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How A Regional Collaborative Of Hospitals And Physicians In Michigan Cut Costs And Improved The Quality Of Care

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ABSTRACT There is evidence that collaborations between hospitals and physicians in particular regions of the country have led to improvements in the quality of care. Even so, there have not been many of these collaborations. We review one, the Michigan regional collaborative improvement program, which was paid for by a large private insurer, has yielded improvements for a range of clinical conditions, and has reduced costs in several important areas. In general and vascular surgery alone, complications from surgery dropped almost 2.6 percent among participating Michigan hospitals—a change that translates into 2,500 fewer Michigan patients with surgical complications each year. Estimated annual savings from this one collaborative are approximately \$20 million, far exceeding the cost of administering the program. Regional collaborative improvement programs should become increasingly attractive to hospitals and physicians, as well as to national policy makers, as they seek to improve health care quality and reduce costs.

The need to improve quality of care in US hospitals is widely recognized. Potentially avoidable adverse events are common among hospitalized patients, and wide variation in hospital performance outcomes suggests that there is ample room for improvement.^{1–4} The business case for improving hospital quality is also apparent. In surgery, for example, the true cost associated with treating complications exceeds \$10,000 per patient, the large majority of which is passed on to payers and purchasers.⁵ Additional payments for complicated hospital stays (outlier payments), unplanned readmissions, and care following discharge for patients with complications account for approximately 20 percent of the total costs associated with many inpatient procedures, according to national Medicare data.⁶

Background On Hospital Quality Improvement

Despite increasing attention from payers, policy makers, and professional organizations, large-scale efforts to improve hospital quality have had little effect on patient outcomes. Public reporting of performance data may motivate hospitals to improve.⁷ However, there remain doubts that programs such as the Centers for Medicare and Medicaid Services' Hospital Compare website or the Leapfrog Group's selective referral initiative will be successful in redirecting large numbers of patients to hospitals that have demonstrated superior results.^{8–10} Simply put, it hasn't been demonstrated that patients will actually stop going to hospitals that achieve poor results and start going to hospitals that achieve far better ones. Even if practical barriers to changing these referral patterns could be addressed—such as efficient transfer of patients' medical

records—these initiatives are limited by a lack of good data and measures for identifying truly superior hospitals.

VARIED APPROACHES In addition to not paying for so-called never events, such as surgical procedures on the wrong site or when foreign objects are left inside a patient after surgery, both public and private insurers have implemented pay-for-performance programs aimed at increasing the use of specific, evidence-based practices. An example is ensuring that a patient is taking a beta-blocker when discharged from the hospital after a myocardial infarction, or heart attack.^{11,12} Hospitals have generally improved their performance with these process-of-care measures, which are distinct from outcome measures that indicate how the health status of patients has changed. But whether such programs have conferred clinically meaningful improvements in patient outcomes is debatable.¹³⁻¹⁷

REGIONAL COLLABORATIONS Regional collaborations between hospitals and physicians may be more effective than either selective referral or pay-for-performance in improving the quality of health care at the population level. Pioneered by the Northern New England Cardiovascular Disease Study Group, regional collaborative improvement programs are based upon clinical registries containing detailed information about patients' risk status, processes of care, and outcomes.¹⁸ Hospitals and physicians receive regular and (usually) confidential feedback on their performance from their registry coordinating center—for example, risk-adjusted mortality rates for cardiac surgery. Hospital officials and physicians convene regularly to review and interpret their data, often focusing on areas of variation in practice or outcomes. Best practices are then identified and implemented across the region, which may be an area within a large state or a group of one or more states.

Despite the conceptual appeal of this model and its success in northern New England, it has not been widely adopted in other parts of the United States. However, an ambitious program in Michigan now provides the first opportunity to assess the value and practicality of regional collaborative improvement programs on a much larger scale.

After early success with a program focusing on percutaneous coronary interventions—commonly known as heart angioplasties—Blue Cross and Blue Shield of Michigan/Blue Care Network decided to make regional collaborative improvement a major component of its statewide Value Partnership program. Then, in 2004, the insurer began implementing similar programs in other clinical areas.^{19,20} This insurer currently invests almost \$30 million annually in nine programs,

which collectively focus on the care of almost 200,000 Michigan patients annually.

