

Doctor innovation

Shaking up the health system



Commissioned by Philips

The second report in a series of four from the Economist Intelligence Unit

PHILIPS



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Preface

Doctor innovation: *Shaking up the health system* is an Economist Intelligence Unit report, commissioned by Philips, the second in a series of four to be published in 2009. The Economist Intelligence Unit bears sole responsibility for the content of this report. The findings and views expressed within do not necessarily reflect the views of Philips.

This paper, a sequel to *Fixing Healthcare*, which was published in March 2009, focuses on the organisational and structural impediments that have been hindering innovation in healthcare outcomes—and considers several specific case studies that illustrate how such barriers might be overcome.

It is based on a number of interviews with leading experts and senior executives as well as extensive desk research. It also draws on a survey of 775 healthcare professionals from the US, UK, Germany, and India. The report was written by Dr Paul Kielstra and edited by Gareth Lofthouse, Iain Scott, and James Watson.

We would like to thank everyone who participated in the survey, and all the interviewees, for their time and insight. The following individuals were interviewed for the study:

Dr Natalie-Jane Macdonald, UK managing director, BUPA, UK

Stephan Gutzeit, executive director, Stiftung Charité, Berlin, Germany

Simon Stevens, president of global health, UnitedHealth Group, USA

Professor Elizabeth Teisberg, University of Virginia, USA

Professor Bernard Crump, CEO, NHS Institute for Innovation and Improvement, UK

Dr Volker Amelung, president, German Managed Care Association and Professor for International Healthcare System Research, Medical University of Hannover, Germany

Dr James Morrow, director of medical operations, New Medical Limited, UK

Dr Jennifer Dixon, director, Nuffield Trust, UK

Jim Chase, executive director, Minnesota Community Measurement, USA

Dr P. Namperumalsamy, chairman, Aravind Eye Care System, India

Susannah Fox, associate director, digital strategy, Pew Internet & American Life Project, USA

Erika S. Fishman, director of research, Manhattan Research, USA

Professor Vinayshil Gautam, Indian Institute of Technology, New Delhi, India



Executive summary

Asked to picture healthcare in the twenty-first century, readers might imagine scientists applying the latest breakthrough in biotechnology as a radical cure for disease. But equally, they might also think of lengthy waiting lists, shabby wards and lumberingly bureaucratic administrative systems.

This dichotomy is one of the biggest problems confronting policymakers and managers when they look at today's health sector. Advances in medical science and technology have not been matched by innovation in healthcare management and processes. It is a failure that costs taxpayers and patients dearly. "Twenty-first century medical technology is delivered with 19th century organisational structures," notes Professor Elizabeth Teisberg of the University of Virginia's Darden School of Business. "The most powerful innovation in the coming decade will be structural and organisational—new ways of working, new team approaches to delivering the full cycle of care."

The problem is not a lack of ideas, as cutting-edge medical research continues apace. Nor is it unwillingness to put money into healthcare, which consumes vast budgets. Rather, the difficulties lie in the diverse blockages to new ideas finding their way into widespread and transformative change.

But new approaches exist which demonstrate how healthcare systems could be improved. The Economist Intelligence Unit conducted interviews with a range of healthcare professionals and leading experts, along with extensive desk research, to uncover several examples (profiled here as in-depth case studies) which illustrate how organisational and structural changes can deliver clear benefits. The research suggests that policymakers and healthcare professionals should focus on five main areas of system innovation:

- **Share information, especially on the outcome of treatments, to improve quality.** Modern healthcare systems are typically characterised by a lack of transparent, comparative data about the costs and effectiveness of medical interventions. At a very basic level, knowing what actually works best in given situations is central to outcomes-based medicine. But only recently, driven by cost at least as much as by purely clinical considerations, has such data begun to be collected. In places where this has been carried out, the results are often striking. One such example can be found in Minnesota, where a non-profit organisation has been gathering and sharing data from participating local healthcare providers, leading to striking improvements. For example, since 2006 the rate of childhood immunisation has leapt from 52% to 78%. Still, although numerous similar initiatives are under way around the world, the healthcare sector is only beginning to scratch the surface of what is possible.
- **Bring outside entrepreneurship to healthcare.** The inherent conservatism of health managers—understandable, when mistakes pose such a risk to human safety—too often allows incumbents to resist innovation that might leave them at a competitive disadvantage. This does not stop innovation, but makes it more likely to come from incremental change by existing bodies than through revolutionary change from outside. But it does not always have to be this way. When the UK's National Health Service (NHS) would not begin screening for abdominal aortic aneurysms, which kill one in 50



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British men, a group of doctors formed New Medical Limited in 2002 to provide a private service. They have since examined 15,000 people, one in 20 of whom had the condition; one in 200 required, and received, urgent attention. Facilitating other, similar breakthroughs requires reforms that reduce the ability of incumbents to block or deter market entrants. Entrepreneurial ideas must be judged on their medical potential, not on the threat they pose to existing providers.

- **Deliver integrated care based on medical conditions rather than provider expertise.** “Patient-centric” healthcare has been a buzzword in the industry for some time. However, it is impossible to be patient-centric when healthcare systems are so fragmented and incentive structures do not sufficiently reward innovation. In particular, the pay-for-service model puts too high a value on aspects of treatment at the expense of the overall care of a patient. But there are examples of genuine progress towards redesigning healthcare around the needs of the patient. The West German Headache Centre, for example, provides consultations with various types of specialists, all of whom work within the same facility and collaborate on diagnosis and treatment recommendations. Of those who have gone through its programme, the proportion missing more than six days of work in six months has fallen by around 80%, resulting in lower costs to the healthcare system.

- **Treat patients as a source of innovation.** Large organisations find it inherently difficult to remain innovative. So it is in healthcare, where many countries operate monolithic systems. However, although many businesses have realised that their customers can be a powerful source of new ideas and innovations, healthcare providers seem almost instinctively to resist such an approach. Many initially saw the spread of medical information on the Internet as a nuisance or even a risk, although most have since come to see it as a way of enriching doctor-patient conversations. Data from the Pew Research Centre shows that of those Americans with Internet access, 83% use it to look for health information. These “e-patients” increasingly use social networking platforms to teach each other about conditions and treatments. In turn, this will again change the doctor-patient relationship, and could even create the basis for a more market-driven system where customers are able to make informed choices about varying providers.

- **Use these ideas together.** The ideas and approaches reviewed in this study are not mutually exclusive. Together, they become even more powerful. India’s Aravind Eye Care System provides a compelling story of innovation in medicine, employing all of the advice listed above. It is entrepreneurial in its outlook; it measures and reports outcomes data; and it is also highly integrated. Finally, it learns from its customers: certain innovations—such as the establishment of permanent village clinics—took place after market surveys of patient needs and service uptake.

These various examples point to innovations that get at the root of the obstacles to further improvement of healthcare. Such ideas are not simple market prescriptions for what ails healthcare, however much they may borrow from other sectors. They are about thinking differently in order to do things differently. Such ideas are worthwhile not because they may or may not be based on a market-led approach, but because they provide better healthcare.



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The healthcare innovation environment

Information technology has promised tantalising benefits within the field of healthcare for a long time. One academic paper reviewed for this report, entitled “The new age electronic patient record system”, writes about this bright new innovation as being just around the corner. Such records would help clinicians improve their decision-making and better analyse complex health problems. But the paper, which was written in 1995, illustrates how slow-moving the industry can be, given that exactly the same ideas and promises are still being bandied about today.

Healthcare’s apparent reluctance to adopt IT is one example epitomising its reputation for being slow to innovate. Even the way in which healthcare is provided is firmly anchored in the past. Dr Jennifer Dixon, director of the UK’s Nuffield Trust, notes that, despite recent changes, the British system is “still essentially based on lines of 1948: hospitals are still hospitals, GPs are still GPs.” Across the Atlantic, Harvard University professor Clayton Christensen and doctors Jerome Grossman and Jason Hwang, in their book *The Innovator’s Prescription: A Disruptive Solution for Health Care*, describe the traditional hospital as no longer even a viable business model: “In the absence of an array of cross-subsidies, restraints on competition, and philanthropic life support, most of them would collapse.” Professor Elizabeth Teisberg of the University of Virginia, and co-author of another recent bestseller, *Redefining Health Care*, notes of the whole sector that it “is, in management terms, more than a decade behind most.”

