



Reducing Early Hospital Readmission Rates After Bariatric Surgery

Payal Sharma, MSN, RN, FNP-BC, CBN & Joan Kearney, PhD, APRN, FAAN

INTRODUCTION

- Bariatric surgery is a well-established means of treating obesity.
- The prevalence of 30-day readmission after bariatric surgery is 0.6% to 11.3%,² with a single hospital readmission nearly tripling the average 180-day cost of the surgery.³
- Nausea, vomiting, dehydration and abdominal pain are the most common, but often preventable causes of readmission after bariatric surgery.^{1,2,3,4,5,6}
- Understanding the underlying reasons for patients' readmission, associated factors, and exploring current or future interventions may enable healthcare providers to target their efforts to reduce avoidable early readmission rates.²
- Close postoperative follow-up may allow for early identification of high-risk patients and preventative interventions. Consequently, healthcare providers can deliver timely interventions, potentially reducing avoidable readmissions and reducing the economic burden on patients, hospitals, and payers.

OBJECTIVES/AIMS

This project addressed whether improved clinical follow up within a brief postoperative period of time was effective in reducing early bariatric readmission rates in a large urban hospital that is a Bariatric Center of Excellence. This 7-month QI project was conducted at New York-Presbyterian/Weill Cornell Medicine's Section of GI Metabolic & Bariatric Surgery. There were 4 specific aims which are outlined below:

- 1) To develop a revised protocol for post-operative follow up of bariatric surgery patients
- 2) To pilot the revised protocol
- 3) To evaluate trends in 30-day readmission rate pre- and post-implementation of protocol
- 4) To develop recommendations based on pilot findings for revision of the existing postoperative follow up protocol and provide preliminary recommendations regarding care of post-op bariatric patients for dissemination to American Metabolic and Bariatric Surgery (ASMBS) as well as ASMBS' Certified Bariatric Nurse (CBN) Certification Committee

METHODS

Project augmented follow up post-bariatric surgery: incorporated 2nd post-d/c call (7-10 days) by RD following routine 1st post-d/c call (1-3 days) by APP. Impact on readmission rate examined. 166 participants: men & women ≥18 years of age, status post primary bariatric surgery only.

Aim 1. Increased readmissions & need for protocol revision discussed at monthly meeting. Follow up meeting w/ APPs & RDs scheduled. Instructions re: protocol & script for RDs created & approved. Smart-phrases template created in Epic. 2nd post-d/c call schedule created.

Aim 2. APPs followed original protocol. 2nd post-d/c call conducted by RDs.

- Call duration ~ 3-5 minutes
- RD's referred back to telephone encounters documented by APPs
- Use of interpreter documented where it applied
- RDs used same smart-phrases template in Epic
- RD's routed any concerns through Epic to designated APP
- APPs made one attempt to call, two attempts made by RD
- Communication/attempts documented in Epic

Aim 3. Quality Specialist gathered data regarding 30-day calls & tracked 30-day readmission rates. Pre/post-protocol implementation readmission rates compared using 2-sample test of proportions for decrease in 30-day readmission rate. Monthly meetings with RDs & APPs; staff questionnaire completed at end of project for feedback.

Aim 4. Preliminary recommendations identified: how bariatric centers may adapt protocol and/or improve post-op care. Abstract submitted 1/2021 for poster during ObesityWeek 2021 conference. Preliminary recommendations shared with ASMBS' CBN Certification Committee: early 2021 meeting.

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RESULTS

Proportion of patients experiencing post-surgery hospital readmission or ED visit evaluated across sample, stratified by procedure type & # of calls answered. Post-project readmission & ED visits were compared to NYP Semi-Annual Report (SAR) using 2-sample test of proportions. Downward trend in overall readmission rate for project participants (6.5% (SAR) vs. 4.8% (Project)). Readmission rate related to procedure type: 9.2% (SAR) vs. 7.1% (Project)/Roux-en-Y gastric bypass, & 5.4% (SAR) vs. 4% (Project)/sleeve gastrectomy. Patients who connected only on 2nd call had 0 readmission & post-operation ED visits.

Table 2: Readmission proportions.

Characteristic	Project Cohort			SAR Cohort			P-value ²
	N	%	95% CI ¹	N	%	95% CI ¹	
All patients	8/166	4.82	(2.10, 9.27)	20/310	6.45	(3.99, 9.79)	0.471
Post-discharge call							
Only connected on first call	1/20	5.00	(0.13, 24.87)	20/310	6.45	(3.99, 9.79)	0.797
Only connected on second call	0/25	0.00	(0.00, 13.72)	20/310	6.45	(3.99, 9.79)	0.190
Connected on both calls	7/115	6.09	(2.48, 12.14)	20/310	6.45	(3.99, 9.79)	0.891
Procedure							
Gastric Bypass	3/42	7.14	(1.50, 19.48)	8/87	9.20	(4.05, 17.32)	0.696
Sleeve Gastrectomy	5/124	4.03	(1.32, 9.16)	12/223	5.38	(2.81, 9.21)	0.577

¹ Confidence intervals calculated using the Clopper-Pearson method.

² Equality of proportions tested using a 2-sample test of proportions.

Table 3: ED visit proportions.

Characteristic	Project Cohort			SAR Cohort			P-value ²
	N	%	95% CI ¹	N	%	95% CI ¹	
All patients	19/166	11.45	(7.03, 17.30)	30/310	9.68	(6.62, 13.53)	0.545
Post-discharge call							
Only connected on first call	1/20	5.00	(0.13, 24.87)	30/310	9.68	(6.62, 13.53)	0.487
Only connected on second call	0/25	0.00	(0.00, 13.72)	30/310	9.68	(6.62, 13.53)	0.103
Connected on both calls	17/115	14.78	(8.85, 22.61)	30/310	9.68	(6.62, 13.53)	0.136
Procedure							
Gastric Bypass	7/42	16.67	(6.97, 31.36)	10/87	11.49	(5.65, 20.12)	0.416
Sleeve Gastrectomy	12/124	9.68	(5.10, 16.29)	20/223	8.97	(5.56, 13.51)	0.827

¹ Confidence intervals calculated using the Clopper-Pearson method.

² Equality of proportions tested using a 2-sample test of proportions.

