the ability to function, and the utilization of health care services among frail older adults.

When the program was evaluated by a randomized controlled study, the results were astonishing. The 100 program participants, age 70 and over, with one or more chronic conditions, decreased their

hospitalization by 38%, compared to an increase of 69% in the control population that didn't participate in the program.

"The study results confirmed our belief that a program like this could be extremely effective," noted Susan Snyder, M.S., Project Director for the Senior Wellness Project, Senior Services of Seattle/King County.

Clearly, it was time to extend the program to additional facilities.

Since the mid-90s, the Senior Wellness Project has evolved and spread to 32 sites in Washington state, four each in California, Maryland and Michigan and two each in Maine and New York, and Sweden. The project features three main components:

- Health Enhancement Program
- Living a Healthy Life with Chronic Conditions Workshop
- Lifetime Fitness Program.



ORGANIZATION
OF HEALTH CARE



PATIENT
SELF-
MANAGEMENT



COMMUNITY
RESOURCES

Health Enhancement Program

The one-year Health Enhancement Program, the core of the Senior Wellness Project, is offered in senior centers and public housing facilities. Characterizing it as a health behavior change program, Snyder said the key is putting individuals in the driver's seat and letting them choose their own goals. That's a hallmark of the self-management approach of the Chronic Care Model, and it's one that often takes some re-thinking on the part of providers.

But the payoffs can be great.

In her four years of experience staffing the Health Enhancement Program, Sabina Kane, R.N., Senior Wellness Project Clinical Supervisor, learned to honor people's choices. If a participant was an alcoholic and wanted to work on exercise, she went with that. "Once I figured out that the issues belonged to the participants and not to me, I slept better. Moving the power to change their health from me to them was a very good thing," she noted.

And an important lesson she learned was that if changes don't happen in people's lives, it's because they don't own the changes. Over the course of her work on the program, Kane learned from participants that they had good reasons for making the choices they made and that over time, more progress was made when her relationship with them developed out of mutual trust and respect.

The Health Enhancement Program begins with a comprehensive health screening to determine actual and potential health risks. The nurse then works with participants to select areas where they want to improve. Patients typically pick one or two goals and from those goals a computerized action plan is developed. The plan outlines participants' baseline scores and details the steps they want to take to achieve their goals. They receive health assessment questionnaires initially, at six months and at the end of the one-year program.

The nurse is available as support, and a social worker is on call for short-term individual counseling or to facilitate sup-

"A lot of older people
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The Senior Wellness
Project is a low-cost
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physician's practice."

port groups. Patient choices generally center on physical and social activity, chronic disease self-management, grief and loss, and depression.

"We found that this program is a resource for older adults in the community and for physicians who may not have the time to spend with participants. We can supplement what the doctor is doing by providing additional time to listen to the participants. We help older adults learn to improve their health and to better manage their health on their own," said Snyder.

Social connections, disease self-management and physical health are the Health Enhancement Program's three main areas of focus. That makes the senior centers and public housing facilities ideal venues, since a variety of programs typically are available. "If people don't want to sign up for a group exercise class, they can participate in a walking program, or follow an exercise program on television," Snyder noted. "We want them to learn that there are resources in the centers and in the community that can help them maintain and also improve their health as they age."

A special feature of the Health Enhancement Program is peer health mentors. Snyder said mentors are older adults, typically managing their own chronic conditions, who volunteer to be matched up with participants in the program. They provide support and en-

couragement in helping participants reach their health goals.

Kane pointed out that mentoring can be good for both parties. She remembered one participant who had a stroke, walked with a cane and was having difficulty with her memory. Her family was close to placing her in an assisted living facility, but the woman didn't want to move out of her own home. Then, she joined the Health Enhancement Program. "She decided to attend the Lifetime Fitness exercise class," Kane said. "She was such a magnet that four or five other people joined the exercise program with her."

The woman ended up impacting not only her own life, but also those of five or six other people. Kane said she's still living on her own and lends a welcoming hand to new people in the group.

Another eventual mentor started the program with such an acute anxiety disorder that he couldn't even sit still in a chair. New to the area, he hooked up with a volunteer mentor and began going to exercise classes. He and his wife both made friends in the class. Kane said he blossomed so much that he began mentoring people with memory problems. "He spoke to a small group of nurses about the value of being a mentor. He's now able to go on trips, which he hadn't been able to do for years. He attributes that to the program," she concluded.

"The Health Enhancement Program is the most rewarding job I have had in my 30-year career," Kane added.

