



1. Introduction

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP®) is pleased to introduce the 2016 Participant Use Data File (PUF) – including cases with operation dates between January 1, 2016 and December 31, 2016. The PUF is a Health Insurance Portability and Accountability Act (HIPAA)-compliant data file containing cases submitted to the MBSAQIP Data Registry. The PUF contains patient-level data and does not identify hospitals, health care providers, or patients. The intended purpose of these files is to provide researchers at participating centers with a data resource they can use to investigate and advance the quality of care delivered to the metabolic and bariatric surgical patient through the analysis of cases captured by MBSAQIP. The PUF is provided at no additional cost to employees (surgeons, researchers, bariatric program staff, etc.) of MBSAQIP participant centers. With over 150,000 metabolic and bariatric cases captured across the United States and Canada each year, the MBSAQIP PUF is the largest, bariatric-specific, clinical dataset in the country and serves as an invaluable resource to investigators looking to answer important clinical questions in this field. It is part of the mission of the MBSAQIP to make this data available to all participants to improve the power and reliability of clinical research and further propel innovation in the field of metabolic and bariatric surgery.

This guide is designed to accompany the 2016 Participant Use Data File available for download via the MBSAQIP website (<https://www.facs.org/quality-programs/mbsaqip/participant-use>). The sections contained herein will provide the user with information on how to request the PUF, contents of the data files, data collection background, data limitations, and answers to frequently asked questions.

This user guide applies specifically to the 2016 PUF and will be updated with each subsequent PUF.

2. Data Request Process

An individual who has an official role at an actively enrolled MBSAQIP center and wants to obtain a copy of the MBSAQIP PUF can do so by visiting <https://www.facs.org/quality-programs/mbsaqip/participant-use> and following the steps listed below:

1. From the MBSAQIP main page (www.facs.org/quality-programs/mbsaqip) the requestor can click on the “Participant Use Data File (PUF)” link. This will take you to the PUF information and request page.
2. Following a brief introduction and explanation of the PUF, the requestor can click on “Request PUF.”
3. This will take the requestor to the Data Use Agreement. This is a three page document that implements the data protections of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the MBSAQIP Participation Agreement. Delivery of the PUF is contingent on agreement to the terms and conditions specified

within the Data Use Agreement. The Data Use Agreement can be read from this page or the three-page document can be downloaded. The requestor is then required to type in their first and last name and click on “Request Data File.” By clicking on “Request Data File” the requestor agrees to the terms and conditions of the Data Use Agreement.

4. Requestors will then be required to complete a brief online form to provide ACS with basic information about themselves, including the participating center in which they are currently employed and in what capacity, as well as how the requestor plans to utilize the PUF data. Once all of the required fields are completed, the requestor clicks “Submit.”
5. Upon approval an email will be sent to the requestor containing a username and password along with the URL to download the data. The web link will be active from the time of the email for 10 full days (240 hours).
6. The file will be available in three different formats (Text, SPSS, SAS) and depending on the user’s internet connection speed should take between 5 and 30 minutes to download.
7. The requestor may be contacted to confirm receipt of the data file and allow for feedback on the delivery mechanism, data points contained, and data file format.

3. File Description

The PUF consists of five distinct datasets which are referred to as main, reoperation, readmission, intervention, and BMI, respectively. Each dataset is available in one of three different formats - Text, SAS, and SPSS. The main dataset is a flat file containing preoperative, intraoperative, and postoperative patient and procedure characteristics for all metabolic and bariatric surgical cases that were eligible for the PUF in 2016. The reoperation, readmission, intervention, and BMI datasets are available in long form (i.e., multiple rows per case), and contain detailed information on readmissions, reoperations, interventions, and post-operative BMI measurements, respectively, associated with cases in the main dataset. All five datasets contain a unique key matching variable, CASEID, which allows users to merge datasets as necessary.

Postoperative BMI measurements recorded in the BMI dataset were taken in the 30-day follow-up time period, which runs from 0 to 30 days from the date of the index procedure. All postoperative events or outcomes (e.g., death, sepsis, reoperation, readmission, intervention, postop BMI, etc.) recorded in the main, reoperation, readmission, and intervention datasets are 30-day outcomes (i.e., occurred within 30 days of the index procedure).

