The Future of Healthcare

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How will we shape the future of healthcare?

Four experts outline possible approaches for Germany.

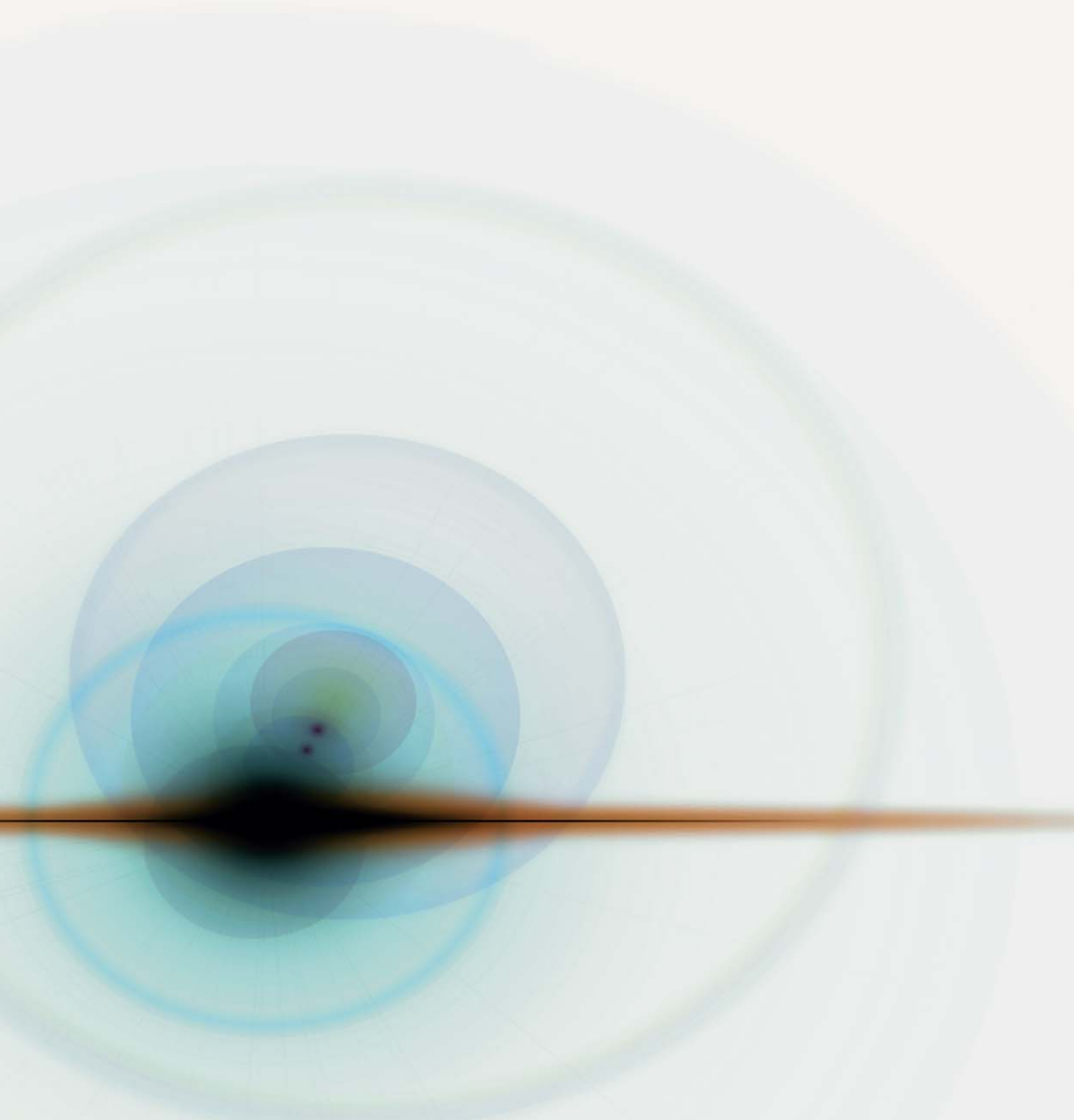
Financing healthcare costs, integrated care,

investment in innovation, and prevention all play

a pivotal role. Panelists emphasize that 'to save or not to save'

is not the right question.

