

Spending Limited Health Care Dollars on What Works Best:

The Promise of Comparative Effectiveness Research

Senator Josh Stein

Imagine sitting in your doctor's office. Your chest is tight again. The pain you feel is exceeded only by your fear: Will you survive? What will happen to your family if you don't? Your doctor talks to you about the two main options for treating your chronic chest pain—angioplasty or bypass surgery—and then makes a recommendation. What did your doctor recommend?

Surprisingly, the answer may depend on the location of your doctor's office, not the cost or effectiveness of the treatments themselves. If you live in Morganton, you are much more likely to get bypass surgery than if you resided just down NC Highway 64 in Rutherfordton.

According to a recent analysis of Medicare data by the North Carolina Health Access Coalition, Medicare patients in Morganton were more than twice as likely to receive a cardiac bypass as Medicare patients in Rutherfordton (6.24 per 1,000 Medicare patients in Morganton vs. 2.87 per 1,000 patients in Rutherfordton).¹ These findings indicate widely divergent treatment practices for chronic chest pain across neighboring counties in North Carolina.

I am not a doctor or a health researcher so I do not know which treatment is more appropriate under which circumstances, but dramatic disparities like these indicate that too often in our health care system, treatment decisions are based on reasons other than empirical evidence.

As a society, we want patients to receive the most effective tests and treatments in the most appropriate settings: we want medical care that improves patient health and contains costs. In other words, we want cost effective medical care that works.

Unfortunately, too often in North Carolina and across the country, what happens in health care is underuse of proven medical tests and treatments and overuse of unproven medical tests and treatments that don't help the patient and, even worse, sometimes harm the patient.

As a result, nationally, we are spending billions of dollars in wasted treatments. Recent studies indicate that as much as 30% of all expenditures in Medicare are wasted on unnecessary tests, treatments, and procedures that do not improve health outcomes.²

Last summer, the *New Yorker* published an article that explored why McAllen, Texas is the second most expensive health care market in the nation.³ Medicare spent \$15,000 per enrollee in McAllen, almost twice the national average and twice the rate of El Paso, Texas, which is demographically and economically similar to McAllen. Yet even with the extra spending, Medicare enrollees in McAllen did not see any benefit in health outcomes compared to those in El Paso. The cause for this disparity was simply across-the-board overuse of medicine in McAllen.

Other national studies have confirmed that, as a nation, we are spending health care dollars unwisely. A 2003 study by Dartmouth researchers concluded that patients in higher-spending regions received 60% more care than elsewhere, but did no better than the patients in the lower-spending regions in terms of survival, ability to function, or satisfaction.⁴ If anything, they fared worse. Another Dartmouth study found that the more money Medicare spent per person in a given state, the lower the state's quality ranking tended to be.⁵

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developed, which involved strengthening the compressed bone through injection of cement. Case series studies that were restricted to a before-after comparison of patient outcomes demonstrated that they felt much better after the injection. Over 1,000 patients per year received this treatment in North Carolina. It was not until the summer of 2009 that randomized trials demonstrated that the level of improvement in patient well-being was similar whether they received the cement injection or a sham injection of lidocaine.⁸ There is still a great deal that we don't know about vertebroplasty. It remains possible that some subsets of patients may benefit from the treatment, but lack of information for almost a decade exposed many patients to a treatment of essentially unknown efficacy that also carries some risk. Well-conducted trials 10 years ago might have led to much better current information about treatment options for patients and providers.

How are we to avoid the fate of CER studies winding up on a shelf or in a library? Physicians are exposed to hundreds of research articles each week. Dissemination of the highest quality information in an unbiased fashion will be critical if CER is to positively affect care patterns in the US. Past federal efforts have been on a relatively small scale and dissemination efforts have been disappointing to date. However, funding from the American Recovery and Reinvestment Act (ARRA) stimulus bill and especially the new health reform legislation will significantly increase the visibility of CER. This will include not only peer-reviewed journal articles but also direct dissemination of results to providers and patients.

Combining CER information with electronic health records is an obvious extension of these joint efforts. The challenge of providing information to physicians and patients in a convenient format, at a time close to the provision of

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When making treatment decisions, we need to do what is best for the patient, not just order up more care that does not improve health. But how do we know what works best?

Comparative effectiveness research (CER) promises to provide us with this information. Comparative effectiveness is an approach that analyzes how health care is provided across broad populations and identifies those procedures, medications, and treatments that are most effective for a given situation. CER asks not whether a certain procedure or pharmaceutical is better than a placebo (doing nothing), but whether it is better than alternative procedures or pharmaceuticals—in other words, which treatment works best.

The federal government has prioritized CER. As part of the Recovery and Reinvestment Act of 2009, the federal government is investing more than \$1 billion in CER through the US Department of Health and Human Services, the Agency for Healthcare Research and Quality, and the National Institutes for Health.

We are fortunate here in North Carolina because we are home to some of the most respected and active CER researchers in the nation. A conservative figure for the amount of federal funds already awarded to in-state institutions for CER training, studies, and clinical trials taking place over the next three years totals roughly \$40 million. This number is almost certain to rise because additional funding for this field is anticipated to grow substantially in the coming years.

This past legislative session, recognizing the emerging importance of this research, the North Carolina General Assembly created the Comparative Effectiveness Study Commission. Representative Bob England and I are co-chairing this Commission, which is comprised of other legislators and includes an advisory board made up of researchers, third party payers, medical providers, and others.

The Commission is tackling a number of questions, including the following:

- How can we position North Carolina to benefit economically from increased federal investment in this type of research?
- How can we enhance researchers' access to broad ranges of health care data to advance this important research while guaranteeing patient privacy?
- How can we improve dissemination of CER to health care providers?
- How can we ensure that the state's health care dollars are spent wisely?

Our fundamental objective, however, is to identify ways to improve the health of the people of the state. As the Commission continues its deliberations, Representative England and I would welcome hearing your ideas to promote this most basic and most critical of goals.

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care, and in a way that not does significantly slow down the process of care will require significant testing and process of care modification. We have a lot of work to do.

How is This All Going to Get Done?

The US has significant resources in CER. Fortunately, the ARRA stimulus bill and the health reform legislation have substantial training funds to increase the pool of researchers to conduct this work. Significant work is occurring in North Carolina including randomized trials through industry and at all of the state's academic health centers. Duke University, Research Triangle International, and the University of North Carolina at Chapel Hill all have significant ongoing activities

through AHRQ, which to date has been the major federal agency engaged in CER. Both of North Carolina's Clinical and Translational Science Award (CTSA) centers at UNC and Duke (funded by NIH) have significant engagement with CER.

The health reform legislation establishes a new entity, the Patient Centered Outcome Research Institute, which will "assist patients, clinicians, purchasers, and policymakers in making informed health decisions by advancing the quality and relevance of the evidence concerning the manner in which diseases, disorders, and other health conditions can effectively and appropriately be prevented, diagnosed, treated, monitored, and managed through