The main dataset contains three variables (REOP30, READ30, and INTV30) derived from the reoperation, readmission, and intervention datasets, respectively. These variables represent whether at least one reoperation, readmission, or intervention occurred, respectively, for any reason, within 30 days of the index procedure. Investigators interested in other facets of reoperation, readmission, or intervention will need to manipulate the long datasets and merge them with the main dataset in a manner which is appropriate to the specified research question. For example, suppose a researcher is interested in estimating the overall 30-day related reoperation rate for metabolic and bariatric surgical procedures. The specific research question

is: “What is the 30-day related reoperation rate for all cases included in the main dataset?” To answer this question, the researcher could use the variable REOP_RELATED_BAR in the reoperation dataset to identify and create a flat file of cases where at least one 30-day reoperation was recorded as most likely related to the index procedure. This flat file would then be merged (using the unique key matching variable CASEID) with the main dataset to construct a variable, say RELATED_REOP30, taking values of either “Yes” or “No” to indicate whether at least one related 30-day reoperation occurred for each case in the main dataset. The 30-day related reoperation rate for all metabolic and bariatric surgical procedures could then be estimated by calculating the proportion of cases in the main dataset where RELATED_REOP30 = “Yes.”

Using the CASEID variable, other readmission, reoperation, intervention, or BMI-specific variables, or combinations thereof, can be merged to the main PUF dataset. A variable-by-variable description for each dataset is provided in the PUF User Guide Table in Section 9 of this document. A brief description of each dataset follows:

Dataset	File Types Available	Uncompressed File Size	Description
MBSAQIP_PUF_Main	SAS, SPSS, TXT	SAS: 280 MB SPSS: 294 MB TXT: 114 MB	Contains 167 HIPAA compliant variables on 186,772 cases submitted from 791 centers in 2016. Each row represents one case and there is exactly one row per case.
MBSAQIP_PUF_Read	SAS, SPSS, TXT	SAS: 1.53 MB SPSS: 1.52 MB TXT: 673 KB	Contains 9 HIPAA compliant variables on 8,841 readmissions. Each row represents a 30-day readmission associated with some case from the Main file. Multiple rows per case are possible in this file.
MBSAQIP_PUF_Reop	SAS, SPSS, TXT	SAS: 896 KB SPSS: 940 KB TXT: 339 KB	Contains 15 HIPAA compliant variables on 3,427 reoperations. Each row represents a 30-day reoperation associated with some case from the Main file. Multiple rows per case are possible in this file.
MBSAQIP_PUF_Intv	SAS, SPSS, TXT	SAS: 1.15 MB SPSS: 1.09 MB TXT: 353 KB	Contains 9 HIPAA compliant variables on 3,662 interventions. Each row represents a 30-day intervention associated with some case from the Main file. Multiple rows per case are possible in this file.

4. Data Collection Background and Data Quality

MBSAQIP collects data on over 200 variables including preoperative risk factors, intraoperative variables, and 30-day postoperative mortality and morbidity outcomes for patients undergoing metabolic and bariatric surgical procedures in both the inpatient and outpatient setting.

Required data elements are entered via a web-based data collection tool. Portions of the data may be automatically populated by a software program that was developed to extract data from the participating hospital's existing information systems. Requestors should contact the Metabolic and Bariatric Surgical Clinical Reviewers (MBSCRs), at their hospital for detailed information on how the hospital collects its MBSAQIP data.

To ensure the data collected are of the highest quality, the MBSAQIP has developed a host of different training mechanisms for the MBSCRs and conducts a data integrity audit of selected participating centers. The MBSAQIP requires MBSCRs to complete a series of web-based training modules followed by an annual certification exam. The modules and certification exam focus on the program, processes, and analysis; preoperative, intraoperative, and postoperative definitions and case studies. These modules are complemented by the availability of MBSAQIP Clinical Support Registered Nurse (RN) Specialists who are available to MBSCRs on an ongoing basis for one-on-one data abstraction support, additional in-person and web-based training. The Clinical Support staff makes available a host of written educational resources available through the MBSAQIP Resource Portal through a support system designed to ensure MBSCRs have the knowledge and resources available to collect high-quality data.

The data integrity audit is a fundamental tool of the MBSAQIP to assess the quality of the data collected at participating centers. The process involves the review of multiple charts, some of which are selected randomly and others selected based on criteria designed to identify potential reporting errors.

MBSAQIP has determined that a data integrity audit disagreement rate of 5% or less is acceptable. Centers that have higher than a 5% disagreement rate are not included in the MBSAQIP Semiannual Report and may be required to undergo an additional audit following training and education recommendations from the MBSAQIP.

5. Participation and Case Exclusion Criteria

Case Collection Process

All metabolic and bariatric surgical procedures and interventions, including those performed by non-metabolic and bariatric surgery credentialed general surgeons or other physician practitioners (i.e. gastroenterologists), must be entered into the MBSAQIP Data Registry. Documentation of each hospitalization and surgical procedure is required to obtain valid outcomes data. Data collection is ultimately the responsibility of the Metabolic and Bariatric Surgery (MBS) Director working collaboratively with the Metabolic and Bariatric Surgical Clinical Reviewers (MBSCR), the physician offices, and institutional departments to ensure accurate short and long-term results. Data is collected at 30 days, six months, one year, and annually thereafter.

