The Moreton Lecture: Choices Faced by Radiology in the Era of Accountable Health Care

James L. Reinertsen, MD[a,b]

If the United States is to address its overall economic challenges, the rate of growth of health care costs must be restrained. For the next decade, physicians should expect that the principal focus of health policy will be on cost reduction, with a particular emphasis on shifting the business model from one in which physicians and hospitals are rewarded for volume to a model in which they are accountable for value. To succeed in this new model, doctors will need to reduce overuse (driven primarily by overcapacity), eliminate the costs of preventable complications, and trim prices for many services. As radiologists (who are squarely in the center of these issues) face this future, they should take a leadership stance, help create effective accountable care systems, and set high aims for improvement. The alternatives—lapsing into victimhood, ceding design and leadership of accountable care to outside forces, and aiming for what is merely passable—are neither attractive nor professional.

Key Words: Leadership, volume, value, cost reduction, overuse, underuse, potentially avoidable complications, accountable care organizations, physician compensation, health care prices, health policy, health care business model

J Am Coll Radiol 2012;9:620-624. Copyright © 2012 American College of Radiology

The American health care system is entering an era in which the primary goal of health policy will be cost reduction, regardless of which political party is in power. A principal feature of this era will be "accountable health care," broadly defined as a set of payment and care delivery models in which the key driver of success for doctors and hospitals shifts from doing high volumes of expensive procedures for individual patients to delivering high value health care to populations.

As we move into this new era, radiologists (and all doctors, for that matter) face 3 choices:

1. Should we respond to this change as leaders, or victims?
2. Should we organize effective accountable care systems ourselves, or wait to have it done to us?
3. When setting aims for accountable care, should we settle for what is passable, or aim at what might be possible?

This lecture will address each of these questions, but we first need to understand the origins of the American cost problem.

[a]The Reinertsen Group, Alta, Wyoming.

[b]Institute for Healthcare Improvement, Boston, Massachusetts.

Corresponding author and reprints: James L. Reinertsen, 375 East Aspen Meadow Lane, Alta, WY 83414; e-mail: jim@reinertsengroup.com.

DOING WELL BY DOING MORE: THE VOLUME-DRIVEN BUSINESS MODEL

For decades, volume has been the most important business success factor for doctors, hospitals, and other providers of care. Despite efforts to improve the payment system by adding features such as "pay for performance," the dominant financial incentive in the American fee-for-service model has been volume: more visits, more admissions, more procedures, more tests, more imaging.

Volume is not necessarily a bad thing, if the services are indicated, effective, and well delivered. But for a significant proportion of health services in America, either the potential for harm outweighs the potential for benefit (overuse), or the services themselves are made necessary only because of potentially avoidable complications of care (misuse). These 2 sources of volume are a significant part of high American health care costs.

Misuse as a Driver of Volume

A group of employers studied the bills they received from the health care system for their employees' diabetes, congestive heart failure, asthma, hip and knee replacements, and other common conditions and classified the bills either as "costs due to potentially avoidable complications" or as "typical, needed services." For diabetes, as an example, all costs (hospital charges, physician fees, pharmaceutical expenses, etc) related to an inpatient stay for which the primary reason for the admission was "diabetes

© 2012 American College of Radiology

0091-2182/12/$36.00 • http://dx.doi.org/10.1016/j.jacr.2012.05.011

out of control" would be classified as potentially avoidable complications. Findings varied by condition, but overall, these employers found that 28.6% of their costs were due to potentially avoidable complications [1]. Under most payment models, doctors, hospitals, and other providers are being paid for treating those complications, even if they might have caused the complications in the first place.

Similarly, the Office of Inspector General studied hospitalized Medicare patients and found that 13.5% had adverse events during any hospitalization, and 1.5% experienced adverse events severe enough to be major factors in their deaths. These adverse events (44% of which were judged by experienced reviewers to be "preventable") accounted for 3.5% of all Medicare expenditures [2].