Five of the programs—in breast cancer, cardiac computed tomography, peripheral vascular interventions, trauma care, and hospital-based medical care—have not been established long enough to enable the judging of results. However, results from the other four, more mature regional collaborative improvement programs—targeting percutaneous coronary interventions, cardiac surgery, bariatric surgery for obesity, and other types of general and vascular surgery—are now emerging.

FOCUS ON MICHIGAN We review the Michigan regional collaborative improvement program and its success to date in improving clinical outcomes. Given the substantial cost of these improvement programs, we also consider savings accrued to payers as a result of fewer adverse outcomes or other efficiency gains and thus the return on investment from the payer perspective. Finally, we review lessons learned from the first five years of the Michigan program and potential challenges associated with scaling up this model nationwide.

Overview Of The Program

PARTICIPANTS Blue Cross and Blue Shield of Michigan/Blue Care Network is the dominant private insurer in Michigan, insuring approximately 47 percent of the ten million residents of the state. Based on the assessment of the lead author of this article, David Share, approximately 5 percent of its total reimbursements to hospitals (\$160 million annually) are currently reserved for its Participating Hospital Agreement Incentive Program. This program includes elements of traditional pay-for-performance plans. However, 20 percent of the program's overall budget is devoted to nine regional collaborative improvement programs, whose annual costs range from \$1.2 million to more than \$5 million each, according to financial documents from fiscal year 2010.

Each regional collaborative improvement program is administered by a coordinating center staffed by one of the participating hospitals (mostly university-based), not by Blue Cross and Blue Shield of Michigan/Blue Care Network. Although staff composition varies by program, most coordinating centers have a physician-director, program epidemiologist or statistician, data analyst, data auditor, quality improvement nurse, and administrative support.

COSTS AND PAYMENTS Based on financial reports from fiscal year 2010, payments to hospitals account for most of the costs of the regional collaborative improvement programs. Hospitals

are compensated for each improvement program in which they participate, regardless of their performance relative to other centers. Payment formulas were originally designed to cover the direct costs of participation, but they are now based on a fixed percentage of each hospital's total payments from Blue Cross and Blue Shield of Michigan/Blue Care Network. In 2007 these payments to hospitals ranged from \$11,000 to more than \$1 million across the forty-four hospitals participating in at least one regional collaborative improvement program.

For most hospitals, payments exceed the true costs of participation, according to a financial analysis conducted by John Birkmeyer, one of this paper's authors. Participating hospitals are expected to collect and submit data to the program registries on a timely basis and allow regular site visits from data auditors. To receive payments, hospitals must send at least one physician-representative and a program coordinator to the quarterly meetings of each regional collaborative improvement program and participate actively in statewide and hospital-specific quality improvement interventions.

TARGETED CONDITIONS The improvement programs target clinical conditions and procedures that are relatively common and that are associated with high costs per episode. They also tend to focus on procedures that are technically complex, evolving rapidly, and associated with wide variation in hospital practice and outcomes.

Although the programs all administer detailed clinical registries, they vary in several aspects of data collection and measurement (Exhibit 1). Outcomes are measured using established national registries administered by professional organizations, locally developed databases, or some combination of the two.

DATA To help hospitals target and monitor

their local improvement activities, all of the regional collaborative improvement programs provide participating hospitals with hospital- and physician-specific outcome data, relative to Michigan and (in some cases) national benchmarks. These data are confidential and not accessible by Blue Cross and Blue Shield of Michigan/Blue Care Network. Although most of the programs focus on short-term morbidity and mortality, some track longer-term measures of effectiveness, such as weight loss and patients' functional status after bariatric surgery. Several of the programs link to the insurer's claims data to track use of health care services and spending.

Clinical Improvements

The regional collaborative improvement programs vary widely with respect to their primary outcome measures, risk-adjustment models and statistical techniques, and use of external benchmarks for assessing comparative improvements. In general, however, the success of the programs is judged by trends in statewide rates of use and adverse outcomes, which are assessed for both clinical and statistical significance. The latter is determined by regression-based time-series analyses, which adjust for any measurable changes in patient characteristics over time.