Case Exclusion Criteria

The following exclusion criteria were applied to cases collected in 2016. For the current inclusion/exclusion criteria please contact the MBSAQIP Clinical Support Team at clinicalsupport@mbsaqip.org.

Procedures which would not meet metabolic or bariatric inclusion criteria:

6. Data Limitations

While every effort has been made to make the PUF as complete as possible, the data do have certain limitations. Some of these limitations have been deliberately introduced to safeguard the privacy of patients (such as removal of absolute dates). The following items represent the most salient limitations of the data:

- While the sex and race distributions are reasonably representative of the national surgery patient population, only patients over the age of 10 are available for assessment, so the age distribution is somewhat truncated. Patients over the age of 80 also have their ages de-identified in the PUF (age is set to missing with an indicator variable included to identify patients over the age of 80).
- In order to comply with HIPAA requirements, all absolute dates have been removed. The most critical of these is the date of surgery, which has been reduced to year of surgery only. Some dates (hospital entry, dates of laboratory tests, and so on) have been recoded into durations (e.g., Date of Admission and Date of Discharge are recoded into Days to Discharge from Hospital Admit).
- In order to comply with the Participation Agreement (PA) that is agreed to between the ACS and participating centers, facility identifiers as well as geographic information regarding the case have been removed. The PA stipulates that the ACS does not identify participating centers. Facility identification could be possible even with blinded identifiers through advanced statistics. A stipulation of access to the PUF is completion of the Data Use Agreement that strictly prohibits attempts to identify hospitals, health care providers, or patients.
- While many risk factors are tracked, preventative measures are not recorded which can lead to an underestimation of the risk of certain conditions when such measures are routinely taken before surgery.
- The data are submitted from centers that are participating in the MBSAQIP and do not represent a statistically valid nationally representative sample.
- Many patients do not receive all possible preoperative laboratory tests, so some of these variables have a high percentage of missing values (10% to 30%, depending on the tests). This high percentage of missing data can make it problematic to use these variables in a traditional logistic regression model as well as in many other types of analysis.

This list may not include all data limitations and additional limitations may apply in future versions of the data.

7. Contact Information

All questions about the User Guide or PUF, as well as comments and suggestions for improvements are welcome and may be directed to Rasa Krapikas, MS, MBSAQIP Data Registry Manager, at rkrpikas@facs.org.

Q: Approximately 1% of records in the main dataset are missing a pre-op BMI measurement. Why is that?

A: Records will have a missing pre-op BMI measurement (either closest to surgery or highest recorded within one year prior to the surgery) if the pre-op BMI was unknown or the calculated pre-op BMI was less than 15 or greater than 150.

Q: Some of the duration variables (e.g., Days from Operation Date to Readmission, Days from Operation Date to Reoperation, etc.) have unknown durations. Why is that?

A: Records will have unknown durations for duration variables if an unknown or invalid date was entered which inhibited the calculation of duration. The duration (i.e., number of days) will be missing for such records.

Q: Some of the required variables have missing values. Why is that?

A: In the processing of large amounts of data, a small percentage of descriptions or data fields are inadvertently removed through either software glitches, automated uploader issues, or data entry errors. The program continues to improve the data collection software to minimize the potential for such issues and errors.

File Formats

Q: In what file formats are the data available?

A: The datasets are made available as tab delimited TXT files, SPSS data files, or SAS data files.

Q: Do you provide training on how to use these file formats?

A: MBSAQIP does not provide training, instruction, or guidance in the use of statistical analysis software.

General

Q: As an MBSAQIP Accredited Center, do we have any obligation to request or use the PUF?

A: No. The PUF is solely a benefit of participation for centers who are interested in using the data for research purposes. There are no PUF requirements related to your center's MBSAQIP Accreditation status.

9. PUF User Guide Table

The PUF User Guide Table provides a variable-by-variable description for each of the five datasets available in the PUF. This table contains a column titled “Page Number in Variables and Definitions.” To provide investigators with ready access to complete and authoritative variable definitions, the “Page Number in Variables and Definitions” column contains the page number that will locate the complete definition in the MBSAQIP PUF Variables and Definitions Manual

The MBSAQIP PUF Variables and Definitions Manual derived directly from Chapter 4 of the MBSAQIP Operations Manual - the authoritative variable definition reference manual used by the Metabolic and Bariatric Surgical Clinical Reviewers (MBSCRs). Please be aware that these definitions are year specific, though dramatic changes are rare. Investigators receiving the PUF

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Main Variable added in 2016
Variable added in October 2018 Update

