User Guide for the

2018 Participant Use Data File (PUF)

Released: October 2019

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1.   Introduction

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP®) is pleased to introduce the 2018 Participant Use Data File (PUF) – including cases with operation dates between January 1, 2018 and December 31, 2018. The PUF is a Health Insurance Portability and Accountability Act (HIPAA)-compliant data file containing cases submitted to the MBSAQIP 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 200,000 metabolic and bariatric cases captured 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 2018 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 2018 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

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 and web-based training. The Clinical Support staff makes available a host of written educational resources available through 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. gastroente

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 70%, 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 rkrapikas@facs.org.

8. Frequently Asked Questions

Request Process

Q:

Q: **Does the PUF contain long-term (1 year, 2 year, 3 year, etc.) outcomes?**
A: At this time the 2018 PUF only contains 30-day outcomes.

Q: **How is the PUF different from the SAR?**
A: The Main PUF is a raw, flat file of HIPAA-compliant variables captured within the data registry. The data has been cleaned (e.g., removal of invalid dates, truncation of variable bounds, etc.), but no analysis (e.g., risk adjustment, quality assessments, etc.) has been performed.

Q: **Can we publish data from the PUF?**
A: Yes. Please see the terms of the PUF Data Use Agreement within the PUF request portal.

Q: **Can we publish data from the PUF individually or collaboratively?**
A: Pursuant to the MBSAQIP PUF Data Use Agreement, centers will not grant access to or share the PUF either in its entirety or as a subset to any party who is not an employee of the participating center at which the Data Recipient is employed, and centers will not sublease or permit other parties to use the PUF without advance written approval of the ACS MBSAQIP.

Q: **Are other MBSAQIP PUF data sets available?**
A: Yes, the 2015 PUF was the first MBSAQIP PUF available. Subsequent PUFs have been released on a yearly basis.

Q: **Are center identifiers included in the database?**
A: At this time we do not provide any geographic or center-specific identification. We took this approach to ensure the privacy of both the participating MBSAQIP centers and surgeons.

Q: **Are there surgeon-specific identifiers included in the database?**
A: At this time we do not provide any surgeon-specific information. We took this approach to ensure the privacy of both the participating centers and surgeons.
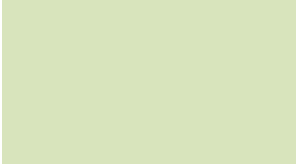
9.   PUF User Guide Table

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* is 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 will have the opportunity to download the PUF Variables and Definitions Manual corresponding to the specific PUF year.

The PUF User Guide Table also contains a column titled "Search Term in Variables and Definitions." As an alternative to searching for variable definitions by page number in the *PUF Variables and Definitions Manual*, users can copy the entire text within an individual cell from the "Search Term in Variables and Definitions" column in the PUF User Guide Table, and paste it into a search field (you can create a search field by simultaneously hitting Ctrl and F on your keyboard) in the *PUF Variables and Definitions Manual*. Once the text is copied into the search field and enter is hit, you will see the variable definition and other information pertinent to that particular variable. Appropriate definitions are provided in the "Search Term in Variables and Definitions" column for those variables that are constructed specifically for the PUF and do not exist in Chapter 4 of the MBSAQIP Operations Manual.

The *PUF Variables and Definitions Manual* will be made available to you for download with the rest of your requested PUF files. Data Use Agreements apply to the use and distribution of the *PUF Variables and Definitions Manual*, as well as all PUF datasets
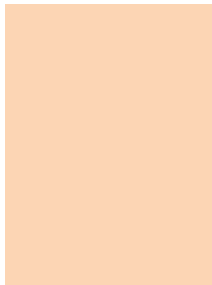
	Variable added in 2016		Notable Data Updates				
Main	Variable added in 2017						

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	Variable Name: Date of Birth	1		Values capped between 10 and 80
4	ageGT80	Char	Age Greater Than 80 Years	Indicator for patients with recorded age greater than 80	1	Yes; No	
						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	4	Yes; No; Unknown	
7	CPT	Char	CPT principal operative procedure	Variable Name: CPT® (Current Procedural Terminology) Code for the Principal Operative Procedure	5		
8	CPTUNLISTED_REVCONV	Num	Revision/Conversion Flag	Variable Name: Revision/Conversion Principal Operative Procedure	7	0 = No; 1 = Yes	
9	CPTUNLISTED_GASBYPASS	Num	Miniloop Gastric Bypass Flag	Variable Name: Mini-Loop Gastric Bypass (MGB) Principal Operative Procedure	8	0 = No; 1 = Yes	
10	CPTUNLISTED_GASPLICATION	Num	Gastric Plication Flag	Variable Name: Gastric Plication Principal Operative Procedure	9	0 = No; 1 = Yes	
11	CPTUNLISTED_ENDOTHER	Num	Endoscopic Therapy Flag	Variable Name: Endoscopic Therapy Principal Operative Procedure	10	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	11	0 = No; 1 = Yes	
14	CPTUNLISTED_140101						