GENERAL AND VASCULAR SURGERY The largest of the regional collaborative improvement programs is the Michigan Surgical Quality Collaborative, which targets general and vascular surgery. Given the broad range of procedures included in this program, it tends to focus its quality improvement efforts on aspects of peri-operative care—care before, during, and after surgery that is common to almost any type of inpatient surgery, including practices aimed at preventing common complications such as sur-

EXHIBIT 1

Overview Of Four Regional Collaborative Improvement Programs In Michigan

Characteristic	Percutaneous coronary interventions	Cardiac surgery	Bariatric surgery	Major general and vascular surgery
Program start	1997	2006	2006	2005
Current number of hospitals (percent eligible)	31 (100%)	33 (100%)	27 (96%)	34 (94%)
Approximate number of patients per year ^a	32,000	10,000	7,000	50,000
Cost to BCBSM/BCN per year	\$3.2 million	\$3.0 million	\$2.7 million	\$5.0 million
Registry	Locally developed	STS registry with local enhancements	Locally developed	ACS-NSQIP with local enhancements

SOURCE Blue Cross and Blue Shield of Michigan. **NOTES** BCBSM/BCN is Blue Cross and Blue Shield of Michigan/Blue Care Network. STS is Society of Thoracic Surgeons. ACS-NSQIP is American College of Surgeons National Surgical Quality Improvement Program. Although approximately 100,000 Michigan patients each year undergo general and vascular procedures targeted by ACS-NSQIP, this registry collects data on a random subset. ^aPatients per most recent year (2010).

Although hospital-specific morbidity rates are less precise, some Michigan hospitals improved more than others.

gical site infection or venous thromboembolism (complications from a blood clot forming in a vein).

The Michigan Surgical Quality Collaborative shares the same measurement platform as the American College of Surgeons National Surgical Quality Improvement Program. It collects additional data on selected procedures, including colorectal surgery and lower-extremity revascularization. The National Surgical Quality Improvement Program collects very detailed clinical information about patient characteristics (for purposes of risk adjustment) and postoperative complications. Between 2005 and 2009 the national program included approximately 200 hospitals nationwide, a group in which large academic centers tend to be overrepresented. Although it hosts an annual national meeting where hospitals share their experiences and improvement work, the program does not itself direct improvement interventions or coordinate collaborations across hospitals.

To assess the added value of the regional collaborative improvement model, we used the National Surgical Quality Improvement Program registry to compare surgical outcomes in hospitals within Michigan to those outside the state. For the entire study period, Michigan patients could be identified directly using the Michigan Surgical Quality Collaborative database. Other patients undergoing surgery between 2005 and 2007 could be identified directly from the National Surgical Quality Improvement Program public-use database.

In 2008–09, however, the public-use file no longer contained hospital identifiers. For this reason, we identified patients outside of Michigan by using a matching algorithm based on patient characteristics, primary procedure code, and other variables. This algorithm matched more than 95 percent of patients.

When comparing the performance of hospitals in and outside of Michigan, we focused on thirty-

day morbidity rates, which is the primary outcome measure of the National Surgical Quality Improvement Program. To ensure fair comparisons between the two groups, morbidity rates were adjusted for patients' risk factors, including preoperative albumin, creatinine, functional status, sepsis, inpatient and emergency surgery status, illness severity (using the American Society of Anesthesiologists score), work relative value units, and surgical specialty (peripheral vascular versus general surgery).

In addition to cross-sectional comparisons, we used logistic regression to assess time trends in morbidity rates in both groups of hospitals after adjusting for the above covariates. Relative improvements in outcomes between the Michigan hospitals and the others were formally compared using a likelihood ratio test for interaction between time and site (in Michigan versus not in Michigan) based on the logistic regression model. In essence, this analysis examined whether the slopes in morbidity rate trends over time were significantly different between hospitals in Michigan and those not in Michigan.

