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MR imaging: reimbursement and costs – a European potpourri

Peter A. Rinck



The average total payment per MR imaging examination in the United States is US\$ 650. According to the newspaper Washington Post, fees for a single scan in the Philadelphia area ranged from US\$ 850 to US\$ 1,100 in 1990. In Europe, reimbursement styles are different and spiced with typically European ingredients.

Let's start traveling:

■ To reduce costs in the health system, the reimbursement institutions of the Swiss canton of Ticino have decided not to cover MR imaging at all. There is an agreement between the providers of medical services and the reimbursement institutions about payments but apparently someone in the bureaucratic system believed that not paying the bills would solve all problems of the cost explosion.

■ In France, average reimbursement is US\$ 350 for the first 4,000 scans per year, per machine. The fee for any patient thereafter is US\$ 65, contrast agent included.

In other words, the reimbursement for the entire examination does not even cover the cost of the contrast agent. Because Paris is the navel of the world, reimbursement in the capital is higher than in the suburbs or provinces. The fee levels are also according to field strength: less than 0.3 T; between 0.3 and 1.0 T; and above 1.0 T.

■ Norway is the country with the highest cost of living in Europe. As with the United Kingdom and Sweden, the country has a socialized welfare system lacking competition in health services. Waiting lines for diagnostic and therapeutic procedures are long and painful for the patients and their relatives. Prices for MR imaging were artificially set in late 1986; reimbursement was set at US\$ 540 for a head scan and at US\$ 690 for a body examination. Reimbursement was then cut by 20% in 1992. The unofficial reason given for this action was that doctors used MR imaging for research, which cannot be paid for by the state health system.

Access to MR examinations in parts of the country is restricted: neurologists or other specialists cannot refer patients directly to MR imaging but have to refer them to a hospital neurologist in a polyclinic who will then reevaluate the referral. According to its inventors, this system was introduced to reduce health service costs. However, in reality waiting times for patients get even longer and health expenditure increases.

■ In Germany, what is worth noting is not the actual reimbursement fees but the regulations controlling them. The Germans have set the rules for reimbursement with characteristic precision, scientifically backed by experts. Their latest system was published early in 1992 by the Kassenärztliche Bundesvereinigung (National Association of Statutory Health Insurance Physicians) the German institution that regulates reimbursement of private-practice physicians.

Reading these regulations for the first time, it occurred to me that they might have been written by a major German manufacturer of MR equipment to promote the sales of its machines. Upon a second reading, I revised my judgment. They have been written by somebody representing a lobby of high-field users with a woeful lack of knowledge about magnetic resonance.

In the future, the profitability of high-field MR imaging will likely decline on account of decreasing reimbursement and higher operating costs. Institutions operating mid-field machines with the same or similar qualitative diagnostic value and efficacy will have an easier time and the use of these machines should contribute to a balanced cost efficiency in the health system.

■ Germany is the most important country in Europe with respect to heavy medical equipment. It is a trendsetter not only for the rest of Europe but, partly, also for the rest of the world. The conditions for qualifications set by the Kassenärztliche Bundesvereinigung for running an MR machine could easily create an uncontrollable chain reaction leading to an ab-

surd and wrong development, adding to the already high costs in the health system, hurting health spending and the credibility of this otherwise well-respected institution. For Germany the regulations mean that many of the existing MR machines have to be exchanged before the deadline of 1995 to comply with these regulations. Cost efficient machines and some of the upcoming niche machines are killed.

These examples basically show that the agencies responsible for reimbursement are helpless and try to hide this with more or less fruitless actions to prevent increasing spending in the health system. They depend on experts whose schemes sound good but are either inefficient or court the interests of small groups. The result is a number of arbitrary regulations with little or no relevance for MR imaging examinations and patients.

From the patients' perspective, the struggles of bureaucrats and administrators, the number of examinations deemed adequate per machine or the characteristics of the machine itself are unimportant. It is the expediency of the health service and the quality of medical performance that matter. This is what should guide the policies of reimbursement institutions.

It does not take special foresight to see that both the expediency of the system and the quality of care are directly dependent on adequate reimbursement. Unfortunately, experience has shown that health bureaucrats are willing to pay for machines but are reluctant to pay for their operation and the physicians' skills. It is almost as if machines were being acquired for the purpose of winning the "country-with-the-most-machines" race on the one hand or "let's-go-back-to-herbal-medicine" on the other, and not for the real purpose of providing a service to patients.

In this context, the first question should be how many MR imaging systems – high-field, medium-field, and low-field – are necessary to cover the needs of a given population in an economic way. The answer to this question could be supplied by free market laws of demand and supply or it could be determined by a conscientious analysis of needs and capabilities. An international effort with the latter in mind is under way. Its goals are to outline the appropriate medical use of MR imaging with respect to other available diagnostic techniques and to analyze the adequate use of MR imaging in the health system with regard to technology and costs.