Healthcare’s poor reputation for the implementation of innovation is no secret. *The Innovator’s Prescription* and *Redefining Health Care* are only two recent additions to a copious body of literature pointing to the pressing need for change in how healthcare is delivered. The stakes are high: if current trends continue, healthcare spending will leave governments bankrupt within decades.

But how did things reach this state? Healthcare should be among the most innovative sectors in developed economies. Money, which could reward innovation, is plentiful. According to the OECD, in 2006—the latest year for which figures are available—15.3% of GDP in the US went towards health. America is known for its high spending in this field, but the figures for Germany and the UK were still 10.6% and 8.4% respectively.

Equally, there is no shortage of spending on health research and development (R&D), and technological roadblocks do not pose huge problems. Dr Natalie-Jane Macdonald, managing director of UK-based private health insurance company BUPA, points to “a lot of advancement” in the last 10 years in terms of technology and techniques across a range of specialities. Nor is there a lack of inspiration: medical professionals are typically highly trained, very committed individuals.

“There are millions of ideas,” notes Stephan Gutzeit, executive director of the Stiftung Charité in Berlin, Germany. But, he adds, “very few people are courageous enough to innovate, especially in healthcare.” Simon Stevens, Tony Blair’s former health policy adviser and now president of global health at UnitedHealth Group—a US-based health management company serving 70 million people and operating in over 50 countries—believes that in the UK’s National Health Service (NHS) it is not



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Stephan Gutzeit, executive director of the Stiftung Charité, Germany

mainly the supply of innovative ideas that is the problem, but the demand to then implement them.

There are indeed many ideas for ways in which healthcare can combine greater cost effectiveness and improved patient care, including better exploitation of the possibilities of IT, integration of services, or patient-centred care. But most of these have been around for some years. Progress has been anything but rapid. This Economist Intelligence Unit study therefore addresses the organisational barriers that do so much to hold healthcare innovation back, rather than medical and technological advances. After looking at the interlocking factors that together impede change, we present a series of case studies that contain lessons on how the underlying blockages to innovation might be tackled. Finally, we consider how patients themselves are driving innovation outside of the system’s professional constraints.

Friction in the system

How does such a scientifically-based sector do so badly at innovation, and why, in such a well-funded sector, are costs seen as such a big barrier to improvement?

Big and fragmented: Healthcare systems in developed countries are invariably highly complex, but not especially modern. “Twenty-first century medical technology is delivered with 19th century organisation structures, management practices, and pricing models,” notes Professor Teisberg of healthcare in the United States. “In particular, American healthcare is famously fragmented—by loci of care, geography, and payment provider—impeding meaningful competition and allowing inefficiencies to escalate costs.

Large, centralised state-run healthcare systems might in theory seem better structured to deliver innovation, but in practice they are not. “When Americans look at the NHS, they often assume it’s a unitary system that can be reformed by Whitehall diktat” says Mr Stevens. “But in reality there are many of the same constraints that arise in other countries.” Professor Bernard Crump, CEO of the NHS Institute for Innovation and Improvement, adds that “the journey to take a good idea and end up with everyone who could be beneficially using it doing so is bewilderingly complicated.”

Large organisations are rarely good at innovating from within—they often need outsiders with challenging, fresh ideas to drive innovation. Indeed, what Professor Crump notes of the NHS is true of many big institutions: “Leaders haven’t been chosen, or been successful in general because of their conspicuous leadership of innovation within their organisations. They have been successful for other attributes.” These leaders also often have to learn on the job how to foster innovation. Large, state-managed systems can suffer from fragmentation every bit as badly as private ones. Professor Crump points to the very complexity of the NHS as a challenge—1.3 million employees, 500 operating entities, and 50 million users. He likens it not so much to a whale but to a shoal of fish that swim like a whale. Mr Gutzeit of Stiftung Charité says that “silo thinking” has long been a problem in German healthcare organisations as well.

Data fog: An absence of transparent, comparative data about the true cost and effectiveness of medical interventions is also an obstacle to healthcare innovation. Despite the obvious benefit of such information for doctors and nurses who need to make decisions about treatment, medical professionals



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“A lack of provider competition has meant that the opportunity costs of not innovating are not great enough.”

Simon Stevens, president of global health, UnitedHealth Group

were among the first to object to collecting comparative data. Opposition still exists. As Dr Macdonald of BUPA notes: “The power of the healthcare provider traditionally rests in maintaining an asymmetry of information between them and the patient. There is little incentive to empower the patient—many feel it makes their jobs harder.”

But the absence of comparative data has led to even more fragmentation of medical care. The treatment for a given condition can depend as much on chance factors—the specialties and interests of the care provider, or even the region of the country in which treatment took place—as on the optimal approach. In 1991, the *Journal of the American Board of Family Practices* reported on a study in which an actor, posing as a patient, described his condition to 135 doctors and was recommended 82 different treatments—implying that doctors are not relying on comparative data as a basis for diagnosis. The collection and analysis of comparative data has advanced in the last decade or so, but Professor Teisberg of the University of Virginia notes that “not enough has been done. Measuring outcomes well is tricky, but the important thing is to start measuring.”

Barriers and competition: In a traditional marketplace, problems like this would not matter so much. Large, slow-moving entities would have to innovate or face challenges from hungry new entrants. But healthcare systems in developed countries have proved remarkably resistant to innovation from outside. In part, explains Mr Stevens of UnitedHealth, hospital provider market concentration means that, unlike other parts of the economy, most improvement occurs through incremental efficiency gains by incumbents, rather than from new entrants deploying radically improved methods. “Arguably, a lack of effective provider competition has meant that the opportunity costs of not innovating are not great enough,” he says. Similarly, in the UK, Dr Macdonald notes that existing value locked up in the delivery models of incumbent providers makes it difficult to introduce new healthcare delivery in the UK with any scale. “It is a very inefficient market,” she says.

All too often, the problem for innovators coming from outside is that insiders can resist changes that threaten their interests. If an innovator gains a competitive advantage over the existing system, then “a new law will change it, so nobody is willing to invest,” says Dr Volker Amelung, president of the German Managed Care Association and professor for International Healthcare System Research at the Medical University of Hannover. In a 2006 *Harvard Business Review* article, “Why Innovation in Health Care Is So Hard”, Professor Regina Herzlinger of Harvard University points to numerous American examples where incumbents, from local doctors to large hospitals, have sent innovative competitors packing with the help of regulators or politicians. Often, Professor Herzlinger writes, the argument was not even the quality of the care provided by new entrants so much as that their cheaper, more efficient specialty services were siphoning off profits needed to subsidise other types of care. The healthcare industry spent US\$481 million lobbying the US government in 2008—the most by any sector and a 73% increase over five years¹. The American Medical Association (AMA) alone spent US\$200 million. This sort of money is rarely laid out solely to advance the public good over private interests.

The environment for outsiders is equally hostile in the UK, even with the government actively trying to instil competition within the healthcare service. “Huge pressure is applied when anybody tries to enter the market with a new model,” confirms Dr Macdonald of BUPA. “They get squashed by the

¹ OpenSecrets.org, Lobbying: Ranked Sectors 2008. <https://www.opensecrets.org/lobby/top.php?showYear=2008&indexType=c>



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existing players whose incentive is to maintain the status quo.” Dr James Morrow, a Cambridgeshire GP, experienced at first hand the challenges of innovating within and outside the system when he co-founded New Medical Limited in 2002. Any true healthcare innovation, he has found, has to battle against a system designed to resist change. “Very few ideas have the stamina,” he says. “People give up because it becomes too difficult.” He is not alone. Professor Crump of the NHS says that successful champions of innovation within the UK’s health service tend to talk in terms of battles they have had to fight to overcome inherent facets of the system.

This resistance to change is all the more powerful because healthcare as a whole, including its regulators, is inherently risk averse. One of the first things learned by every medical student is the precept, “first, do no harm”, which underlines the notion that a novel approach that goes wrong could have fatal consequences. This caution is extended beyond the walls of medical schools. “Officials know they will be punished by the public and politicians more for under-regulating... than for tightening... even if doing so delays a useful innovation,” writes Professor Herzlinger.

