

Virtual Mentor

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VIEWPOINT

Revolutionizing House Calls: Home Health Care Technology

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The Japanese engineers of Matsushita Electric, the parent company of Panasonic, recently launched a prototype series of home health care devices that will give new meaning to the term "house calls." Set to enter the market in 2005, these devices will add to the collection of technologies that have already begun to revolutionize the practice of medicine by altering how and where health care is delivered. For instance, home health care devices already enable diabetic patients to monitor their glucose levels regularly and adjust their insulin dosages, while patients with pacemakers use equipment to transmit electrocardiographic information over the telephone lines to their physician's offices. These devices allow physicians of chronically ill and disabled patients to manage their care in the convenience of the patients' homes and communities.

When one thinks about medical care, however, bathroom fixtures do not immediately come to mind. Take the mundane toilet, for example. Matsushita has added a variety of features to the traditional porcelain bowl, one of which is a health-monitoring seat that measures weight and body-fat ratio. It can also check heartbeat, blood pressure, and glucose levels. The results are automatically sent to the patient's doctor via the Internet, enabling him or her to monitor the patient's physical well-being. At the same time, patients can keep track of their data in the medical records stored in their home network server.¹

Another unique medical innovation is the Matsushita bathroom mirror. Equipped with sensors that take infrared pictures of one's hair and skin, the mirror then makes treatment recommendations for any hair and skin problems. The "mirror" records the diagnosis in its data banks and dispenses mineral waters in varying degrees of acidity to best suit one's needs.²

A third new product is the tele-homecare system, which allows patients to receive medical check-ups at home. The system, which has a videophone component for patient-physician consultations, enables patients to send general health data, such as vital signs, to their doctor's terminal. They can also order and receive screening tests, such as electrocardiograms, at their doctor's request.

These health care innovations appeal to the consumer's desire for convenience and peace-of-mind. No more inconvenient trips to the doctor's office, waiting for appointments, or worrisome days until lab results return. The peace-of-mind comes

from knowing that a doctor is monitoring one's daily health status and will be able to detect early signs of disease.¹ Patients can track their own health status in monthly reports that summarizes their daily conditions.³

Storing medical records in electronic data banks not only makes them more accessible to one's primary physician but also facilitates efficient exchange of medical information among groups of doctors. Electronic medical records reduce paperwork and relieve clogged phone lines.⁴ Through elaborate security systems, e-records may be even more secure than paper records. Access to electronic records can be monitored, while paper records can be stolen, faxed, or copied without leaving a trace.⁵

These devices in no way replace the roles of the doctor as a caregiver and diagnostician. On the contrary, physicians have more data from which to observe patterns and trends in their patients' health status that may lead to unwanted conditions. With these data, physicians can be better prepared for patient visits, making better use of the time spent with the patient. With concrete data at hand, physicians will have a far better idea of what a patient means by, "Doc, I haven't been feeling well lately."

According to the World Medical Association, the goal behind home medical monitoring technologies is to provide the best medical care for the chronically ill and disabled population, while "maintaining their independence and maximum level of function in their homes and communities."¹ By facilitating a constant stream of information between the patient's home to the doctor's office, Matsushita's health-monitoring devices will help accomplish that goal.

References

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