

Sample Query Specification PCRC 0096 – Inclusion Criteria

Variable Name	Definition	Data Format	Data Source / ID	Notes
DOS	Date of Surgery/Procedure/Service	Mo/Day/Year	Phenotype: Surgery Start Date/Time	Include: Surgery performed between January 1, 2014 and August 1, 2019
Age	Age in years	Num	Phenotype: Age (Years)	Include: >=18
MPOG_Institution_ID	MPOG Institution ID	Num	Phenotype: Institution	Recode MPOG institution ID into a fake institution ID
Cardiac_cases	Cardiac cases	Num	Phenotype: Cardiac	Include: o Cardiac – Anesthesia CPT Codes 00550, 00560, 00561, 00562, 00563, 00567, 00580

Sample Query Specification PCRC 0096 – Exposure Variables, Covariates, Exclusion Criteria, and Outcomes

Variable Name	Definition	Data Format	Data Source / ID	Notes
DOS	Date of Surgery/Procedure/Service	Mo/Day/Year	Phenotype: Surgery Start Date/Time	Include: Surgery performed between January 1, 2014 and August 1, 2019
Age	Age in years	Num	Phenotype: Age (Years)	Valid range: 18-120
Sex	Sex	Num	Phenotype: Sex	Sex
Race	Patient Race	Num	Phenotype: Race	Race
Actual_Procedure_Text	Procedure name (performed, not scheduled)	Character	Phenotype: Procedure Text	Actual_Procedure_Text
Charge_Capture_Primary_Diagnosis_Code	ICD-9/ICD-10 Code	Num	All ICD diagnosis codes	Charge_Capture_Primary_Diagnosis_Code
MPOG_Patient_ID	MPOG Patient ID Number	Char		MPOG_Patient_ID
MPOG_Case_ID	MPOG Case ID Number	Char		MPOG_Case_ID
MPOG_Institution_ID	MPOG Institution ID	Num	Phenotype: Institution	MPOG_Institution_ID

Cardiac_cases_per_year	Number of cardiac cases per year	Num	Number of Phenotype: Cardiac =1 per year	Cardiac_cases_per_year_2014 Cardiac_cases_per_year_2015 Cardiac_cases_per_year_2016 Cardiac_cases_per_year_2017 Cardiac_cases_per_year_2018 Cardiac_cases_per_year_2019
MPOG_Primary_Provider_ID	MPOG Primary Provider, attending only	Num	Phenotype: PrimaryProvider	MPOG_Primary_Provider_ID
MPOG_Starting_Provider_ID	MPOG Starting Provider, attending only	Num	Phenotype: StartingProvider	MPOG_Starting_Provider_ID
Primary_Anesthesia_CPT	Primary anesthesia base CPT	Character	Phenotype: Primary Anesthesia CPT	Primary_Anesthesia_CPT
Predicted_Anesthesia_CPT	Predicted anesthesia CPT	Number	Anesthesia CPT prediction tool	Predicted_Anesthesia_CPT
MPOG_Admission_Type	Integer representing patient admission type	Num	Phenotype: Admission Type	MPOG_Admission_Type
MPOG_Primary_Procedural_Service_Concept_ID	Integer representing primary procedural service	Num	MPOG Surgical Services by code	MPOG_Primary_Procedural_Service_Concept_ID
MPOG_Primary_Procedural_Service_Concept_Desc	Description associated with concept identifier above	Char	MPOG Surgical Service by name	MPOG_Primary_Procedural_Service_Concept_Desc
ASA_Class_Number	ASA classification	Num	Phenotype: ASA Class (cleaned)	ASA_Class_Number
Emergent	Processed emergent status	Yes / No	Phenotype: Emergency Status (ASA Class) Yes/No	Emergent
General_yn	General anesthetic technique used	Yes / No	Phenotype: Anesthesia Technique: General	General_yn
Anesthesia_Start_DT	First date/time when anesthesia start documented	Mo/Day/Year HH:MM	Phenotype: Anesthesia Start	Anesthesia_Start_DT
Anesthesia_End_DT	Last date and time when anesthesia end documented for case	Mo/Day/Year HH:MM	Phenotype: Anesthesia End	Anesthesia_End_DT

