I NTERVIEW

Health Information Technology Is A Vehicle, Not A Destination: A Conversation With David J. Brailer

We are making faster progress on a two-decade climb to IT-enabled breakthroughs in health care quality and affordability, subject to several major caveats.

by Arnold Milstein

ABSTRACT: The first U.S. national health care information technology (IT) coordinator estimates that if the current rate of interoperable electronic health record (EHR) adoption is sustained through 2014, it would create a launchpad for quality gain and health care spending reduction in excess of 50 percent in the subsequent decade. But in this conversation with Leapfrog Group cofounder and U.S. health care purchasing innovator Arnold Milstein, David Brailer identifies several environmental changes as critical to the materialization of this dividend. These include providers' ceding control of clinical information to patients, universal public availability of provider performance comparisons, and moving health policy from a no-man's land between government and market control. [*Health Affairs* 26, no. 2 (2007): w236–w241 (published online 20 February 2007; 10.1377/hlthaff .26.2.w236)]

Arnold Milstein: What changed on your watch as national coordinator for health information technology (HIT)?

David Brailer: First, the nation came to recognize the power of HIT to address some of the biggest problems we face. Second, the adoption of HIT increased. The CDC [Centers for Disease Control and Prevention] reported that 20 percent more hospitals had electronic health records [EHRs] last year than in the year before. We moved from a flat-line adoption over the five years before that. Third, we set a conceptual foundation that HIT was not about technology, but about good health information that is portable, well-structured, standardized, and secure so that it can be used to improve health care.

Milstein: What important changes didn't take place?

Brailer: Building the capacity to make health information shared and portable. We made good progress, but it's still not there. There is a real debate over whether health information is owned by doctors and hospitals or by consum-

David Brailer is the former national health information technology (IT) coordinator and is now an adviser to the Bush administration on health IT and consumer issues and vice chairman of the American Health Information Community in Washington, D.C. Arnold Milstein (arnold.milstein@mercer.com) is medical director of the Pacific Business Group on Health and chief physician at Mercer Health and Benefits in San Francisco, California. Views expressed do not reflect the positions of the affiliated organizations.

ers. We advocated for more consumer ownership, but the question remains unsettled.

Milstein: What other conflicts between stakeholder groups impede progress? Aren't providers reluctant to give any more information to payers than they have to?

Brailer: Health plans and providers are certainly one example of long-standing polarity. But both stakeholders seem to agree that consumers should not predominantly control health information.

Milstein: Given the benefits and costs of today's HIT tools, is the nation on a reasonable adoption trajectory?

Brailer: Yes; the president set a goal of widespread adoption of EHRs by 2014, which many interpret to be 90 percent or more of the providers having these tools in place. The CDC's recent report on adoption over the last two years, if plotted forward over the next eight years, would take us beyond the president's goal. But there are barriers hidden behind this favorable trajectory. We are now in the period of adoption by the willing—large hospitals or large physician groups—organizations that have been planning this for some time or that have the native capacity to take on such a complicated project. Small doctors' offices, one- or two-person practices, safety-net clinics, and rural and underserved areas are not there yet. One-third of providers will not be able to adopt EHRs without policy intervention.

Milstein: How will HIT-enabled innovations in care delivery differ most from current care?

Brailer: The most salient change will be in remote monitoring. It will allow the jobs of primary care to be done without people coming to the doctor's office. It will allow doctors to monitor hospitalized patients from afar. It will enable more seniors and others with substantial health problems to remain in their homes by monitoring their activities of daily living.

Milstein: What health industry changes beyond IT adoption are needed to eliminate the bulk of current waste and quality defects?

Brailer: Improving health industry performance transparency to consumers, payers, and purchasers. There is no good performance information available to buyers and sellers. It's as opaque a market as any in the United States. Consumers need to be able to compare the likely consequences of using a particular doctor, hospital, or treatment option, based on their preferences, health history, and genomic profile. While HIT can create the potential for a much better performance-informed and performance-sensitive market, it will take deliberate pro-transparency policies to harvest maximum performance improvement.

The Payoff From Health IT

Milstein: Assuming we meet the president's adoption goal, how much longer will it take before the health industry harvests the bulk of today's opportunity to improve the quality, efficiency, and patient experience of care?