Living a Healthy Life with Chronic Conditions Workshop



The Living a Healthy Life with Chronic Conditions Workshop, the second component of the Senior Wellness Project, consists of group classes that zero in on self-management techniques. Led by trained volunteers, the six-session workshop originated at Stanford University's Patient Education Research Center. A program to help seniors with chronic conditions cope with issues including lifestyle changes, fatigue, medications, communication skills, pain

and depression, the impacts it can have on participants' lives can be remarkable.

"When I entered the class, I was on oxygen 24 hours per day," related program participant Edna Olsen, a resident of Vashon Island, outside of Seattle. "I had started working on managing my condition, but I didn't have a well-planned program. The action plans and problem-solving techniques we learned in the class really helped."

One big change for Olsen was learning how to improve communications with her doctor. "Before I took the class, when I went to visit my doctor, he would say how are you, and I would say, fine. I was so flustered." Now she goes to doctor visits prepared, and their relationship is vastly improved.

One of the keys to the workshops is that they are always run by two trained leaders, at least one of whom has a chronic disease and isn't a health professional. The goal is to create an environment in which participants provide support to one another and build confidence in their ability to manage their health and stay active. Subject areas include:

- Ways to handle frustration, fatigue, pain and isolation

The Lifetime Fitness Classes are designed for older adults with a wide range of physical abilities. *(photo by Susan Snyder)*



"This class gave me

the tools not only to

take control of my

health, but to take

control of my life."

- Appropriate exercises for enhancing strength, flexibility and endurance
- Appropriate use of medications
- Communicating effectively with family, friends and health professionals
- Nutrition
- Evaluating new treatments.

"The Living a Healthy Life with Chronic Conditions class built my self worth. This class gave me the tools not only to take control of my health but to take control of my life," added Olsen. She now co-leads the Living a Healthy Life workshops herself.

Lifetime Fitness Program



The final aspect of the Senior Wellness Project is a tested exercise program, which works well in conjunction with the other two parts of the Project.

For example, the six-week chronic conditions workshop motivated participant Olsen to join The Lifetime Fitness Program, where she began riding her stationary bicycle and walking two or three times a week. Olsen went on to lose 50 pounds, bring her blood pressure under control, and no longer need supplemental oxygen. Her life is now filled with social and community activities.

The Lifetime Fitness Program is an evidence-based, low-cost program designed to improve physical conditioning levels and to decrease the risk of falling. Sessions run for five weeks, three classes per week and offer exercises to improve strength, balance and range of motion.

Exercise instructors are specifically trained to work with seniors, and nationally recognized senior exercise experts regularly review the program. It's designed so that seniors with a wide range of physical abilities are able to participate. The program is a partnership between Senior Services, Group Health Cooperative, and the University of Washington's Health Promotion Research Center.

Spreading the Senior Wellness Project



Snyder continues to work with the physician community to highlight the Senior Wellness Project and the three components of the program to generate more referrals. "Once physicians have participants in our program, they're happy. They see the program has a positive impact on their participants' health."

Obtaining funding for the program has been challenging, and over the years Snyder has pursued a variety of grants. The Robert Wood Johnson Foundation and local foundations have been major funding partners over the past three years. The program now has a strong partnership with the University of Washington's Health Promotion Research Center, and its staff is helping them evaluate the program's effectiveness. As the Senior Wellness Project sends data to the University, they learn from the physician's viewpoint what they need to be incorporating to make it a stronger program in the view of health care providers. The Senior Wellness Project also received a grant from the Robert Wood Johnson Foundation to support evaluation and dissemination of the project. "They feel that it's a strong project because of our interventions, and they want to know if it works as well in other populations and settings," Snyder said.

In the meantime, thousands of participants have improved their function and their outlook on life. "A lot of older people are living on their own with no support system. The Senior Wellness Project is a low-cost complement to a physician's practice," Snyder pointed out. •

Resources and Suggested Reading

In a field as dynamic as that of chronic illness care, any written resource guide faces the threat of obsolescence almost as soon as it is published. In the entries below we have included some of the seminal published works in chronic illness care and a few of the key web sites to watch as the field evolves. Web sites included range from Federal agencies active in this area to groups with a commitment to chronic illness improvement, and sites oriented to the patient. As the field evolves and the publications and useful web sites grow, we will continue to provide updated information on the web site for Improving Chronic Illness Care:

<http://www.improvingchroniccare.org>

HOW TO USE THE ICIC WEB SITE

Improving Chronic Illness Care's web site is designed to help health care professionals improve care for patients with chronic illness. It provides an in-depth model of health system change that re-orient practice to chronic illness management within the current acute care setting. There are quality improvement resources to accelerate this system change and practical clinical tools for managing multiple chronic illness populations. To get started, go to the link above and click on first-time user.