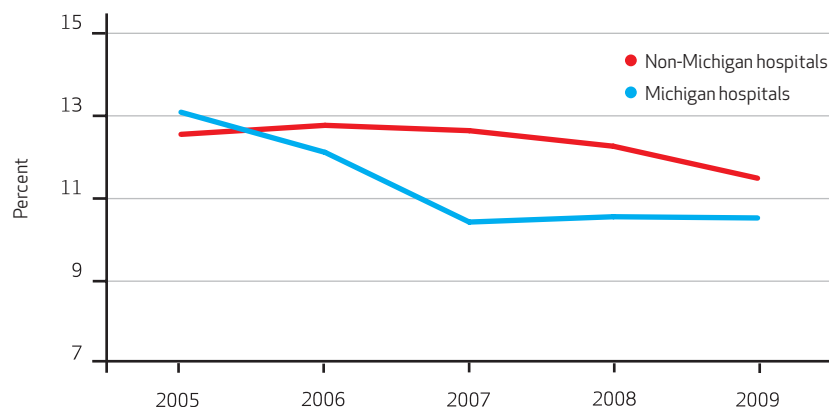
As seen in Exhibit 2, risk-adjusted morbidity rates in Michigan hospitals fell from 13.1 percent in 2005 to 10.5 percent in 2009 ($p < 0.001$). In contrast, morbidity rates in hospitals outside of Michigan participating in the National Surgical Quality Improvement Program remained essentially flat between 2005 and 2008, before dipping slightly in 2009. Although trends toward improvement in the two populations were both statistically significant, improvement occurred at a faster rate in Michigan hospitals ($p < 0.001$). In 2009 (the latest year for which complete data were available), overall morbidity in Michigan hospitals was significantly lower than in the other hospitals (10.5 percent versus 11.5 percent, $p < 0.001$).

Although hospital-specific morbidity rates are less precise, some Michigan hospitals improved more than others. Of the thirty-two hospitals participating by the end of 2008, eight hospitals (25 percent) showed statistically significant ($p < 0.05$) reductions in their morbidity rates by the end of 2009. Another eight hospitals (25 percent) had achieved trends toward declining morbidity ($p < 0.20$). There were no significant improvements in morbidity rates at the remaining hospitals.

BIATRIC SURGERY The Michigan Bariatric Surgery Collaborative, which enrolls more than 95 percent of patients undergoing bariatric surgery in the state, has to date focused its improvement activities on reducing technical complications and rates of venous thromboembolism. Overall complication rates declined from 8.7 percent to 6.6 percent between 2007 (the first year

EXHIBIT 2

Risk-Adjusted Morbidity With General And Vascular Surgery: Hospitals In Michigan Versus Hospitals Outside Of Michigan, 2005-09



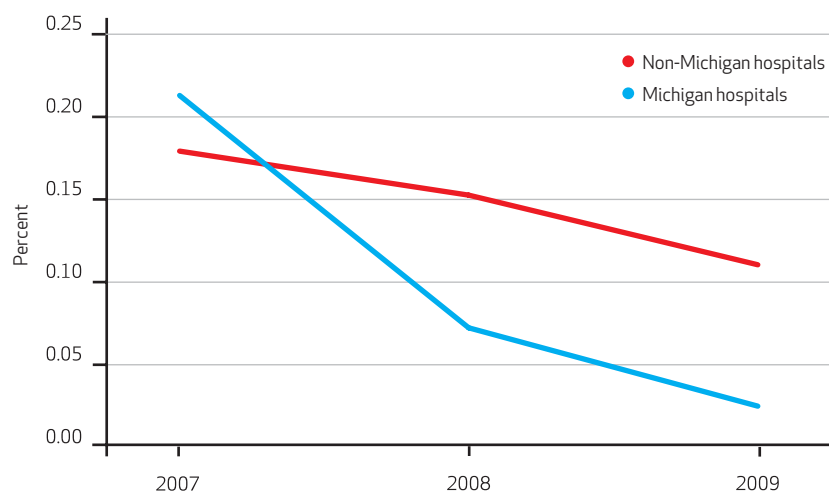
SOURCE Michigan Surgical Quality Collaborative and National Surgical Quality Improvement Program registries, 2005-09. **NOTES** Morbidity rates declined faster in Michigan hospitals ($p < 0.001$) and, by 2009, were lower than in other hospitals participating in the National Surgical Quality Improvement Program ($p < 0.001$).

for which complete data were available) and 2009.