Such inherent conservatism has provided centuries of examples of medical establishments rejecting new ideas, the worth of which has later become well established. Even in the 19th century, doctors were dismissive of the idea that hand-washing before surgery or assisting with birth might prevent infection. A more recent example is that of medical information on the Internet. As recently as 2000, the AMA warned patients against it, worried they might receive misleading advice. Today, the AMA embraces it, and two-thirds of American physicians consider it a positive thing if patients come to consultations armed with information from the web, according to a study by Manhattan Research.

Misaligned incentives: Healthcare innovation is not impossible—many companies and organisations within the healthcare sector innovate perfectly well. However, innovation mostly takes place inside existing systems, which means that changes must usually benefit existing stakeholders, including incumbent providers. Dr Dixon of Nuffield Trust points to both top-down innovations, such as the creation of NHS Direct—a nurse-led, medical advice telephone line—and bottom-up ones, such as an after-hours cover service for GPs created by doctors themselves. The common element in both was not so much the nature of the innovation, as they were pitched into an environment that was conducive to them being maintained.

Incentive structures within healthcare are crucial to the success of innovation. But often they are inadequate, or will even block change. Dr Amelung explains that in Germany there is little incentive to innovate—inefficient performers do not risk losing their roles, and innovators cannot make a return on investment. Ironically, he notes, the amount of cash in the German healthcare system may actually impede change, by making everyone comfortable.

The normal practice of paying care providers for medical services rather than outcomes encourages healthcare based on as much treatment as possible, not on what is necessarily most cost effective or efficient. In *The Innovator’s Prescription*, Professor Christensen calls fee-for-service reimbursement “a runaway reactor” fuelling costs, citing estimates that as much as one-half of US consumption of healthcare “seems to be driven by physician and hospital supply, not patient need or demand.”

In the UK, for much of the last decade, the government’s efforts to reform the NHS have included



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“The most powerful innovation in the coming decade will be structural and organisational—new ways of working, new team approaches to delivering the full cycle of care.”

*Professor Elizabeth Teisberg,
University of Virginia, USA*

modifying incentive structures and introducing elements of “constructive discomfort”—competition within the service and with outside providers. So far, the result has not been a dramatic increase in the level of new entrants, but the threat of competition has driven existing elements in the NHS to improve. Dr Dixon says that the relative success of the NHS in reducing waiting times for treatment came about partly through edict, partly through new money, and in small part because “[the NHS was] facing the direct threat of competition from independent treatment centres.”

To date, efforts to restructure how the system operates have had mixed success. Professor Crump says he could still point to many examples of innovations that are widely seen as desirable, but which under current business processes would create significant financial disincentives. “The process of changing these incentives is a slow and complicated one,” he says. Dr Dixon nevertheless stresses the positive. She says recent efforts have resulted in an evolution: “There is gradual change, but still quite a way to go.”

The military theoretician Karl von Clausewitz famously said: “Everything in war is simple, but the simplest thing is difficult.” The accumulated challenges, small and large, which arise within a military environment, together create an inconceivable friction. The overlapping barriers to innovation create a parallel, debilitating friction for healthcare reform—which might explain the frequent use of battle analogies by healthcare innovators. “Lots of things seem to block innovation,” notes Dr Morrow of New Medical Limited. “It is difficult to maintain enthusiasm if every line you go over has barbed wire across it.”

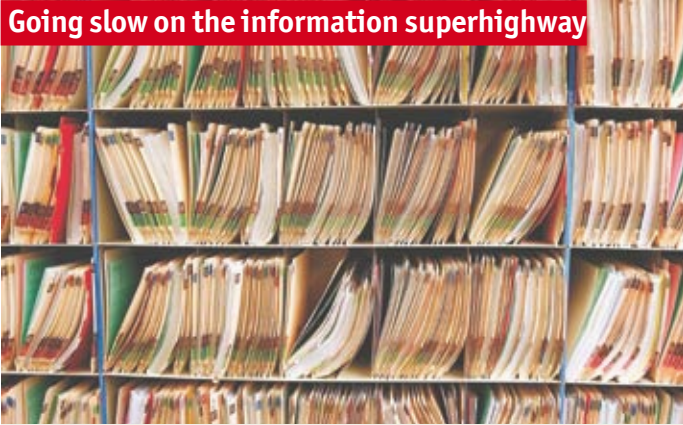
Most healthcare professionals to our survey identify patient-centred care as a key strategy for driving down costs and improving standards of care. However, 40% say resistance from policymakers would be the leading barrier to the introduction of patient-centred care, ahead of lack of political will (37%) and general resistance to change from the medical community itself (28%). Improving the ability of health systems to adopt innovation, then, will not depend so much on the creation of new ideas—which are already legion—as on finding ways to let them advance. “The most powerful innovation in the coming decade will be structural and organisational—new ways of working, new team approaches to delivering the full cycle of care,” confirms Professor Teisberg of the University of Virginia.

There is no single formula to release innovation in healthcare. Various changes are necessary to ensure that any changes to the underlying healthcare systems can have a lasting impact. Over the next few chapters, this study looks at three such innovations in greater detail.



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Going slow on the information superhighway



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One of the hottest topics in healthcare is integrated care. More than 20% of Americans, for example, suffer from more than one chronic condition, such as diabetes, arthritis or heart disease. Potentially, they will have several doctors. But they do not have access to all their medical records, and may lack the knowledge to be able to convey details of their treatments to every medical professional who treats them.

A logical solution would be the provision of portable electronic patient records (EPRs)—universal medical files accessible on demand by care providers, allowing treatment decisions to be made in the context of the patient’s complete history. Proponents such as Dr Volker Amelung, president of the German Managed Care Association, insist that without such records, “integrated care will not work.”

Despite their potential to improve care and reduce costs, the adoption of EPRs has been exceedingly slow. In our survey, only a minority of medical professionals rate existing electronic storage and management of health data in their countries as good—23% in the US, 21% in Germany, and just 12% in the UK. Most describe them as acceptable, or even basic.

Barriers to their implementation differ between countries, but the result has been the same. *The New England Journal of Medicine*

reported on a 2008 survey that pointed squarely at the lack of incentives for individual physicians. Only 4% had complete EPR systems, and another 13% had simpler ones. By contrast, 66% said that the cost was the leading barrier to the purchase of such a system, and 50% worried about return on investment.

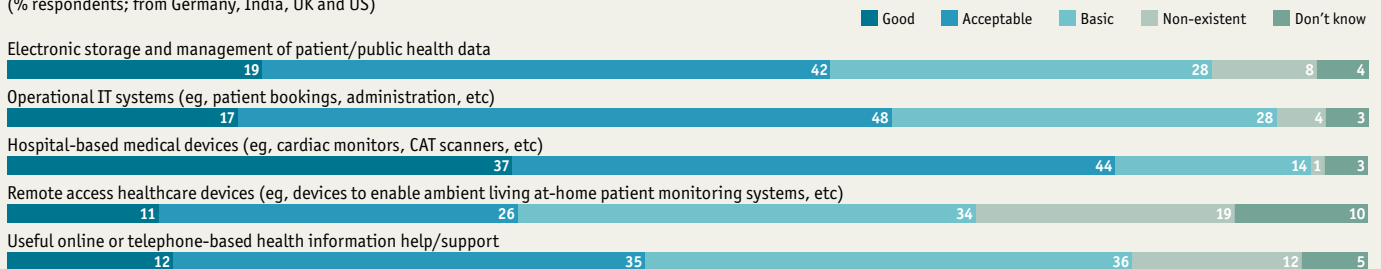
In Germany, Dr Amelung has seen no progress at all on the diffusion of EPRs. A lack of incentive to change plays a role, but so does risk aversion. He recalls viewing an advanced record system at an Israeli hospital when on a study trip with senior German health executives. “The German group talked only about data security, looking at what could fail, not at the added value for the patient,” he notes. Given Germany’s advanced IT sector, he says, “we could have had electronic patient records for years. Attitudes and incentives are holding it back.”