Brailer: We studied other U.S. industries that underwent substantial automation: manufacturing, retail, food preparation, insurance, financial services. It takes about a decade after the substantial majority of the players are automated for full benefit to be gleaned. U.S. productivity gains in the 1990s and the early part of this decade resulted from computer adoption that occurred in the 1980s. I think that health care won't be much different. That means that we'll have a decade of HIT implementation before a decade of major yield. It's not until the second decade that users say, "Now that we have the tools in place, let's use them to redesign our fundamental processes."

Milstein: Teams from the Center for Information Technology Leadership at Partners HealthCare in Boston and RAND have forecast savings from HIT. Did they take into account other industries' ten-year lag before widespread IT adoption generates the major share of its savings?

Brailer: They tell us what the upper bound of savings could be and have helped us conclude that HIT adoption will be a worthwhile investment. I think we will find that these studies overestimate near-term savings and underestimate long-term savings; this is because they didn't take into account second-order effects such as elimination of excess hospital capacity or of the market forces that currently enable medical specialists to protect their

guilds. These second-order effects could be quite large and are comparable to customer gains in other industries in the decade following an initial decade of IT adoption.

Milstein: How many years away are our most advanced U.S. health systems from hitting an IT-enabled "trifecta": continuously optimized treatment selection; error-free, efficient clinical workflows; and accelerated discovery and spread of better, faster, leaner service delivery innovations?

Brailer: It will be difficult for most of them to capture second-decade yields from HIT. If you look at other industries, major productivity gains flowed only after most other industry stakeholders also invested in automation tools. In health care, a hospital or physician can't reap the full benefits of communicating electronically or of passing information back and forth, or of eliminating middle suppliers, until the other has also done so.

Experiences In Other Countries

Milstein: Are other countries closer to extracting major gains in affordability and quality from HIT?

Brailer: The United States is traveling with five other countries that are also making significant efforts in HIT adoption: Britain, Canada, Australia, Japan, and Germany. Australia is ahead in its physician offices, Canada is ahead in its hospitals, and Britain is ahead in its infrastructure and connectivity. These differences in HIT prioritization reflect different underlying initial goals. Britain seeks to expand its service delivery capacity cheaper and faster than through training and hiring more health care workers. Canada and Australia seek to moderate spending growth. We articulate "quality" as our goal. No country shares our focus on HIT as a vehicle for performance transparency and informing consumers. The United States also stands out by relying purely on the private sector to drive this forward with government facilitation.

Role For Federal Programs

Milstein: Going back to your prior observation about most EHR adoption occurring among the best-resourced providers, should Medicare directly incentivize interoperable EHR adoption by providers?

Brailer: It depends on what you mean by "directly." By approving the recent Stark exception that allows the donation of interoperable EHR systems by hospitals to doctors, Medicare is incentivizing adoption. That's less direct than Medicare using provider reimbursement or a mandated condition of participation. The Stark exception allows the private sector to address market flaws that have made it difficult to invest in HIT. It brings the additional benefit of encouraging new levels of collaboration between physicians and hospitals. Reductions in siloed health care delivery will itself greatly boost clinical performance.

Milstein: Let's assume that recent federal efforts to make provider performance transparency succeed and that the Agency for Healthcare Research and Quality (AHRQ) budget is supersized to the degree needed to predict the health gain and total cost impact of most treatment options for individual patients. Will the "trifecta" then follow?

Brailer: It will take two additional ingredients. One is a regulatory schema that allows health care to be a marketplace. Today we don't have health care regulators acting like the FCC [Federal Communications Commission]—that is, creating the rules of fair play and letting the private sector do its best to maximize customer gain. We have significant government intrusion, and we have government conflict of interest, because government regulations protect the government's care delivery and health insurance programs. We also lack a consumer that is holding the industry accountable and is accountable for his or her own decisions. This doesn't require shifting big costs or risks onto consumers; it means helping consumers recognize their power to mold health care to address their individual clinical and financial needs.

Milstein: What are specific examples of how the government's current role maintains suboptimal performance in the U.S. health care system?

Brailer: The Stark rules have slowed collaborative care innovations across providers. They

limit the ability of doctors and hospitals, health plans, nursing homes, skilled nursing facilities, and hospices to create seamless care jointly and use the gains that accrue in one place to subsidize valuable spending in another. Kaiser or the VA [Department of Veterans Affairs] can move around assets, personnel, tools, and finance to optimize care. When government regulators use Stark to protect the Medicare trust fund from fraud above all else, they also stifle innovative collaboration across provider silos. Medicare needs robust protections against fraud, but I don't think that the Stark rules are the best method.