Patient_In_Room_DT	First date/time when patient in room documented	Mo/Day/Year HH:MM	Phenotype: Patient In Room Date/Time	Patient_In_Room_DT
Patient_Out_Of_Room_DT	Last date/time when patient transport from room documented for case	Mo/Day/Year HH:MM	Phenotype: Patient Out Of Room Date/Time	Patient_Out_Of_Room_DT
Ventilator_Start_DT	Date and time of ventilator start time	Mo/Day/Year HH:MM	Phenotype: Ventilator Start Time	Ventilator_Start_DT
Bypass_Start_DT	First date/time when cardiopulmonary bypass start documented for case	Mo/Day/Year HH:MM	Phenotype: Cardiopulmonary Bypass Start	Bypass_Start_DT
Bypass_End_DT	Last date/time when cardiopulmonary bypass end documented for case	Mo/Day/Year HH:MM	Phenotype: Cardiopulmonary Bypass End	Bypass_End_DT
Bypass_Duration	Duration of bypass in minutes from start to end	Num	Phenotype: Cardiopulmonary Bypass Duration	Bypass_Duration
Case_Duration_In_Room_min	Minutes from patient in room to patient out of room	Num	Phenotype: Patient In Room Duration	Case_Duration_In_Room_min
Case_Duration_Anesthesia_min	Minutes from anesthesia start to end	Num	Phenotype: Anesthesia Duration	Case_Duration_Anesthesia_min
Case_Duration_Surgery_min	Minutes from procedure start to procedure end	Num	Phenotype: Surgery Duration	Case_Duration_Surgery_min
Meds_Preop	List of preop medications – used to generate Home_Benzo_YN and Home_Opioid_YN	List of Char	Phenotype: PreopMedications	Meds_Preop; used to generate Home_Benzo_YN and Home_Opioid_YN
PMH_Elix_CHF	History of Congestive Heart Failure, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Congestive Heart Failure	PMH_Elix_CHF

PMH_Elix_Arrhythmia	History of Cardiac Arrhythmia, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Cardiac Arrhythmia	PMH_Elix_Arrhythmia
PMH_Elix_Valvular	History of Valvular Disease, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Valvular Disease	PMH_Elix_Valvular
PMH_Elix_Pulm_Circ	History of Pulmonary Circulation Disorder, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Pulmonary Circulation Disorders	PMH_Elix_Pulm_Circ
PMH_Elix_HTN_Uncomp	History of Uncomplicated Hypertension, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Hypertension (uncomplicated)	PMH_Elix_HTN_Uncomp
PMH_Elix_HTN_Comp	History of Complicate, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Hypertension (complicated)	PMH_Elix_HTN_Comp
PMH_Elix_Neuro	History of Other Neurological Disorders, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Other Neurological Disorders	PMH_Elix_Neuro
PMH_Elix_CPD	History of Chronic Pulmonary Disease, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Chronic Pulmonary Disease	PMH_Elix_CPD

PMH_Elix_Diabetes_Uncomp	History of Uncomplicated Diabetes, using Elixhauser Comorbidity Enhanced ICD-9-CM Algorithm	Yes/No	Phenotype: Comorbidity - Diabetes (uncomplicated)	PMH_Elix_Diabetes_Uncomp
PMH_Elix_Diabetes_Comp	History of Complicated Diabetes, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Diabetes (complicated)	PMH_Elix_Diabetes_Comp
PMH_Elix_Renal_Failure	History of Renal Failure, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Renal Failure	PMH_Elix_Renal_Failure
PMH_Elix_Liver_Disease	History of Liver Disease, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Liver Disease	PMH_Elix_Liver_Disease
PMH_Elix_Obesity	History of Obesity (part of Elixhauser Comorbidity Enhanced ICD-9-CM), however will use MPOG to detect	Yes/No	Phenotype: Comorbidity - Obesity	PMH_Elix_Obesity
PMH_Elix_EtOH	History of Alcohol Abuse, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Alcohol Abuse	PMH_Elix_EtOH
PMH_Elix_Drug_Abuse	History of Drug Abuse, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity - Drug Abuse	PMH_Elix_Drug_Abuse