In the UK, EPRs have been stalled by a traditional tale of bureaucratic innovation gone wrong. Launched in 2002, the government’s £12.7 billion Connecting for Health programme—the largest civil IT project in the world, designed to provide an EPR system for all NHS patients—is running at least four years behind schedule. Officials will no longer even give an expected implementation date, and pilot projects have gone so badly that hospitals designated for installation have requested delays. In March 2009, a leaked memo suggested that the Department of Health had taken over policy control from Connecting for Health officials, and was looking at allowing local procurement of systems around a national core rather than the single unified system foreseen under the plan.

Even when these problems are solved, others threaten to take their place. According to our survey, in each country the issues described above were only the second most frequently cited impediments to EPRs. Everywhere, respondents thought that patient worries about privacy remained an even bigger, unresolved concern. The barriers are different, but equally effective at blocking the kind of innovation healthcare needs.

In your view, how would you rate the sophistication of the following aspects of IT and technology in your country’s healthcare system?

(% respondents; from Germany, India, UK and US)





Share data to know what works

As noted above, one of the big barriers to innovation is a lack of transparent data about the true cost and effectiveness of medical intervention or even prevention programmes. Healthcare commissioners, especially private insurers, are obviously interested in obtaining better results and lower costs, and in the last decade the latter in particular have been increasingly gathering outcomes data. UnitedHealth in the US, for example, has implemented programmes to collect outcomes on complex cancers, cardiovascular care, and muscular-skeletal services, among others. Insurers pay more to providers that achieve better results, and give patients incentives to use them, according to Mr Stevens of Ovations, which is a subsidiary of UnitedHealth. This leads to superior service, and the benefits of better medical results more than cover the cost of gathering the data.

In the UK, BUPA began several years ago to use a study of outcomes to change how it funded care for back pain, abandoning the use of lengthy physiotherapy where it was statistically ineffective. Again, patients were more satisfied and wasteful spending was cut. The NHS has been less enthusiastic, but is coming round, building outcomes measurement into the commissioning process. According to Professor Alan Maynard, a healthcare economist at the University of York, politicians have approved NHS investment in patient-reported outcome measures even without overt public enthusiasm. “Almost inadvertently, Whitehall policy wonks may be creating the building blocks for improved NHS efficiency,” he says. This data, combined with cost and hospital episode statistics, has the potential to increase provider transparency and accountability.²

Although American insurers have been engaged in this sort of activity longer than anyone, the scope for information-led innovation is still immense. “Healthcare systems in all industrial countries are still in the foothills of that kind of revolution,” says Mr Stevens.

Data mining in Minnesota

One model for even broader collection and dissemination of patient outcome information operates in the US state of Minnesota. Minnesota Community Measurement (MCM) grew out of co-operation early in the decade between non-profit insurance plans seeking improved care quality. A pilot project devised suitable metrics, correlated with long-term positive outcomes, to create a measureable gold standard in diabetes care provision by doctors and clinics (the D5). This led to the creation of a non-profit organisation, which sought to use the same concept for other conditions, with various stakeholders as members—insurance firms, the Minnesota Medical Association, healthcare providers, and patients and employers. Now, the organisation’s website provides detailed, comparative treatment processes and, where appropriate, patient outcome results for medical groups and clinics dating back to 2004.

Jim Chase, MCM’s executive director, explains that the approach was new because many people at the time would have said that quality could not be measured. He notes that the organisation needed to be clearly structured so that the data was not seen as a tool of one vested interest group

²www.commissioninghealth.com/index_files/v2n1Maynard.htm



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or another. Most importantly, a multi-stakeholder approach has given a helpful balance on the sort of information that it is desirable to obtain. Providers, for example, are less interested in cost information than employers, but it is important that every side finds the output useful.

An emphasis on co-operation also helped to overcome one of the biggest early barriers to the project—getting the clinical information necessary to measure the impact of care on patients. According to Mr Chase, health plans had administrative data from claims forms, which did not necessarily include results, and he was surprised that clinicians would themselves volunteer the data.

The clinics were right to take this leap—they may be the stakeholders making the most direct use of the results. Comparative data has let them know how they are doing. In some cases, clinics found that they were not accomplishing what they thought they were, says Mr Chase.

The results have been very positive.

- In the last five years in Minnesota, the number of diabetics achieving all their “D5” goals (lower blood pressure, cholesterol and blood sugar, quitting smoking and taking aspirin) has more than tripled.
- The percentage of those for whom it is appropriate actually getting screened for breast, cervical, and colorectal cancer has surpassed 50%, an increase of more than 5% in one year.
- Since 2006, the rate of childhood immunisation has jumped from 52% to 78%.

Mr Chase points out that while the data on its own did not bring the changes, it led to an environment in which those doing well shared best practice. Nevertheless, the very fact of measuring has had an impact, and in the diabetes case has even defined in practice the meaning of the goal of excellent care.

Innovation usually drives knock-on, unexpected change, and MCM is no exception. Mr Chase notes that he had not expected that healthcare payers would use the data to create bonus payments to well-performing providers. He hopes that the organisation will contribute to more change in the future. MCM is looking, for example, at measuring knee and hip replacements, not just by which procedures have the best results, with the hope that this can help clinicians and patients in making informed

CASE STUDY: Minnesota Community Measurement

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- **What it does:** Collects and publishes comparative treatment processes and, where appropriate, patient outcome results online.
- **Why it's innovative:** It has shown that it is possible to overcome clinicians' reluctance to gather and publish transparent data about the true cost and effectiveness of medical intervention.
- **What it has achieved so far:** Comparative data lets patients and clinics know how they are doing. Locally, cancer screening and childhood immunisation rates have shot up, as has the number of diabetics reaching key targets. Future goals include data gathering on long-term patient outcomes.
- www.mnhealthscores.org



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decisions about the best treatment in certain circumstances. Finally, he would like to see another leap in the type of data gathered to consider long-term outcomes: “Did the patient get better? Is the patient better off two years later?”

MCM is not the only organisation involved in such work. The number of US communities undertaking this sort of reporting has grown to at least 14, Mr Chase says. In the UK, the NHS recently announced that it would post online mortality rates for hospitals. In Germany, newspapers and magazines have begun publishing comparative rankings of even specialist clinics. Nor are self-publication or multi-stakeholder non-governmental organisations (NGOs) the only model for this type of work. Outcomes Health Information Solutions of Charlottesville, Virginia, is one of the US’s fastest-growing small companies, specialising in the acquisition and analysis of patient outcomes data. Meanwhile, RateMDs.com, financed by advertising, publishes patient ratings for nearly 200,000 doctors across the US. As outcomes reporting burgeons, Mr Chase is finding that providers in several areas are asking for alignment between the various measuring organisations. The value of the work in Minnesota shows that working through the problems of national quality measures will be worthwhile.



Let entrepreneurs get on with it

Another barrier to innovation in healthcare is the systemic obstacles put in the way of innovators not already within the system. Entrepreneurs, however, are outsiders who see things differently. Nurturing all medically sound entrepreneurs, rather than just insiders, could create enormous change. The problem is that the opportunity cost of this failure is invisible, but it is nevertheless real. In fact, Mr Gutzeit of Stiftung Charité believes that the leading stumbling block to innovation in German healthcare is that it is missing entrepreneurship.

Privatised screening

In his career as a GP, Dr James Morrow had two patients die of a burst abdominal aortic aneurysm (AAA). The condition has very few symptoms before it leads to near-instant fatality. It kills about one in 50 British males, making it a problem of similar magnitude to breast cancer, from which about one in 30 women die. After the deaths, Dr Morrow discovered that screening for the condition could be done by ultrasound, following which a relatively simple surgical procedure could eliminate the danger for those affected. The best evidence indicated overwhelmingly that a screening programme would be cost effective for the UK's NHS.

When he pursued the matter through the approved channels, however, he recalls that the experience was like beating his head against a wall. "The response of the local NHS health sector was that 'it's not that simple—this should be a national decision, and it doesn't fit our strategic view'," he says. When he tried to raise the issue elsewhere in the NHS, he was told that it was not a national priority. Convinced that screening should be available, both medically and ethically, Dr Morrow and two colleagues with entrepreneurial experience—Dr David Berger and James Kraft—raised private capital and set up New Medical Limited in 2002 to provide the service privately.

