Medicine has played a transformational role in Pittsburgh’s economy, and with health care reform on the horizon, further evolution is a certainty.

When the steel industry shrunk in the latter half of the 20th century, Pittsburgh forged a new path, developing medical research centers and support services for what is today a major regional employer. Health care jobs account for 16 percent of the workforce in Pittsburgh’s seven-county region, according to the U.S. Bureau of Labor Statistics. Highmark Blue Cross Blue Shield, one of the nation’s largest health insurers, and the University of Pittsburgh Medical Center, one of the most prominent teaching hospitals, are the biggest players in a robust industry across western Pennsylvania.

Continued growth seems certain, given an aging population and hospitals that draw patients worldwide. Pennsylvania’s Center for Workforce Information & Analysis projects 35,000 new health care jobs locally by 2016. That’s triple the rate of job growth projected for the overall economy.

The effect of impending health care reform on our region’s medical employers is less clear. Stephen Foreman, a Fulbright scholar and associate professor of economics and health administration at Robert Morris University, examines that topic in these pages. Whatever shape a new system takes, the United States – and especially Pittsburgh – will need more health care professionals.

RMU has taken significant steps to meet that demand. We have a pre-medicine program with partnerships with the Drexel University College of Medicine; the Philadelphia College of Osteopathic Medicine; the Lake Erie College of Osteopathic Medicine; and the Palmer College of Chiropractic. These partnerships guarantee qualified RMU students admission to competitive medical schools and, in the case of our Drexel partnership, allow students to complete undergraduate internships at Allegheny General Hospital.

Training health care students on the latest technology is another key to success. We will tap the expertise of Valerie Powell, university professor of computer and information systems, to train our nursing students in the use of electronic medical records, which, as you’ll read here, have revolutionized health care at the U.S. Department of Veterans Affairs.

Speaking of nursing education, we’ve created a nursing lab that uses high-tech mannequins to simulate real treatment situations. What you’ll read about here takes place inside a single laboratory. We plan to construct a building dedicated to nursing simulation, which will serve as a training and education resource for health care workers across the region.

By thinking ahead and partnering with the region’s leading employers and institutions, RMU is advancing our mission of providing a professionally focused, education that meets the needs of the Pittsburgh area and its workforce.

Sincerely,

Gregory G. Dell’Omo, Ph.D.
“Vested interests will never let true health reform happen.” So reads a recent newspaper headline that probably echoes the thoughts of millions of Americans. Simple enough. Vitiolic enough. Still, one person’s “vested interest” is another’s employer. It is possible that health care “vested interests” provide 20 to 40 percent of all jobs in many economically disadvantaged regions. If “true reform” threatens decently paying jobs then it would be proper for “vested interests” to oppose it. Moreover, we should not be surprised when large institutions fight to continue their existence free of external influence.

In truth, the health reform debate may indicate what we have become as a nation -- not in terms of our humanity or sense of right and wrong and decency, but whether our social and political institutions have become so large and institutional inertia so great that they cannot change in ways that are necessary to deal with major national problems. The difficulties with bigness are well known. Bigness is self-perpetuating. Big is usually inefficient. It may be difficult or impossible or inordinately costly to transform large social institutions. The track record for large-scale social experiments is not good. Knowing these problems, however, does not make for tractable or more understandable solutions. Handwringing will not make any meaningful contribution to current difficulties.

Perhaps a major part of our problem lies with our own hubris in terms of a desire for big and simple solutions to complex problems. Rather than imposing a large refined health insurance reform plan on a national basis, maybe we should be experimenting on a state or regional basis with a number of options for increasing competition and choice in health insurance: not only a government option but mechanisms that would fashion ways for small for-profit and nonprofit health plans to compete with large national insurers and ways to control the behavior of large hospitals – the “vested interests” that are the target of much finger-pointing. While such approaches may not enjoy the same level of attention as the national health reform debate, they may offer a better opportunity for true health reform.

Economic theory and history tells us that at some point the market will intervene to impose discipline if our institutions have become too large, too inefficient and too resistant to change. Put bluntly, a bad system will inevitably collapse. Probably one-third of what we spend on health care is unnecessary. As many as one-fifth of all Americans have no health insurance and the coverage provided by many health insurance plans is no longer adequate to cover health care costs. If vested interests prevent necessary change from occurring the market will do it. The problem is, neither the vested interests nor the public is likely to enjoy the pain that such market discipline will force. That is certainly incentive enough for change, and even vested interests should understand that.

(Stephen Foreman is a Fulbright Scholar and former practicing attorney who holds a Ph.D. in economics from the University of California, Berkeley, and a master’s degree in public administration from Harvard University. He was previously research director for the Pennsylvania Medical Society and was an expert advisor to the New York State Attorney General on the health insurance reimbursement system.)
Healthcare reform advocates are banking on computerized patient record systems to cut costs and improve patient care – so much so that the federal government has offered approximately $20 billion in incentives for healthcare systems to convert from paper to electronic medical record systems.

“Instant access to information can help decrease medical errors, enhance patient safety and improve patient outcomes,” says Valerie Howard, Ed.D., MSN, RN, associate professor of nursing and director of the RMU nursing simulations laboratory.