Another example is slow Medicare coverage of non-visit-based care, such as e-mail and telemedicine. It is blocked by undue concern about protecting Medicare from abuse. Our national health policy overall lacks a clear theoretical foundation. It should be either more government-driven or more marketplace-driven. We are in the middle, and it leaves us without the full benefits of either.

Potential Spending Reductions

Milstein: If we put these other key cofactors in place, adopt interoperating HIT systems, and leave it all in the oven for twenty years, by what percentage would per capita health care spending, bed supply, and physician supply decrease? For purposes of estimation, hold constant population demographics, gross domestic product (GDP) growth, provider demand inducement, and biomedical technology.

Brailer: About a third of our spending and probably a third of our health care capacity are likely unnecessary. However, provider-induced demand has traditionally filled any extra provider capacity. So I think that demand will continue to be induced to fill unneeded capacity until the American public decides that they want change. Life expectancy gains on incremental health care spending have been declining for the past twenty-five years. The public will eventually force improvement in health gain from current levels of spending or force reductions in spending to the lowest level needed to deliver the health gains they're currently receiving.

Milstein: Your 33 percent savings estimate is derived from opportunities to eliminate currently delivered health care services that are unlikely to improve health. Can't we also lower the cost of the two-thirds of services that are valuable by standardizing to the most efficient known service delivery processes and boost potential savings far above 33 percent?

Brailer: Estimates of the cost of certain back-office business processes in our health industry suggested that they are expensive and wasteful compared with those of other countries. However, service industries have had spotty track records in efficiency improvement. So I don't know how to forecast it.

Milstein: I want to drill down a little bit on this second potential area of efficiency capture because I know that prior to serving as HIT czar, you helped health systems benchmark their results against best-performing comparators and then close gaps in both cost per unit produced and quality of care. Didn't you find substantial opportunity to reduce cost per unit of valuable clinical service?

Brailer: We found up to two-to-one variation in true production costs among hospitals where there were very good data. That supports a 50 percent estimated savings above and beyond the 33 percent savings from eliminating nonvaluable services and their associated unnecessary capacity. Beyond this, HIT could drive a radical disruption of what we consider to be hospitalizable diseases or what we consider to be necessary primary care interventions. The ability of HIT to reduce the intensity of valuable and optimally efficient health care services could drive savings in cost per unit of valuable service far beyond 50 percent for certain diseases where today's practice patterns eventuate in many preventable hospitalizations and other expensive services.

Consumers' Role

Milstein: Thus far we've focused primarily on IT tools for providers. Where do we stand on consumer adoption of personal health records (PHRs)?

Brailer: We know that two-thirds of consumers say that they carry some form of their

health information in paper, a notebook, a shoebox, or maybe electronically. Is that a personal health record? It's a precursor. Although we don't have good data about the percentage of consumers using a robust electronic and portable personal health record, the numbers are quite small. What matters is that 40 percent of consumers who think about health care regularly understand the importance of their information being available.

Milstein: How far along are we in assuring that portable health information follows patients throughout care, irrespective of whether they use PHRs?

Brailer: This is hard work at a detailed level. The approach we took was to specify each clinical problem type created by lack of portable personal health information such as someone arriving at an emergency room where a physician will need to know something about them. The sum total of these cases constitutes the need for portable personal health information. Will consumers and those people who look out for consumers prevail in key policy decisions, or will proprietary corporate interests that would be harmed by greater portability prevail? I don't know how it will play out.

Performance Reporting

Milstein: One of the consumer dividends from HIT adoption that you mentioned earlier is better performance comparisons of physicians and of hospitals. What progress in HIT is required to avoid the need for expensive medical record review to gather data for performance measurement?

Brailer: There have recently been public testimony and reports that today's typical EHR contains less than 5 percent of the data needed for automated performance reporting. The reason is that valid quality measures include numerous inclusion and exclusion criteria. Did the patient get the drug in the physician's office? Or did he get it in the ER where it wasn't appropriate? Was the patient allergic to the drug? Applying such exclusions requires highly structured data that typical EHRs lack. This weakness also undermines physicians' trust in computerized provider order entry

[CPOE] and other forms of active clinical decision support.

Personalized Medicine

Milstein: A personalized medicine information technology workgroup was formed by the U.S. Department of Health and Human Services (HHS). Where is this headed?