CASE STUDY: New Medical Limited



© New Medical Limited

- **What it does:** Provides a private screening service for abdominal aortic aneurysms (AAA), which kill about one in 50 British men.
- **Why it's innovative:** The NHS was unwilling to launch a screening programme, even though a simple operation could eliminate the danger of AAA. Since its launch it has won praise, and the NHS has pledged to launch its own service.
- **What it has achieved so far:** Screened about 15,000 patients, one in 20 of whom had the condition, and one in 200 of whom needed urgent intervention.

■ www.newmedical.co.uk



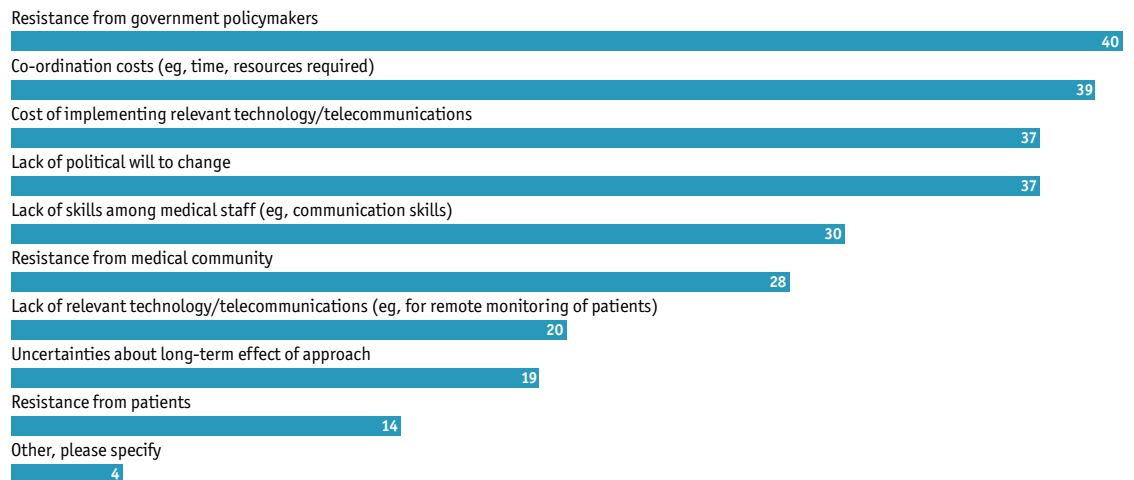
Doctor innovation

Shaking up the health system

What do you think would be the biggest obstacles to establishing patient-centred care in your country's healthcare system?

Select up to three.

(% respondents; from Germany, India, UK and US)



“The response of the local NHS health sector was that ‘it’s not that simple—this should be a national decision, and it doesn’t fit our strategic view.’”

Dr James Morrow, director of medical operations, New Medical Limited, UK

Since its launch, New Medical has received strong support from medical experts and professional colleagues in general, as well as high marks from users. The NHS, on the other hand, actively showed its displeasure in various ways, says Dr Morrow. “We have experienced pressure to stop providing our services, not from patients, GPs or consultants, but from existing health authorities. Despite convincing evidence that the testing we provide helps to save lives, some health authorities appear to believe that equity of provision is more important than saving some lives through self-pay screening. The net result of such a policy is unnecessary preventable deaths.”

Dr Morrow is no violent critic of the NHS—he still works as an NHS doctor, and is the co-ordinator of a new end-of-life care programme in Cambridgeshire which the service has chosen to fund as one of 16 integrated care pilot projects in the country. He adds that he has been “impressed by the desire to innovate from the highest level, including politicians and senior officials.” Indeed, in our survey of medical professionals, the NHS, as well as the UK’s political leaders, scores higher than those of other countries in its willingness to pursue innovation. Nevertheless, it matters where the innovation occurs. “The lengths to which the establishment will go to resist independent innovation are substantial,” Dr Morrow says.

New Medical has yet to make a profit, but it has to date screened about 15,000 patients, one in 20 of whom had the condition, and one in 200 of whom needed urgent intervention. “We’ve probably saved quite a few lives,” says Dr Morrow. The firm has now expanded to screening for osteoporosis—not available on the NHS—and to providing a statistically far more effective screen than the NHS does for bowel cancer. Against this must be set the melancholy statistics of what might have been. Dr Morrow says that since 2002, when good evidence of the value of screening for AAA was published, 55,000 British men have died from the condition. He estimates that at least one-half of them could have been saved if screening had been brought in early.

The NHS, however, does not seem geared for speed. The UK National Screening Committee did not recommend screening for AAA until 2007, and as yet there is no programme in place. Entrepreneurship is hard enough at the best of times, without having to overcome any additional barriers.



Doctor innovation

Shaking up the health system

Innovation in India's eye care

Another example of how big a contribution entrepreneurship can make can be found in India.

In 1976, at 58 years old, eye surgeon Dr Govindappa Venkataswamy retired from government service to set up his own clinic. Helped by his sister and brother-in-law, who are also ophthalmologists, he established an 11-bed clinic with the grand goal of eliminating avoidable blindness in India, especially among the poor. Unable to convince financiers to back the venture, Dr Venkataswamy mortgaged his house.

Within a year, the clinic had quadrupled in size. By 1981 a 250-bed hospital was open, and today the multi-facility, financially self-supporting Aravind Eye Care System treats more than 2 million patients a year, including a quarter of a million surgical operations. According to Aravind's chairman, Dr P. Namperumalsamy, the organisation provides 45% of eye care in the state of Tamil Nadu, or 5% or all such services in the entire country.

One contributor to this success has been an ongoing flow of business model innovation. Dr Nam, as he is known, points out that the first barrier to good eye care in a country like India was letting people know treatment was even available. Millions of people in India suffer from full or partial blindness, which in about 80% of cases is caused by easily treatable cataracts. Those affected, especially among the rural poor, often assume either that there is no treatment, or that it would be unaffordable. "We create a demand, an understanding, that if you have a cataract, a simple operation can work," says Dr Nam. "You can again support your family."

From Aravind's early days, its clinicians have gone out to provide care in nearby rural villages—treating those they can on the spot and referring others for more advanced care in one of the hospitals. More recently, the organisation found that only a small percentage of those with eye problems used their temporary "eye camps", so they set up permanent village out-clinics.

When the clinic began, the cost of eye care, even basic cataract surgery, was indeed too high for many patients. This is a broader problem for India: according to our survey, lack of funding is the single

CASE STUDY: Aravind Eye Care System



© Aravind Eye Care System

- **What it does:** From small beginnings, Aravind now treats more than 2 million eye patients in India a year, including a quarter of a million surgical operations.
- **Why it's innovative:** Its clinicians provide care in rural communities to prove that most blindness is treatable, and, importantly, affordable. All patients receive the same care for free, but extras are charged for, so wealthier patients help subsidise poorer ones.
- **What it has achieved so far:** Entrepreneurial innovation has driven down costs: Aravind now makes its own low-cost lenses and trains local villagers as paramedics to handle non-medical work, freeing up doctors.
- www.aravind.org



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biggest barrier to improved healthcare in the country (cited by 39% of respondents), followed closely by the related difficulty of understaffing (35%). Rather than giving up or cutting corners, Aravind has driven costs down through entrepreneurial innovation.

Rather than importing the artificial lenses used in cataract surgery from developed countries, which cost hundreds of dollars, Aravind started making its own. These are ISO-certified, cost US\$2-3 each, and are now exported widely. The organisation has since begun manufacturing, where cost effective, the pharmaceuticals needed by patients, and even the surgical equipment and sutures used in operations.

Aravind trains local villagers, usually young women with a high school education, as paramedics to complete all non-medical work, undertake routine investigations, and to help in theatre. “You can employ 20 doctors or 200 paramedics—the quantity is more and the quality is the same,” says Dr Nam. “We make the best use of available resources.”

This leaves doctors free to concentrate on where they add most value, in particular the actual operations. According to Dr Nam, each doctor can do eight to ten surgeries per hour, instead of the typical one to two in a state facility. Economies of scale come into play—the more operations that are done, the cheaper they become.