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
42	COPD	Char	Pre-Op history of COPD	Variable Name: History of Severe COPD	23	Yes; No	
43	OXYGEN_DEPENDENT	Char	Pre-Op Oxygen Dependent	Variable Name: Preoperative Oxygen Dependent	24	Yes; No	
44	HISTORY_PE	Char	History of PE	Variable Name: History of Pulmonary Embolism	25	Yes; No	
45	SLEEP_APNEA	Char	Pre-Op Obstructive Sleep Apnea	Variable Name: Preoperative Obstructive Sleep Apnea Requiring CPAP/BiPAP (or similar technology)	26	Yes; No	
46	CHRONIC_STEROIDS	Char	Pre-Op Steroid/Immunosuppressant Use for Chronic Condition	Variable Name: Preoperative Steroid/Immunosuppressant Use for a Chronic Condition	40	Yes; No	
47	PREV_ORGTRANS	Char	Previous Organ Transplant	Variable Name: Previous Organ Transplant	43	Yes; No	
48	IVC_FILTER	Char	Pre-Op IVC Filter	Variable Name: Preoperative Does the patient have an IVC filter	37	Yes; No	
					37	IVC filter placed in anticipation of the metabolic or bariatric procedure IVC filter was preexisting Unknown	
50	ALBUMIN	Num	Pre-op Albumin Lab Value	Variable Name: Preoperative Lab Value Information	46		Values capped between 1 and 10
51	DPRALBUM	Num	Days from Albumin Pre-Op Labs to Operation	Days from pre-operative Albumin to initial bariatric surgery operation date	46		Values capped between 0 and 90
52	HCT	Num	Pre-op Hematocrit Lab Value	Variable Name: Preoperative Lab Value Information	46		Values capped between 8 and 60
53	DPRHCT	Num	Days from Hematocrit Pre-Op Labs to Operation	Days from pre-operative Hematocrit to initial bariatric surgery operation date	46		Values capped between 0 and 90
54	CREATININE	Num	Pre-Op Creatinine Lab Value	Variable Name: Preoperative Lab Value Information	46		Values capped between 0.1 and 15
55	DPRCREAT	Num	Days from Creatinine Pre-Op Labs to Operation	Days from pre-operative Creatinine to initial bariatric surgery operation date	46		Values capped between 0 and 90
56	HEMO	Num	Pre-Op Hemoglobin A1c Value	Variable Name: Preoperative Lab Value Information	46		Values capped between 4 and 20
57	DPRHEMO	Num	Days from Hemoglobin A1c Pre-Op Labs to Operation	Days from pre-operative Hemoglobin A1c to initial bariatric surgery operation date	46		Values capped between 0 and 90
58	70				47	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	
59	PRIORITY	Char	Emergency Case	Variable Name: Emergency Case Principal Operative Procedure	48	Yes; No	
					50	N.O.T.E.S. (Natural Orifice Transluminal Endoscopic Surgery) Single Incision Robotic-assisted Conventional laparoscopic (thoracoscopic) Laparoscopic assisted (thoracoscopic assisted) Hand-assisted Open	
61	APPROACH_CONVERTED	Char	Procedure converted to another approach	Variable Name: Was the Principal Operative Procedure converted to another approach?	51	Yes; No	
62	CONVERSION				51	Single Incision Robotic-assisted Conventional laparoscopic (thoracoscopic) Laparoscopic assisted (thoracoscopic assisted) Hand-assisted Open	
63	BOUGIE_SIZE	Num	Sleeve Bougie Size	Variable Name: Bougie (or sizing device) size for Gastric Sleeve	55 / 55	1 = French 2 = cm	
65	PYLORUS_DISTANCE	Num	Sleeve Distance to Pylorus	Variable Name: Distance from the Pylorus (in cm) for Gastric Sleeve	56		
66	STAPLE_LINE_REINFORCEMENT	Char	Sleeve Staple Line Reinforcement	Variable Name: Staple Line Reinforcement for Gastric Sleeve	57	Yes; No	
67	OVERSEW	Char	Sleeve Oversew	Variable Name: Oversew for Gastric Sleeve	58	Yes; No	
68	DRAIN_PLACED	Char	Drain placed at the time of the initial operation	Variable Name: Was a Drain Placed at Time of the Initial Operation	52	Yes; No	
				Variable Name: Was a Swallow Study Performed the Day of or the Day After the Procedure		Yes, routine Yes, selective No	
70	ANASTOMOSIS_CHECKED	Char	Anastomosis/staple line checked w/provocative test to assess for leak	Variable Name: Was the Anastomosis Checked with a Provocative Test to Assess for a Leak	54	Yes No N/A	
					49	ASA 1 - No Disturb ASA 2 - Mild Disturb ASA 3 - Severe Disturbance ASA 4 - Life Threatening ASA 5 - Moribund None Assigned	
72	OTHCPT1	Char	Other CPT 1	Variable Name: Other Procedure	59		
73	OTHCPT2	Char	Other CPT 2	Variable Name: Other Procedure			
74	OTHCPT3	Char	Other CPT 3	Variable Name: Other Procedure			
75	OTHCPT4	Char	Other CPT 4	Variable Name: Other Procedure			
76	OTHCPT5	Char	Other CPT 5	Variable Name: Other Procedure			

