Teleradiology Services in Europe

Several EU countries are facing a shortage of qualified radiologists. During the 6th congress for Management in Radiology (MIR) held in Basel in October 2003, the issue of staff shortages in academic centres was discussed, and it was suggested that teleradiology may offer a solution to this problem.

Dr Erik R. Ranschaert discusses a current model of European teleradiology.

Teleradiology raising questions in Europe

Compared to the USA, Europe is lagging behind in the implementation of commercial teleradiology reading services. Possible reasons are the scepticism and some prejudice against these services as expressed by some European radiologists. Most of them still consider teleradiology as something that enables them to read studies from their laptop at home or while travelling, and not as a professional reporting service that could help them to improve their work flow. Commercially operating teleradiology companies are often still seen as a threat to the radiologist's activities.

Aiming for a “win-win” situation

Prof. Dr Ian McCall, VP of the European Association of Radiology (EAR), is well aware of the numerous benefits of teleradiology and suggests the possibility to flexibly use the relative “surplus” of radiologists in some EU countries in order to provide expertise in areas faced with a shortage. Nevertheless, Prof. McCall expressed several concerns and sees problems that are related to differences in language, training levels, registration policies and variable experience with more advanced techniques throughout Europe. Furthermore, the absence of a legal EU framework is still raising some concern to the EAR. For Prof. McCall it is essential that there remains a personal interaction between radiologists and clinicians, and that good patient care be the primary objective.

The “Hub” approach

For difficult cases, several subspecialty radiologists can be contacted at any time. Secured connections have been established with renowned expert readers in other countries. Another advantage of the central teleradiology hub is that radiologists can send their “difficult cases” to the hub, where one of the attending radiologists can prepare the case for transmission (see figure). Only relevant images are sent, and the most appropriate expert is contacted.

The rationale for a hub goes further. Rather than having to establish secured connections with several experts, the requesting physician only needs to connect with one address (the hub), while the hub is taking care of all the other connections. The hub takes care of all administrative functions, including invoicing, and delivers the report in the format demanded by the client, including translations.

Security and fast turnaround

The teleradiology centre should be able to provide real-time interpretations of high-quality images and complex cross-sectional studies containing numerous images, with a quick report turnaround. A good technical infrastructure, including a PACS/RIS and state-of-the-art diagnostic workstations are a prerequisite. For image transmission, the public network with a high-bandwidth secured tunnel (VPN) is used. As a guideline for secure transmission, it is advocated that the rules of the joint NEMA/COCIR/IBRA Security and Privacy Committee be followed. Studies that are sent to the teleradiology centre are automatically imported in the radiologist’s work list, and priority can be given to urgent cases. Reports are electronically transmitted and can be incorporated in the client’s RIS or EPR.

According to EU regulations, all medical specialists that have qualified withing an EU member state are eligible for full registration in any other EU country. This effectively means that EU nationals require no additional licensing. It is necessary, however, for a teleradiology company to obtain a liability insurance covering all countries where it is active. In addition, all radiologists working for that company should also be insured individually.

Maintaining high-quality services

To guarantee a high-quality level of services, strict selection criteria are observed. The radiologists must be trained in a centre of excellence, and all applicants must obtain full approval from the company’s Medical Advisory Board that includes several academic radiologists. Currently, all the radiologists employed by the teleradiology centre have been trained at the Catholic University of Leuven and are fluent in several languages. It is standard procedure to set up a testing phase for each new client, during which all reports are reviewed. In the very near future, the company will start using an electronic feedback system for internal and external quality assessment.

Good communication between the radiologist and the image provider is essential. Images can be discussed at any time via a Web server to which authorised users can log in from any PC wired to the Web. In case of work overload, or for emergency cases, additional co-workers can be called upon to help. The teleradiology centre has also built up a network with academic radiology departments, such as the UMC St Radboud in Nijmegen (The Netherlands) and the UZ Gasthuisberg in Leuven (Belgium).

Eurad Consult, a leading teleradiology provider in Europe. After Imelda hospital in Bonheiden (Belgium), is the co-founder of European teleradiology. The fact that Dr Jan Schillebeeckx, chief of the radiology department of the Imelda hospital in Bonheiden (Belgium), is the co-founder of Eurad Consult, a leading teleradiology provider in Europe. After having successfully introduced PACS into his department and having converted the hospital into a model of a filmless environment, Dr Schillebeeckx decided to use his experience to establish a European teleradiology company. The fact that Belgium is currently facing a surplus in radiologists was another obvious trigger.

During the MIR congress, Dr Schillebeeckx effectively deployed a model for successful implementation of teleradiology services. In his opinion, teleradiology should be seen as a tool for improving and even improve report turnaround time. Practices that are fac-

proficient in a centre of excellence, and all applicants must obtain full approval from the company’s Medical Advisory Board that includes several academic radiologists. Currently, all the radiologists employed by the teleradiology centre have been trained at the Catholic University of Leuven and are fluent in several languages. It is standard procedure to set up a testing phase for each new client, during which all reports are reviewed. In the very near future, the company will start using an electronic feedback system for internal and external quality assessment.

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“Virtual extension” of a radiology practice

Studies have shown that in approximately 25% of cases a teleradiology consultation leads to changes in therapy. For Dr Schillebeeckx the key element is to make radiologists understand that teleradiology is not their enemy, but primarily a “virtual extension” of their practices, allowing them to work more efficiently. Not a threat, but rather an “insurance” for radiology practices. It helps radiologists to maintain continuity of care. Quality of care can even be improved by bringing subspecialty advise and even expert knowledge at a mouse-click’s distance. Furthermore, he believes that teleradiology is justified, as it is based upon justice and equity by facilitating expert advice to more patients, and upon an improved support to doctors and radiologists in peripheral hospitals or private practices.

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