Electronic Medical Charts Spreading Fast
– Remote Diagnosis via Broadband Communication –

By Okabe Hiroshi

A tissue sample taken out of a patient was carefully placed under an electronic microscope to determine whether it contains cancerous cells. The microscope was operated by a pathologist some 600 km away in Tokyo. While monitoring the clear images transmitted through broadband networks, the doctor needed only two-and-a-half minutes to make a diagnosis.

This is one of the scenes during an experiment with a remote pathological diagnosis system conducted by Nippon Telegraph and Telephone Corp. (NTT) and Iwate Medical University. With conventional systems that use still images, it takes about 25 minutes to give a diagnosis. The new system, which can transmit clear moving pictures, cuts the time of analysis by more than 90% and has also dramatically improved the accuracy of examinations. In Japan, specialized pathologists account for only 0.7% of all medical practitioners, and most of them are located in major cities. NTT, with the cooperation of local governments and other entities, plans to promote the broadband-based medical diagnosis system linking these pathologists with hospitals in regional areas.

Broadband-based medical technologies are increasingly taking root in Japan not only in medical examinations but in endoscopic operations using an abdominoscope that require a high level of medical techniques. Video images of operations by experienced surgeons are uploaded on the Internet and used to train doctors. A number of websites have been launched to exchange medical techniques between doctors. Information technology (IT) is becoming essential in distributing medical skills.

Medical Charts Confirmed with Home Computers

The electronic medical chart is another field that the government wants to emphasize in promoting the use of IT in medical services. It had been difficult for patients to gain access to the medical charts kept by doctors. The government hopes to make medical charts available over the Internet, as checks by patients may lead to a reduction in medical errors. This will also help to deepen informed consent with patients, and make it easier for them to obtain second opinions from other physicians. When a patient undergoes treatment at a different medical institution, the electronic medical chart system is expected to produce such advantages as a decline in duplicate medical examinations and appropriate follow-up care based on previous treatment. The government predicts that the electronic system will be a decisive factor in promoting medical efficiency.

The spread of the electronic medical chart system was, however, much slower than the government had expected because it involved the issue of patients' privacy. Doctors were also reluctant to disclose information on patients. The situation has dramatically changed now, and efforts to promote the widespread use of electronic charts have gathered momentum. This summer, a medical information system developer, which was established jointly by Sumitomo Corp. and medical institutions, started full-fledged services allowing patients to confirm the contents of medical charts with their home computers. Twelve major IT companies, including Fujitsu Ltd., NEC Corp. and NTT Data Corp., have joined hands with the Japan Medical Association to establish a consortium designed to help hospitals exchange the contents of electronic medical charts. In Tokushima Prefecture on Shikoku island, all major hospitals have launched, for the first time in the country, a new system that allows hospitals to exchange information on diagnosis, treatment and medication. The government has recently worked out a program that calls for more than 60% of large hospitals with 400 beds or more across the country to introduce the electronic medical chart system by the end of FY 2006.

Curbs on Growth of Medical Costs

The use of IT is also expected to hold down the nation's medical costs that are swelling due to the rapid aging of Japanese society. Under the nation's health insurance scheme, medical institutions are required to report patients' treatment results and medication information in order to receive medical treatment fees. So far, most of these reports have been made using traditional paper methods, and no sufficient checks on the adequacy of treatment have been conducted. Bill-padding practices by doctors have often been reported. The government plans to process 70% of medical receipts online by the end of FY 2006 to help curb the growth of national medical costs.

The online receipt processing system will help hospitals to sharply reduce the costs of clerical work and to obtain loans from financial institutions by using the estimated revenues from electronic receipts as collateral. The system is expected to dramatically transform hospital management. **JS**

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Doctors give a diagnosis by using the broadband-based medical system