Web Sites to Watch

FEDERAL AGENCIES

National Library of Medicine at the National Institutes of Health (NLM) MEDLINEplus

<http://www.nlm.nih.gov/medlineplus/>

MEDLINEplus brings together, by health topic, authoritative information from NLM, the National Institutes of Health (NIH), other government, non-profit and other health-related organizations. Preformulated MEDLINE searches are included in MEDLINEplus and give easy access to the medical research literature. It also provides a database of full-text drug information and an illustrated medical encyclopedia.

National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control

<http://www.cdc.gov/nccdphp/index.htm>

The CDC web site contains information about chronic diseases and conditions, lists of publications from the National Institutes of Health and links to other sources of health information, health and education agencies, major voluntary associations, the private sector and other federal agencies.

GROUPS COMMITTED TO QUALITY IMPROVEMENT IN HEALTH CARE

Picker Institute

<http://www.picker.org/>

Although designed primarily for professional health care providers, Picker's web site offers insightful ideas for quality care that are equally useful to consumers. Check out *New visions: ideas worth sharing*.

Institute for Healthcare Improvement

<http://www.ihl.org>

The Institute for Healthcare Improvement (IHI) is a not-for-profit organization created to help lead the improvement of health care systems. Their web site features their public events, such as health care forums and educational offerings, collaborative improvement efforts, and redesigning the health care system.

Health Disparities Collaboratives

<http://www.healthdisparities.net>

The Health Disparity Collaboratives are an effort of the Health Resources Services Administration to reduce disparities in health outcomes for poor, minority, and other underserved people. The web site includes information about current collaboratives, assistance for clinicians and senior leaders, as well as links to sites for patients. As of December 2001, the Health Disparity Collaboratives have reached over 300 community health centers and 38,000 patients.



PATIENT INFORMATION

Johns Hopkins Library, Evaluating information on the internet

<http://www.library.jhu.edu/elp/useit/evaluate/index.html>

This site contains a tutorial on evaluating information on the internet. It covers authorship, bias, propaganda, misinformation, disinformation, verifiability, and currency of material.

National Institutes of Health, Health Information

<http://www.nih.gov/health/>

The NIH page contains health information, research opportunities, drug information, health literature, links to other government agencies and information on special programs, such as minority health and alternative and complementary medicine.

InfoNet

<http://infolnet.welch.jhu.edu/advocacy.html>

InfoNet from Johns Hopkins Medical Institutions offers an extensive list of advocacy and self-help organizations. It includes direct links to many advocacy and information groups, such as the American Cancer Society, American Heart Association, American Diabetes Association and others.

Internet Resources for Health Education and Health Promotion

<http://www.gwumc.edu/library/Hpdp.htm>

This site contains a selected bibliography of Internet resources on health education and promotion. It was compiled by the George Washington University Medical Center.

National Guideline Clearinghouse

<http://www.ahcpr.gov/>
1-800-359-9295 (Publication Clearinghouse)

Consumer information on specific health conditions, surgery, prescriptions, health plans and other health care issues. From main page, click on "consumer health."

healthfinder®

<http://www.healthfinder.gov/>

healthfinder® is a free guide to reliable consumer health and human services information, developed by the U.S. Department of Health and Human Services. healthfinder® can lead you to selected online publications, clearinghouses, databases, web sites, and support and self-help groups, as well as government agencies and not-for-profit organizations that produce reliable information for the public.

Published Literature

Calkins E, Boulton C, Wagner EH, Pacala JT, editors. *New ways to care for older people: building systems based on evidence*. New York, New York: Springer Publishing Company, Inc., 1998.

This book describes innovations in care of the elderly, including programs for prevention, health promotion, and frail elders. Chapters include application of the Chronic Care Model to elder care, the role of the older person in managing illness, caring for older persons in both acute and long-term settings and integration of care across settings, as well as care for the dying. Quality assurance in health care and Medicare and changes in health system infrastructure are also addressed.

Clark NM, Gong M. *Management of chronic disease by practitioners and patients: are we teaching the wrong things?* BMJ. 2000 Feb 26;320(7234):572-5.

Using asthma as an example, Clark and Gong describe the quality of education that underlies bridging the gap between research and practice in managing chronic illnesses. The authors depict the quality of partnership between patient and physician that is necessary for disease control, discuss the self-regulation model that has successfully changed patient behavior and outcomes, and suggest techniques providers can employ to establish such partnerships.