PMH_Elix_Psychoses	History of Psychoses, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity-Psychoses	PMH_Elix_Psychoses
PMH_Elix_Depression	History of Depression, using Elixhauser Comorbidity Enhanced ICD-9-CM and ICD-10 Algorithms	Yes/No	Phenotype: Comorbidity-Depression	PMH_Elix_Depression
MPOG_Height_cm	MPOG processed height in cm via most recent height in cm, or converted from inches if not available	Num	Phenotype: Height (cm)	MPOG_Height_cm
MPOG_Weight_kg	MPOG processed weight in kg via most recent weight in kg, or converted from pounds if not available	Num	Phenotype: Weight (kg)	MPOG_Weight_kg
MPOG_Body_Mass_Index	MPOG BMI calculated from MPOG height and weight	Num	Phenotype: BMI	MPOG_Body_Mass_Index
MPOG_WHO_BMI_Classification_CD	WHO BMI Classification code from MPOG BMI	Num	Phenotype: WHO BMI Classification	MPOG_WHO_BMI_Classification_CD
Baseline_MAP	Baseline Mean Arterial Pressure	Num	Phenotype: Baseline Blood Pressure - Mean	Baseline_MAP
Midazolam	Midazolam given as infusion and bolus; date, time, and dose for each administration in a separate table; total dose for the preop period, total dose for intraop period	Num, Mo/Day/Year HH:MM	MPOG Concept: 10301	Midazolam
Lorazepam	Lorazepam given as infusion and bolus; date, time, and dose for each administration in a separate table; total dose	Num, Mo/Day/Year HH:MM	MPOG Concept: 10272	Lorazepam

	for the preop period, total dose for intraop period			
Diazepam	Diazepam given as infusion and bolus; date, time, and dose for each administration in a separate table; total dose for the preop period, total dose for intraop period	Num, Mo/Day/Year HH:MM	MPOG Concept: 10154	Diazepam
Clonazepam	Clonazepam given as infusion and bolus; date, time, and dose for each administration in a separate table; total dose for the preop period, total dose for intraop period	Num, Mo/Day/Year HH:MM	MPOG Concept: 10700	Clonazepam
Alprazolam	Alprazolam given as infusion and bolus; date, time, and dose for each administration in a separate table; total dose for the preop period, total dose for intraop period	Num, Mo/Day/Year HH:MM	MPOG Concept: 10721	Alprazolam
Fentanyl	Fentanyl as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10186	Fentanyl_YN Fentanyl_inf_max Fentanyl_bolus_total
Remifentanil	Remifentanil as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10390	Remifentanil_YN Remifentanil_inf_max Remifentanil_bolus_total
Sufentanil	Sufentanil as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10414	Sufentanil_YN Sufentanil_inf_max Sufentanil_bolus_total

Alfentanil	Alfentanil as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10020	Alfentanil_YN Alfentanil_inf_max Alfentanil_bolus_total
Methadone	Methadone as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10290	Methadone_YN Methadone_inf_max Methadone_bolus_total
Hydromorphone	Hydromorphone as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10219	Hydromorphone_YN Hydromorphone_inf_max Hydromorphone_bolus_total
Morphine	Morphine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10306	Morphine_YN Morphine_inf_max Morphine_bolus_total
Propofol	Propofol as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10377	Propofol_YN Propofol_inf_max Propofol_bolus_total
Etomidate	Etomidate as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10183	Etomidate_YN Etomidate_inf_max Etomidate_bolus_total
Ketamine	Ketamine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as	Y/N, num for infusion, Num for bolus	MPOG Concept: 10238	Ketamine_YN Ketamine_inf_max Ketamine_bolus_total

	bolus, sum of total bolus doses			
Phenylephrine	Phenylephrine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10354	Phenylephrine_YN Phenylephrine_inf_max Phenylephrine_bolus_total
Norepinephrine	Norepinephrine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10326	Norepinephrine_YN Norepinephrine_inf_max Norepinephrine_bolus_total
Vasopressin	Vasopressin as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10445	Vasopressin_YN Vasopressin_inf_max Vasopressin_bolus_total
Dopamine	Dopamine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10165	Dopamine_YN Dopamine_inf_max Dopamine_bolus_total
Dobutamine	Dobutamine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10162	Dobutamine_YN Dobutamine_inf_max Dobutamine_bolus_total
Epinephrine	Epinephrine as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10176	Epinephrine_YN Epinephrine_inf_max Epinephrine_bolus_total

Isoproterenol	Isoprotere as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10235	Isoproterenol_YN Isoproterenol_inf_max Isoproternol_bolus_total
Milrinone	Milrinone as a Y/N variable; if given as an infusion, max infusion rate for the case; if given as bolus, sum of total bolus doses	Y/N, num for infusion, Num for bolus	MPOG Concept: 10302	Milrinone_YN Milrinone_inf_max Milrinone_bolus_total