With the help of RMU University Professor Valerie Powell, Val Howard plans to train nursing students to use VistA, the computerized patient record system employed by the U.S. Department of Veterans Affairs health care system.

“Robert Morris has been at the forefront of this technology for quite some time,” says Valerie Powell, R.T.(R), Ph.D., a health care information systems expert who has trained VA medical and technology personnel in the use of VistA. RMU is one the very few institutions nationwide that teaches M, the open-source computer language used to develop VistA.

Short for Veterans Health Information Systems and Technology Architecture, VistA is credited with helping to transform the VA health care system. Studies published by the Rand Corp. and the New England Journal of Medicine have demonstrated dramatic improvements in VA patient care and show that it has eclipsed other health care systems in the treatment of chronic illness. Financial writer Phillip Longman documented the VA’s success in his book *Best Care Anywhere: Why VA Healthcare is Better Than Yours.*

“You can’t improve what you can’t measure. One thing that having an electronic medical record system has done for us is allow us to capture an incredibly rich data set about our patients,” says Dr. W. Paul Nichol, national director of medical informatics for patient care services at the VA.

VistA is particularly effective at managing chronic diseases such as diabetes because it provides “continuity of care,” says Dr. Nichol. For example, your primary care physician has instant access to the record of your treatment by your cardiologist, and if she needs to refer you to another specialist, the system alerts her to any tests that need to be performed first. Because the system tracks a patient’s medications, it can alert a physician to dangerous drug interactions when she goes to write a new prescription.

Valerie Powell was a member of the Pennsylvania Chronic Care Management, Reimbursement and Cost Reduction Commission, which last year recommended the state adopt a chronic care management system similar to what the VA uses.

“Electronic health record keeping is vital in reducing costs,” says Valerie. “If a doctor in hospital X doesn’t have easy access to a patient’s records from hospital Y, then medical tests will need to be duplicated, driving up health care costs.”

Nurses are vital to the successful implementation of computerized patient record systems, because they gather much of the information that goes into a patient’s medical record. They represent the largest group of users of the VA’s system – which is why electronic medical records will soon be incorporated throughout the RMU nursing curriculum.

“It’s not just important that our students know how to use the technology,” says Val Howard, “but that they can correctly interpret the information.”
Simulations for Success

Allow me to set a scene for you. A patient, Mrs. Gonzales, lies in a hospital bed recovering from leg surgery. High-tech equipment monitors her condition, while her concerned daughter sits at the foot of the bed, waiting.

Two nurses enter the room to see how she is doing. “My leg,” she says, “it really hurts.” One of the nurses checks the surgical wound on Mrs. Gonzales’ leg and finds that it’s bleeding and needs immediate attention. The other nurse calls the doctor for guidance on the proper medication and dosage.

Suddenly, Mrs. Gonzales is having trouble breathing. The nurses jump into action. They check the woman’s blood pressure, temperature, pulse. They determine the cause to be acute pain and do their best to bring her comfort. Once the situation is under control, they explain everything clearly to Mrs. Gonzales’ anxious daughter, in order to ease her mind.

And just like that, the simulation is over. Mrs. Gonzales, by the way, is fine. After all, she’s just a dummy—a really smart dummy.

This is just another day in RMU’s new state-of-the-art simulation laboratory in the university’s School of Nursing and Health Sciences. The lab features two high-fidelity treatment rooms, one critical-care room, two classrooms, one low-fidelity nursing practice lab, and multiple office areas, as well as advanced audio-visual and IT equipment that allows for scheduling and administrative support, debriefing recordings, and live audio-visual feeds.

The new lab was made possible by a $250,000 grant from Highmark Blue Cross Blue Shield; a $500,000 state grant from the Pennsylvania Department of Labor and Industry, presented by state Rep. Mark Mustio and state Sen. John Pippy; and a $95,000 federal grant made possible by U.S. Sens. Robert Casey Jr. and Arlen Specter. “The additional funding allowed us not only to purchase the new mannequins and state-of-the-art recording equipment but also to hire and train dedicated staff to assist in the simulation lab,” says Valerie Howard, associate professor and director of the simulation lab.

The real stars of this new lab are the patient simulators. At first glance, you may think you’re looking at a normal, department store mannequin. Then you see its eyes blink and its chest rising up and down. And then you hear it cough. These high-fidelity simulators can mimic any number of medical conditions, and they help the students feel as if they’re working with real, live patients in a safe and controlled environment.

The lab features two high-fidelity adult simulation mannequins, a birthing simulator with newborn, an infant (6-month-old) mannequin, and a pediatric (5-year-old) mannequin. Each is computerized with interactive capabilities to simulate physiological and pharmacological responses in real time. The facilities closely resemble typical hospital rooms, from the IV drips to the bedside monitors, and audio-visual equipment provides live remote viewing, immediate feedback, and after-action review during the debriefing period.

“Simulation is great for providing students a variety of experiences,” says Katherine J. Perozzi, MSN, RN, associate professor and low-fidelity simulation lab coordinator. “It allows them to feel that they have indeed managed such a situation before, and it makes them feel more confident in the actual clinical setting.”