Given these and other similar findings, it is not surprising that serious efforts are under way to stop rewarding doctors and hospitals for the volume of their services that are made necessary by misuse. These efforts include financial penalties for health care-acquired conditions such as readmissions, nosocomial infections, and pressure ulcers, as well as new bundled payment models in which all providers of services for a given condition (eg, hip replacement) would be working against a "budget" that represents the reasonable costs of providing needed services for that condition, without the added cost of potentially avoidable problems. These new payment models are designed to cause doctors to ask questions such as "Are these imaging studies really necessary for this patient's care?" and "What can we do to make sure this patient doesn't get a costly complication?"

If We Build It, They Will Come: Overuse as a Driver of Volume

Overuse is an even greater driver of costs than underuse. Many studies have now shown substantial regional variation in the rates of services provided, especially for specialty consultations, imaging studies, laboratory services, and elective procedures. And the principal driver of higher use of services seems to be "capacity-induced demand": the more doctors, operating rooms, and imaging centers in a region, the more consultations, procedures, and imaging studies will be done [3].

More is not better. High-volume regions of the country have been found to have worse adherence to guidelines, higher mortality for common conditions, and lower ratings of the quality of care by both physicians and patients [4].

To counteract "capacity-induced demand," employers and payers are shifting rapidly toward high-deductible health plans, in which patients must weigh the benefit of services such as CT and MRI against the impact of those services on their family budgets [5]. And both private and public systems are rapidly deploying "prior authorization" methods for expensive imaging studies [6].

IT'S NOT JUST VOLUME: PRICES ARE ALSO HIGH

High volumes of services are not the only driver of high US costs. Our prices for physician services are also higher than in peer nations. For example, orthopedic surgeons in the United States, providing similar numbers of hip replacements and other procedures each year, earned an average of $442,000 in 2008, compared with colleagues in other countries earning between $154,000 and $324,000 [7]. Now that these and other price differences are coming to light, US physicians who are threatened by fee reductions as part of the overall effort to contain costs are finding little sympathy from policymakers, payers, and the public.

American doctors correctly point out that their high fees are not the only source of high US costs. For instance, US physicians spend 4 times as much in administrative costs as their Canadian counterparts because of the complexity of our private health insurance model [8]. Physicians and hospitals also incur higher malpractice costs than in most countries, and US pharmaceutical prices are significantly higher as well. Other commonly cited drivers of cost include the high prevalence of obesity and other lifestyle-related conditions. But the cost of hospital and physicians' services dominates the landscape and gets most of the attention.

THE NET RESULT: COST REDUCTION IS DOMINATING HEALTH POLICY

The United States faces a serious fiscal problem, and health care is a major cause of it. As a result of high volumes at high prices, the United States spends over 17% of gross domestic product on health care, compared with 9% to 11% for peer nations. Growth in health care costs threatens the average US family's finances [9]. Our national debt now exceeds our gross domestic product, with federal entitlements to health care a key driver. Victor Fuchs framed the problem clearly: "If we solve our health care spending, practically all of our fiscal problems go away. If we don't, then almost anything else we do will not solve our fiscal problems" [10]. Other health care priorities, such as access, quality, and equity, are likely to take a back seat to cost reduction for the foreseeable future, regardless of which political party is in power.

WHAT IS BEING DONE TO SLOW COSTS?

Private and public payers are taking serious steps to attempt to slow the rise of health care costs. Those measures include

- increased cost sharing in plan design [11];
- a resurgence of "managed care systems" such as prior authorization (eg, radiology benefit management);
- guidelines, decision support, and electronic order entry systems that discourage overuse (a good example of which is the ACR Appropriateness Criteria®);

- fee reductions for doctors and hospitals, including
  - broad reductions across specialties (as programmed into the Patient Protection and Affordable Care Act) and
  - targeted reductions (eg, the multiple-procedure payment reduction rules targeting radiology); and
- changes to payment models for doctors and hospitals, including
  - bonuses for good performance (eg, delivery of evidence-based care),
  - penalties for health care–acquired conditions, and
  - bundled payments and budgets
    - by episode (eg, PROMETHEUS Payment) and
    - by population (eg, capitation, accountable care organizations).

Also worth noting is what is not being done, at least at this point, including meaningful malpractice reform and anything to lessen the administrative burden associated with the private health insurance model.