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
1	CASEID	Num	Case Identification Number	Each case or record in the database has a unique CaseID number.			
2	SEX	Char	Sex	Variable Name: Gender	2	Male; Female	
3	AGE	Num	Age	Patient's age at time of initial bariatric or metabolic surgery, calculated from Date of Birth and Operation date	3		Values capped between 10 and 80
4	ageGT80	Char	Age Greater Than 80 Years	Indicator for patients with recorded age greater than 80		Yes; No	
5	RACE_PUF	Char	Race	Variable Name: Race	4	White Black or African American American Indian or Alaska Native Native Hawaiian or Other Pacific Islander Asian Unknown	
6	HISPANIC	Char	Hispanic Ethnicity	Variable Name: Hispanic Ethnicity	5	Yes; No; Unknown	
7	CPT	Char	CPT principal operative procedure	Variable Name: CPT® (Current Procedural Terminology) Code for the Principal Operative Procedure	6		
8	CPTUNLISTED_REVCONV	Num	Revision/Conversion Flag	Variable Name: Revision/Conversion Principal Operative Procedure	8	0 = No; 1 = Yes	
9	CPTUNLISTED_GASBYPASS	Num	Miniloop Gastric Bypass Flag	Variable Name: Mini-Loop Gastric Bypass (MGB) Principal Operative Procedure	9	0 = No; 1 = Yes	
10	CPTUNLISTED_GASPLICATION	Num	Gastric Plication Flag	Variable Name: Gastric Plication Principal Operative Procedure	10	0 = No; 1 = Yes	
11	CPTUNLISTED_ENDOTHER	Num	Endoscopic Therapy Flag	Variable Name: Endoscopic Therapy Principal Operative Procedure	11	0 = No; 1 = Yes	
12	CPTUNLISTED_OTHER	Num	Other Flag	Variable Name: Other Principal Operative Procedure	13	0 = No; 1 = Yes	
13	CPTUNLISTED_BALLOON	Num	Intragastric Balloon Flag	Variable Name: Intragastric Balloon	12	0 = No; 1 = Yes	
14	CPTUNLISTED_140101	Char	CPT when Principal CPT entered is unlisted (43659 or 43999)	Variable Name: CPT® (Current Procedural Terminology) Code for Revisions/Other Reasons	14		
15	STAPLING_PROC	Char	Stapling Procedure	Variable Name: Is this a Stapling Procedure? (Bariatric Stapling Procedures)	59	Yes; No	
16	GERD	Char	Pre-Op GERD requiring medication	Variable Name: Gastroesophageal Reflux Disease (GERD) Requiring Medication (within 30 days prior to surgery)	27	Yes; No	
17	MOBILITY_DEVICE	Char	Patient's ambulation limited most or all of the time pre-op	Variable Name: Preoperative Is the Patient's Ambulation Limited Most or all of the Time	28	Yes; No	
18	MI_ALL_HISTORY	Char	History of MI	Variable Name: History of Myocardial Infarction	29	Yes; No	
19	PTC	Char	Previous PCI/PTCA	Variable Name: Previous PCI/PTCA	30	Yes; No	
20	PCARD	Char	Previous Cardiac Surgery	Variable Name: Previous Cardiac Surgery	31	Yes; No	
21	HIP	Char	Pre-Op Hypertension requiring medication	Variable Name: Preoperative Hypertension Requiring Medication	32	Yes; No	
22	HTN_MEDS	Char	Number of Hypertensive Medications	Variable Name: Preoperative Number of Anti-Hypertensive Medications	33	0 1 2 3+	
23	HYPERLIPIDEMIA	Char	Pre-Op Hyperlipidemia	Variable Name: Preoperative Hyperlipidemia Requiring Medication	34	Yes; No	
24	HGT	Num	Height	Variable Name: Preoperative Height	17		
25	HGTUNIT	Char	Height Unit	Height Measurement Units	17	cm in	
26	WGT_HIGH_BAR	Num	Highest pre-op weight recorded	Variable Name: Highest Recorded Weight within 1 year at the Program	18		
27	WGT_HIGH_UNIT_BAR	Char	Highest pre-op weight recorded unit	Highest Pre-op Weight Measurement Units	18	kg lbs	
28	WGT_CLOSEST	Num	Pre-Op Weight closest to bariatric surgery	Variable Name: Weight Closest to Surgery	19		
29	WGTUNIT_CLOSEST	Char	Pre-op Weight closest to bariatric surgery unit	Closest to Surgery Pre-op Weight Measurement Units	19	kg lbs	
30	BMI	Num	Pre-op BMI closest to bariatric surgery	Calculated from pre-op weight closest to surgery and height			Values capped between 15 and 150
31	BMI_HIGH_BAR	Num	Highest Recorded Pre-op BMI	Calculated from highest recorded pre-op weight and height			Values capped between 15 and 150
32	HISTORY_DVT	Char	Pre-Op Vein Thrombosis Requiring Therapy	Variable Name: Preoperative Vein Thrombosis Requiring Therapy	35	Yes; No	
33	VENOUS_STASIS	Char	Pre-Op Venous Stasis	Variable Name: Preoperative Venous Stasis	36	Yes; No	
34	DIALYSIS	Char	Pre-Op Requiring or on dialysis	Variable Name: Preoperative Currently Requiring or On Dialysis	38	Yes; No	
35	RENAL_INSUFFICIENCY	Char	Pre-Op Renal Insufficiency	Variable Name: Preoperative Renal Insufficiency	39	Yes; No	
36	THERAPEUTIC_ANTICOAGULATION	Char	Pre-Op Therapeutic Anticoagulation	Variable Name: Preoperative Therapeutic Anticoagulation	42	Yes; No	
37	PREVIOUS_SURGERY	Char	Previous Obesity surgery/foregut surgery	Variable Name: Previous Obesity Surgery/Foregut Surgery	43	Yes; No	
38	DIABETES	Char	Pre-Op Diabetes Mellitus	Variable Name: Preoperative Diabetes Mellitus Requiring Therapy with Non-Insulin Agents or Insulin	20	Non-Insulin Insulin No	
39	SMOKER	Char	Current Smoker within 1 year	Variable Name: Current Smoker within One Year	21	Yes; No	
40	FUNSTATPRESURG	Char	Pre-Op Functional Health Status	Variable Name: Preoperative Functional Health Status	22	Independent Partially Dependent Totally Dependent Unknown	
41	COPD	Char	Pre-Op history of COPD	Variable Name: History of Severe COPD	23	Yes; No	
42	OXYGEN_DEPENDENT	Char	Pre-Op Oxygen Dependent	Variable Name: Preoperative Oxygen Dependent	24	Yes; No	
43	HISTORY_PE	Char	History of PE	Variable Name: History of Pulmonary Embolism	25	Yes; No	
44	SLEEP_APNEA	Char	Pre-Op Obstructive Sleep Apnea	Variable Name: Preoperative Obstructive Sleep Apnea Requiring CPAP/BiPAP (or similar technology)	26	Yes; No	
45	CHRONIC_STEROIDS	Char	Pre-Op Steroid/Immunosuppressant Use for Chronic Condition	Variable Name: Preoperative Steroid/Immunosuppressant Use for a Chronic Condition	40	Yes; No	