Even inexpensive surgery, however, is beyond the scope of many budgets. Dr Nam’s statistics indicate that about 15% to 30% of patients cannot afford to pay any amount. Accordingly, Aravind needed an innovative pricing structure. Now, everyone receives exactly the same care for free. The hospital charges, however, for after-care accommodation. Those who wish, and have the means, can pay for a private recovery room with hot meals; those with less can pay to sleep on a straw mat; and those with absolutely nothing can recover at home. In effect, the better off subsidise the poor, but do so voluntarily by paying for services.

The search for improvement does not stop. Some time ago, for example, the organisation invested in a teleconferencing capacity to allow doctors to take part in joint seminars with Johns Hopkins University in the US. Recently it adapted this technology to create mobile telemedicine vans that allow screening of diabetics in rural villages, with the images beamed to doctors in the main clinics. This meets a pressing need in a country with 45 million diabetics and just 12,000 ophthalmologists. Dr Nam comments: “We always encourage innovation. Not only doctors and managers, but if anybody suggests something we always follow it up. Each week we have a meeting to look at suggestions on how to improve.”

Others are taking note: nearly 250 hospitals have come to the Aravind clinics to learn how to improve. The knock-on effect of innovation is substantial, but not infinite. Dr Nam makes clear that only eye hospitals have shown interest in the Aravind model. Eye problems are tangible in outcome, so quickly achievable results create great demand.

India is no poster child for deregulation, but Aravind’s success in large measure comes because it was allowed to get on with it, in a way that would simply have been unlikely in developed countries.



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Put the patient back in the centre

“It makes a big difference to who has to be involved and how you set incentives if you look at what the product is like from the patient perspective.”

Dr Volker Amelung, president, German Managed Care Association and Professor for International Healthcare System Research, Medical University of Hannover, Germany

Healthcare, intuitively, should focus on its customers, rather than caregivers. But Professor Teisberg of the University of Virginia believes that healthcare systems are typically set up around hierarchies, rather than patient needs. “If they were set up around patient needs, we would set up care cycles around solutions for patients and families,” she says. Innovation of that kind has little to do with the specifics of medical knowledge. It is about business practice. “Integrated care is nothing other than product design,” says Dr Amelung of the German Managed Care Association. “What counts is how everything works together. It makes a big difference to who has to be involved and how you set incentives if you look at what the product is like from the patient perspective.” Professor Crump says his NHS institute is a strong proponent of experience-based design, arguing that it is natural to work with patients on how services are delivered. His organisation has used emotional mapping of patient reactions at different points in the care cycle, which then feed into a process where clinicians and patients are partners in redesigning the details of care. “Even very good services with high-quality clinical outcomes and good patient feedback have nonetheless found that if they adopt these approaches, they bring about tens or scores of small changes, and get significant enhancement of the patient experience,” he says.

Just thinking hypothetically in this way can yield great value. A Swedish project of the late 1990s involved healthcare professionals trying to think through the patient flow process from the perspective of Esther, an imaginary, elderly but competent woman who has various things go wrong in different scenarios. Changes resulting from the innovations identified by the Esther Project were dramatic: within a five-year stretch, for example, hospital admissions in the Esther catchment area fell by 22%.³

A fragmented care system, on the other hand, throws up a host of incentives which focus on specific aspects of care, but in so doing become impediments to improving overall patient care, and even hinder innovation. There are many examples: in most countries, hospitals are reimbursed for the length of time a patient stays, rather than how quickly care is provided. Obviously, simply paying more for shorter stays would create perverse incentives—a focus on the value of the treatment to the patient would be more appropriate.

The impacts of disjointed incentives are diverse. One reason, for example, that telephone consultations are so rare in the US is simply that Medicare does not pay for them.⁴ More worryingly, Professor Teisberg explains, “in the United States in particular, we do not have a good focus on diagnosis, because we don’t pay directly for diagnosis, and what we do pay is determined only after care is delivered.” As a result, a majority of malpractice suits involve misdiagnosis, delayed diagnosis or failure to diagnose. And it gets worse: “When you have a wrong diagnosis, all of the care that you deliver is wasted, and increases the risk to the patient,” she says.

When incentives map onto overall patient needs rather than individual health services, many of these incentives disappear. Care not only improves, but also becomes cheaper. In fact, according to our survey, 81% of medical professionals believe that patient-centred care will be either critical or important for reducing overall healthcare spending. Insurance companies are frequently cited as

³ <http://www.ihl.org/IHI/Topics/Flow/PatientFlow/ImprovementStories/ImprovingPatientFlow/TheEstherProjectinSweden.htm>.

⁴ John C Goodman, *Perverse Incentives in Health Care*, Wall Street Journal online, April 5th 2007.



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organisations much more likely to concentrate on preventive or early-care measures because they profit more directly from patients not getting seriously ill later. Kaiser Permanente, a US-based healthcare provider, is a well-known example of a company that pays its doctors a salary, thereby removing some of the distortions of fee-for-service. More broadly, Professor Teisberg points out, universal health systems, where everyone has access to early-stage and preventive care, are invariably less expensive than those in the US, where guaranteed free care is available to all only in hospital emergency rooms. Even in broad national systems, a patient focus makes a difference. The UK's NHS does not encourage routine check-ups because statistically they are not an efficient way of discovering as yet unrevealed conditions. BUPA does, however, because clients want such check-ups, and the company sees value in the prophylactic effect of reminding patients of how some behaviours, such as gaining excessive weight or smoking, might be harming health.

Patient-centred care takes numerous forms. Integrated care is only one element, along with greater patient involvement in management and treatment decisions, but it too is diverse. Dr Amelung reports that in Germany alone there are 6,000 integrated care contracts covering a vast range of programmes. It can be something as simple as better service provision. Dr Macdonald notes that BUPA introduced a facility for patients undergoing chemotherapy to have their treatments in the home, at work, or even while on holiday. Not only was this more convenient for patients, it led to better compliance and it cost 15% less than the same treatment in hospital. In the US, meanwhile, UnitedHealth's Diabetes Health Plan identifies those doctors best able to provide diabetic care and rewards them for meeting evidence-based care guidelines, while also providing patients with proactive support to get preventive care, and incentivising them to better manage their own risk factors—with rewards of up to US\$500 per year. Mr Stevens describes it as a concrete example of integrated payment reform drawing together evidence-based care, information and incentives, and engaging both consumers and health professionals.

Western Germany's integrated headache remedy

When everything comes together, an advanced, patient-based integrated care facility might look something like the West German Headache Centre. It was established in 2005 by KKH, a German insurer, and the Essen University Hospital, after changes in German law made the funding of such a joint venture viable. KKH wanted to provide better, more efficient treatment for its patients and to reduce costs, while Essen University experts were concerned that care at its existing clinic was inadequate. Migraine care in Germany, often handled by primary care physicians, frequently prescribed outdated therapies and was overly dependent on pharmacological therapies. Doctors simply did not have the time to provide the necessary patient education about lifestyle changes and exercise regimes that can reduce the severity and frequency of migraines.

One difficulty in obtaining the correct treatment for headaches is that they can indicate any number of underlying conditions. The patient and primary healthcare provider can face a complex series of possible specialist alternatives. Even arranging to consult the right specialist can be a challenge.

Instead of having the patient navigate such hurdles, those who arrive at the West German Headache Clinic see, on the same day, a neurologist, a psychologist and a physiotherapist. These three then jointly make a diagnosis. Patients for whom the headaches present a problem less than five days a



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“Innovation without explanation will just lead to resistance.”