(As an aside, it is worth asking why doctors remain so opposed to other insurance models, given the mind-boggling administrative costs doctors incur with private employer-based insurance. This is even more puzzling given that doctors know that the quality of care a patient receives depends on doctors, nurses, and others who deliver care, not on the color of the insurance card the patient happens to carry at the time. There is scant evidence that private insurers have ever done anything significant to slow costs, improve quality, or add any value whatsoever to the overall system, yet they continue to enjoy enormous influence and profits. Why don't doctors speak up about this? But that's a question for a different lecture.)

"PHARAOH, YOU'RE FACING THE SEVEN LEAN YEARS"

To summarize the situation: the United States has a serious fiscal problem, health care costs are the most significant aspect of that problem, and the health care delivery system is being targeted for massive change—in rates of pay, methods of payment, and modes of organization and delivery. We have enjoyed several decades of growth well ahead of the overall economy. We have been through the 7 fat years, as in the story of Joseph and the Pharaoh. We are now facing the 7 lean years. The question is, how should radiologists, and physicians in general, respond?

CHOICE #1: VICTIMHOOD, OR LEADERSHIP?

Some doctors view efforts to reduce costs as professionally unethical, and many still regard high costs as "someone else's problem." But when societal forces align to threaten our incomes, or usurp our autonomy to make patient care decisions, cost reduction becomes our problem. In response, I often hear statements such as "If only they fixed malpractice" and "If only patients would do what I tell them" and "If only other doctors wouldn't order these unnecessary imaging studies, then I could reduce costs." These "if only" complaints are understandable and almost always have some basis in reality, but I view them as the first step on a blame-shifting slippery slope toward victimhood.

Leaders face reality and do not waste a lot of time on "if only" statements. Instead, they examine the situation and say something like, "Okay, high US health care cost is a real problem. Doctors (and my specialty) aren't the only part of the problem, but they certainly own a sizeable share of it. We're well paid by society (the Medical Group Management Association median radiology salary was $471,000 in 2011), and it's unlikely that millions are going to march on Washington in our support if our incomes drop 10%, 20%, or even 30%. So let's get over the yearning for the good old days, and get on with doing our part to solve the problem."

The first choice we face as a profession, and a specialty, is whether we take a leadership stance or a victimhood stance.

CHOICE #2: DO IT FOR OURSELVES, OR HAVE IT DONE TO US?

The new business model for health care will be driven by value, not volume. To succeed under that new model, most future scenarios for care delivery envision the rapid development of "clinically integrated" systems capable of being accountable for the cost of defined clinical episodes of care at a minimum and, more probably, the budgeted costs of care for enrolled populations or even entire communities. Who will organize and manage these systems? Doctors? Hospitals? Insurers? Governments, local, state, or national? Ultimately, this is a question about power: who will have it and what they will do with it? Over the past decade or two, the formation of large delivery systems (whether led by hospitals or doctors) has been used mainly to negotiate higher payment rates, not to improve care, reduce costs, or add value [12].

True clinical integration has the potential to do far more than serve as a platform for negotiating rates, but realizing that potential will require that care delivery systems develop powerful new capabilities (Table 1). Many of these new capabilities involve deep cultural change in patterns of behavior, such as respectful cross-disciplinary teamwork, accountability for safety rules, and power sharing with patients and families. Most of the long-term successful systems that merit the designation "true clinical integration" [13] have been led by physicians, and it is difficult for me to imagine needed cultural changes happening in newly developing "accountable care organizations" without prominent, effective leadership from doctors.

Why should doctors take on this hard work, if not for negotiating higher fees? If doctors and hospitals in a

