



## Quality improvement yet to permeate the culture of professional medicine in U.S.

To date, Quality Improvement has not permeated the culture of professional medicine, say the authors of "[Measure, Learn, and Improve: Physicians' Involvement in Quality Improvement](#)" (Health Affairs, May/June 2005). Drawing upon data from the Commonwealth Fund National Survey of U.S. Physicians and Quality of Care, Anne-Marie J. Audet, M.D., and her colleagues found that only one-third of doctors have been involved in any redesign efforts aimed at improving performance. Just a third, moreover, have access to any data about the quality of their own clinical performance, while seven of 10 physicians do not feel the public should have access to quality-of-care data. The survey also revealed surprisingly low use of electronic medical records (EMRs): only about a quarter (27%) of doctors reported using an EMR routinely or occasionally.

Whether these results would be mirrored in this country seems to be a useful area for research.

Although the concept of quality improvement is not new, very little is known about physicians' views on and experiences with quality improvement tools and principles. In 2003, The Commonwealth Fund in the US conducted a [National Survey of Physicians and Quality of Care](#) to explore physicians' use of quality improvement tools, including information technology (IT) tools; future plans to initiate quality improvement activities; and views of potential solutions, as well as barriers. Because information is at the core of quality improvement, the survey explored physicians' access to data on their practices and performance, as well as their willingness to share such data.

In its 2001 landmark report, *Crossing the Quality Chasm*, the Institute of Medicine (IOM) stressed the importance of care coordination to providing high-quality care. To examine the issue from a physician-level perspective, The Commonwealth Fund survey asked physicians about the problems that patients encounter as a result of poor coordination, as well as the problems that physicians themselves experience, like the timeliness or availability of referral information.

While research has demonstrated that hospitals and health systems may take financial risks by making quality improvement a priority, little is known about similar risks physicians might face. To address this gap, the survey asked physicians about the role quality plays in determining compensation and about other financial factors they may have experienced in striving to improve quality. Finally, the survey explored physicians' opinions about various solutions and approaches to improving quality.

### Information Technology: Current Use, Future Plans, and Perceived Barriers

Results from the survey indicate physicians' use of information technology (IT) is growing, albeit slowly. Electronic billing is the IT tools used most routinely, despite the reported benefit of other IT applications. For example, providers who use electronic medical records (EMRs) reported more efficient clinical operations, due to better accessibility and organization of information. EMR use may also increase billing revenue as a result of more accurate tracking of service provided, more accurate coding, and more timely collection of payments. By reducing the need for transcription, data entry, reception, and medical record manage-

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Despite the reported benefit of other IT applications, electronic billing is the IT tool used most routinely,

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ment, EMRs may also reduce physicians' office operating costs. Despite these benefits, only 27 percent of surveyed physicians reported using EMRs either routinely or occasionally, with an additional 20 percent saying they plan to use them in the next two years. Another innovation—electronic access of diagnostic test information—allows results to be viewed earlier, facilitates more timely intervention, decreases the ordering of unnecessary tests by 10 to 15 percent, and decreases the amount of time spent charting. Although 58 percent of surveyed physicians say they routinely or occasionally access test results electronically, only 37 percent say they do so routinely.

Similarly, more than one-half of the physicians surveyed generate patient reminders, but only 21 percent have automated the process. Clinical decision support systems (CDSS) have also been shown to improve clinical practice and patient outcomes. Such a benefit was demonstrated in 43 percent of the studies reviewed by Dereck Hunt and colleagues. Yet less than one-quarter of surveyed physicians say they use CDSS routinely or occasionally.

The most significant barrier to IT use is cost — estimated at \$15,000 to \$50,000 per physician,

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The most significant barrier to IT use is cost, with financial burdens greatest for solo and small-group practices—the settings where most U.S. physicians practice. The initial costs of acquiring EMR capability have been estimated at \$15,000 to \$50,000 per physician, excluding the cost of decreased productivity that can occur in early stages of implementation. Studies have found that IT can have financial benefits.