By Martina Lenzen-Schulte, MD



All the talk about the cost explosion in healthcare makes it obvious that financial aspects are important when considering the future of medicine. Measured against gross domestic product, healthcare costs are long past the ten-percent mark. Do we need to save at any cost?

REISER: The amounts spent are not the only decisive factor. In Germany, cost is definitely linked to economic power. And we don't spend too much when compared to Canada or a number of other industrial countries in Western Europe. But in England, for example, considerably less money is spent on healthcare services, yet the overall health of the population there is about as good as it is here if we look at criteria such as infant mortality and life expectancy.

That doesn't mean, though, that everything is available at cheaper prices. Patient comfort also plays a role when it comes to access to healthcare services. How quickly does the patient receive a diagnosis, and how fast is the disease treated? In England, patients still have to wait considerably longer for surgery than in Germany.

"The amounts spent are not the only decisive factor."

Professor Maximilian Reiser, MD, Director, Department for Clinical Radiology – Großhadern and City Center – Hospital of Ludwig-Maximilians-University Munich; Dean, Faculty of Medicine, Ludwig-Maximilians-University Munich, Germany

SCHMAILZL: And that's just one reason why asking whether we are spending too much is the wrong question. Rather, we need to ask how we are going to approach one of the fundamental structural problems in our healthcare system: the sectoral division between outpatient and inpatient treatment. New concepts in integrated care are rightly calling for all care-delivery facilities to be linked. That means the primary care practitioner, hospital, specialist, and rehabilitation center all currently know too little about what the others are doing in regard to the individual patient. They need to communicate better.

For example, consider a patient who comes to the emergency room for acute care after a heart attack and is later discharged from the hospital with a letter for his primary care practitioner that states he is 20 kilograms overweight. He then goes to the rehab clinic, where they tell him something about his diet, but his wife keeps cooking the same as before. Such stories often are behind studies that show that about six months after rehabilitation treatment, a patient with vascular disease still faces the same high risk factors. That has to change.

DEBATIN: It is also time for us to move away from the idea that everything has to be cheaper. Improving the quality of life for an aging population with respect to its health inevitably costs more money. The crucial point will be allocating the money correctly. For a long time, the incentive system here in Germany virtually punished cost-conscious work.

So which incentives would send the right signals?

DEBATIN: If your facility is paid per procedure, meaning, for example, for every CT [computed tomography] scan, you create the temptation to perform as many scans as possible. If you get paid for every night spent in the hospital, you shouldn't be surprised when a patient is admitted on Friday but doesn't have surgery until Tuesday. Ever since 2004, when the case-

based lump sums [DRGs, or diagnosis-related groups] were introduced, the whole course of treatment for an illness is more or less paid for as a package. Take the therapy for appendicitis, for example: The hospital itself decides which diagnostic or surgical procedures to use, which helps prevent unnecessary procedures.
SCHMAILZL: That's another structural problem with our healthcare system, and its root cause lies within the hospital. If we look at how much in hospitals happens on call or at random rather than as part of a planned process, the results include longer waiting times for patients. A patient may be in the hospital for a week, but be actively involved in some process for only 18 hours. Of course there are already exemplary institutions making progress with the current optimization processes, and they know how to handle them very well, but there are also those that are lagging behind.