Table 1. Requirements for success in a value-driven environment

Environmental Feature	Capabilities Required
Value-based purchasing ● Hospital core measures ● Primary care pay for performance	Knowledge and systems to improve processes ● Improvement science ● Standard work ● Waste reduction and flow management ● Coding, documentation, and measurement ● Disease registries ● Chronic disease care model
Penalties for health care-acquired conditions and safety events ● Infections ● Decubiti ● Falls ● Adverse drug events ● Surgical complications ● Readmissions ● Never events	All of the above plus a comprehensive approach to safety ● Blunt-end leadership ○ Culture, technology, structure, systems ● Sharp-end accountability ○ Professionalism, safety behaviors, and rules ● High-risk clinics and nurse management programs
Episode-based payments or budgets ● Elective procedures (eg, hip arthroplasty 1 month before to 6 months postoperatively) ● Chronic disease (eg, 1 year's care for diabetes)	All of the above plus clinical integration with needed professional services ● Knowledge of where costs and PACs are occurring ● Ability to reduce unnecessary costs and PACs ○ Control of service capacity ○ Patient-centered design ○ Coordination of referrals ● Ability to accept and distribute bundled payments and budgets ● Alignment of individual provider performance incentives with organizational bundled payment contracts
ACOs and other "population health" payment models ● Attributed costs for a population of patients ● Capitation	All of the above plus ● Understanding of actuarial "incidence risk" ● Reserves ● Enrollment and communication systems ● Public health and prevention systems

Note: ACO = accountable care organization; PACs = potentially avoidable complications.

community were to work together systematically to prevent complications, reduce overused services, and improve quality, private health insurers would be exposed for what they are: middlemen who add precious little of value. That's the real strategic opportunity in accountable care and clinical integration.

So, the second choice we face is, do we want to make the changes needed in structures, processes, and cultures to reduce costs and improve quality ourselves, or do we want payers, hospital administrators, and regulatory managers to impose them on us?

CHOICE #3: AIM FOR WHAT'S POSSIBLE, OR SETTLE FOR WHAT'S PASSABLE?

One of accountable care's prominent features is public reporting of performance in quality and safety. These reports currently focus on the quality of care given after the diagnosis is made because that's where most of the data are. Not surprisingly, much of the effort put into quality improvement has been on improving these "process of care" measures in the postdiagnostic phase. And although radiologists are sometimes involved in treatment, the primary work of diagnostic radiology has been, well, diagnostic. So radiology has understandably played a background role in quality and safety improvement, and the quality of the diagnostic process has largely been under the radar screen of public scrutiny.

But accurate, rapid diagnosis is a critical aspect of patient safety, as well as a major factor in reducing costs. It is estimated that as many as 80,000 US hospital deaths result from misdiagnosis annually [14]. It is likely that the "next frontier" in quality and safety will be diagnosis and that the specialty of diagnostic radiology will emerge from the background and into the spotlight. And when advances in imaging are combined with rapid developments in genetics, technology, social media, and patient-centered care design, the diagnostic arena will be facing some very interesting questions such as these:

- Could patients have made this diagnosis themselves, at home?
- How many doctor visits were really needed?
- To what kinds of doctors?
- How many laboratory tests, imaging studies, biopsies, endoscopic and other procedures were really needed?
- What might we do to reduce common diagnostic errors?

- How long did the diagnostic process take to get the correct answer?
- How much did it cost?
- How many sleepless nights did the patient suffer through?

As radiologists and other specialties take on these and other questions, it will be tempting to aim cautiously, to strive for what's passable (good enough, adequate, required, expected) rather than what might be possible (being within the limits of ability but involving risk for failure). Given the level of public scrutiny of our quality reports, setting safe, achievable, passable aims for the quality of the diagnostic journey would seem to be the prudent thing to do. But is that the best we can do?

Twenty years ago, it took my colleagues at Park Nicollet Health Services 3 weeks from the time we told a woman "You might have breast cancer" until we could say "We have an answer." I watched a team of colleagues at Park Nicollet Health Services—diagnostic radiologists, surgeons, nurses, primary care doctors, and pathologists—reach for what might be possible in reducing the number of sleepless nights for our patients. With a combination of new technology (stereotactic biopsy), new guidelines that empowered radiologists to rapidly move through to biopsy without "permission" from primary care, and new compensation formulas that protected surgeons from the loss of biopsy-related income, we were able to reliably give women with possible breast cancer on a mammogram an answer in 3 hours, not 3 weeks.

Some of the barriers to improving diagnosis are technical. But many of them are political, professional, and financial. If we limit ourselves to technical solutions, we will settle for the passable. If we deal with the deeper issues of money and power, we have a chance of achieving what is possible.

