Quality Improvement Processes in Obesity Surgery Lead to Higher Quality and Value, Lower Costs

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ABSTRACT

In the era of changes in the evaluation of medical services and performance, the Centers for Medicare and Medicaid Services (CMS) has determined that the key components are quality, value, and clinical practice improvement (MACRA). Weight Loss Surgery, also called Bariatric or Obesity Surgery, has been at the forefront of quality improvement and quality reporting through the Center of Excellence Program since 2005. As a result, weight loss surgery is now as safe as gallbladder surgery.[1] Even within this culture of quality and safety, improvements are still possible, as described in this article.

KEYWORDS: bariatric surgery, quality improvement, readmissions, MACRA, ACS

INTRODUCTION

Quality project D.R.O.P.: Decreasing Readmissions through Opportunities Provided

The American College of Surgeons (ACS) provides several quality improvement programs, for surgery in general, and for surgery in specialties such as bariatric, breast, cancer, pediatric, and trauma. These programs contract with Medicare and are Qualified Clinical Data Registries (QCDR), and participation in these programs automatically fulfills the Physician Quality Reporting System (PQRS) requirement for each participating provider.

The program for bariatric surgery is called Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP). Participating hospitals in this program employ a full-time, independent chart reviewer who records an extensive list of perioperative and operative data in a national database.

Roger Williams Medical Center (RWMC) is a MBSAQIP Accredited-Comprehensive Center. In 2015 RWMC participated in a national pilot project called D.R.O.P: Decreasing Readmissions through Opportunities Provided. It was an opportunity for RWMC to improve patient care, quality and value by implementing several measures to decrease readmissions.[2]

METHODS

The study period was March 1, 2015–March 31, 2016 and was compared to 2014. Data were collected for all readmissions within 30 days post-op, reason for readmission, and length of stay of a readmission. The hypothesis was that the intervention D.R.O.P. would decrease the number of readmissions. Other questions of interest were to see if the cause of readmissions would change and whether there was a correlation between length of stay and reason for readmission.

The project included implementing the pre-operative handout of the narcotic pain management prescription to patients' family members in order to avoid any issues at the pharmacy on the day of discharge. The patients were discharged with improved verbal and written education about post-op hydration, nausea and vomiting, pain management, and they were given a business card-like information card, the "Bariatric Help" card, with emergency numbers, as well as the physician's office number. The physician or bariatric coordinator called the patients within 24 hours post discharge. The call was made with the purpose to speak directly to the patient and assess their status at home by asking them the predetermined questions for the quality project. The nine questions included: Is there someone to care for you at home, hydration status and tolerance of oral intake, pain managed with their medicine, have they started taking their vitamins, do they have the bariatric help card with the phone numbers they would need, questions about surgical incision redness or swelling, bowel movement, walking 3 or 4 times a day, and do they have their follow-up appointment with a dietitian within 30 days. Depending on the individual patient's answers any issues could be triaged while they were at home and on the phone. The patients often needed some re-education on the phone call about hydration and its importance.

RESULTS

In 2014, RWMC did 310 bariatric surgeries with a total number of 23 readmissions (7.42%). Of those, 232 were Laparoscopic Roux-En-Y Gastric Bypass surgeries with19 readmissions (8.9%) and 78 Laparoscopic Sleeve Gastrectomy surgeries with 4 readmissions (5.13%).

In 2015/2016, the study period, RWMC did 390 surgeries with 12 readmissions (3.08%). Of those, 291 were

Laparoscopic Roux-En-Y Gastric Bypass procedures with 8 readmissions (2.75%) and 94 Laparoscopic Sleeve Gastrectomy surgeries with 4 readmissions (4.26%).

Less than 24-hour hospital stay readmissions occurred for 8 out of 310 patients (2.5%) in 2014, compared to 0 patients in the study period.

For the hospital stay 24–48 hours there were 8 readmissions for 310 patients (2.5%) in 2014, compared to 5 patients out of 390 (1.2%) in the study period.

For the hospital stay greater than 48 hours there were 8 readmissions (2.5%), compared to 8 readmissions for 390 patients (2%) in the study period.