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
77	OTHCPT6	Char	Other CPT 6	Variable Name: Other Procedure			
78	OTHCPT7	Char	Other CPT 7	Variable Name: Other Procedure			
79	OTHCPT8	Char	Other CPT 8	Variable Name: Other Procedure			
80	OTHCPT9	Char	Other CPT 9	Variable Name: Other Procedure			
81	OTHCPT10	Char	Other CPT 10	Variable Name: Other Procedure			
82	CONCPT1	Char	Concurrent CPT 1	Variable Name: Concurrent Procedure	60		
83	CONCPT2	Char	Concurrent CPT 2	Variable Name: Concurrent Procedure			
84	CONCPT3	Char	Concurrent CPT 3	Variable Name: Concurrent Procedure			
85	CONCPT4	Char	Concurrent CPT 4	Variable Name: Concurrent Procedure			
86	CONCPT5	Char	Concurrent CPT 5	Variable Name: Concurrent Procedure			
87	CONCPT6	Char	Concurrent CPT 6	Variable Name: Concurrent Procedure			
88	CONCPT7	Char	Concurrent CPT 7	Variable Name: Concurrent Procedure			
89	CONCPT8	Char	Concurrent CPT 8	Variable Name: Concurrent Procedure			
90	CONCPT9	Char	Concurrent CPT 9	Variable Name: Concurrent Procedure			
91	CONCPT10	Char	Concurrent CPT 10	Variable Name: Concurrent Procedure			
92	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
93	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
94	DTDISCH_ADMIT	Num	Days to discharge from hospital admit	Days to hospital discharge from hospital admission date			Values capped between 0 and 150
95	DTDEATH_OP	Num	Days to death from operation	Days to death from initial bariatric surgery operation date			Values capped between 0 and 30
96	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
97	OPYEAR	Num	Year of Operation	Year of initial bariatric or metabolic surgery			
98	OPLENGTH	Num	Operation Length (minutes)	Length of bariatric/metabolic surgery, in minutes			Values capped between 1 and 720
99	ANESTYPE	Char	Anesthesia Type	Variable Name: Anesthesia Type	15	Monitored anesthesia care (MAC)/IV Sedation General Unknown Other None	If CPTUNLISTED_BALLOON = 0 then this variable will be missing
100	SURGSPECIALTY_BAR	Char	Medical specialty of the physician performing the principal operative procedure	Variable Name: Medical Specialist	16	Metabolic and Bariatric Surgeon General Surgeon Gastroenterologist Other Healthcare Professional Interventional Radiologist	
101	ACTERENALFAILURE	Char	Acute Renal Failure	Variable Name: Postoperative Progressive Renal Insufficiency/ Postoperative Acute Renal Failure Requiring Dialysis	80	Yes; No	
102	CARDIACARRESTCPR	Char	Intra-Op or Post-Op Cardiac Arrest Requiring CPR	Variable Name: Intraoperative or Postoperative Cardiac Arrest Requiring CPR	85	Yes; No	
103	COMA24HOURS	Char	Coma > 24 hours	Variable Name: Postoperative Coma >24 Hours	98	Yes; No	
104	CVA	Char	Stroke/CVA	Variable Name: Intraoperative or Postoperative Stroke/Cerebral Vascular Accident (CVA)	84	Yes; No	
105	POSTOPDEEPINCISIONALSSI	Num	Number of Post-Op Deep Incisional SSI occurrences	Variable Name: Deep Incisional SSI	65		
106	DSSIPATOS	Char	Deep Incisional SSI PATOS	Variable Name: Deep Incisional SSI – PATOS	66	Yes; No	
107	MYOCARDIALINFR	Char	Intra-op or Post-op Myocardial Infarction	Variable Name: Intraoperative or Postoperative Myocardial Infarction	86	Yes; No	
108	POSTOPVENTILATOR	Num	Number of On Ventilator > 48 hours occurrences	Variable Name: Postoperative On Ventilator > 48 Hours	78		
109	VENTPATOS	Char	Ventilator > 48 hours PATOS	Variable Name: On Ventilator > 48 Hours – PATOS	79	Yes; No	
110	POSTOPORGANSPACESSI	Num	Number of Post-Op Organ/Space SSI occurrences	Variable Name: Organ/Space SSI	67		
111	OSSIPATOS	Char	Organ/Space SSI PATOS	Variable Name: Organ/Space SSI – PATOS	69	Yes; No	
112	POSTOPPNEUMONIA	Num	Number of Post-Op Pneumonia occurrences	Variable Name: Postoperative Pneumonia	71		
113	PNAPATOS	Char	Pneumonia PATOS	Variable Name: Pneumonia – PATOS	72	Yes; No	
114	PREIFNRVINJ	Char	Peripheral Nerve Injury	Variable Name: Postoperative Peripheral Nerve Injury	99	Yes; No	
115	PROGRSRENALINSUF	Char	Progressive Renal Insufficiency	Variable Name: Postoperative Progressive Renal Insufficiency/ Postoperative Acute Renal Failure Requiring Dialysis	80	Yes; No	
116	PULMONARYEMBOLSM	Char	Pulmonary Embolism	Variable Name: Postoperative Pulmonary Embolism	77	Yes; No	
117	POSTOPSEPSIS	Num	Number of Post-Op Sepsis Occurrences	Variable Name: Postoperative Sepsis	92		
118	SEPSISPATOS	Char	Sepsis PATOS	Variable Name: Sepsis – PATOS	95	Yes; No	
119	POSTOPSEPTICSHOCK	Num	Number of Post-Op Septic Shock Occurrences	Variable Name: Postoperative Septic Shock	96		
120	SEPSHOCKPATOS	Char	Septic Shock PATOS	Variable Name: Septic Shock – PATOS	97	Yes; No	
121	POSTOPSUPERFICIALINCISIONAL SSI	Num	Number of Post-Op Superficial Incisional SSI occurrences	Variable Name: Superficial Incisional SSI	62		
122	SSSIPATOS	Char	Superficial Incisional SSI PATOS	Variable Name: Superficial Incisional SSI – PATOS	64	Yes; No	
123	TRANSFINTOPPSTOP	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)	87	Yes; No	
124	BLEEDING_UNITS	Num	Number of Units transfused (1-200)	Variable Name: Transfusion Intra/Postop (RBC within the First 72 Hrs of Surgery Start Time)	87		Values capped between 1 and 20. If TRANSFINTOPPSTOP = "No" then this variable will be missing
125	UNPLINTUBATION	Char	Unplanned Intubation	Variable Name: Intraoperative OR Postoperative Unplanned Intubation	75	Yes; No	
126	POSTOPUTI	Num	Number of Post-Op Urinary Tract Infection occurrences	Variable Name: Postoperative Urinary Tract Infection	81		
127	UTIPATOS	Char	Urinary Tract Infection PATOS	Variable Name: UTI – PATOS	83	Yes; No	
128	VEINTHROMBREQTER	Char	Post-Op Vein Thrombosis Requiring Therapy	Variable Name: Postoperative Vein Thrombosis Requiring Therapy	89	Yes; No	
129	WOUNDDISRUPTION	Char	Wound Disruption	Variable Name: Wound Disruption	70	Yes; No	