Because the Michigan Bariatric Surgery Collaborative and the National Surgical Quality Improvement Program rely on separate registries with different outcome measures and definitions, improvements in complication rates in Michigan cannot be assessed against that national benchmark. However, we did compare

EXHIBIT 3

Thirty-Day Mortality After Bariatric Surgery: Hospitals In Michigan Versus Hospitals Outside Of Michigan, 2007-09



SOURCE Michigan Surgical Quality Collaborative and National Surgical Quality Improvement Program registries, 2007-09. **NOTES** Thirty-day mortality rates declined faster in Michigan hospitals than in other hospitals participating in the National Surgical Quality Improvement Program ($p = 0.045$).

surgical mortality in our two hospital populations, adjusting for variables common to both registries, including age, sex, body mass index, and procedure type.

As seen in Exhibit 3, risk-adjusted thirty-day mortality with bariatric surgery in Michigan hospitals dropped significantly from 2007 to 2009 ($p = 0.004$). Bariatric surgery mortality at hospitals outside of Michigan participating in the National Surgical Quality Improvement Program also declined during the same time period, although this improvement was not statistically significant. Based on analysis of interaction terms in the mortality model, the rate of improvement at Michigan hospitals exceeded that of the other hospitals ($p = 0.045$).

INTERVENTIONAL CARDIOLOGY The main outcome measure of the percutaneous coronary intervention program is not a single endpoint, such as whether or not the patient dies, but rather a so-called composite endpoint of serious complications, including emergency coronary artery bypass graft surgery, repeat of the procedure, stroke, and death. Between 1998 and 2002, serious complications fell from 3.8 percent to 2.3 percent among Michigan hospitals participating in the regional collaborative improvement program ($p < 0.001$).²¹ In 2002, participating hospitals had substantially fewer serious complications than Michigan hospitals not participating at that time (2.3 percent versus 3.2 percent, $p < 0.001$), according to our analysis. Those latter hospitals joined the program shortly thereafter, and their outcomes have since caught up to those of the original cohort.

CARDIAC SURGERY For coronary artery bypass graft surgery, the regional collaborative improvement program rates hospital performance in terms of an eleven-item composite quality measure, which includes risk-adjusted mortality; complications; use of a section of the internal mammary artery that serves the chest wall and breasts as a graft; and several other important processes of care, as defined by the Adult Cardiac Surgery Registry of the Society of Thoracic Surgeons.²² The Society of Thoracic Surgeons coordinating center conducts most of the analyses for the Michigan program and provides it with regular reports on hospital-specific and statewide performance.

During its initial reporting periods (2006-07 and 2007-08), composite quality scores for Michigan hospitals as a whole were statistically indistinguishable from national benchmarks, according to reports provided by the Society of Thoracic Surgeons. By 2008-09, however, Michigan hospitals as a whole had achieved a three-star rating from the society, indicating that their aggregate performance exceeded national

norms (with 99 percent probability) and fell within the top tenth percentile of hospitals nationwide.

Return On Investment

The most persuasive return-on-investment analysis of the regional collaborative improvement programs would require linking the clinical outcome registries to claims databases and demonstrating the extent to which measured improvements lead directly to less cost to insurers. Although this work is ongoing, there is reason to believe that the programs more than pay for themselves.

For example, in general and vascular surgery alone, the approximately 2.6 percent drop in surgical morbidity rates observed by the Michigan Surgical Quality Collaborative translates to 2,500 fewer Michigan patients with surgical complications each year, based on our analyses. One study—which used resource-based cost accounting methods—found that the average cost of such complications is \$11,000, of which 75 percent is passed along to insurers.⁵ If these estimates are correct, the Michigan Surgical Quality Collaborative reduces payments associated with adverse outcomes by approximately \$20 million annually—far exceeding the \$5 million annual cost of administering the program.

The business case for the regional collaborative improvement programs can be made with far less extrapolation. For example, in 2007 almost 10 percent of patients in Michigan hospitals undergoing gastric bypass surgery received inferior vena cava filters to prevent postoperative pulmonary embolism. In this procedure, a filter is placed in the large abdominal vein that returns blood to the heart, in order to trap clot fragments and prevent them from traveling through the vein to the heart and lungs and causing blockage of circulation.