However, these benefits vary by practice, from no reported gains to gains of more than \$20,000 per year.

### **Practice-Level and Performance Data: Availability, Sources, and Willingness to Share**

According to the survey's findings, physicians are not using data about their practices in a comprehensive way. More than one-half of physicians find it difficult or impossible to get basic profile data on their patients. An even greater percentage (85%) are unable to identify or have difficulty identifying patients who may require closer attention because of abnormal laboratory results or medications that need to be monitored or changed. Physicians who can easily access such information are more likely to practice in larger groups and work full-time in clinical care. Collecting and analyzing data requires knowledge, special technical tools, staff, and time. Large physician groups, due to their financial flexibility and organizational culture, are more likely to engage in these kinds of activities.

Physicians also do not routinely use data to monitor the quality of their clinical practice. Thirty-three percent of surveyed physicians say they have access to performance data, most relying on external sources of information. One-quarter of surveyed physicians identified insurers and health plans as the most common source of quality-of-care data. Only 14 percent said they generated performance measures themselves. Salaried physicians and those who work in



larger groups are more likely to generate performance data internally.

Although nearly three-quarters (71%) of physicians agreed that performance data should be shared with their medical leadership, only slightly more than one-half (55%) agreed this information should be shared with patients. Twenty-nine percent agreed that this information definitely or probably should be shared with the public. However, despite physicians' discomfort, there is evidence that sharing medical records with patients may improve adherence to medical advice. Peer comparison and mentoring can lead to improvements in care, and information sharing could help physicians refer patients to the most appropriate specialists.

### **Physicians' Involvement in Quality Improvement Activities**

Only one-third of all surveyed physicians report participating in activities designed to change and improve their practices, with the type of practice setting affecting the degree of involvement. Those more likely to be engaged in improvement activities include physicians who work in larger groups, physicians who work in hospital-based or staff models, and salaried physicians. Similarly, a greater percentage of physicians who work full-time (more than 40 hours) are active in redesign, compared with those working part time (20 hours or fewer) (37% vs. 22%) and a greater percentage of primary care Physicians (PCPs) are involved, compared with specialists (42% vs. 31%).

Collaborative activities, involving public agencies or community groups working together to improve outcomes for patients with specific conditions, present another strategy to create system-wide change. However, two-thirds of the surveyed physicians report never having participated in such initiatives. Providers who have used quality improvement collaboration are more likely to be primary care, salaried physicians in larger group practices.

### **Coordination of Care and Referrals**

The most commonly reported quality problems for physicians are issues of care coordination. These issues include disruptions in the process of transferring important patient information and patients receiving conflicting information. Most physicians (72%) reported that patient medical records, test results, or other relevant information were sometimes or often not available at the time of a scheduled visit. One-third often or sometimes observed that tests or procedures had to be repeated because findings were not available or were inadequate for interpretation, and 28 per-

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cent reported that care was compromised due to conflicting information from different health professionals. One-quarter (26%) observed that patients experienced problems following hospital discharge due to information not being released in a timely manner. In some cases (15%), physicians reported that patients often or sometimes did not receive appropriate follow-up, despite test results that indicate the need for such treatment.

The frequency of coordination problems differs somewhat by practice setting and size, with physicians who practice in groups of more than 50 more likely than solo practitioners to report such problems. In addition, PCPs mainly observe issues around follow-up and hand-off (e.g., hospital discharge process), while specialists more often experience test results that are unavailable and need to be repeated.

One-third of physicians said they had problems receiving information and feedback regarding referral in a timely manner. These problems are more frequently experienced by specialists and physicians in larger group practices. In addition, most physicians (64%) say they rarely or never have objective information about the quality of care provided by physicians to whom they refer patients. Quality of care data appears to have little impact on referral decisions, with most physicians using other information, such as patients' experiences with physicians or professional reputation among peers.