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Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
46	IVC_FILTER	Char	Pre-Op IVC Filter	Variable Name: Preoperative Does the patient have an IVC filter	37	Yes; No IVC filter placed in anticipation of the metabolic or bariatric procedure IVC filter was preexisting Unknown	
48	ALBUMIN	Num	Pre-op Albumin Lab Value	Variable Name: Preoperative Lab Value Information	44		Values capped between 1 and 10
49	DPRALBUM	Num	Days from Albumin Pre-Op Labs to Operation	Days from pre-operative Albumin to initial bariatric surgery operation date			Values capped between 0 and 90
50	HCT	Num	Pre-op Hematocrit Lab Value	Variable Name: Preoperative Lab Value Information	44		Values capped between 8 and 60
51	DPRHCT	Num	Days from Hematocrit Pre-Op Labs to Operation	Days from pre-operative Hematocrit to initial bariatric surgery operation date			Values capped between 0 and 90
53	PRIORITY	Char	Emergency Case	Variable Name: Emergency Case Principal Operative Procedure	46	None (no assist or scrub tech/RN only) Physician Assistant/Nurse Practitioner/Registered Nurse First Assist Resident (PGY 1-5+) Minimally Invasive Surgery Fellow Attending - Weight Loss Surgeon Attending - Other Yes; No N.O.T.E.S. (Natural Orifice Transluminal Endoscopic : Single Incision Robotic-assisted Conventional laparoscopic (thoracoscopic) Laparoscopic assisted (thoracoscopic assisted)	
55	APPROACH_CONVERTED	Char	Procedure converted to another approach	Variable Name: Was the Principal Operative Procedure converted to another approach?	49	Hand-assisted Open Yes; No Single Incision Robotic-assisted Conventional laparoscopic (thoracoscopic) Laparoscopic assisted (thoracoscopic assisted)	
57	BOUGIE_SIZE	Num	Sleeve Bougie Size	Variable Name: Bougie (or sizing device) size for Gastric Sleeve	53	Hand-assisted Open 1 = French 2 = cm	
59	PYLORUS_DISTANCE	Num	Sleeve Distance to Pylorus	Variable Name: Distance from the Pylorus (in cm) for Gastric Sleeve	54		
60	STAPLE_LINE_REINFORCEMENT	Char	Sleeve Staple Line Reinforcement	Variable Name: Staple Line Reinforcement for Gastric Sleeve	55	Yes; No	
61	OVERSEW	Char	Sleeve Oversew	Variable Name: Oversew for Gastric Sleeve	56	Yes; No	
62	DRAIN_PLACED	Char	Drain placed at the time of the initial operation	Variable Name: Was a Drain Placed at Time of the Initial Operation	50	Yes; No Yes, routine Yes, selective No Yes No N/A ASA 1 - No Disturb ASA 2 - Mild Disturb ASA 3 - Severe Disturbance	