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
130	UNPLANNEDADMISSIONICU30	Char	Unplanned Admission to ICU within 30 days	Variable Name: Postoperative Unplanned Admission to ICU within 30 Days	100	Yes; No	
131	CDIFF	Char	Clostridium difficile (C. diff) Colitis	Variable Name: Postoperative Clostridium difficile (C.diff) Colitis Variable Name: Postoperative Clostridium difficile (C.diff) Colitis	90	Yes; No Toxin DNA Other-C. diff Unknown None	
133	CDIFF_TSTRSLT	Char	Result of C. diff Test	Variable Name: Postoperative Clostridium difficile (C.diff) Colitis	90	Positive; Negative	If CDIFF = "No" then this variable will be missing
134	CDIFF_TRTMT	Char	Was the patient given treatment for C. diff?	Variable Name: Postoperative Clostridium difficile (C.diff) Colitis	90	Yes; No	If CDIFF = "No" then this variable will be missing
135	CDIFF_DIA	Char	Did the patient have diarrhea/loose stools?	Variable Name: Postoperative Clostridium difficile (C.diff) Colitis	90	Yes; No	If CDIFF = "No" then this variable will be missing
136	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?	106	Yes; No	
137	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?	106		
138	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?	107	Yes; No	
139	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?	107		
140	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	102	Yes; No	
141							