The use of these filters varied widely across hospitals, from 0 percent to more than 40 percent.²³ Six of the twenty-four hospitals were placing the large majority of the filters being placed statewide. Analysis of outcome data from the Michigan Bariatric Surgery Collaborative revealed that the use of inferior vena cava filters was not protective, but instead was associated with markedly higher risks of serious complications, many of which were directly related to complications from the filter itself. Following feedback of this information to surgeons and implementation of statewide guidelines, the use of the filters dropped to fewer than 2 percent of patients in a one-year period, according to Michigan Bariatric Surgery Collaborative data.

The average payment associated with placing

the filter is \$13,000 (in 2007 dollars), so this single change in practice saves payers more than \$4 million annually—considerably more than the cost of administering the regional collaborative improvement program in bariatric surgery.

Several other specific quality improvement interventions have also generated substantial savings. The use of two very expensive therapies in cardiac surgery—intra-aortic balloon pumps and prolonged mechanical ventilation—has fallen substantially.^{22,24} Implementation of risk-prediction tools and practice guidelines has reduced the incidence of contrast-induced nephropathy (acute kidney failure triggered by the use of contrast dye in the procedure) and the need for dialysis after percutaneous coronary intervention.²¹ Between 2007 and 2009, rates of thirty-day emergency department visits after bariatric surgery fell from 8 percent to 5 percent, with associated savings approaching \$1 million annually.

Lessons Learned And Challenges For Dissemination

Hospitals have options for improving quality and efficiency that do not require them to collaborate with competing hospitals and physicians. Internal quality improvement activities can include the implementation of protocols and clinical pathways that reduce unwanted variation and incorporate evidence-based practices and guidelines. Hospitals can also establish checklists to minimize mistakes and improve communication and teamwork among providers and staff.^{25,26}

Unfortunately, although protocols and checklists help ensure that processes known to be effective (for example, timely administration of perioperative antibiotics) are implemented, such evidence-based practices represent only a small proportion of the overall care delivered to hospitalized patients. Such efforts do not teach hospitals and physicians how to improve other aspects of care.

BENEFITS OF REGIONAL COLLABORATION Results from the Michigan initiative suggest that hospitals participating in regional collaborative improvement programs improve far more quickly than they can on their own. Practice variation across hospitals and surgeons creates innumerable “natural experiments” for identifying what works and what doesn’t.

The large sample sizes and statistical power associated with regional collaborative improvement program registries allow for more robust, rapid assessment of relationships between process and outcomes and of the effects of quality improvement interventions than can be

achieved by hospitals examining their own practice in isolation. Although identification and implementation of best practices are cornerstones of the regional collaborative improvement model, we believe that these programs also have salutary but immeasurable effects on the local safety culture. In our experience, participating hospitals and physicians simply start paying more attention to their practices and how to improve them.

DIFFERENCES AMONG PROGRAMS It is difficult to identify which specific components of the regional collaborative improvement model are most important. Each program involves numerous, concurrent interventions including performance feedback, site visits, collaborative learning, and targeted interventions aimed at specific clinical problems. Their cumulative effects are not readily disentangled.

The programs also use different approaches to identifying and disseminating best practices. Some are more evidence based than others, relying primarily on empirical analyses that link specific processes of care to clinical outcomes data. Others place a greater emphasis on hospital site visits and benchmarking, examining organizational factors and safety culture as well as specific processes of care. The comparative effectiveness of these different strategies is difficult to assess.

We believe that improvements in Michigan hospitals are largely attributable to the programs themselves, not to trends toward improvement occurring everywhere. First, many of the improvements in overall outcome measures can be directly attributed to specific interventions initiated by the programs. For example, our analysis indicates that mortality rates associated with bariatric surgery fell in large part because of declining rates of fatal pulmonary embolism, which were temporally related to statewide implementation of a protocol for increased prevention of this complication. Similar examples include the effects of comprehensive interventions targeting surgical site infection in the Michigan Surgical Quality Collaborative and contrast-related nephropathy in percutaneous coronary intervention.

Second, as described earlier, Michigan hospitals had more substantial improvements in rates of morbidity and mortality than other hospitals participating in national data feedback programs administered by the Society of Thoracic Surgeons and the American College of Surgeons. Such data suggest that results in Michigan cannot be attributed simply to secular trends toward improving technical quality. Because most of the regional collaborative improvement programs are based on clinically detailed, well-validated

The insurer had the confidence that benefits would accrue primarily to its beneficiaries and purchasers.

national outcomes registries, results in Michigan cannot be attributed to differences in data collection techniques or outcomes definitions.