Brailer: Personalized medicine carries enormous potential benefits for consumers. It encompasses pharmacogenomics—determining what dose of a medication someone should have, if at all—and predictive genomics—forecasting the risk for diseases or disease recurrence. We have an opportunity to create the standards by which these genomic data and the decision support that flows from them can be part of the design of much more individualized and valuable EHRs and decision support.

Additional Concerns

Milstein: In what ways are privacy concerns impeding connectivity efforts, and what can be done about it?

Brailer: Privacy is the defining issue of health information sharing. Even in a paper world, privacy concerns are very high. Consumers don't trust the government or health plans to use personal health information judiciously or in the consumer's interest. They have major concerns that HIT will further compromise their control over health information, yet they see that it can also increase their control. The latter group tend to be younger and more tech-savvy consumers. Privacy advocates appear to be much more interested in fighting old HIPAA [Health Insurance Portability and Accountability Act] battles than in designing the privacy schema of the future. Settling an old score over HIPAA will not make personal health records more protected or give consumers more control over their health information.

Milstein: What's the right message for public consumption?

Brailer: "You can't log onto a sheet of paper." HIT gives more control to consumers. It can determine who sees health information and who does not, and it keeps track of who actually did so. Most of all, HIT gives consumers new control by informing their decisions

about their health and who treats them.

Milstein: Are regional health information organizations (RHIOs) the most promising pathway to interoperability? Aren't we in danger of promoting a fragmented system if HIT evolves locally?

Brailer: RHIOs are part of a solution, but not the whole solution. Every large plan for connecting people—in health care or in others settings—comes down to the "last mile" problem. A one-size-fits-all federal policy cannot reconcile all of the state and local requirements and rules and therefore would not work. RHIOs fill that space and ensure that national efforts translate down into the culture and priorities at the local level. This may seem complicated, but we need to bear in mind that the problem itself is numbingly complex, and simplistic solutions won't work. In an ideal world, we wouldn't have to create intermediate infrastructure like RHIOs, but in an ideal world, HIT would already be in use.

Milstein: Voluntary adoption of standards—even mandatory HIPAA standards developed through a consensus process—seems to progress by fits and starts. Are we going to lose this battle without more-aggressive measures?

Brailer: Voluntary standards adoption is hard, messy, complex, and frustrating. It also happens to be better than any other solution. You need not look past HIPAA to see what happens when standards are legislated.

Milstein: Did you have a hard time getting people's attention at the White House? Didn't the administration's reluctance to spend generously undermine your efforts to urge private-sector effort? A recent study in Massachusetts by David Bates and colleagues found again that financial obstacles are salient for small practices.[1] Is Congress willing to spend serious money on HIT? Is there any chance the administration will change its tune?

Brailer: I had the opposite problem. I couldn't get the White House to leave me alone, and we worked together in close synchrony. The biggest challenge was that OMB [Office of Management and Budget] staff wanted to control this agenda, and I found them to be decidedly unhelpful. This led to a great deal of unnecessary confrontation, but I think I won every conflict. Regarding federal finance, I did not advocate for broad federal financing of HIT adoption. I did advocate it for underfinanced sectors like safety-net providers. There was no disagreement on this—recall that I was one of the prime authors of the president's Executive Order that established the position of National Coordinator for Health Information Technology. The reason for this approach was my concern that federal money comes with federal rules, and those rules would be classically federal: shutting the private sector out of the decision about how health IT should be deployed and used.

Advice For Future HIT Czars

Milstein: If you were preparing a time capsule, what would your advice be today to the individual who will head the Office of the National Coordinator in ten years?

Brailer: It's certainly my hope that there is not an Office of the National Coordinator in ten years, so I wouldn't leave advice for them. This is a job linked to the specific goal of adoption of EHRs and PHRs. I hope that this role would sunset before 2016. I say that for two reasons. First, if the government can't accelerate and improve the HIT adoption process that's happening naturally, there's no real role for a coordinator to play, because it's happening daily in doctors' offices anyway. Second, the goal of HIT is not HIT. The goal of HIT is to enable breakthroughs in the affordability and quality of care, and the well-informed navigation of America's consumers. The principles governing HIT should be dictated by those policy issues, not by HIT's needs on a stand-alone basis. Therefore, I would want to see policy focus shifted back to clinical performance breakthrough, with HIT in a support role. In the end, HIT is a tool to use along the journey to an improved health care system. We need to keep that foremost in our minds.

NOTE

1. D.W. Bates, "Physicians and Ambulatory Electronic Health Records," *Health Affairs* 24, no. 5 (2005): 1180–1189.