It then falls to reimbursement agencies to determine adequate fees on the basis of real needs and costs. Of course, different machines create different costs. A possible solution could be a standard fee calculated for an average mid-field machine, with an extra fee for more expensive high-field machines limited to those cases where high-field examinations are really compulsory. The calculation should not be more than a simple mathematical equation where machine depreciation and running costs, personnel costs, necessary supplies such as contrast agents, and, last but not least, the radiologist's fee are factors considered.

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Better training leads to less costly health system

Peter A. Rinck



While visiting two European countries, Ruritania and Autobahnia, I recently met with two distinguished radiologists, one from each nation.

In Ruritania, the leading radiologist has been in diagnostic radiology for the last thirty years. During our meeting, which took place in his clean and tidy office lined with filing cabinets, he told me his hospital had acquired its first – and only – CT scanner eight years ago. The hospital's only ultrasound machine is not only outdated but malfunctioning.

Therefore, he bases his practice mostly on conventional x-ray examinations. He relies to a great extent on knowledge and intuition as well as on the images he has stored in his brain since he began his career the several decades ago. I could not help but admire such a memory.

The radiologist I met in Autobahnia was a very busy man. Our conversation took place in his oak-furnished office while he continued answering his telephone and talking to his private patients in the adjacent room. One of them was a patient suspected of having a liver tumor. After the patient was sent in, the radiologist made an ultrasound examination with the machine in his office. He then took a pen, marked the boundaries of the liver on the patient's skin and forwarded him to radiation therapy.

In his hospital, the Autobahnian radiologist is in charge of diagnostic radiology, interventional radiology, ultrasound, magnetic resonance imaging, radiation therapy, and nuclear medicine. I, too, have had training in all these disciplines, but was amazed to find someone practicing all of them simultaneously. Did he really “know” everything or had he just “heard” of everything?

Initially, my visits left me with the impression that I had encountered radiology's polar opposites. However, the more I thought about these two radiologists, the more convinced I became that they were not all that different.

They had at least three things in common, the most important of which is that both deliver services to the best of their knowledge and abilities. They also share the same age. Both are in their late fifties and received their training in radiology more than twenty years ago.

The Ruritanian is still very much involved in conventional radiology, however, while his counterpart in the country of the superhighways spends his time with computed imaging modalities.

The third common denominator is continuing education – or actually, their lack of it. The only time devoted to continuing education by either radiologist is during national or international conferences they attend. Because of the nature and size of these conferences, neither radiologist asks questions when he does not understand what the speaker is talking about, ultimately reducing the quantity and quality of learning. Anyhow, even active participation in the annual or biannual meetings of radiological societies is insufficient to stay up to date in radiology.

Twenty years ago, when both radiologists were finishing their education in the field, modern imaging technologies such as CT, digital subtraction angiography, interventional radiology, ultrasound, and magnetic resonance imaging were unknown. These technologies have developed at such a fast pace that only recently graduated radiologists have been trained in them as part of their formal education, even if superficially.

For the Autobahnian radiologist, however, it has been sound business sense to incorporate all these technologies into his practice; he would be left behind by his colleagues otherwise. His problem has been finding time to learn them in depth because he is overwhelmed with administrative tasks.

The Ruritanian radiologist, whether by choice or by circumstance, has taken a different path by implementing technologies only as absolutely necessary.

His hospital cannot afford to keep up with new developments and he is in no hurry to convince them about their usefulness because he would have to start by learning about them in order to make his case – and why learning something for which there is no money?

In totally different situations and for completely different reasons, these two radiologists have not kept up to date with advances in the field. To do so, they would need retraining, but the circumstances and pressures of their positions prevent them from getting it. Actively learning radiology after residency could have a negative impact on their status and, more important, their income; in addition, it would hardly be tolerated by the health bureaucrats.

■ Only basic training and continuing education with retraining guarantee the best and most economical use of medical technology and, perhaps, a decrease of healthcare costs. How many hospitals and practices are showcases of equipment being used by radiologists who do not realize the equipment's full potential and appropriate indications, as may be the case in Autobahnia? And how many are using obsolete or inadequate techniques, with high running and maintenance costs, to the detriment of their patients, as could be the case in Ruritania?

But, of course, education is not free. On the contrary, good education and training are frequently very expensive. Really good educational material can often only be provided by pharmaceutical companies. It is not their task to invest in this; but who else does? Furthermore, it is to be expected that the material they produce is mostly related to their products and, thus, not comprehensive.