### Quality Improvement Strategies

The survey explored physicians' opinions on the effectiveness of seven potential strategies to improve quality of care. These include: appropriate time spent with patients; patient access to preventive care and health education; treatment guidelines or protocols; information technologies; information about specialists and specialty centres for referrals; team work and communication. Most physicians (52%) cited time spent with patients as an effective strategy in improving quality of care. They also cited access to preventive care (41%) and teamwork and increased communication among health care professionals (35%).

Other approaches such as guidelines, electronic medical records and e-prescribing, and performance data, received only limited support from physicians.

While most physicians believe that team care results in better decisions, some remain sceptical. One-third (32%) agree or strongly agree that teamwork makes care more cumbersome, while one-quarter (24%) agree or strongly agree that a team approach can increase the likelihood of medical errors. Physicians in solo practice are less supportive of team care than those in larger groups or in hospital settings. Specialty and gender are also significant factors. Forty-one percent of primary care physicians said that teamwork would be very effective in improving care, compared with 33 percent of specialists. Thirty-two of male physicians said that teamwork would be very effective, compared with 45 percent of female physicians.

### Incentives and Disincentives for Providing Quality Care

For most of the surveyed physicians, productivity remains the major factor determining compensation. Thirty nine percent of physicians reported that board recertification status is a factor in compensation, while less than one-third

(27%) cited clinical quality as a factor. Under current payment policies, physicians are rarely compensated for providing certain patient-centred services, like e-mail or phone consultations. None of the surveyed physicians were reimbursed for e-mail consultations and very few received reimbursements for phone consultations (4%) or group patient visits (5%).

There is no system in place to financially reward physicians for providing high-quality care. In fact, there appear to be financial disincentives. Altogether, one-half of physicians said that providing the best quality of care often (23%) or sometimes (28%) translates into lower revenues. Physicians in solo practice are more likely than physicians in larger group practices to hold this opinion (58% vs. 46%, respectively).

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### Implications for Policy and Practice

The survey confirms that physicians have not yet fully embraced quality improvement, with a striking gap between physicians in solo practice and those in larger group settings. Although the majority of U.S. physicians work in solo practice or small group (2–9 physicians) practice settings, quality improvement methods have been least adopted in such environments. Quality improvement appears to be institutionalized within organizations that have the infrastructure to support it, but not fully disseminated throughout the profession. Accelerating adoption of quality improvement principles and tools by physicians will require policies that address the following three areas: 1) capacity and infrastructure; 2) education to build knowledge and skills, and 3) professionalism.

It is unlikely that a robust IT infrastructure will be established, and even more unlikely that tools will be adopted by physicians, without national government leadership. Some recent progress has been made on this front. For instance, in May 2004, the Department of Health and Human Services (HHS) appointed a new national health information technology coordinator, David Brailer, M.D. In the United Kingdom and Sweden, for example, physicians who invest in EMRs receive government subsidies. Fifty-eight percent of physicians in the United Kingdom and 90 percent of physicians in Sweden report using them.

To support the spread of IT, it will be necessary to create and support standardised systems to allow connections to be made and information shared among various providers, including physicians, emergency room staff, and pharmacists. By spreading the cost of the IT infrastructure over a greater number of people, such models may significantly decrease the cost of investment and make it feasible for individual or small groups of physicians to acquire these technologies. Other IT business models will likely require private and

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## Health IT: A Different World View

Improving computer systems, of course, would not eliminate all medical errors. Research published in March in the **Journal of the American Medical Association** warns that IT, if the software is badly designed, could actually increase errors. But almost everybody agrees that well-designed IT is essential to improving quality in health care.

The same goes for its cost, an increasing burden to ageing societies in the rich world and even in poor countries such as China. Jeff Miller from Hewlett Packard reckons that redundancy and inefficiency account for between 25% and 40% of the \$3.3 trillion the world spends on health care every year, and could be eliminated with proper IT. A study from a clinical research centre at Dartmouth College in New Hampshire reaches a similar conclusion, estimating that a third of America's \$1.6 trillion in annual health-care spending (as of 2003) goes to procedures that duplicate one another or are inappropriate.

