

Volume 9 - Issue 2, 2009 - Cover Story: The Impact of the Recession on Medical Imaging

Will Healthcare Spending Cuts Hit Radiology? The Case for Nuclear Medicine

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There are a few very logical predictions one can make when discussing the likely impact of the economic downturn on healthcare. The recession, which became a worldwide reality at the beginning of 2009, is likely to hit social security systems in 2010, when income from taxes, which are based on the preceding weak economical year, drop. Furthermore, the unemployment rate will continue to grow, the longer the economic crisis lasts. In Europe, health systems are predominantly financed by taxes and/or by contribution coupled to the amount of individual revenues. Even revenue cuts of only up to 10 - 20% have dramatic consequences, as the by far predominant share of public income is spent on fixed costs.

Several things should cushion medical imaging from the worst of the blow: imaging technology has become a solid part of rational diagnostic work-up and is thus essential for hospitals in flat-rate based reimbursement systems. Furthermore, it has been shown that using high technology medicine like imaging reduces the duration of hospitalisation.

In addition, imaging technology has made tremendous progress in the last decades, resulting in substitution of invasive procedures. Since expenditure for research and development continues to be at a very high level, it seems unlikely that there will be no further progress as to new fields for the application of imaging technology. These new applications will certainly be driven, e.g., by the availability of an increasing number of targeted drugs. For instance, adequate methodology to monitor early drug effects will be essential to avoid unnecessary treatment and expenditure.

Aging Population Adds Pressure

As well as the recession, Europe and other countries will deal with the increasing challenges posed by an aging population: replacing the large number of retiring radiologists from a smaller pool of young radiologists may prove difficult. The key question is whether the wealth produced with an employment rate of as low as 30% (instead of 40 - 50% nowadays) will be sufficient to cover the costs for the health services demanded. This will depend on the competitiveness of Europe with other worldwide economies. It will take between one and two decades to see how Europe will cope with the challenges of aging, whereas the actual recession will be – according to most experts – a matter of a few years.

Identifying Best Procedures Will Save Costs

With the increasing number of imaging modalities, there will be growing pressure to define the adequate priorities and sequences, in order to avoid redundancies and to streamline the diagnostic process. More than ever before, radiologists will need to be experts on the complete

armamentarium of nuclear medicine procedures and nuclear physicians must know the indications for and the diagnostic potential of CT and MRI, with their particular contrast agents and technical modalities. Imaging specialists will need to adopt a role as gate-keeper by consulting referring physicians as to the most straight-forward procedure in a specific clinical setting.

There may be potential for expenditure savings in the future, if radiological procedures are performed solely on a referral basis - not currently the case in every European country. In summary, spending cuts for health systems may affect radiology in a complex manner, but will certainly not decrease its role.

Restricted Budgets Likely

Another possible impact of the recession on medicine is a slowing of resources devoted to investment on capital projects and technology: one can expect funding on a lesser scale than recent years. Although in 2009, technology-based medicine still expects a growth in turnover of 2 – 3% worldwide, expectations thereafter are not too optimistic. However, this may be a phase of limited duration. On a global scale, there may be a shift concerning the world's leaders in imaging. The US and Europe may lose their predominant position in the use of imaging technology in the long-term. With respect to nuclear medicine, actual prognoses agree on a continued moderate increase in conventional (non- PET) procedures and significant increase in PET procedures in the next 15 years.

Governmental restrictions imposed on imaging budgets can be expected in those European countries in which health services are centrally regulated. Budgeting for special imaging services has already been established in some European countries, e.g. for PET. An increase in direct and indirect restrictions is likely to occur. Reimbursement for new imaging technology will most certainly depend on criteria such as evidence-based medicine.

Nuclear Medicine During the Downturn

In the case of nuclear medicine, adequate reimbursement can only be guaranteed when the field has improved standardisation as a prerequisite for performing multi-centre studies. The latter is essential to verify medical benefits and cost-effectiveness. In addition, nuclear medicine has to raise awareness that many of its diagnostic procedures generate relatively low radiation exposure, e.g. examinations of the thyroid, kidneys or lungs. An important goal is to strengthen cooperation with oncologic societies, to better include nuclear medicine in diagnostic and therapeutic guidelines.