Looking at the reasons for readmissions in 2014, 6 out of 310 patients (1.9%) were classified as "Other" whereas in the study period 2015/16, it was 4 out of 390 patients (1%). "Nausea, Vomiting, and Dehydration" etc. occurred in 2014 in 4/310 patients (1.3%) and in 2015/16 it was in 6/390 patients (1.5%). More serious complications such as bleeding, leak, intestinal obstruction or sepsis did not occur in the study period.

Table 1. Readmission Rate by Procedure. The numbers depicts cases with readmission. Each surgery case could have more than one readmission.

Procedure	Cases	Cases with Readmission	Readmission Rate (%)	Cases	Cases with Readmission	Readmission Rate (%)
Laparoscopic Adjustable Gastric Band	0	.	.	5	0	0.00
Laparoscopic Roux-En-Y Gastric Bypass	232	19	8.19	291	8	2.75
Laparoscopic Sleeve Gastrectomy	78	4	5.13	94	4	4.26
Total	310	23	7.42	390	12	3.08

Blue is 2014, yellow is the study period 2015–2016.
The table is taken from the MBSAQIP D.R.O.P. site-specific final report.

Table 2. Readmission length of stay. In the study period one patient had 2 readmissions, therefore there are 13 total.

Length of Stay	Number of Readmissions	Percent	Number of Readmissions	Percent
Less Than 24 Hours	8	33.33	0	0.00
24-48 Hours	8	33.33	5	38.46
Greater Than 48 Hours	8	33.33	8	61.54
Readmission LOS Unknown	0	0.00	0	0.00
Total*	24	100.00	13	100.00

Blue is 2014, yellow is the study period 2015/2016.
The table is taken from the MBSAQIP D.R.O.P. site-specific final report.

Table 3. Reasons for Readmission. In the study period one patient had 2 readmissions, therefore there are 13 total.

Most Likely Reason	Number of Readmissions	Percent	Number of Readmissions	Percent
Other	6	25.00	4	30.77
Nausea and Vomiting, Fluid, Electrolyte, or Nutritional Depletion	4	16.67	6	46.15
Abdominal Pain, Not Otherwise Specified	3	12.50	1	7.69
Bleeding	2	8.33	0	0.00
Wound Infection/Evisceration	2	8.33	0	0.00
Anastomotic Ulcer	1	4.17	0	0.00
Anastomotic/Staple Line Leak	1	4.17	0	0.00
Gallstone Disease	1	4.17	0	0.00
Infection/Fever	1	4.17	2	15.38
Intestinal Obstruction	1	4.17	0	0.00
Other Abdominal Sepsis	1	4.17	0	0.00
Pneumonia	1	4.17	0	0.00
Total*	24	100.00	13	100.00

Blue is 2014, yellow is the study period 2015/2016.
The table is taken from the MBSAQIP D.R.O.P. site-specific final report.

INTERPRETATION

Readmissions

The rate of readmission decreased from 7.4% to 3%. This was primarily achieved by decreasing overall complication rates in laparoscopic gastric bypass and by decreasing the readmissions that required only short stays in the hospital. Stays less than 24 hours were completely eliminated. Stays 24–48 hours went from 2.5% to 1.2%. Because the longer hospital stays and the nausea/vomiting category stayed the same, one can deduct that patients who stayed longer had more serious cases of nausea/vomiting/dehydration. The classification of more non-specific reasons in the "Other" category improved which made the data from the study period more specific.

According to CMS, in the new healthcare delivery system reform and Medicare payment reform, quality encompasses the major determinant of compliance. Included in quality is the former value modifier. One of the value modifiers is all-cause readmission, which, according to patient understanding, physician perception, hospital quality departments, CMS and all commercial insurers, is seen as a complication.

Readmission is also one of the quality measures in the proprietary Center of Excellence and value programs of all commercial insurance companies. Reducing readmission improves those quality and value measures.

Although cost was not measured in this study, The Agency for Healthcare Research and Quality reported that in 2011 all-cause readmission for all medical conditions cost hospitals $41.3 billion.[3] Besides the patient care quality improvement, another major benefit of reduced readmissions would therefore be reduced hospital and health care cost.

SUMMARY

The premise of MACRA is that patient care and reimbursement will be tied more to quality, value, and improvement programs. Participation in one of the many quality improvement programs of national professional organizations such as the American College of Surgeons can enable physicians and institutions to reach these goals – for their own, their patients and society's benefits.

References

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Disclosures

None

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