

Advancing Quality Assessment in Pancreatic Surgery

Defining the Role of the IOM Healthcare Quality Domains

The Problem

The **Institute of Medicine (IOM)** defines healthcare quality across six domains: **safety, timeliness, effectiveness, patient centeredness, efficiency, and equitability**. Traditional quality metrics in high-acuity surgery (volume and mortality) cannot alone measure or satisfy these domains. We asked experts in pancreatic surgery (PS) whether broader quality metrics are needed, how important they might be, and whether they align to contemporary IOM healthcare quality domains.

Aim/Goal

The aim of this survey was to identify the most actionable and meaningful measures to include on a scorecard measuring quality in pancreatic surgery. An effective scorecard item is defined as being highly important to respondents and aligning with more than one IOM quality domain.

The Team

- Brian T. Kalish - Harvard Medical School (HMS IV)
- Charles M. Vollmer, MD - Chief, Pancreatic Surgery, University of Pennsylvania
- Jennifer F. Tseng, MD - Chief, Division of Surgical Oncology, BIDMC
- Tara S. Kent, MD - Division of General Surgery, BIDMC
- Mark P. Callery, MD - Chief, Division of General Surgery, BIDMC

The Interventions

Together with a professional market research firm, we created and distributed a web-based survey to pancreatic surgeons. These experts were identified through PS specialty societies, and verified by survey demographics. Respondents (Rpds) ranked 62 proposed PS quality metrics on level of importance (LoI). Next, Rpds aligned each metric to one or more IOM quality domains (MDA, multi-domain alignment). Descriptive statistics were used to summarize responses. To calculate and rank relative quality scores, points were awarded for LoI (4-Essential, 3-Very important, 2-Somewhat important, 1-A Little important, 0-Not important) and MDA (1 point/each aligned domain). LoI Scores and MDA Scores for a given quality metric were averaged together to render a Total Quality Score (TQS=LoI + MDA/2) normalized to a 100-point scale.

The Results/Progress to Date

90% of Rpds indicated a definite or probable need for improved quality metrics in PS. 81% of Rpds indicated a definite or probable value for a "Quality Scorecard" in PS. Of 13 PS quality metrics rated as Essential by >25% Rpds, 10 aligned most strongly to the IOM Safety domain. 22/62 proposed metrics aligned to more than 1.75 IOM Domains, and were rated by >50% Rpds as High LoI (Essential or Very Important; Figure). 12 proposed scorecard metrics (Table) emerged with the highest TQS. Those related to mortality, to the rate and severity of complications, and to access to multidisciplinary services for pancreatic disease had the highest TQS. Technical and peri-operative metrics had intermediate TQS. Metrics related to patient satisfaction with care, costs of care, and patient demographics had the lowest TQS. The least represented IOM domains were equitability, efficiency, and patient-centeredness.

Lessons Learned

Table 1: Top Quality Metrics by Total Quality Score (TQS)

Metric	TQS
Multidisciplinary services for pancreatic diseases	63
Major complication rate	60
Peri-operative mortality (0-90 days)	59
Overall complication rate	57
Incidence of post-operative hemorrhage	55
Venous thromboembolism prophylaxis	54
Patients with malignancy who undergo adjuvant therapy	54
Readmission rates (30 day, 90 day, total)	54
Incidence of post-operative pancreatic fistula	54
Timely and appropriate peri-operative antibiotics	53
Survival rates (1 yr and 5 yr post-operative)	52
Timing from diagnosis to surgical consultation	51

We propose a **12-item "Quality Scorecard" for Pancreatic Surgery** based on rank-scoring of quality metrics that PS experts view as both highly important and aligned with more than one IOM healthcare quality domain. While the actual performance thresholds for these metrics require further definition and validation, they may reveal quality to an extent that volume and mortality alone cannot.

Next Steps/What Should Happen Next

- Patient Focus Groups and a formal survey of patients and/or family members to determine which metrics of quality matter most to them.
- Multi-institution prospective validation of a Pancreatic Surgery Quality Scorecard

