Summary

While certainly not the only means to this end, regional collaborative quality improvement programs have produced some of the most dramatic improvements in the quality of surgical care to date.\(^1,2\)

**Background:**

The Northern New England Cardiovascular Disease Study Group (NNECDSG) is the original regional collaborative quality improvement program. Formed in response to the Health Care Financing Administration (HCFA)’s release of Medicare hospital–specific CAGB mortality information in 1987, the group’s original intent was to prove the inadequacy of the risk adjustment methods used in HCFA’s reporting. Instead, they learned that variability in rates of mortality with CABG could not be explained by differences in patient case mix but rather that some surgeons really did have better outcomes than others.\(^3\) Borrowing methods from industrial quality control, the group decided to try to learn what specific differences in the process of care were driving these differences and to broadly implement changes to improve quality.\(^1\) Their efforts have resulted in sustained reductions in hospital mortality and many other improvements in the quality of care.\(^4\) To date, the NNECDSG has collected data for more than 200,000 patients, still meets three times each year to review data and plan studies, and has shared their findings in more than 100 peer-reviewed articles. The NNECDSG has served as the model for numerous other programs throughout the country in cardiac surgery and also many other areas of clinical care. These programs share common goals and a number of key components including:

**Key Components:**

1. **Clinical registry**-containing high-quality clinical data including that needed for risk adjustment as well as relevant processes and outcomes of care.
2. **Performance feedback**-clinical registry data is used to produce reports that detail hospital and/or physician performance relative to their peers and over time.
3. **Collaborative meetings**-are essential to engage physicians in reviewing performance data, developing plans for specific interventions, and the implementation of these changes to improve care.
4. **Other strategies** that have been used for gaining insights leading to improvements in care have included site visits, surveys, focus groups, and videotapes of operative procedures.

**Alternative Models for Quality Improvement**

Payers, health care policy makers, and surgeons’ professional organizations have implemented a range of strategies to improve surgical quality. With selective referral, payers use various methods to try to steer patients to providers which they have deemed to be of higher quality. Pay for performance programs, such as the Surgical Care Improvement Project (SCIP), provide incentives for providers’ compliance with specific evidence-based processes of peri-operative care. Many professional organizations, including the American College of Surgeons National Surgical Quality Improvement Program (NSQIP), have instituted outcomes measurement and feedback programs to stimulate quality improvement at the local level. Regional collaborative quality improvement programs go beyond outcomes measurement and feedback to broad scale implementation of quality improvement interventions.\(^5\) These strategies are the current, dominant approaches to surgical quality improvement in the U.S. In the attached table we describe these strategies, some of the major ongoing initiatives, and the evidence to date for the effectiveness of each approach to improving surgical quality.\(^5\)
Another approach leverages data collection within QI collaboratives to create more formalized research networks. One such program, Washington State’s Comparative Effectiveness Research Translation Network (CERTAIN [www.becertain.org](http://www.becertain.org)) is an NIH and AHRQ funded research infrastructure for observational studies, pragmatic trials and patient or system level RCTs.31

**Table.** Characteristics of different strategies for improving surgical quality

<table>
<thead>
<tr>
<th>Selective Referral</th>
<th>Process Compliance</th>
<th>Outcomes Measurement and Feedback</th>
<th>Regional Collaborative Quality Improvement</th>
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<td>Mechanism</td>
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<td>Steer patients to best hospitals or surgeons</td>
<td>Increase compliance with evidence-based processes of care</td>
<td>Spur internal quality improvement with feedback on benchmarked outcomes</td>
<td>Identify and broadly implement best practices</td>
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<th>Examples</th>
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<tr>
<td>• Leapfrog Group’s Evidence-Based Hospital Referral Program</td>
<td>• Surgical Care Improvement Project (SKIP)</td>
<td>• National Surgical Quality Improvement Program (NSQIP)</td>
<td>• Northern New England Cardiovascular Disease Study Group</td>
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<tr>
<td>• Payers’ Center of Excellence programs</td>
<td>• Surgical Checklist projects</td>
<td>• Society of Thoracic Surgeons (STS) National Cardiac Surgery Database</td>
<td>• Blue Cross and Blue Shield of Michigan/Blue Care Network Value Partnership program</td>
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<td>Effective for relatively rare procedures with strong evidence linking provider characteristics (e.g. procedure volume) and outcomes</td>
<td>Programs that involve active participation of surgeons and other clinicians (e.g. checklists) may be effective regardless of actual content of intervention</td>
<td>Effective for motivating internal quality improvement efforts among low performing providers</td>
<td>Improved outcomes in the areas where it has been tried: cardiovascular procedures, other general and vascular surgery, and bariatric surgery</td>
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<td>COE programs based on self-reported, unreliable data not effective in identifying higher quality providers</td>
<td>Disappointing results for other process compliance interventions</td>
<td>Do not provide guidance for how to improve either low performing providers or others</td>
<td>Strategy has not been widely adopted perhaps due to expense and complexity and lack of a natural sponsor</td>
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</table>

References: 6-13, 14-24, 4,25-29, 1,2,30
REFERENCES