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Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
86	DTOP	Num	Days to operation from hospital admit	Days to initial bariatric or metabolic surgery operation date from hospital admission date			Values capped between 0 and 30
87	DTDISCH_OP	Num	Days to discharge from operation	Days to hospital discharge from initial bariatric or metabolic surgery date			Values capped between 0 and 150
88	DTDISCH_ADMIT	Num	Days to discharge from hospital admit	Days to hospital discharge from hospital admission date			Values capped between 0 and 150
89	DTDEATH_OP	Num	Days to death from operation	Days to death from initial bariatric surgery operation date			Values capped between 0 and 30
90	DTASSESS_OP	Num	Days to Post-Op assessment from operation	Days to post-operative assessment from initial bariatric surgery operation date			Values capped between 0 and 30
91	OPYEAR	Num	Year of Operation	Year of initial bariatric or metabolic surgery			
92	OPLENGTH	Num	Operation Length (minutes)	Length of bariatric/metabolic surgery, in minutes		Monitored anesthesia care (MAC)/IV Sedation General Unknown Other None Metabolic and Bariatric Surgeon General Surgeon Gastroenterologist Other Healthcare Professional Interventional Radiologist Yes; No	Values capped between 1 and 720
95	ACTERENALFAILURE	Char	Acute Renal Failure	Variable Name: Postoperative Progressive Renal Insufficiency/ Postoperative Acute Renal Failure Requiring Dialysis	77		
96	CARDIACARRESTCPR	Char	Intra-Op or Post-Op Cardiac Arrest Requiring CPR	Variable Name: Intraoperative or Postoperative Cardiac Arrest Requiring CPR	82	Yes; No	
97	COMA24HOURS	Char	Coma > 24 hours	Variable Name: Postoperative Coma >24 Hours	95	Yes; No	
98	CVA	Char	Stroke/CVA	Variable Name: Intraoperative or Postoperative Stroke/Cerebral Vascular Accident (CVA)	81	Yes; No	
99	POSTOPDEEPPINCISIONALSSI	Num	Number of Post-Op Deep Incisional SSI occurrences	Variable Name: Deep Incisional SSI	63		
100	DSSIPATOS	Char	Deep Incisional SSI PATOS	Variable Name: Deep Incisional SSI – PATOS	64	Yes; No	
101	MYOCARDIALINFR	Char	Intra-op or Post-op Myocardial Infarction	Variable Name: Intraoperative or Postoperative Myocardial Infarction	83	Yes; No	
102	POSTOPVENTILATOR	Num	Number of On Ventilator > 48 hours occurrences	Variable Name: Postoperative On Ventilator > 48 Hours	75		
103	VENTPATOS	Char	Ventilator > 48 hours PATOS	Variable Name: On Ventilator > 48 Hours – PATOS	76	Yes; No	
104	POSTOPORGANSPACESSI	Num	Number of Post-Op Organ/Space SSI occurrences	Variable Name: Organ/Space SSI	65		
105	OSSIPATOS	Char	Organ/Space SSI PATOS	Variable Name: Organ/Space SSI – PATOS	67	Yes; No	
106	POSTOPPNEUMONIA	Num	Number of Post-Op Pneumonia occurrences	Variable Name: Postoperative Pneumonia	69		
107	PNAPATOS	Char	Pneumonia PATOS	Variable Name: Pneumonia – PATOS	71	Yes; No	
108	PREIFNRVINJ	Char	Peripheral Nerve Injury	Variable Name: Postoperative Peripheral Nerve Injury	96	Yes; No	
109	PROGRSRENALINSUF	Char	Progressive Renal Insufficiency	Variable Name: Postoperative Progressive Renal Insufficiency/ Postoperative Acute Renal Failure Requiring Dialysis	77	Yes; No	
110	PULMONARYEMBOLISM	Char	Pulmonary Embolism	Variable Name: Postoperative Pulmonary Embolism	74	Yes; No	
111	POSTOPSEPSIS	Num	Number of Post-Op Sepsis Occurrences	Variable Name: Postoperative Sepsis	89		
112	SEPSISPATOS	Char	Sepsis PATOS	Variable Name: Sepsis – PATOS	92	Yes; No	
113	POSTOPSEPTICSHOCK	Num	Number of Post-Op Septic Shock Occurrences	Variable Name: Postoperative Septic Shock	93		
114	SEPSHOCKPATOS	Char	Septic Shock PATOS	Variable Name: Septic Shock – PATOS	94	Yes; No	
115	POSTOPSUPERFICIALINCISIONALSSI	Num	Number of Post-Op Superficial Incisional SSI occurrences	Variable Name: Superficial Incisional SSI	60		
116	SSSIPATOS	Char	Superficial Incisional SSI PATOS	Variable Name: Superficial Incisional SSI – PATOS	62	Yes; No	
117	TRANSFINTOPSTOP	Char	Transfusion Intra-op/Post-Op (72h of surgery start time)	Variable Name: Transfusion Intra/Postop (RBC within the First 72 Hrs of Surgery Start Time)	84	Yes; No	
118	BLEEDING_UNITS	Num	Number of Units transfused (1-200)	84			