In this process, some consider innovative technologies and large medical devices to be absolutely essential for improving workflows, others say they are cost drivers. What role will technology play in the future?
MILLER: Take imaging procedures, for example. Today, with a conclusive CT scan, we can reliably determine in a stroke patient whether hemorrhage or infarction has taken place. That can result in fast antithrombosis treatment and, in the best-case scenario, dissolving of clots. In turn, for many patients, that means full recovery of speech and mobility immediately after the treatment – without rehabilitation. Beyond the impact on quality of life, we can also list how much rehabilitation and care this saves and demonstrate lower long-term costs. In addition, modern technologies are lowering risks – and thereby costs – for numerous procedures. As recently as 30 years ago, patients underwent exploratory surgery as part of diagnosis. Exploratory surgery has now completely disappeared from medicine thanks to modern technology.
REISER: In the past, there were many invasive diagnostic procedures that caused patients considerable pain and also entailed risk. Today, 80 percent of all diagnoses are generated using imaging procedures, which in most cases is much faster. In fact, modern imaging is helping to reduce length of hospital stays – which right now average about half as long as they used to be. And, imaging, as opposed to invasive diagnostic procedures, is gentler on the patient. This not

Professor Jörg F. Debatin, MD, first enjoyed an international career as a radiologist, culminating in a position as Director of the Institute of Diagnostic and Interventional Radiology at the University Hospital of Essen, before taking on the position of Medical Director and Chairman of the Board of the University Medical Center Hamburg-Eppendorf in 2003. Under his leadership, the 17 clinics that make up the University Medical Center moved to a new facility, one of the most advanced large hospitals in Europe, at the end of 2008. This streamlined hospital treated its first patients in February 2009.

Thomas Miller was interested in medical technology long before earning his master of science degree from the joint degree program at Harvard Medical School and Massachusetts Institute of Technology (MIT). During his 20-plus years with Siemens Healthcare, he has held numerous management positions and has served as CEO of the Workflow and Solutions Division since 2008. He is passionate about the potential to integrate all of today's medical technologies and clinical knowledge in order to revolutionize healthcare.

Professor Maximilian Reiser, MD, has been the Director of the Institute for Clinical Radiology – Großhadern and City Center – at the Hospital of Ludwig-Maximilians-University Munich and Dean of the university's Faculty of Medicine for more than 15 years. He belongs to a number of German and international professional associations and is the copublisher of several major journals. In his most recently published books, he deals with innovative imaging methods and their use in clinical and preventive medicine.

Professor Kurt J. G. Schmailzl, MD, PhD, has been the Head of Medical Clinic A of Ruppiner Kliniken GmbH in Neuruppin, Brandenburg, Germany, since 1992. He is also the Dean of the Faculty of International Health Management and Life Sciences at the University of Management and Communication (University of Applied Science) in Potsdam, Germany, which was established in 2008, and honorary professor of the University of Rostock, Germany. As a medical practitioner, he has devoted himself to cardiology, and with his degree in sociology, turned his attention early on to the paths and detours that patients take. His work recently led to the first longitudinal study of the course of coronary artery disease in Germany.

"Back-up data will also have to be part of integrated care in the future."

Professor Kurt J. G. Schmailzl, MD, PhD, Director, Medical Clinic A – Cardiology with cardiovascular and pulmonary medicine, hemostaseology, hypertensiology/nephrology with dialysis & internal medicine, ICU, Ruppiner Kliniken GmbH, Neuruppin, Brandenburg; Dean, Institute of International Health Management and Life Sciences, University of Management and Communication, Potsdam; Honorary Professor, University of Rostock, Germany

only proves the tremendous importance of the radiology department within a hospital, but it also shows that large medical devices offer tangible patient benefits. Nevertheless, we deal with public resistance to medical technology and device-based medicine. I would call this the arrogance of the healthy: As long as I am fine, these procedures are too expensive. But as soon as I get sick, nothing but the best and the very latest device is good enough for me.

So, it is worthwhile to invest in innovative technologies as well as in large medical devices. Yet, less of this type of investment is made. Politicians have only recently started addressing the backlog of necessary investment in our hospitals.