The EANM has several ongoing projects that, it is to be hoped, will continue untouched by the downturn. To facilitate funding for research, the EANM has founded a company (EARL) to create research platforms for centres of excellence and standardisation. In addition, the EANM has become co-shareholder of EIBIR, which has developed a research network and supporting body for EU grant applications within in the FP7 programme.

To guarantee delivery of radioisotopes, the EANM is networking with EU officials, the IAEA, and the industry, represented by AIPES. A short-term result is increased cooperation between reactor operators in planning their irradiation cycles and maintenance periods. The long-term problem, that stable molybdenum-99 delivery needs redundant capacities, and that redundant capacities are economically not feasible, can only be solved on a political level. A number of workshops are planned to find a solution.

The EANM has forwarded a number of position papers to explain the special case of radiopharmaceuticals to different bodies on a European level, e.g. the EMEA. The fact that radiopharmaceuticals have short half-lives, short shelf lives, and extremely low pharmacodynamic and toxic potential, makes it necessary to implement special legislation for approval. Satisfactory regulations have only been achieved in some countries on national levels, so far. In conclusion, identifying our key projects and consolidating our objectives is the key to riding out the recession.

AHA Reports Note Downward Trend

Several American Hospital Association (AHA) reports are looking in to the impact of the recession on healthcare provision. The first, entitled "The Impact of the Economic Crisis on Health Services for Patients and Communities", looks at data for a constant panel of 658 hospitals reporting to DATABANK for the fourth quarter of 2008 versus the fourth quarter of 2007. DATABANK is a web-based reporting system developed by the Colorado Hospital Association that is licensed in 28 states.

Results:

- Participating hospitals are seeing fewer patients overall in many services;
- An increase of 6.6 percent in cost of care for which no payment was received;
- Hospitals report less income from investments which traditionally subsidised losses from patient care, leading to diminishing hospital financial reserves, and
- This leads to difficulties in funding ongoing capital projects.

According to DATABANK, the cost of borrowing jumped 12 percent for the fourth quarter of 2008 compared to the same period in 2007. More than half of reporting hospitals were in the red in the fourth quarter of 2008 – raising concerns about the impact on hospital services and jobs.

A second more recent report based on data from 1,078 hospitals in the US shows that 60% of respondents are seeing a higher proportion of uninsured patients come through their emergency department doors. At the same time, nearly half of hospitals report that the recession has forced them to cut staff.

According to the survey, 90% of hospitals are cutting staff, administrative expenses or community services to help weather the economic storm. Despite this, 70% of hospitals are experiencing a decline in their overall financial health, which they say is affecting their ability to care for their communities. Eighty percent also report cutting capital spending for facility upgrades and clinical and information technology.

Third-World Countries Use Telemedicine to Offset Poverty

It is possible that financial pressure will push radiology even further into the telemedicine nexus. In 2008, a pan-African e-network joint initiative between the African Union and India was set up to improve digital connectivity and communication using satellites and fibreoptic links, creating a new market for India and providing much-needed healthcare services to Africa as a by-product.

In Africa, under-investment in rural healthcare facilities, a shortage of doctors caused by a drain of African health workers to wealthier countries, and a severe lack of infrastructure are only some of the problems they face. However, aid from India of 2.13 million dollars has catalysed a three-year telemedicine venture whereby two Ethiopian hospitals will have access to Indian healthcare via digital technology. Ultimately, the backers of the Care Group of hospitals in Hyderabad behind the Ethiopia Pilot Project aim to set up 10 such hospitals, that use Indian specialists to provide digital consultations to under-serviced, over-burdened African hospitals. Videoconferencing and transmission of patient images, records and remote monitoring are all features of this investment.

Under the scheme, Telecommunications Consultants India Limited (TCIL) has set up a network that allows the Care group to facilitate teleconsultations to the Black Lion, Ethiopia's only teaching hospital, and which has also been linked to the remote Nekempte Hospital, 300 km west of Addis Ababa. India plans to fund the projects and train Africans for five years before handing the scheme over to African countries.

These two hospitals in Ethiopia are equipped with medical equipment such as x-ray machines, electrocardiogram (ECG) and ultrasound machines, amongst others. African specialists are also receiving training and information via this network. The next step is to bring a total of 20 hospitals across Ethiopia into the ambit of this network, to help rural Ethiopia access better standards of medical care.

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