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Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
130	DEHYD_TRTMT_OUT	Char	Did the patient receive treatment for dehydration (nausea and vomiting, fluid, electrolyte, or nutritional depletion) as an outpatient?	Variable Name: Did the Patient Receive Treatment for Dehydration (Nausea and Vomiting, Fluid, Electrolyte, or Nutritional Depletion) as an Outpatient?	103	Yes; No	If CDIFF = "No" then this variable will be missing
131	DEHYD_NUM_TRTMTS	Num	Number of times the patient received treatment for dehydration (nausea and vomiting, fluid, electrolyte, or nutritional depletion) as an outpatient	Variable Name: Did the Patient Receive Treatment for Dehydration (Nausea and Vomiting, Fluid, Electrolyte, or Nutritional Depletion) as an Outpatient?	103		If CDIFF = "No" then this variable will be missing
132	EMERG_VISIT_OUT	Char	Was the patient seen in an emergency department (ED) which did not result in an inpatient admission?	Variable Name: Was the Patient Seen in any Emergency Department (ED) which did not result in an Inpatient Admission?	104	Yes; No	If CDIFF = "No" then this variable will be missing
133	EMERG_NUM_TIMES	Num	Number of times the patient was seen in an emergency department (ED) which did not result in an inpatient admission	Variable Name: Was the Patient Seen in any Emergency Department (ED) which did not result in an Inpatient Admission?	104		If CDIFF = "No" then this variable will be missing
134	DEATH30	Char	Death during Operation (Intra-Op Death) or Post-Op Death within 30 Days of Procedure	Variable Name: Death During Operation (Intraoperative Death) OR Postoperative Death w/in 30 Days of Procedure	99	Yes; No	
135	DEATH_RELATED_BAR	Char	Death Likely Related to the Operation	Variable Name: Was the Death Likely Related to the Operation	100	Yes; No	
136	DEATH_CAUSE_BAR	Char	Most likely cause of death	Variable Name: Most Likely Cause of Death	101	See "Most Likely Cause of Death Guidance Table" on page 101 in Variables and Definitions	
137	DEATHREVIEW_BAR	Char	Death reviewed by the bariatric committee within 60 days of death	Variable Name: Was the Death Reviewed by the Bariatric Committee within 60 Days of Death?	102	Yes; No	
138	DISCHARGE_DESTINATION	Char	Discharge Destination	Variable Name: Hospital Discharge Destination	98	Skilled care, not home Unskilled facility, not home Facility which was home Home Separate acute care Rehab Expired Unknown	
139	FOLLOW_30DAYS_BAR	Char	Able to follow the patient for the full 30 days	Variable Name: Were you able to follow the patient for the full 30 days?	118	Yes; No	
140	EXAM_PERFORMED_PERSON_BAR	Char	Exam performed by a bariatric physician or PA/NP	Variable Name: Was the Postoperative Exam Performed by a Bariatric Physician, Nurse Practitioner, or Physician's Assistant?	119	Yes; No	
141	REOP30	Char	At least one reoperation within 30 days of op	Variable Name: Did the Patient have a Reoperation within the 30 Day Postoperative Period?	107	Yes; No	
142	READ30	Char	At least one readmission within 30 days of op	Variable Name: Did the Patient have a Hospital Readmission within 30 days of the Principal Procedure?	105	Yes; No	
143	INTV30	Char	At least one intervention within 30 days of op	Variable Name: Did the Patient have an Intervention within the 30 day Postoperative Period?	112	Yes; No	
144	ANTICOAGULATION_INITIATED_BAR	Char	Anticoagulation initiated or presumed/confirmed vein thrombosis/PE	Variable Name: Was Anticoagulation Initiated for Presumed/Confirmed Venous Thrombosis/PE Postoperatively	121	Yes; No	
145	INCISIONAL_HERNIA_NOTED_BAR	Char	Incisional Hernia Noted on Exam	Variable Name: Was an Incisional Hernia Noted on Exam Postoperatively	122	Yes; No	
146	DRAIN_PRESENT_30DAY_BAR	Char	Operative drain still present at 30 days	Variable Name: Was an Operative Drain Still Present at 30 days Postoperative	123	Yes; No	
147	DTPOSTOPSUPERFICIALINCISIONALSSI	Num	Days from operation date to first recorded date of Superficial Incisional SSI	Days to first recorded Superficial Incisional SSI occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPSUPERFICIALINCISIONALSSI = 0 then this variable will be missing
148	DTPOSTOPDEEPIPNCISIONALSSI	Num	Days from operation date to first recorded date of Deep Incisional SSI	Days to first recorded Deep Incisional SSI occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPDEEPIPNCISIONALSSI = 0 then this variable will be missing
149	DTPOSTOPORGANSPACESSI	Num	Days from operation date to first recorded date of Organ/Space SSI	Days to first recorded Organ/Space SSI occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPORGANSPACESSI = 0 then this variable will be missing
150	DTPOSTOPVENTILATOR	Num	Days from operation date to first recorded date of Ventilator > 48 Hours	Days to first recorded Ventilator > 48 Hours occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If DTPOSTOPVENTILATOR = 0 then this variable will be missing
151	DTPOSTOPPNEUMONIA	Num	Days from operation date to first recorded date of Pneumonia	Days to first recorded Pneumonia occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPPNEUMONIA = 0 then this variable will be missing
152	DTPOSTOPSEPSIS	Num	Days from operation date to first recorded date of Sepsis	Days to first recorded Sepsis occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPSEPSIS = 0 then this variable will be missing
153	DTPOSTOPSEPTICSHOCK	Num	Days from operation date to first recorded date of Septic Shock	Days to first recorded Septic Shock occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPSEPTICSHOCK = 0 then this variable will be missing
154	DTPOSTOPUTI	Num	Days from operation date to first recorded date of Urinary Tract Infection	Days to first recorded Urinary Tract Infection occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If POSTOPUTI = 0 then this variable will be missing
155	DTWOUNDDISRUPTION	Num	Days from operation date to Wound Disruption	Days to Wound Disruption occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If WOUNDDISRUPTION = "No" then this variable will be missing
156	DTUNPLINTUBATION	Num	Days from operation date to Unplanned Intubation	Days to Unplanned Intubation occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If UNPLINTUBATION = "No" then this variable will be missing
157	DTPULMONARYEMBOLISM	Num	Days from operation date to Pulmonary Embolism	Days to Pulmonary Embolism occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If PULMONARYEMBOLISM = "No" then this variable will be missing