- Estimates of savings vary widely
- Some estimate up to \$77.8 billion a year in the US alone
- Others contend that estimated savings are grossly exaggerated

Estimating how much IT could save, after taking account of the considerable cost of applying it widely, is not easy. Writing in *Health Affairs*, an American journal, in January, Jan Walker and five colleagues at the Centre for Information Technology Leadership in Boston concluded that a fully interoperable network of electronic health records would yield \$77.8 billion a year in net benefits, or 5% of America's annual health-care spending. This includes savings from faster referrals between doctors, fewer delays in ordering tests and getting results, fewer errors

in oral or hand-written reporting, fewer redundant tests, and automatic ordering and re-fills of drugs.

A note of caution however, Laurence C. Baker, in a counter argument in the January issue of *Health Affairs*, contends that Walker et al have grossly inflated their economic calculations. While there will be savings, they will be no where near the billions Walker and her associates claim.

The key word in all such estimates is always "interoperable". This can be seen looking at the differences between two pilot programmes in America. In one, the Californian city of Santa Barbara set up a city-wide peer-to-peer network (in which the computers of different practices and clinics can talk directly to one another). This allows doctors, say, to pull up portable-document-format (PDF) files from one another. But the information in them—text, with numbers buried in it—is "unstructured" and so not very useful. It is the equivalent of faster faxing, and not what people mean by interoperability.

The other American pilot, located in Indianapolis and managed by the Regenstrief Institute, a non-profit medical-research organisation, comes closer. It has created a city-

wide network in which physicians can, with the patient's permission, log on to a complete medical history that includes all previous care at the 11 participating hospitals. Already, the database contains 3m patient records, 35m radiology images, 1.5 gigabytes of diagnoses, 20m order-entries by physicians, and so forth. The key difference is that, wherever possible, the data is entered in a structured and formatted form. Test results are in neat rows and columns and tagged in a way that every other computer can recognise and compare against other appropriate numbers. This is the sort of IT solution that not only cuts waste and errors, but also helps physicians to make better decisions.

What, then, would the ideal IT architecture of health care in future look like? Mark Blatt, who was a family doctor for 20 years before he joined Intel, says it would start with wireless data entry by nurses and doctors. Practices and clinics would have secure "Wi-Fi hotspots"—using a radio technology called 802.11—and staff would walk around with small handheld devices that transmit all inputs to the database in the back office. Another source of input might be tiny radio-frequency identification (RFID) chips that are attached to patients and send basic information when they come in range of a radio field. Patients could also add inputs themselves. A firm called Health Hero, for instance, makes a cute little device called a Health Buddy that patients take home and plug into their telephone lines. A couple of times a day, it asks them basic questions or takes their heart rate, and sends the data to the doctor.

Behind the scenes, all this data would be formatted and stored according to recognised standards. Contrary to widespread concerns, this does not require a single central repository or any other particular hardware architecture. Instead, it relies on common software protocols and formats so that individual computer applications can find and talk to one another across the internet. Most of these standards, such as XML, SOAP and WSDL, already exist and are used by many industries. Others, such as HL7, LOINC or NCPDP (spelling them out makes them sound no less obscure) are unique to the health-care industry and govern data interchange between hospitals, laboratories and pharmacies. On top of these, there need to be hacker-proof layers of authentication and password protection so that only the right people get access.

There is still some work to do to refine these technologies. In January, eight of the world's largest IT companies—Microsoft, Oracle, IBM, HP, Intel, Cisco, Accenture, and Computer Sciences—teamed up to form an "interoperability consortium" for that very purpose. In general, however, "the technology is very, very ready," says Robert Suh, the technology boss at Accenture, a consultancy that is helping Britain's National Health Service (NHS) and regional governments in Australia and Spain to implement electronic health records.

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England's NHS is among the pioneers worldwide. This year, it will begin rolling out a £6.2 billion (\$12 billion) project in which five regions in England will form networked IT "clusters" so that 18,000 NHS sites, including all family doctors and acute-care hospitals, can share standardised information on patients. These clusters will eventually be linked through a "spine" (called the N3 and run by BT) with huge bandwidth to create, in effect, one national network. Scheduled to be completed by 2010, the plan, like most IT projects, has had some early hiccoughs and has been greeted with cynicism by some doctors. But other countries will be looking to it as a model.

