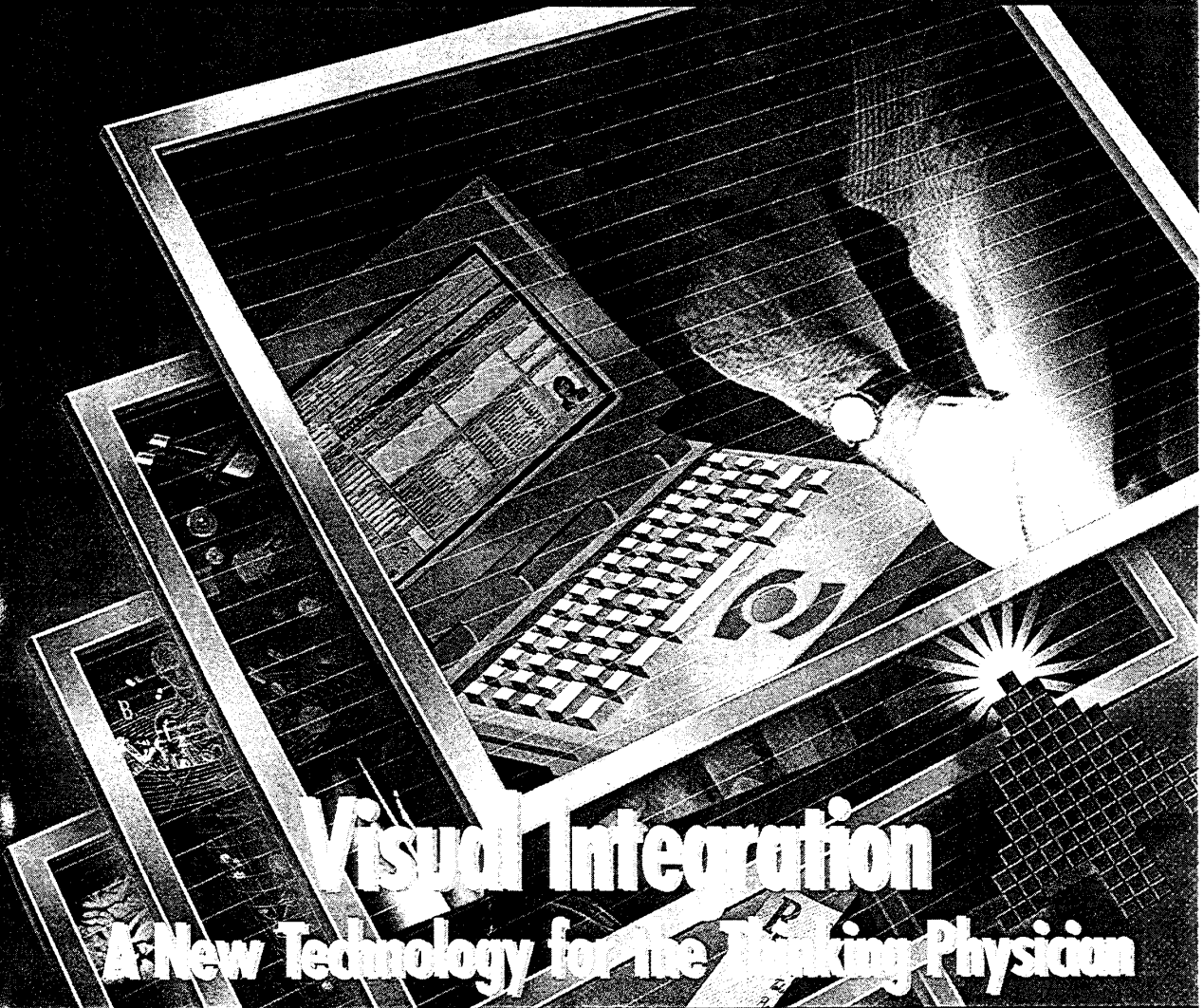


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# MD Computing

The Leading Edge in Medical and Healthcare Informatics



## Visual Integration A New Technology for the Thinking Physician

**SPECIAL SECTION: ANNUAL DIRECTORY OF MEDICAL SOFTWARE AND HARDWARE VENDORS**

Wireless Technology Transforms Healthcare • eHealthcareWorld Conference Report

Positive Outcomes, Lower Costs • Security Threats From Within

Improving the Dissemination of Healthcare Information • Biomedical Computing and Informatics



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lyzing trends, and communicating with specific patients.

Care managers monitor their patients' ongoing conditions on a daily basis, often educating each patient on ways to better manage their health. Patient responses to care managers' questions (sent via the Health Buddy to Health Hero's Website) are presented graphically. This allows managers to quickly and easily assess their patients' signs and symptoms, behavioral activities, and trends so they can focus on people under their care whose conditions require closer attention (see Figure 2).