DEBATIN: According to estimates from the Deutsche Krankenhausgesellschaft [German Hospital Federation], the investment backlog is 40 to 50 billion euros; other sources estimate the deficit at twice that. But it's not only about the amount involved. It is clear that you do not save money by not investing. The development cycle for medical devices has now shrunk to only about three years, but they depreciate in ten years and collect in equipment pools once better replacement devices are purchased. That's a hindrance, and it costs money.

We also have to invest in data processing. It is estimated that about one-third of all patient data cannot be found or can only be found with great difficulty. The issue is to secure access to this data, not only for all of the medical practitioners involved but also for the patients. We are presently practicing this with a kind of code that allows oncology patients to access our server and their own data via the Internet.

SCHMAILZL: Back-up data will also have to be part of integrated care in the future because we should look at the patient's entire medical history and care. Take, for example, follow-up care for a patient who has received emergency treatment. With better access to data, the cardiac surgeon can find out how the patient is doing a year after a bypass operation. For the surgeon, it is a way to check on his work. In addition, practitioners can also act proactively, even preventively, especially with chronic diseases. Instead of waiting until a cardiac patient reports worsening symptoms, the practitioner can see, based on the patient's ongoing history, whether he might need more medication and if he is still compliant in the first place – and that way, take action in advance.

That touches on the area of preventive action. Unfortunately, the status of preventive medicine in Germany on the whole is still poor. Where are there opportunities for preventive medicine?

REISER: To start with, prevention means taking precautionary action – making lifestyle changes – to counteract the big killers that threaten our health. That includes the epidemic of obesity that is largely responsible for the development of diabetes. It also includes cancer and cardiovascular diseases that lead to heart attacks and strokes.

Prevention includes screening, which, although it doesn't help prevent diseases that are already in progress, does help to detect them as early as possible. This only works if a disease is highly prevalent and there are truly effective screening procedures. Examples of this include early detection of colon cancer, mammography screening, and preventive care to counteract cervical and skin cancers.

MILLER: But if you look just at prostate screening, you see how difficult this is. This is a good example of where there is room for improvement. Right now, in prostate-specific antigen [PSA] screening, what we detect is a blood value, but that value is not enough to conclude that prostate cancer is present. To be certain, we need a biopsy. Using needles to take a tissue sample not only hurts, but it also carries risks, such as hemorrhage. Here, it becomes obvious that

prevention doesn't work if early detection is not specific or unambiguous enough to be of true diagnostic value. With this in mind, we at Siemens have bundled a set of tests as a single prevention package. It uses multiple blood values and ultrasound imaging, which makes it more precise than a single PSA value. Using this method, we can cut the rate of false positives by 50 percent. And we can do it with a gentle, noninvasive procedure.

SCHMAILZL: The most effective form of prevention is informing the patient. In cardiology for example, we know the risk factors for certain diseases very well, but we still need to bring that knowledge to the patient. New methods like molecular genetic testing supply us with informa-

"Here, it becomes obvious that prevention doesn't work if early detection is not specific or unambiguous enough to be of true diagnostic value."

Thomas Miller, CEO, Workflow & Solutions Division, Healthcare Sector, Siemens AG, Erlangen, Germany

Better than its Reputation – the German Healthcare System

Talk of the crumbling German healthcare system and the explosion of healthcare costs have long been features of public discourse, which suggests that in Germany, a disproportionate amount of money is spent on the health of citizens with too little to show for it. As a blanket statement, this notion does not hold up to scrutiny.

Viewed as a percentage of gross domestic product, the expenditures made by the government health insurance plan (Gesetzliche Krankenversicherung or GKV) have held steady at about six percent for decades, even with the additional strain that the German reunification put on the economy. In a comparison of all Organisation for Economic Co-operation and Development (OECD) countries (from 2000 through 2005), Germany showed the smallest rise in health expenditures.