Today it is nearly impossible for a single radiologist to be up to date or even to completely understand all radiological techniques. In the future it will be even worse. Therefore, a feasible solution would be to establish a cooperation between several radiologists to set the standards in a hospital or a private practice.

Beyond this we need national standards or better a European standard in training and continuing education in medical imaging. This standard must be decided upon, continuously upgraded – and implemented and enforced. It is worth nothing if it exists only on paper.

Once such a precedent has been set, the need to develop training and continuing education programs would be apparent, thus destroying the attitude and sometime the myth among some of them, that graduating is enough and, on the part of other institutions and organizations, that there is little benefit in investing in continuing education.

The Commission of the European Communities would be the authority of choice to create such a system. Unfortunately, this seems to be a low priority task for Brussels. The question is: Who else can take establish and implement a standard for continuing education?

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Why cutting costs is so hard in Europe

Peter A. Rinck



Achieving a consensus on the proper use of medical imaging technology in Europe is necessary and worthwhile, both to benefit patients and to reduce healthcare costs.

While nobody denies that medical expenditures have exploded in recent years, some people – politicians, bureaucrats, administrators, and physicians – see no need to reduce costs because they believe the increases were accompanied by proportionally better health for all and a higher standard of living. Others believe that we cannot continue to pay for this system and have declared war. They want to see costs brought under control.

The search for the responsible factor or group of persons creating the cost increase is difficult. Many politicians voice the opinion that the explosion is connected to expensive and unnecessary high-technology equipment, but in reality the main contribution to medical costs is personnel. Unlike the automobile or electronics industry, in which computers and robots can be used to lower costs, rationalization can hardly be employed in medical diagnostics and treatment. Here you required people to take care of patients.

What could be rationalized is the mushrooming medical bureaucracy and administration, but this is another topic.

High-technology imaging diagnostics contribute less than one percent to the cost of medical care [see postscript below]. One percent may not seem like much but in actual numbers it is billions of ECUs every year (ECU = European Currency Units – or deutschmarks, pounds sterling, or francs). While it cannot be denied that there are black sheep among the radiologists and other physicians all over Europe making money with unnecessary examinations, a bigger source of misuse results from lack of basic training. More specifically, this misuse ensues from missing overviews and guidelines about which techniques are appropriate for a specific diagnostic question.

■ So, the obvious question is: how do we solve this problem?

One relatively easy and nonpolitical solution is to utilize high-technology methods properly. To reach this goal, a consensus has to be established by experts. If the radiologists will not come to terms with the need to create such a consensus and then implement it, somebody else will take care of it in their own way.

In many countries politicians and bureaucrats have already tried to take over, but they have no logical or, in the long run, practical solution. The damage they create is usually limited, although it has become too dangerous to allow them to continue playing with healthcare system.

In one Scandinavian country, the health administration has tried and succeeded in preventing reimbursement for MR brain examinations of psychiatric patients. This is one step too far in the direction of medical bureaucracy dictatorship. It is not the task of bureaucrats to decide which patients should be examined or treated, or which patients should die or survive. Of course, nobody is responsible for such a decision because bureaucrats just hide behind their administration walls.

■ On the other hand, it is obvious that public agencies love to make public relation statements on the need to cut costs. But other than making simplistic remarks, they do not constructively contribute to cost-cutting efforts such as helping to create guidelines for the proper use of, for instance, diagnostic imaging methods.

But if you contact the ministries of health or similar institutions in European countries for help you will routinely find that nobody is in charge, although everybody you talk to confirms that an effort to develop guidelines is worthwhile.

And then you will hear the inevitable question: "Why not approach Brussels for support?"

Unfortunately, this undertaking is a low priority task for the Commission of the European Communities.

It would also be worthwhile to reach a consensus for reimbursement and insurance agencies all over Europe. Supporting such an idea is not one of their responsibilities, however. As one of the big German agencies put it:

"It is not our legal task to support such an endeavor." They want to make money.

■ So, who is responsible? The radiologists themselves? Why do health administrators shy away from cooperating with physicians to solve the problems of the health system?

It appears that there may be too many of them in the bureaucracy who sit on safe chairs with paid holidays and early retirement plans, and who do not really know what they are doing or want to do, and not really interested in what they are doing.

This mentality also holds for many semi-political physicians' organizations, whose functionaries are also very careful not to step on anyone's toes.

Helping to solve the problem of increasing health costs by creating guidelines for the appropriate use of medical imaging modalities is a relatively small and easy step. But this would, of course, require leadership and support which are in spectacularly short supply on all fronts.

■ **P.S.** Within a few years, this has changed. Medical imaging expenses have risen by several hundred percent and constitute a major part of medical expenses.

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