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments
158	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
159	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
160	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
161	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
162	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
163	DTPULMONARYEMBOLSM	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 PULMONARYEMBOLSM = "No" then this variable will be missing
164	DTPROGRSRENALINSUF	Num	Days from operation date to Progressive Renal Insufficiency	Days to Progressive Renal Insufficiency occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If PROGRSRENALINSUF = "No" then this variable will be missing
165	DTACTERENALFAILURE	Num	Days from operation date to Acute Renal Failure	Days to Acute Renal Failure occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If ACTERENALFAILURE = "No" then this variable will be missing
166	DTCVA	Num	Days from operation date to Stroke/CVA	Days to Stroke/CVA occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If CVA = "No" then this variable will be missing
167	DTCOMA24HOURS	Num	Days from operation date to Coma > 24 Hours	Days to Coma > 24 Hours occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If COMA24HOURS = "No" then this variable will be missing
168	DTPREIFNRVINJ	Num	Days from operation date to Peripheral Nerve Injury	Days to Peripheral Nerve Injury occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If PREIFNRVINJ = "No" then this variable will be missing
169	DTCARDIACARRESTCPR	Num	Days from operation date to Cardiac Arrest Requiring CPR	Days to Cardiac Arrest Requiring CPR occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If CARDIACARRESTCPR = "No" then this variable will be missing
170	DTMYOCARDIALINFR	Num	Days from operation date to Myocardial Infarction	Days to Myocardial Infarction occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If MYOCARDIALINFR = "No" then this variable will be missing
171	DTTRANSFINTOPPSTOP	Num	Days from operation date to Transfusion	Days to Transfusion (72h) occurrence from initial bariatric surgery operation date			Values capped between 0 and 3. If TRANSFINTOPPSTOP = "No" then this variable will be missing Note: Previous PUF files capped this value between 0 and 30. The cap between 0 and 3 is revised for the current (2018) PUF file.
172	DTVEINTHROMBREQTER	Num	Days from operation date to Vein Thrombosis Requiring Therapy	Days to Vein Thrombosis Requiring Therapy occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If VEINTHROMBREQTER = "No" then this variable will be missing
173	DTCDIFF	Num	Days from operation date to C. diff Infection	Days to C. diff Infection occurrence from initial bariatric surgery operation date			Values capped between 0 and 30. If CDIFF = "No" then this variable will be missing