Among the advantages of the German healthcare system are its short waiting times for patients. In hardly any other country in Europe is it possible for a patient to receive inpatient or outpatient surgery as quickly as in Germany. Patients generally wait only about two weeks for outpatient procedures and about a month-and-a-half for surgery to be performed in the hospital. By way of comparison, patients in England, before the new millennium, sometimes faced waiting times of several years, and some patients were even sent abroad. Today, the *British Medical Journal* reports that in Wales, about 25 percent of patients still have to wait longer than six months to be hospitalized unless the case is a dire emergency.

The steady flow of complaints that Germany maintains more hospital beds per capita than the European average is true on the face of it. For every 100,000 residents, Germany has 635 beds available, while the European average is 406 beds. Sweden is at the bottom end of this range, with 218 beds for every 100,000 residents.[1] Although having fewer beds per capita saves money, it comes at a price: A European comparison study[2] found that countries with fewer beds have the longest waiting times for surgery. And waiting times themselves cost money – in the form of lost income and lost productivity, for instance – that is not included when public healthcare costs are calculated. For some surgeries, these hidden costs can amount to as much as one-quarter of the costs of the procedure.

[1] 31. Deutscher Krankenhaustag 2008: Tauziehen im Gesundheitswesen. http://www1.medica.de/cgi-bin/md_medica/custom/pub/content.cgi/Tauziehen_im_Gesundheitswesen/html. last accessed Feb. 19, 2009

[2] Mojon-Azzi SM, Mojon DS: Wartezeiten auf chirurgische Eingriffe in zehn europäischen Ländern. Gesundheitsökonomie & Qualitätsmanagement 2008; Bd. 13:92-98

Investment Backlog – Where is Hospital Financing Heading?

It is estimated that German hospitals are lacking about €50 billion in funding to make necessary investments, for example, in building renovations and large medical devices. Even politicians have turned their attention to this investment backlog. Where are the funds for construction and large equipment to come from in the future? According to a bill recently introduced in the German Parliament, health insurance companies would take over this responsibility from the states. At the same time, the bill would require the states to pay €5 billion each year, earmarked to support investment in the hospital sector, which is about nine percent of the states' financial resources – an appropriate investment ratio.

That is not the case, protest the states. They say that under the new program, they would be mandated to pay, but would no longer have any say in the type of investments, which would, they claim, take an important development tool out of states' control. However, state funds for hospital treatments have fallen steadily for years. While it was still nearly 25 percent at the beginning of the 1970s, recent figures show that it is only about five percent now.[1]

By contrast to publicly financed hospitals, private-sector hospitals tend to have better access to funds for new construction and technology. For example, the Helios Group invested €150 million in hospital infrastructure and employee training in 2007. As for how important technical equipment and large devices are considered to be, we need only look to the fact that there are specially trained experts just for selecting the equipment.

[1] Flintrop J: Krankenhausfinanzierung nach 2008: Der Streit spitzt sich zu. Deutsches Ärzteblatt 2008; Bd. 105(4):A-715

"It is clear that you do not save money by not investing."

Professor Jörg F. Debatin, MD, Medical Director and Chairman of the Board, University Medical Center Hamburg-Eppendorf, Hamburg, Germany

tion regarding the likelihood of disease, but whether the information is useful from a prevention standpoint depends on the treatability of that disease. I view an individual's genetic metabolic markers as an opportunity to determine which therapy is especially well suited for a particular patient. We can avoid errors from the start and provide gentler therapy to customize the approach to individual patients.

DEBATIN: Continuity in patient care also has a number of benefits, as we demonstrated from treating psychoses at our clinic. These psychiatric patients experience repeated relapses that need to be detected and caught in time. We did a pilot study, conducted over five years on 200 patients, where we set up an agreement with the health insurance companies so that the doctors at our clinic were individually responsible for deciding when patients receive outpatient or inpatient therapy. In the study, treatment was about ten percent less expensive than with conventional methods. Plus – and I find this just as important – not only were the patients more satisfied but the doctors were also much happier with this solution because they were able to ensure comprehensive care from a single source. These days, when about 25 percent of medical students no longer want to become doctors, physician motivation will be no minor factor to take into account when making decisions about care models.

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