Committee on Quality of Health Care in America: Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press, 2001.

This report from the Institute of Medicine focuses on how the health care delivery system can be redesigned to improve care. It offers a new perspective on the purpose and aims of health care systems and describes how patients and their clinicians should relate, and how care processes can be designed to optimize responsiveness to patient needs. It offers principles and guidance for redesign that represent fundamental changes in the way the system meets the needs of people it serves, focusing not only on health care organizations, but the environment in which these organizations function. It proposes six aims for improvement to occur that address key dimensions in which today's health care system functions at far lower levels than it can. Health care should be safe, effective, patient-centered, timely, efficient, and equitable. Finally, it makes a series of recommendations regarding optimal care.

Langley GJ, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. San Francisco: Jossey-Bass Publishers, 1996.

This book describes the Model for Improvement that has been the basis for quality improvement in the Breakthrough Series Collaboratives. It illustrates the fundamental questions for achieving improvement in a variety of settings and outlines skills to support improvement. These skills include using data for improvement, developing and testing change concepts, implementing change and working with others to make the change system-wide. It contains case studies as examples of improvement efforts, and guidance for both implementers and leaders in establishing an environment conducive to building a culture of improvement.

Lorig KR, Sobel DS, Stewart AL, Brown BW Jr, Bandura A, Ritter P, Gonzalez VM, Laurent DD, and Holman HR. *Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial*. Med Care. 1999 Jan; 37(1):5-14.

This is the definitive randomized controlled trial of a lay-led self-management program designed for a heterogeneous group of chronic disease patients. Participants who received the six-week intervention, when compared with wait list controls, showed improvement in health behaviors such as frequency of exercise and improved communication with physicians, as well as improved health status and reduced hospitalization.



Renders CM, Valk GD, Griffen SJ, Wagner EH, van Eijk JT, and Assendelft WJJ. Interventions to Improve the Management of Diabetes in Primary Care, Outpatient and Community Settings. *Diabetes Care*. 2001 Oct; 24(10):1821-33.

This review summarizes effective interventions in office practice for patients with diabetes. Interventions were characterized as targeted at health professionals, reorganization of care, or patient education. Findings indicated that postgraduate education combined with organizational strategies that increase structured recall arrangements for follow-up improves the process of diabetes care. The addition of patient education or a more enhanced role of the nurse were critical aspects of programs that improved patient outcomes.



Rich MW. Heart failure disease management: a critical review. *J Card Fail*. 1999 Mar; 5(1):64-75.

Heart failure hospitalization rates remain high despite effective pharmacotherapy. This article reviews the literature on multidisciplinary disease management programs to improve the psychosocial, behavioral and financial factors that impede effective compliance with prescribed treatment. There is convincing evidence that such programs are effective in reducing hospital admissions and days, improving quality of life, functional capacity and patient satisfaction, as well as enhancing patient knowledge and adherence with medications and diet. Limited cost data also suggest that such programs are highly cost-effective and in some cases cost-saving.

Wagner EH, Austin BT, and Von Korff M. Organizing care for patients with chronic illness. *Mil Quarterly* 1996; 74(4): 511-544.

This article was the genesis for the development of the chronic care model. It discusses the differences between the acute care-oriented health care system and the needs of people with chronic conditions and offers an analysis of the system components that underlie good chronic care.

Wagner EH, Glasgow RE, Davis C, Bonomi AE, Provost L, McCulloch D, Carver P, Sixta C. Quality improvement in chronic illness care: A collaborative approach. *Joint Commis J Qual Improve* 2001; 27: 63-80.

This article describes the first Chronic Illness Breakthrough Series Collaborative including the Chronic Care Model, the Model for Improvement, and the results received from the first collaborative. It gives examples of the most common and especially innovative changes attempted by the participating health care teams and reports on successes and challenges they experienced in trying to deliver truly patient-centered, evidence-based care.

FOR ADDITIONAL INFORMATION ON THE QUALITY IMPROVEMENT PROJECTS
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Rivaling Private Care Community Health Centers Meet the Needs of the Urban Poor

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Full Court Press An Integrated System Tackles Chronic Illness Care

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Connecting the Dots Health Plans' Pivotal Role in Chronic Illness Improvement

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Primary Care in the Driver's Seat Re-configured Relationships in an Academic Setting

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Reversing the Trend Chronically Ill Seniors' Health Improves in Community Program

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