Radiology will play a central role in the new quality frontier of diagnosis, and I would challenge you to reach for what is possible: zero sleepless nights.

CONCLUSIONS

The American health care system, and radiology as a specialty in that system, has had a long run of growth, driven by a "doing well by doing more" business model, along with exciting and expensive new technical capabilities. Our nation's fiscal circumstances are now forcing the delivery system to shift from a volume-driven to a value-driven business model, in which we will be rewarded for doing all the care, but only the care, that will help our patients and communities achieve desired health outcomes. Cost reduction will dominate all public policy for the foreseeable future. Economically speaking, we are entering health care's lean years.

Physicians in every specialty, along with all the other players in the larger health care system, will need to adapt to this new model. As radiologists face this challenging period, they should adopt a leadership stance, rather than lapsing into victimhood. Along with their colleagues in other specialties, they should see the accountable care era as an opportunity to clinically integrate the care delivery systems in their communities themselves, rather than waiting to have this clinical integration imposed upon them by others. And radiologists should embrace the new quality frontier of diagnosis and aim to achieve what is possible, rather than simply settling for what is passable.

This is the true joy in life, to be used for a purpose you consider a mighty one, to be a force of nature, rather than a feverish, selfish clod of ailments and grievances complaining that the world will not devote itself to making you happy.

George Bernard Shaw

REFERENCES

1. De Brantes F, Rastogi A, Painter M. Reducing potentially avoidable complications in patients with chronic diseases: the PROMETHEUS Payment approach. Health Serv Res 2010;45:1854-71.
2. US Department of Health and Human Services, Office of Inspector General. Adverse events in hospitals: national incidence among Medicare beneficiaries (OEI 06-09-0090). Available at: http://oig.hhs.gov/oei/reports/oei-06-09-00090.pdf. Accessed July 5, 2012.
3. Fisher ES, Bynum JP, Skinner JS. Slowing the growth of health care costs—lessons from regional variation. N Engl J Med 2009;360:849-52.
4. Fisher ES. The implications of regional and provider-specific variations in Medicare spending for Medicare payment reform. Available at: http://waysandmeans.house.gov/media/pdf/111/fisher.pdf. Accessed July 5, 2012.
5. Shah ND, Naessens JM, Wood DL, et al. Mayo Clinic employees responded to new requirements for cost sharing by reducing possibly unneeded health services use. Health Aff (Millwood) 2011;30:2134-41.
6. Levin DC, Rao VM, Parker L. Physician orders contribute to high-tech imaging slowdown. Health Aff (Millwood) 2012;29:189-95.
7. Laugesen MJ, Glied SA. Higher fees paid to US physicians drive higher spending for physician services compared to other countries. Health Aff (Millwood) 2011;30:1647-56.
8. Morra D, Nicholson S, Levinson W, et al. US physician practices versus Canadians: Spending nearly four times as much money interacting with payers. Health Aff (Millwood) 2011;30:1443-50.
9. Auerbach D, Kellerman AL. A decade of health care cost growth has wiped out real income gains for an average US family. Health Aff (Millwood) 2011;30:1630-6.
10. Kolata G. Knotty challenges in health care costs. Available at: http://www.nytimes.com/2012/03/06/health/policy/an-interview-with-victor-fuchs-on-health-care-costs.html. Accessed April 29, 2012.
11. Mercer. Employers accelerate efforts to bring health benefit costs under control. Available at: http://www.mercer.com/press-releases/national-survey-employer-sponsored-health-plans. Accessed April 29, 2012.
12. Berenson RG, Ginsburg PB, Kemper N. Unchecked provider clout in California foreshadows challenges to health reform. Health Aff (Millwood) 2010;29:699-705.
13. Gosfield AG, Reinertsen JL. Achieving integration with highly engaged physicians. Available at: http://www.reinertsengroup.com/publications/documents/True%20Clinical%20Integration%20Gosfield%20Reinertsen%202010.pdf. Accessed April 29, 2012.
14. Newman-Toker DE, Pronovost PJ. Diagnostic errors—the next frontier for patient safety. JAMA 2009;301:1060-2.