Another pioneer is Denmark, which began rolling out a similar network for the region around Copenhagen in 2001 and expects to complete it by 2007, before covering the rest of Denmark. Torben Stentoft, of Hvidovre Hospital in Copenhagen and the head of the city's network, says that his main concern is the nitty-gritty of dealing with all of his legacy computers which need to be tweaked or replaced. But he feels that he has his society's full support. "Nobody is against this. Everybody is asking for it," he says.

### American exceptionalism

America is as enthusiastic as any country about electronic health records. President George Bush has embraced the idea, and he spoke about it publicly some 50 times last year. He has even appointed a "national co-ordinator for health information technology" to create a fully interoperable, nationwide network within ten years. But America's health-care system is so different from others that it faces some special complications.

The first big difference is that, whereas most other rich countries have "single-payer" (ie, government-run) health-care systems, America has a highly fragmented industry with many private providers and insurers doing business alongside large government programmes (such as Medicare, for old people). This means that in funding a new IT infrastructure the financial incentives are not exactly aligned. In single-payer systems, the expenditures come out of the same pocket—the taxpayer's—that the savings go into. But in America, the practices and hospitals that pay for the IT only get 11% of the cost savings, with the rest going to insurers and employers (who buy the insurance). The

resulting mismatched incentives, says Mr Bates, could derail the entire project: "It's a situation where America could end up far behind."

This calls for some combination of government subsidies and private-sector financial incentives, argues the Markle Foundation, a charity in New York that is dedicated to the proper use of IT in health care and national security. Over half of all doctors in America work in small practices. And, say Markle's researchers, a typical practice (defined as five doctors handling 4,000 patient-visits a year) would make losses if it had to pay the estimated \$15,000 a year for three years that it costs to install an interoperable IT system and to learn how to use it.

The practices, Markle concludes, therefore need incentives of \$3 to \$6 per patient-visit, or \$12,000 to \$24,000 a year, which comes to \$7 billion-14 billion a year for three years, or between 1.2% and 2.4% of total ambulatory-care revenues. The trickier question is how to administer this largesse, whether it is provided by insurers and employers or the government. The money could be disbursed directly and specifically for the IT systems. Or it could be given indirectly in some sort of pay-for-performance arrangement.

The other big difference between America and countries such as Denmark is public perception of the robustness of privacy laws. The European Union has stricter privacy laws than America, and Europeans have relatively more confidence in them. For information sharing, "ours is a much more porous environment," says Alan Westin, a professor at Columbia University who has written several books on privacy issues. This is not primarily an IT issue, although the internet does seem to raise the stakes. In February, one database broker, ChoicePoint, had to inform some 140,000 people that it had accidentally sold sensitive information about them. Also in February, a statistician of the health department in Palm Beach County, Florida, inadvertently e-mailed a list of more than 6,000 HIV carriers to all employees of the department. This makes many Americans suspicious of plans that involve sharing sensitive health information.

Therefore, the technology must be designed in such a way that "decisions about linking and sharing are made at the edges of the network" by patients in consultation with their doctors, and never inside the network. This goes to the very heart of the matter. For even though it is fine to start hoping for the day when interoperable electronic health records create vast pools of medical information that could be used to find new cures and battle epidemics in real time, their ultimate purpose is to make one simple and shockingly overdue change: to enable individuals, at last, to have access to, and possession of, information about their own health●

## Does any of this ring true?

God must love stupid people; He made so many.

Ever stop to think, and forget to start again?

Stupidity is not a handicap. Park elsewhere!