It is also important to note that hospitals participating in the Adult Cardiac Surgery Registry of the Society of Thoracic Surgeons or the American College of Surgeons National Surgical Quality Improvement Program may represent a “high bar” for purposes of benchmarking. These programs are voluntary and may attract hospitals most committed to quality improvement. At least with the National Surgical Quality Improvement Program, large teaching centers are overrepresented among participating hospitals and, based on our own (unpublished) analyses of national Medicare data, have notably lower surgical mortality rates than nonparticipating US hospitals.

As currently implemented, the Michigan regional collaborative improvement programs are evaluated for their effect on cost and outcomes in specific, clinically defined patient populations, not for their cumulative effect on the health of the entire population. Nonetheless, because these programs target clinical conditions and procedures that are common, expensive, and associated with substantial morbidity, we believe that their benefits at the population level would compare favorably to weaker interventions aimed at much broader populations, such as employee wellness programs and other preventive strategies.

ROLE OF DOMINANT INSURER Although successful regional collaborative improvement programs do not necessarily require payer involvement, the programs in Michigan would not have occurred had the state’s largest private insurer not underwritten their substantial costs, offered additional financial incentives for hospitals to participate, and provided a neutral meeting ground for collaborating hospitals and physicians. Although large private insurers are obvious candidates for leading the dissemination of regional collaborative improvement programs

If early results from the Michigan initiative hold up, such programs may represent a rare triple win.

nationwide, this model has challenges.

Given its dominant share of the private insurance market in Michigan, Blue Cross and Blue Shield of Michigan/Blue Care Network had the leverage to urge hospitals to participate in the programs and the confidence that benefits would accrue primarily to its beneficiaries and purchasers. Other states are similarly dominated by one large insurer;²⁷ several, including Tennessee and Florida, are implementing similar regional collaborative improvement programs. Although private insurers have taken the lead so far, regional collaborative improvement programs could be similarly fostered by public payers or regional coalitions of private payers, purchasers, and provider systems.

RELEVANCE FOR NATIONAL EFFORTS Evidence that regional collaborative improvement programs can simultaneously improve quality and reduce costs at the population level comes at an

opportune time. The regional collaborative improvement model is particularly relevant to the interests of the Centers for Medicare and Medicaid Services as it begins to enact provisions of the Affordable Care Act, including accountable care organizations.²⁸ In that context, such programs provide a robust data infrastructure for monitoring quality as health systems work toward constraining their costs.

More important, such programs provide a framework for facilitating improvement with regard to both cost and quality domains. Regional collaborative improvement programs should also become increasingly attractive to hospitals and physicians as they seek to improve quality and reduce costs. As the Centers for Medicare and Medicaid Services and other payers move toward episode-based bundled payments for inpatient surgery and other types of hospital-based care,²⁹ providers will increasingly bear the financial risk associated with complications and unnecessary services.

CONCLUSION As other stakeholders consider the value of the regional collaborative improvement model, Blue Cross and Blue Shield of Michigan/Blue Care Network and clinical leaders in Michigan are already fully persuaded of the benefits, and they continue to expand the scope of these programs. New programs focused on total joint replacement and radiation oncology are being added in 2011. If early results from the Michigan initiative hold up, such programs may represent a rare triple win: professional satisfaction and preserved autonomy for physicians; lower costs for payers; and better outcomes for patients. ■

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David A. Share is a vice president at Blue Cross and Blue Shield of Michigan.

In this issue of *Health Affairs*, David Share, John Birkmeyer, and their coauthors make the case for regional collaborations between hospitals and doctors as a way to

reduce health costs and improve the quality of care. The authors describe a Michigan-based project, financed by Blue Cross and Blue Shield of Michigan, that prevented surgical complications in an estimated 2,500 patients and saved \$20 million annually.

The researchers say that they long ago realized that traditional approaches to improving quality and efficiency—such as pay-for-performance and outside reviews of proposed treatments—didn't work well, for various reasons. Efforts to

find another way brought them together on this project.

Share says that this paper's findings show that data-centered, regional collaborations "can empower hospitals and doctors to transform care in both community and academic settings."

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