Dr James Morrow, director of medical operations, New Medical Limited, UK

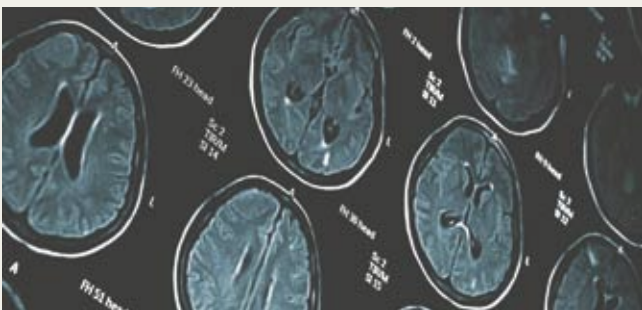
month are referred to one of the clinic’s network of specialist neurologists, who have specific, up-to-date expertise in headaches. Those with the most severe problems, or underlying complications, are admitted to the University Hospital. Those in the middle are admitted to a five-day small group programme at the centre that provides education on migraines and relaxation techniques, group counselling, exercise, and physical therapy. After the course, patients are also referred to a network neurologist.

The improved diagnosis and prescription of the most appropriate combination of treatments provided by the clinic’s model has yielded impressive results. A survey early in the project found that before going through the programme 58% of patients had missed six days of work or more due to headaches; after participating this proportion dropped to just 11%. The patients gave very high marks for their satisfaction with the treatment, and were also much more satisfied with how their migraines were being treated in general and their own ability to cope. Although the patient care figures improved immediately, the centre required significant up-front investment. By January 2009, however, it reported that it had achieved overall cost savings over the previous provision of care.

Not every integrated care scheme will work. Dr Amelung of German Managed Care explains that, like the headache centre, they should have a small number of partners; have simple, straightforward contracts; be indication-oriented; and involve long-term arrangements of at least five years. “They make no sense in the short term,” he says. “You have to invest first and harvest later.” Most important, however, is that patients need to understand why this leads to better care. Dr Morrow, who is co-ordinating an integrated end-of-life care pilot project in Cambridgeshire, agrees: “Innovation without explanation will just lead to resistance.”

None of this is a question of new medical techniques or discoveries—it is simply about improving business processes. With more effective, faster, more convenient and cheaper care, the case should not be hard to make to patients. In fact, patients probably deserve more credit than they get for ways in which innovation is introduced into healthcare systems, as will be explored in the next section.

CASE STUDY: West German Headache Centre



© Luis Francisco Cordero/Shutterstock

- **What it does:** Migraine sufferers who visit the centre see, on the same day, a neurologist, a psychologist and a physiotherapist, all of whom then jointly make a diagnosis.
- **Why it’s innovative:** Patient-based, truly integrated care is often discussed, but rarely implemented.
- **What it has achieved so far:** A striking drop in migraine-related work absenteeism, greater patient satisfaction and lower treatment costs.
- www.westdeutsches-kopfschmerzszentrum.de



Patients doing it for themselves

The drive to innovate need not come only from healthcare providers or commissioners. Patients themselves can also bring about change, although they have less power than consumers in other markets for two important reasons. First, they pay for care directly only a minority of the time—13% of total health spending in the US, Germany, and the UK, according to the OECD—which reduces the leverage from their purchasing power. Second, the gulf in knowledge between practitioners and patients makes healthcare a market often defined by the providers, rather than the consumers.

In practice, however, patients can exert great influence. America's Orphan Drug Act—now over 25 years old, and responsible for putting 325 drugs for various rare diseases into the hands of patients—is often cited as an example of the power of patient groups. Pharmaceutical and biotechnology companies now regularly co-operate with patient groups on the development of drugs for rare diseases which might otherwise have been neglected because they were not believed to be an important market.

The impact of the individual patient on innovation in healthcare, however, should not simply be seen in the context of direct changes to professional health provision. Instead, patients are innovating in the fields that they control much more quickly than formal healthcare providers. Patients are less likely than healthcare providers to be deterred by the systemic barriers to innovations which they see as valuable. This is extremely important, although often unheralded—as Mr Stevens of UnitedHealth points out, most healthcare is in fact self-care or informal care that happens before a patient ever interacts with the formal healthcare system. When patient change and expectations reach a critical mass, however, the commissioners or providers in the formal system will often look to follow where patients have led, or in other cases will be forced to adjust their offerings to take account of a changed environment.

One of the big changes for patients over the last decade has been their use of the Internet to access the vast amount of health data available online. According to data from the Pew Internet & American Life Project from December 2008, 74% of Americans—and 95% of American teenagers—have access to the Internet. Of those, 83% use it to look for health information, a group Pew calls e-patients.

What are the implications for innovation? Early expectations, fed more by anecdotes than by data, were that this would utterly transform the doctor-patient relationship. Patients newly informed (or misinformed) by what they read on the Internet would begin to reject advice from their doctors, or even shop around for medical care. The resulting shift to a more market-based approach to medicine would drive innovation. The capacity to do that is there: Pew found that 24% of e-patients had at least consulted doctor or hospital reviews, and as noted above, information is becoming available online and even in some newspapers in different parts of the US, UK, and Germany. Physicians were worried. Indeed, the American Medical Association published a press release counselling patients against getting advice from the Internet. No one listened. Susannah Fox, who leads health research at Pew, recalls from patient interviews several years ago, that when doctors tried to tell patients not to look for information on the Internet, not a single person stopped. "They went underground or found a new doctor," she says.



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In practice, however, the use of this information to replace physicians, or even create a market in physicians, has been marginal—at least, so far. Dr Dixon of the Nuffield Trust notes that patients in the UK, especially from the middle class, are certainly going to the Internet for health information, but the evidence suggests that few are using it to make choices about provision. Dr Amelung's impression is that in Germany, at least, there is more talk about the impact of the Internet than what is observed in reality. This surface stability does not mean that the predicted, market-like impact of web-based information has been non-existent. As the NHS has found, the very threat of market competition can have some value. Mr Chase of Minnesota Community Measurement notes that even though patients are not yet using the MCM data to shop around for doctors, the simple fact that they know the data is there makes healthcare providers want to improve their results.

Overall, however, the biggest impact of Internet health data on the doctor-patient relationship has been to transform it into the give-and-take informed conversation that it is today, notes Erika Fishman, director of research at Manhattan Research. This is partly because people need help to assess the raw information they find online. A Google search for "breast cancer" yields nearly 40 million links, which means patients are facing the same sort of problems with exponentially increasing information that doctors have faced for some time. "There has been a change in patient knowledge and expectation, and that is by and large a good thing, but patients need an adviser on the credibility of the things they are reading," says Dr Morrow of New Medical Limited.

According to MORI, a research organisation in the UK, doctors are still the most trusted profession, as they have been since it began its surveys in 1983. Ms Fox says Pew's figures also show that people still turn first to the doctor for diagnosis and information. Not surprisingly, now that it has become apparent that the Internet is not a threat but a useful tool, medical personnel are embracing it. "Physicians are viewing such patient action as a positive movement, as it represents a high level of patient engagement with health, which often leads to better treatment adherence and health outcomes. In fact, many are even recommending sites back to their patients," says Ms Fishman. In other words, a patient-led innovation has now fed back into the system to enhance care.

A socially networked approach

Nevertheless, the implications for the doctor-patient relationship are only the tip of the iceberg, and indeed are old news by the standards of modern technological change. Recent Pew studies indicate that, rather than as a surrogate physician, the most important Internet use for e-patients is as a supplementary social network. About one-half of online medicine-related searches are conducted on behalf of someone else—an indication that such activity is as much about finding ways to care for loved ones as getting data for personal use. Ms Fox adds that, in addition to seeking out basic information, people use the Internet to learn about other people's experiences. About 12% of e-patients belong to online support groups, a figure that is likely to grow along with the growth of social networking. "People have an incandescent passion when they or a loved one are sick," says Ms Fox. "They are using every technology available. We are just at the beginning of people using social networking sites."

In particular, they are searching for the kind of information that doctors cannot provide. "Sometimes the most influential person is the one who is just ahead on the treatment path," confirms



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“People have an incandescent passion when they or a loved one are sick. They are using every technology available. We are just at the beginning of people using social networking sites.”