When I take a long time... - I am slow. When my boss takes a long time - he is thorough

When I don't do it... - I am lazy. When my boss doesn't do it - he is too busy

When I do something without being told... - I am over-stepping my boundaries. When my boss does the same thing - that is initiative

When I take a stand... - I am stubborn. When my boss does it - he is being firm

When I overlook a rule of etiquette... - I am rude. When my boss slips a few rules - he is being original

When I please my boss... - I am apple polishing. When my boss pleases his boss - he is co-operating

When I get ahead... - I am lucky. When my boss gets ahead - that's hard work



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Inform Editor Bruce Parkes

## Seminar Programme

**May 25th**

@ Brightside Hospital,  
Brightside Road, Epsom  
5:30p.m. for 6p.m.

**Helicopters, Consultation and  
Sacred Cows - When Best  
Practice Conflicts with Public  
Opinion**

Dr David Rankin

Non Members Welcome

Cost

Members Free

Non Members \$25



*Catering Management  
Specialists*

Eurest supports our seminar  
programme

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public sector partnering to invest in the necessary infrastructure to support and sustain quality.

Quality measurement has not yet been fully embraced by the medical profession, despite its important role in improvement activities. The task of monitoring one's practice and using that information to make improvements should not only be a required skill, but a professional responsibility. In 1999, the American Council of Graduate Medical Education approved a new set of residency program training requirements, under which residents must reach competency in six areas, including practice-based learning and improvement and systems-based practice. The recognition of these competencies is an essential first step in training the next generation of physicians to evaluate and improve their own care.

The 2001 IOM report, "Crossing the Quality Chasm", recognised that necessity of aligning payment policies with quality improvement. The IOM called for public and private purchasers to re-examine their payment policies to remove barriers that impede quality improvement and build stronger incentives for quality enhancement. Currently, quality of care determines compensation for less than 10 percent of physicians. Instead, productivity is the main determinant for most physicians. To understand and determine how financial incentives can best foster quality, pay-for-performance programs are currently being tested and evaluated at a number of locations.

Physicians are still cautious about making the quality of their care transparent, but if quality is to be rewarded, data must be measured and shared. Ultimately, the medical profession must take the lead to make care more transparent, with physicians balancing issues of ethics, fairness, accountability, and confidentiality. The public is becoming increasingly worried that doctors are secretive and wary of making full disclosure. Physicians and their managers should work to enhance trust between the public and the profession by allowing greater openness about the quality of the care they provide.●

## From our National President

I am pleased to report that the National Council had a very productive meeting on Friday 6<sup>th</sup> May.

### Conference

It has been decided not to proceed with a NZIHM conference this year. Brainstorming was undertaken for a conference to be held in Wellington June 2006. A subcommittee has been formed and your input would be welcomed.

I would invite interested members to join me in Adelaide at the ACHSE National Congress 10-12 August 2005. The theme this year is "Partnerships - the Synergy for Reform" go to [www.achse.org.au](http://www.achse.org.au) click the congress logo and register on line now for early bird registration rates.

**AGM** - Date for your diary. In the absence of a conference the annual general meeting will now be held in Christchurch on Monday 10<sup>th</sup> October. Time and venue to be confirmed but it will be followed by a seminar by Hugh Ross.

Our next Auckland Seminar is at 5.30pm on Wednesday 25<sup>th</sup> May @ Brightside Hospital when David Rankin from ACC will talk on Helicopters, Consultation and Sacred Cows. I look forward to seeing you there!

Please check our web page [www.nzihm.org.nz](http://www.nzihm.org.nz) regularly as it is continually being updated.

Trisha Dunn

## Contributions Welcome

1. The Auckland Branch welcomes contributions to **Inform** on subjects of interest to managers in the health and disability sector. Articles may be longer researched contributions, comments on current practice, or shorter notes and/or reviews. The range of possible subjects is very wide.
2. The maximum length is generally 3000 words. Shorter contributions are very welcome. Please include an e-mail address so authors can be contacted and a brief list of key points or an abstract.
3. Copy should be provided by e-mail or on a computer disk.
4. Contributions may be passed to the Editorial Committee for consideration.
5. Make submissions or contact the Editor for more information at [admin@nzihm.org.nz](mailto:admin@nzihm.org.nz)