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.	115	Medical record Patient/Family Report Other	
3	REOP_RELATED_BAR	Char	Reoperation related to metabolic/bariatric procedure	Variable Name: Was this Reoperation likely related to a Metabolic or Bariatric procedure?	110	Yes; No	
4	REOP_SUSPECTED_REASON_BAR	Char	Most likely reason for reoperation	Variable Name: Most Likely Reason for Reoperation	113	See "Most Likely Reason for Reoperation Guidance Table" on page 113 in Variables and Definitions	
5	REOP_CODE_BAR	Char	Reoperation Type	Variable Name: Reoperation Type	111	See "Reoperation Guidance Table" on page 111 in Variables and Definitions	
6	REOP_CPT_BAR	Char	Reoperation CPT	Variable Name: CPT code for Reoperation	111		
7	REOP_UNPLANNED	Char	Unplanned reoperation	Variable Name: Was this reoperation unplanned at the time of the principal procedure?	112	Yes; No	
8	REOP_CENTER	Char	Reoperation performed at reporting center	Variable Name: Was this reoperation performed at your hospital?	110	Yes; No	
9	REOP_EMERGENCY	Char	Emergency Reoperation	Variable Name: Reoperation Emergency Case	110	Yes; No	
10	REOP_STAPLING_PROC	Char	Reoperation Stapling Procedure	Variable Name: Was this Reoperation a Stapling Procedure?	110	Yes; No	
11	REOP_REVCONV_PROC	Char	Reoperation Revision/Conversion	Was this procedure a Revision/Conversion?	110	Yes; No	
12	REOP_MINILOOP	Char	Reoperation Mini-Loop Gastric Bypass	Was this procedure a mini-loop gastric bypass?	110	Yes; No	
13	REOP_GAS_PLICATION	Char	Reoperation Gastric Plication	Was this procedure a gastric plication?	110	Yes; No	
14	REOP_ENDO_THER	Char	Reoperation Endoscopic Therapy	Was this procedure an endoscopic therapy?	110	Yes; No	
15	DTREOP	Num	Days to Reoperation	Days from initial bariatric or metabolic surgery procedure to reoperation.			Values capped between 0 and 30
1	CASEID	Num	Case Identification Number	Each case or record in the database has a unique CaseID number.	108	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?	108	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?	109	See "Most Likely Reason for Readmission Guidance Table" on page 111 in in Variables and Definitions	
5	READ_UNPLANNED	Char	Unplanned Readmission	Was this readmission unplanned at the time of the principal procedure ?	108	Yes; No	
6	READ_HOSPITAL	Char	Readmission Occurred at Reporting Center	Did this readmission occur at your hospital?	108	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
1	CASEID	Num	Case Identification Number	Each case or record in the database has a unique CaseID number.	121	Medical Record Patient/Family Report Other	
3	INTV_RELATED_BAR	Char	Intervention related to metabolic/bariatric procedure				

Position #	Variable Name	Data Type	Variable Label	Search Term in Variables and Definitions	Page Number in Variables and Definitions	Variable Options	Comments

BMI

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	HGT	Num	Height	Variable Name: Preoperative Height	17		Same variable found in the main dataset
3	HGTUNIT	Char	Height Unit	Height Measurement Units	17	in, cm	Same variable found in the main dataset
4	WGT_CLOSEST	Num	Pre-Op Weight closest to bariatric surgery	Variable Name: Weight Closest to Surgery	19		Same variable found in the main dataset
5	WGTUNIT_CLOSEST	Char	Pre-Op Weight closest to bariatric surgery Unit	Closest to Surgery Pre-op Weight Measurement Units	19	lbs, kg	Same variable found in the main dataset
6	WGT_HIGH_BAR	Num	Highest Pre-Op Weight recorded	Variable Name: Highest Recorded Weight within 1 year at the Program	18		Same variable found in the main dataset
7	WGT_HIGH_UNIT_BAR	Char	Highest Pre-Op Weight recorded Unit	Highest Recorded Pre-op Weight Measurement Units	18	lbs, kg	Same variable found in the main dataset
8	WGT_DISCH	Num	Post-Op Weight	Variable Name: Postoperative Weight	124		
9	WGTUNIT_DISCH	Char	Post-Op Weight Unit	Post-op Weight Measurement Units	124	lbs, kg	
10	BMI	Num	Pre-Op BMI closest to bariatric surgery	Calculated from closest to surgery recorded pre-op weight and height			Same variable found in the main dataset. Values capped between 15 and 150
11	BMI_HIGH_BAR	Num	Highest Recorded Pre-Op BMI	Calculated from highest recorded pre-op weight and height			Same variable found in the main dataset. Values capped between 15 and 150
12	BMI_DISCH	Num	Post-Op BMI	Calculated from post-op weight and height			Values capped between 15 and 150
13	DTBMI	Num	Days from bariatric surgery to Post-Op BMI measurement	Days from bariatric or metabolic surgery to post-op BMI measurement			Values capped between 0 and 30

Section 9 - PUF User Guide Table