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Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
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Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
1	CASEID	Num	Case Identification Number	Each case or record in the database has a unique CaseID number.	105	Medical record Patient/Family Report Other	
3	READ_RELATED	Char	Readmission related to metabolic/bariatric procedure	Variable Name: Did the Patient have a Hospital Readmission within 30 days of the Principal Procedure?	105	Yes; No	
4	SUSPREASON	Char	Most Likely Reason for Readmission	Variable Name: Did the Patient have a Hospital Readmission within 30 days of the Principal Procedure?	105	See "Most Likely Reason for Readmission Guidance Table" on page 105 in in Variables and Definitions	
5	READ_UNPLANNED	Char	Unplanned Readmission	Was this readmission unplanned at the time of the principal procedure ?	105	Yes; No	
6	READ_HOSPITAL	Char	Readmission Occured at Reporting Center	Did this readmission occur at your hospital?	105	Yes; No	
7	DTREAD	Num	Days from Operation date to Readmission	Days from initial bariatric or metabolic surgery procedure to readmission			Values capped between 0 and 30
8	DTREAD_DISCH	Num	Days from Original Discharge to Readmission	Days to readmission from original hospital stay discharge			Values capped between 0 and 30
9	DTDISDT_READ	Num	Days from Readmission to Readmission Discharge	Days to readmission discharge from readmission date			Values capped between 0 and 150

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
1	CASEID	Num	Case Identification Number	Each case or record in the database has a unique CaseID number.	117	Medical Record Patient/Family Report Other	
3	INTV_RELATED_BAR(Yes; No)TJ/TT1 1 Tf -97.439.3TnutRe PrincipG7<N9 T5o1.263 Td (Procedure?)Tj 42.895 1.263 Td ProcedureTj 19.18.NRS0 cOR2				27	ical Record	

