

KEY ROLE FOR RADIOLOGY IN FUTURE HEALTHCARE

Looking back, changes within radiology have largely been driven by technology changes. The digital era and new modalities are but two obvious examples. But looking ahead, we see economics and costs as driving forces for change. Radiology is a key player in achieving affordable care in this environment.

Radiology, being in such a central position, has an opportunity to improve patient care throughout the healthcare chain, despite the economic pressure, but it requires change. A change in mindset and routines as well as in the imaging infrastructure and applications.

In this article, Hans Lugnegård, director of product management at Sectra, shares his view on how radiology can evolve in order to increase effectiveness and quality of care in a time when healthcare is regrouping.

Growing population drives focus on affordable care

Economics as a driving force stems from the demographic reality we face. Today, an ageing population is being supported by a shrinking working population and this is putting intense economic pressure on healthcare, accompanied by increasing workloads. This is the driving force behind the discussions about affordable care. There is increased focus on preventive care and early diagnosis, which in turn leads to cheaper treatment and shorter hospital stays. Radiology may be a key player in improved diagnosis and short-

ening the healthcare chain, but in this environment, radiology will also have to prove its value in financial terms. Part of the answer lies in adapting to the changing healthcare organizations, with increasingly specialized clinicians and treatment strategies based on multi-disciplinary teams.

Generalists vs. specialists

Among clinicians, we have seen an increasing specialization in specific areas of the body as well as specific diseases. The advances of medical imaging have turned “data explosion” to a “knowledge explosion” where it is more difficult to cover all imaging domains. However, in many places, radiology still consists of generalists. Departments are often too small to hire a range of specialists and in the choice of either or, the generalists are needed to handle the large variation in cases being processed within a radiology department.

“I have met radiologists that see great potential in increasing the collaboration with clinicians even if they are taking over parts of the image interpretations. It is a question of teamwork, in which you add value based on bringing different perspectives to the diagnostic process, to find the fastest way to correct diagnosis, and also the best choice of subsequent imaging methods,” says Hans Lugnegård.



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Nobody can cover everything. However, there is a growing risk that radiology will be spread in a suboptimal way if it does not begin to take the lead in developing the healthcare organization.

As a result of the democratization of imaging, radiologists need to enhance the service they deliver to keep providing value. Radiologists should ask themselves how they can provide information more efficiently, how they can support patient communication and how they can ensure an efficient internal workflow.

No doubt, it will be challenging to meet the need for the broad perspective and reveal incidental findings as well as providing special interest information. Multi-discipline team collaborations are attracting more attention to optimization of the clinical process. One possible way forward is that we will see radiologists with special interests (rather than fully specialized radiologists) participating as key players in multidisciplinary teams. In this scenario, participating radiologists will have two roles, both as a decision-maker in the team and as “teacher,” feeding back knowledge to the radiology department. The learning organization is a must to cope with the knowledge explosion that will be the result of radiology’s new role.

A supporting infrastructure and applications to increase efficiency within and outside radiology

In an optimized healthcare environment, all aspects of patient care must cohabitate in sync across the ever-expanding health enterprise. That means maintaining an optimized Health Information System (HIS) that includes medical records and other data mutually provided by radiologists and referring physicians and seamlessly integrated for use

across multiple ports. But that’s not enough. With imaging at the centre of the treatment chain, close integration with imaging IT solutions is essential.

“I see a future where components designed for the optimal imaging service are built by RIS/PACS vendors such as Sectra, but are closely integrated with the HIS to give the best user experience, Lugnegård says.” For example the creation of “rich” reports based on templates and linking to images and measurements if efficiently done in the PACS and the visualization of “rich” reports can be achieved by HIS embedded PACS viewers. I would expect solutions to meet high standards of usability and usefulness to meet the requirements from both radiologists and referring physicians.”

Lugnegård mentioned on several occasions the importance for radiology to evaluate and improve the value it provides in order to maintain its central position. Imaging IT solutions can certainly play an important role in enhancing value to referrers. At the forefront will be the ability of radiologists to provide more consistent and precise exam reports faster, as well as new conferencing solutions. Indeed, several means of improving service and accessibility to referrers are on the table.

“One example involves faster access to images and reports via tablet computers,” Lugnegård said. “Another involves multidisciplinary meetings with remote users and teaching file functionality to feed back knowledge to one’s own group. Instant messaging and similar solutions may also improve accessibility and communication.”

Finally, Lugnegård stresses the need for business intelligence solutions within radiology. To maintain a good value contribution, it will be important to identify bottlenecks, monitor and streamline patient flow and measure the effect of implemented changes.

So to summarize Lugnegård's thoughts on this topic, radiology should meet its changing environment by:

- Actively integrating with the clinical process and regarding referring clinicians as customers or even partners.
- Taking on a leading role in the reorganization of healthcare to balance the need for the broad perspective and reveal incidental findings as well as providing special interest information.
- Implementing a workflow that creates a learning organization to cope with the knowledge explosion.

- Driving the implementation of a hospital wide IT infrastructure to secure a solution that does not compromise on efficiency and care quality.
- Supporting other medical imaging departments to integrate into a common infrastructure for medical imaging.
- Utilizing data mining in order to improve and measure key performance indicators.

“Radiology is a natural hub and is in an excellent position to help coordinate the best care. Radiology can lead the development of this emerging environment if they make the necessary adaptations,” said Hans Lugnegård.

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