### The Health Buddy links patients to their care management team via the Internet.

The Health Hero service is a flexible, customizable platform that can be used in any setting for any disease or combination of diseases. It is currently being used in a number of congestive heart failure programs around the country, as well as in programs for asthma, postcardiac surgical patients, patients with comorbidity, and geriatric wellness.

#### The Case of "Mitch"

Mitch Brown\*, a 68 year-old man with congestive heart failure, diabetes, and hypertension, is hospitalized for chest pain and shortness of breath. These episodes occur almost monthly, often triggered by Mitch's failure to take his medications or follow his prescribed diet.

During a two-day hospital stay at Mercy Heart Institute, doctors examine Mitch and rule out an acute cardiac ischemic event, modify his medication regimen, and provide him with additional counseling on the importance of a low-salt diet. But before Mitch goes home this time, he is given a Health Buddy and trained on how to use it.

Now Mitch is linked to his care management team via the Internet. Each day, he receives personalized guidance on self-care, reminders to take his medicine, and information on how best to manage his three chronic diseases. He also uses the Health Buddy to receive and respond to questions from the Mercy Heart Institute

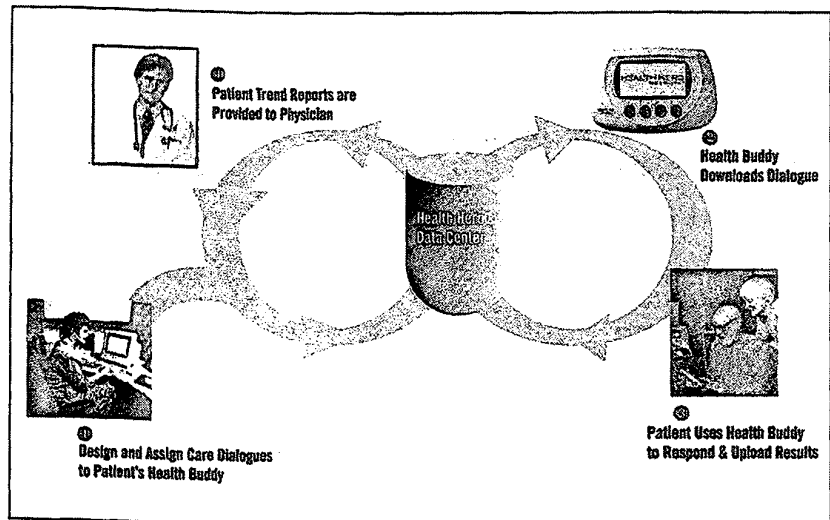


Figure 2. The Health Hero Network is a unique Internet-based communications link between chronically ill patients at home and their healthcare providers. Working from the Health Hero Network Website, a healthcare provider (1) is able to send daily, preprogrammed inquiries to the patient's Health Buddy (2), which then prompts the patient to respond. The Website's software compiles the information received back from the patient (3) and focuses the healthcare provider's attention (4) on those patients whose conditions require attention. Source: Health Hero Network, Inc.

care management nurse about any symptoms he may be experiencing. The nurse reviews his answers daily by accessing a secure Website provided by Health Hero Network, Inc. Specific alerts and reminders, guided by preestablished protocols, are sent to Mitch via the Health Buddy. In situations that are particularly urgent or complex, the care team can connect with Mitch continuously or schedule a home or office visit.

A year passes. Mitch, who is being supervised by Richard Miller, M.D., director of the Mercy Heart Institute and Mercy's care management programs, hasn't been hospitalized since. Moreover, he has a greater sense of confidence in his ability to manage his own diseases while feeling secure in being in constant contact with his care management team.

#### Conclusion

Disease management and care management systems provide practices with many key value components, including cost-effective approaches to managing large populations, reliable outcomes assessment and management tools, centralized data management and retrieval, and patient follow-up and case management by exception.

Technology-driven disease management, as demonstrated by communications platforms such as Health Hero, helps care managers provide low-cost, proactive healthcare by freeing them from the burden of manually monitoring patients under their care. This enables

### Net-based care management is closing the gap between patient and provider.

managers to focus on patients who are most in need and enhances their ability to identify potential problems before expensive intervention is necessary. The end result: cost reduction and improved patient outcomes—the primary goals of practice management.

\*Mitch is fictional, but the case described in this article is based on the actual experiences of Health Buddy users. ©

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## Positive Outcomes, Lower Costs: Using Net-Based IT to Manage Care

Joan M. Kiel, Ph.D. with Julie C. Cherry, R.N., M.S.N.