Susannah Fox, associate director, digital strategy, Pew Internet & American Life Project, USA

Ms Fox. Such networking, while not tied directly to medical provision, is likely to shape how treatments are actually used, how protocols are complied with, and therefore how successful medicine is in the future. Diabetics, for example, have a host of social networking choices—not just MySpace and Facebook, but specialised sites such as TuDiabetes.com, DiabetesFriends.net, DiabeticConnect.com, DiabetesDaily.net, or even Diabetes365 on Flickr, where people post pictures of life with the condition. Members on these sites share information on everything from recipes to information about which drugs tend to worsen blood sugar control as a side effect. Professor Teisberg of the University of Virginianotes that within such patient support groups, where patients trade stories about what works and what doesn't, powerful innovations can develop. They provide additional models on how to deal every day with medical conditions, which can be extremely important—primary care providers rarely have the time to engage in education, and their experience with illness is most often professional rather than personal. This is especially true of chronic diseases, which patients may have for the rest of their lives. Such sharing has occurred online for some time, but as Ms Fox explains, current technology has allowed a major leap forward: “List-servers are a blunt instrument; a social media site is a scalpel.”

Just as the availability of medical information online provided opportunities for innovation, so will the explosion of social networking. Certain clinics are already holding group appointments for people with the same condition in order to help exploit the benefits of patients working together. One result is that clinics have a new opportunity to keep patients well informed about the decisions they make. Mr Stevens reports that UnitedHealth created a Consumer Activation Index identifying 53 healthcare decision points most relevant to patients. It found that only around half the time, these decisions were not optimal, so the company has now begun a programme to help ensure that consumers get timely, correct information and incentives in order to make better choices.

Medical tourism

Another patient-led innovation, with a potentially huge impact on healthcare systems, is the practice of going to other countries for treatment—so-called medical tourism. Broadly speaking, the attractiveness of these locations for Americans are reduced cost, and for Europeans reduced waiting times. CNN detailed a typical case of a Nevada woman being quoted US\$175,000 for absolutely necessary heart surgery, which she could not afford, who had the procedure done in New Delhi for US\$10,000, including travel costs.⁵

The extent of this activity is somewhat unclear. A Deloitte report in August 2008 said that 750,000 patients from America alone had sought care abroad.⁶ An earlier McKinsey report predicted that the market for medical tourism would be worth more than US\$100 billion globally by 2012. Meanwhile, perhaps the biggest hospital for medical tourism, Bangkok's Bumrungrad, reports that it treated 430,000 foreign patients in 2007.

Although medical tourism began with individual patients seeking better care, it is starting to go beyond that. Wellpoint Insurance, the US's largest health insurer, has launched a pilot programme to pay for non-emergency medical treatment for its customers at selected hospitals in India. Meanwhile, the European Parliament is debating a directive that will give patients the right to treatment anywhere in the EU for citizens of member states, paid for by their national governments. Patient-led innovation

⁵CNN.com/health, *Lower costs lure US patients abroad for treatment*, March 2009.

⁶Deloitte Center for Health Solutions, *Medical Tourism: Consumers in Search of Value*, 2008.



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is opening up changes by larger healthcare systems that will lead to market competition between systems, even if competition within them is stymied. Such activity could ultimately put pressure on healthcare systems to innovate in order to reduce costs.

Health tourism, however, also shows some potentially unwelcome pressure arising out of patient-driven innovation. In India, the government has actively and successfully sought to increase the level of such tourism to the country. Professor Vinayshil Gautam of the Indian Institute of Technology in New Delhi, who has studied the impact of medical tourism on India, says that it currently accounts for about 6% of the country's GDP. The strength of medical tourism, however, does not come just from the quality of medical care. "What is driving health tourism is that people are beginning to discover that there is no such thing as healthcare without a basic shift in lifestyle," explains Dr Gautam. He therefore sees India as attractive for health tourists not just for the Western medicine it can provide, but for its traditional treatments.

India is not alone: Austria's healthcare tourism industry, for example, is as much about spas as about hospitals even though there, as in India, mainstream and alternative practitioners often have ill-disguised contempt for each other. This points to a fundamental dichotomy within the healthcare market. Traditionally, it has been defined not by what is being bought and sold—as in most markets—but by what professional suppliers say is best for patients. But from the patient's point of view, anything that makes them feel better, from a copper bracelet for arthritis to a detox programme, is a healthcare purchase. Whether they are deluded or not does not matter, from a strictly economic standpoint. Patient-driven innovation, then, has the capacity to force healthcare systems not only to deliver care more efficiently, but also to push them towards care that they are uncomfortable in giving. Over one-half of the British medical professionals who responded to our survey oppose any funding for homeopathic treatment by the healthcare system, but the NHS is willing to fund not only this sort of treatment but certain other complementary and alternative medical care—sparking occasional outrage from traditional medical practitioners. Infuriatingly conservative and overly hostile to innovation, the medical establishment may also sometimes be right to resist change.

Whatever the full implications, patients are innovating rapidly in the largely informal portions of healthcare that they control. When sufficiently widespread, this will in turn drive innovation in the formal healthcare sector, in ways that are difficult to resist, whether providers like it or not.



Conclusion

Unfettered markets will not solve healthcare's problems. An unregulated system would see frauds exploiting the vulnerable while harming their health, and a system that denies basic care to those unable to pay would be morally indefensible. To paraphrase Winston Churchill, though, markets may be the worst way to organise healthcare, except for all the other forms that have been tried. Accordingly, countries retain varying degrees of market activity within a sector with heavy regulation and often significant state involvement. The resultant mix is not inevitably unworkable, but has in practice created systems that impede innovation. Sometimes this happens inadvertently despite the best of intentions; sometimes it is out of stakeholder self-interest; often it comes from a mixture of both.

The case studies in this report point not simply to examples of change, but to innovations that get at the root of the impediments to broader improvement. They borrow ideas often present in more traditional markets, and may therefore appear to enhance market elements in existing systems. Regardless of their mechanics, however, they are actually about a shift in underlying attitudes rather than an attempt to change the mix of public and private. These ideas are worthwhile not because they have a market lineage, but because they provide better healthcare.

A crucial first step towards improving the sector's innovation record is simply to understand that just because outside entrepreneurship is rare, it does not mean that its relative absence is cost-free. Regulation that can protect the public from quacks can also protect incumbents from fresh competition, which may be useful to the broader public. It is a question of balance, but the pendulum has swung too far the other way. Practical steps, such as providing seed funding or better incentives, can promote entrepreneurship, but more important will be a shift in perception: medically responsible entrepreneurs are not a threat to health, but a way to improve care.

Another issue where attitude is central is in addressing the remains of medicine's culture of structural ignorance. Knowing how well certain treatments worked in comparison to others, let alone how well certain providers performed, was not only rare, but has also been discouraged as inevitably too simplistic. Professional courtesy even forbids criticism of others, except in extreme cases. As providers rightly point out, the gap in knowledge between professionals and patients makes a true market difficult, but that is no reason for even professionals not to know what works best. Professor Maynard notes that until now the NHS could not even do what Florence Nightingale had advocated: prove that it did no harm. However, useful information can be measured and does improve care, without threatening the ability of doctors to do their work. It, too, is not seeking a profit and is providing a service that works for all stakeholders.

Third, although there are problems with regarding patients strictly as customers, organising care around the ill and their symptoms—as a market would—rather than building around providers and their hierarchies is essential. The latter leads to fragmentation, disjointed incentives, high costs and unsustainable delivery models. Worst of all, standards of care are often not as high as they could be. As examples in this report show, integrated care can be more efficient, cheaper, and—most



Doctor innovation

Shaking up the health system

importantly—more effective. Once again, the change is about attitude rather than medicine or money. In Dr Amelung's words, it is about product design.

Finally, a good business looks to its customers for ideas about innovation. This is never straightforward; healthcare is not alone in customers frequently not knowing what they want until they get it. But such a focus is crucial to rapid innovation. Healthcare providers have to get used to thinking of patients as people who normally self-medicate but need help on the big issues, rather than ill-informed, helpless individuals in need of assistance. This has gone a long way already, but the instinctive first reaction of providers to the Internet still speaks of an inability to see what patients are looking for and how this can improve what healthcare provides. How quickly providers exploit the opportunities of social networking will show if they have learned that lesson.

These ideas are not simple market prescriptions for what ails healthcare, however much they may borrow from other sectors. They are about thinking differently in order to do things differently, and can be adopted by governments and charities as much as by companies. However difficult these pills are to swallow, they will save lives.

Whilst every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this white paper or any of the information, opinions or conclusions set out in the white paper.

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