Variability of NSQIP Assessed Surgical Quality Based on Age and Disease Process

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The 2008 National Surgical Quality Improvement Program (NSQIP) database includes expected morbidity probabilities for each surgical patient. 190,929 operations identified that would be in the scope of practice of the modern general surgeon.

- Breast (n=22,175, 11.6%)
- Colon (n=21,363, 11.2%)
- Gallbladder (n=20,889, 10.9%)
- Inguinal hernia (n=11,709, 6.1%)

Surgical observed versus expected morbidity ratios calculated and compared by decile of patient age.

*The American College of Surgeons National Surgical Quality Improvement Program and the hospitals participating in the ACS NSQIP are the source of the data used herein; they have not verified and are not responsible for the statistical validity of the data analysis or the conclusions derived by the authors.*
O/E Morbidity Ratio - 2008 NSQIP DATA

- Breast
- Colon
- GB
- Hernia
Morbidity Assessment of Two Hypothetical Hospitals

**Hospital A**
- Inguinal Hernia: 15%
- Gallbladder: 15%
- Colon: 35%
- Breast: 35%

**Hospital B**
- Inguinal Hernia: 15%
- Gallbladder: 35%
- Colon: 15%
- Breast: 15%

**Age Distribution**

*All data assumes all patients cared for at their national averages.*
Conclusions

It is conceivable that case mix and patient age could independently effect the quality assessment of a hospital by NSQIP.

This variability may have implications for overall quality measures and affect how a hospital is graded regarding quality outcomes.