Healthcare has always been a document-driven enterprise. In the past, if practitioners failed to document their procedures, they were not paid for their services. The same holds true today, but now there's an added burden: With managed care, the restrictions have become tougher. Not only do services have to be documented, physicians must also demonstrate positive health-status outcomes. New Internet-based platforms have helped facilitate the documentation process in care management. Now, Internet-based technology is being employed to improve patient outcomes and reduce costs as well.

### Staying Within the Lines

Outcomes management, care management, and disease management are the terms used to describe the protocol of services that will result in providing the highest quality care at the lowest cost for treating a particular diagnosis. The field of care management itself is based on the collection and analysis of data and the development of multidisciplinary inter-

### The Internet creates an ideal platform for disease management applications.

ventions to treat a diagnosis. For example, let's say data collected statewide show that the average hospital stay for a 50-year-old male with Chronic Obstructive Pulmonary Disease (COPD) is 4.2 days with a readmission rate of less than 3 percent. However, your practice's average length of stay for COPD patients is 5.0 days with a readmission rate of 10 percent. Therefore, you can conclude that given similar populations, you need to reengineer your practice's service delivery—in other words, reassess the "management" of outcomes based on those averages. Insurers use this data to dictate the maximum length of stay they will pay for; thus, they will not reimburse providers that exceed the limits. What's more, providers can be disenrolled from networks if they don't meet the minimum positive outcomes. That's why informa-

tion technology such as McKessonHBOC's Compliance Advisor software, for example, can help in both instances—monitoring the length of treatment and patient outcomes to help practices stay within the lines drawn by insurers.

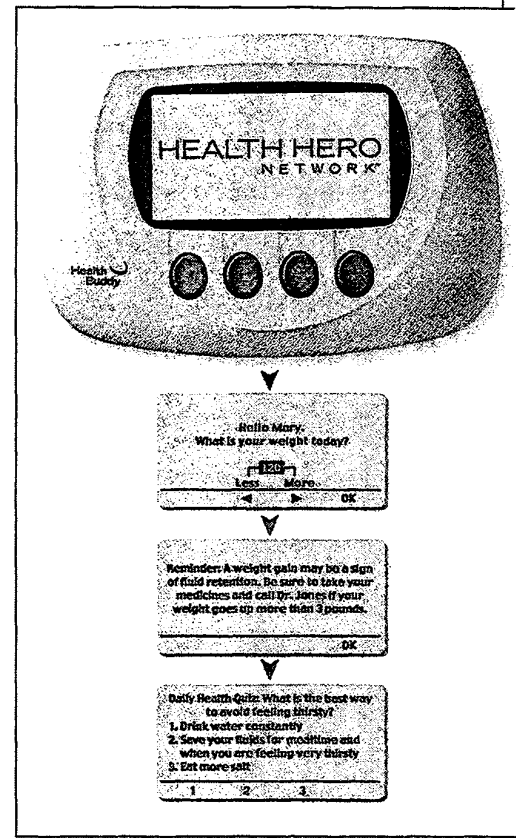
Another major aspect of managed care and care management is the necessity of providing quality care within the per-member-per-month (pmpm) capitation rate. The challenge here is in caring for the patient while trying to save money and provide treatment in the lowest cost setting. One of the keys to ensure compliance with treatment regimens lies in communicating with the patient and their family. Recent developments in information technology have enhanced the care management process, helping healthcare providers communicate with—and therefore, better manage—patients with chronic illnesses. Of particular note, Internet-based technology is making this easier. The Internet creates an ideal platform for disease-management applications that improve both outcomes and population management by facilitating communication between patients and providers.

### Net-Based Care Management

One product borne out of the concept of Net-based care management has been developed by Health Hero Network, Inc., an innovative Internet company in Mountain View, California. The company has taken care management, which typically involves, for example, weekly phone calls to the patient, one step further by closing the gap between patient and provider and enabling daily communication between them.

This is how it works: The exchange of information occurs through the Health Hero service, a two-way, Internet-based communications platform that connects care providers and patients at home. They stay in contact using a personal information appliance called the Health Hero Health Buddy, an easy-to-use, four-button appliance provided free of charge to patients in care-management pro-

grams (see Figure 1). Connected only to a phone jack, it gives patients a simple and convenient way to automatically receive healthcare information and respond to queries from their caregivers on a daily basis. This perpetual dialogue helps patients feel more informed and in control of their conditions while at the same time providing healthcare profes-



**Figure 1. Health Hero's Health Buddy, which sits at the point of self-care in the patient's home, provides the patient with a simple and convenient way to automatically receive healthcare information and respond to queries from care managers on a daily basis. Source: Health Hero Network, Inc.**

sionals with ongoing and timely health information about their patients. The service gives caregivers access to Health Hero's secure Internet-based network, which hosts a set of flexible, Web-based tools for managing both single disease and comorbid patient populations, ana-