

Disease Management and the Internet

In this month's piece we describe efforts to integrate the Internet and wireless technology into traditional disease management (DM) programs, and the subsequent benefits and difficulties associated with the process.

Disease management is defined as a systematic method of organizing and directing health care services to a specific population of patients who share a common disease. The goals are to manage the condition over time, improve outcomes and lower costs, through patient and provider education, clinical guidelines, patient monitoring, and outcomes assessment. (For further information on disease management, please visit our Disease Management module at the TMCI Center for Online Learning)

As the health care industry continues to experience rapidly escalating medical costs and the chronic disease population continues to grow, implementing new technologies into traditional "bricks and mortar" DM programs has been promoted as a way to increase their quality and efficiency. This newly derived efficiency, in theory, would ultimately reduce the rate of inpatient hospitalization, the usage of emergency room services, and the number of physician office visits. The decrease in utilization rates would reduce medical and administrative costs and provide economic benefits to payers and patients. At the same time, technology applications can help patients maintain their health and improve clinical outcomes.

While DM programs have proven effective, challenges to widespread implementation persist. Some physicians and other clinicians have resisted DM programs for their patients, in part due to problems

with external and internal communications. Current disease management systems rely upon a wide network of communications, among physicians, case managers, health plan staff, patients and families, and others, telephone, mail, and e-mail. Managing and treating patients across the continuum of care, regardless of the site of care, is difficult, especially if they change their health plans. Also, data retrieval systems for DM programs sometimes struggle to provide the provider teams with the performance measures they need to ensure the best quality of care for their patients. As DM sponsors strive to improve their programs, they are now also trying to convince physicians and other clinicians that the new Web-based DM programs will improve the quality of care of their patients while not placing added burdens on their daily practices.

Another key issue for physicians and providers regarding new DM programs is the question of reimbursement. In May 2000, First Health, a national health-benefits company headquartered in Downers Grove, IL, became one of the first health plans in the nation to reimburse providers for e-care communications under specific circumstances. More insurers and health plans are now evaluating their reimbursement policies for e-care, e-mail communications, and other online services.

Patients also have had reservations regarding Web-based DM programs. According to a survey conducted by American Healthways, patients still overwhelmingly prefer the telephone over the Internet as the primary, more personal means of communication with their health provider. An additional concern is

patients' access to the Internet and e-mail at home: according to the Commerce Department, only forty to forty-five percent of Americans have Internet access at home and/or outside of the home. (Falling Through the Net: Toward Digital Inclusion, October 2000). Moreover, many homes in rural areas and low-income households will be unable to obtain Internet access.

The process of integrating new technologies, such as wireless communications, and the Internet has been fractured and disjointed. Some companies have focused on securing doctor-patient messaging, and others have focused on facilitating access to electronic medical records by patients and/or physicians. A single company has yet to emerge that synchronizes both patient-empowered and physician-guided services, to incorporate all the technologies necessary for a comprehensive DM program: two-way physician messaging, patient data and select content, electronic prescribing, case management alerts, and electronic medical records.

In the meantime, a number of health care companies are applying new systems and solutions to their DM programs. The following is a list of selected findings in the literature regarding the unique solutions and some early successes in combining DM programs and wireless technology and the Internet.

- Anthem Blue Cross Blue Shield of New Hampshire, and Confer Software, Inc., Redwood City, CA: Anthem wanted to leverage its internal records to create an eCare system to automate and optimize its disease management programs. Using an Internet-based disease management application developed by Confer Software, Inc., enrollment in the plan's CHF program more than doubled, and an additional 422 members with CHF in their

commercial population were identified. The program has been so successful that other DM programs, such as diabetes, are going to be automated.

- PacifiCare Health Systems, and Health Hero Network, Inc., Mountain View, CA,: Patients with CHF already enrolled in PacifiCare's DM programs were given a small, inexpensive device called the "Health Buddy." "Health Buddy" looks like a small clock radio, plugs into a telephone jack in patient's homes, and questions patients regarding their weight, medication compliance, clinical symptoms, and functional indicators each morning. The data are sent electronically, sorted, and followed up by a case manager if needed. This new addition to PacifiCare's CHF disease management program helped to cut inpatient hospitalizations in half and slashed ER visits by 73 percent. This resulted in an average savings per patient of \$5,271 and showed a 200 percent return on investment for PacifiCare.
- Highmark Blue Cross Blue Shield, Pittsburgh, PA, and CorSolutions, Inc., Buffalo Grove, IL: Highmark looked to implement a DM program, especially for congestive heart failure, and selected CorSolutions, then named Cardiac Solutions. CorSolutions' approach is based on the MULTIFIT care delivery methodology developed by Stanford University in cooperation with Kaiser Permanente. A nursing call center, using a proprietary software system, identifies health plan members with the covered conditions. The patient and physician are contacted and the patient is enrolled into the program after completing questionnaires regarding medical history, diet, and exercise habits. Each enrolled patient is assigned a CorSolutions nurse in order to facilitate a strong personal

interrelationship. A selected population of Highmark BCBS members with CHF were enrolled in a six-month pilot program and the results were impressive: hospital admissions declined by 60 percent, and 58 percent of patients are now taking their medications at what is considered an optimal level. Another important point is that physicians had a 75 percent satisfaction rate with the program, and family member satisfaction was above 90 percent.

- CIGNA HealthCare, Bloomfield, CN, and American Healthways, Inc., Nashville, TN: During 1997, CIGNA had 87,000 members with diabetes; although they accounted for only 3 percent of the health plan's total membership, their medical costs compromised 17.5 percent of total costs. Over a 3-month period, American Healthways worked with various CIGNA departments, including health services, provider relations, and customer service, to educate and integrate CIGNA's systems with American Healthways' PopulationWorks software. Next, physicians and CIGNA diabetes patients were educated concerning the new diabetes program, Well Aware. In 1998, CIGNA's new diabetes program, Well Aware, achieved a \$38 per diabetic member per month education in health care costs and reduced hospital admissions by 6 percent.

References

- Byrnes J. A revolutionary advance in disease management. *Healthcare Leadership & Management Report*. January 2001;14-20. Completing the disease-management loop (News and Trends: Web disease management). *Healthcare Informatics*. August 2000;17(3)
- 18-22. www.healthcare-informatics.com/bissue.htm
- Disease management. Success stories. *Healthcare Business*, June 2000. www.healthcarebusiness.com/archives/healthcarebusiness/0600/dm-index.html
- Internet-based disease management poised for take-off. *Managed Care Week*; July 10, 2000: 4-6.
- Jackson RA. Internet and telephone-base Congestive Heart Failure program as effective as and cheaper than traditional one. *Report on Medical Guidelines & Outcomes Research*. February 22, 2001;9-12. Joch A.
- Can the Web save disease management? *Healthcare Informatics*. March 2000; 17(3): 58-64. www.healthcare-informatics.com/bissue.htm
- Kastel J. Conference highlights questionable aspects of online disease management. *The Executive Report on Physician Organizations*. December 2000;3(12):1-8. U.S. Department of Commerce, Economics & Statistics Administration.
- Falling Through the Net: Toward Digital Inclusion; A Report on Americans' Access to Technology Tools, October 2000. www.esa.doc.gov/fttn00.pdf, or www.esa.doc.gov/fttn00.htm
- Use the Internet to enhance disease management and reduce costs under capitation. *Capitation Management Report*. March 2001;39-40.