Technological innovations in digital data management and changing roles of imaging specialists in Japan

Shigeru Ehara

Shigeru Ehara, Department of Radiology, Iwate Medical University School of Medicine, Morioka 020-8505, Japan

Author contributions: Ehara S contributed solely to this paper

Correspondence to: Shigeru Ehara, MD, Department of Radiology, Iwate Medical University School of Medicine, Morioka 020-8505, Japan. ehara@iwate-med.ac.jp

Telephone: +81-19-6515111 Fax: +81-19-6517071

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Abstract

Technical innovations in digital data management pose a threat to radiologists in that we remain in the process of clinical decision making or be assigned to a secondary role in future clinical practice. The value added to the imaging studies by diagnostic radiologists, or imaging specialists, has never been questioned more seriously.

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DECLINE AND FALL OF THE AMERICAN-STYLE RADIOLOGY BUSINESS MODEL

Radiologists in Japan have been struggling to establish the American-style radiology business model, which has been very successful with its efficiency and high rewards. It started in 1962, when the Johnson administration passed the Medicare bill. Since the radiologists’ professional fee was included in Medicare part B, radiology practices became financially independent from hospital business. This reminds us of the fact that radiology practice entered into a different stage when Japan’s National Health Insurance System introduced a radiologists’ professional fee. That provided us with little room for hospital-independent practice.
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However, this effective and profitable business model has been challenged by an increased demand for direct patient care and 24 h, 7 d a week coverage. The increased workload and manpower shortages have accelerated outsourcing of radiologist manpower. In addition, due to advanced digital imaging data management, referring physicians can proceed to clinical decision making without a radiologists’ interpretation, and radiology reports are more likely to be handled as a commodity. When performing and interpreting imaging studies that occur in separate locations, commoditization of radiology reports has been accelerated. Patient-centered radiology is also a challenge to the traditional radiology business model, and radiologists might have to increase the time to cope with direct patient care, at least to some extent.

HOW WILL RADIOLOGISTS IN JAPAN SURVIVE?

Although academic radiology has relatively few differences in each country, the overall radiology practice is different, and depends on the national policy on healthcare, particularly in the balance of social welfare and healthcare industries for profit.

Japan’s traditional socialized medicine has been functioning only in the process of social welfare10. However, to date, there has been a little room for healthcare business for the hospital-based services including radiology, pathology and anesthesiology. A small number of pathologists started an independent anatomical pathology practice in their laboratories outside the hospital more than 10 years ago. Some pathologists might plan a larger business covering wider areas. A few anesthesiologists’ groups have become independent from hospital practice, and have started working in the same or different hospitals with greater reward, although these still do not constitute the majority at present.

An increased number of radiologists are now starting office practice, using teleradiology as a tool. Such a trend has also changed our hospital practice. This is not limited to teleradiology, and types of practice can become more divergent or flexible using the current technology. One of the staff radiologists in my department works at home 1 d a week while taking care of her children. Since the worker can be anywhere in the world, such teleradiology business can be potentially border-less, but the problems of medical licensing still exist. The Ministry of Health, Labor and Welfare of Japan and the Japanese Medical Association are keeping an eye on this issue.

FUTURE

Manpower shortage has always been a serious matter, and it has been accelerated by significantly increased imaging data. Current digital imaging management systems will certainly help us enhance our productivity. In addition, there is another factor that will change our working environment: physician-patient relationships. Traditional medical care is based on the patient and (sole) physician relationship, but this differs from current patient care. Since medical care provided by a team of specialists has now become common medical practice, the basic structure of medical care established by the traditional patient-physician relationship now needs to be redesigned. In this context, the status and the responsibilities of imaging specialists need to be better defined. It will certainly influence the status of radiologists.

Current advances in technology, including mass production of imaging data and digital data management systems, are not necessarily good for radiologists, for the following reasons. First, they are a cause of significant friction between human physiology and technology, although ergonomics research on, for example, visual display terminals might improve our working environment. Second, technological innovations in digital data management are now posing a threat to radiologists, and it is not clear whether we will keep our role in the process of clinical decision making or will be assigned to a secondary role in future clinical practice. However, I am confident that such technology-physiology friction and the workload-workforce imbalance will not persist for a long time. In the meantime, we should maximize our efficiency and maintain a high profile in clinical decision making. “Always be in Gemba” is still effective. The time to decide our future is now.

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