

Getting Started: Variable Mapping Utility



Variable Mapping

- The Variable Mapping utility provides sites the ability to map electronic health record (EHR) variables to standardized MPOG concepts.
- This process of standardizing terms across multiple EHRs and across multiple sites allows for common data elements to be used for research or quality improvement purposes.





Variable Mapping

- Once a variable is mapped, source data from the local EHR will always map to the corresponding MPOG concept automatically unless mapping is modified.
- The MPOG Variable Mapping utility simplifies the mapping process by allowing MPOG clinical reviewers to select data variables (source concepts) and match them to corresponding MPOG concepts



Variable Mapping

- Important Note: Institutional data needs to be pulled into the MPOG database before mapping can begin.
- Typically, sites begin mapping with a small amount of data (one day to one week) and then load more data after mapping is started.
- Usually, sites will automate the process of applying mappings after one month of data is loaded and mapped in the database.
- Automatic updates are typically scheduled to occur each night.



Pre-Mapping

- For new **Epic** sites, a select amount of variables will map automatically prior to beginning manual mapping.
- Your site technical team will be asked to run a script to complete the premapping.
- Once the script is run, pre-mapped variables will show as 'green' in the variable mapping utility.

ID	Org	Name	Times Used	Mapped As	Туре	
FLO-40100000	OHSU	Airway Resp Rate	9,472	Respiratory Rate Actual from EtC	Physiolog	\wedge
FLO-40100000	OHSU	ETCO2	9,405	End Tidal CO2 (mmHg)	Physioloc	
FLO-40100000	OHSU	SpO2	9,335	SpO2 %	Physiolog	
FLO-40100000	OHSU	Pulse - Plethysmograph	9,333	Physical Exam - Pulse Rate	Preop	
FLO-40100000	OHSU	Pmean/PAW	9,262	Mean Inspiratory Pressure	Physiolog	
FLO-40100000	OHSU	max Pos Airway P	9,229	Unknown Concept	Meta	
FLO-40100001	OHSU	ETO2	9,216	Oxygen Exp %	Physiolog	
FLO-40100001	OHSU	FIO2	9,216	Oxygen Insp %	Physiolog	
FLO-40100000	OHSU	Heart Rate	9,047	Unknown Concept	Meta	
FLO-40100000	OHSU	PeeP	8,910	Unknown Concept	Meta	
FLO-11200163	OHSU	O2 FR Avance (Total Liters	8,263	Flows Oxygen (L/Min)	Physiolog	
FLO-40100000	OHSU	Circuit O2	8,048	Unknown Concept	Meta	
FLO-40100000	OHSU	Vent Mode	8,048	Ventilator Mode	Physiolog	
FLO-40100000	OHSU	RR freq/Min	7,541	Ventilator Respiratory Rate Actu	Physiolog	
FLO-40100015	OHSU	MV (L/min)	7,519	Minute ventilation	Physiolog	
FLO-40100000	OHSU	Vte	7,496	Tidal Volume actual	Physiolog	
FLO-40100000	OHSU	ST-II	7,357	ST Lead II	Physiolog	
FLO-40100000	OHSU	Vt	6,946	Tidal Volume Set	Physiolog	



Using the Variable Mapper

• Open the MPOG Suite and select "Variable Mapping"



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MULTICENTER PERIOPERATIVE

- The 'Variable Mapping' utility should open and look similar to the image below. The left side of the utility will list your institution (AIMS) variables and the right side will list MPOG concepts available to map to.
- You will also notice five fields within the MPOG Configuration that allow you to filter by category. These include Mapping Type, Instance, Organization, Display Mode, and Search Filter.





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- **Mapping Type:** This is a general mapping category that can be further filtered to subcategories
- **Instance:** This field will be populated with your default database instance (for sites that have more than one IM database).
- **Organization:** This field will be populated with your institutional name.
- Display Mode: This feature allows you to filter by 'All Variables,' 'Unmapped Variables,' 'Mapped Variables,' 'Pre-Mapped Variables,' 'Excluded Variables,' or 'Skipped Variables.'
- Search Filter: This function allows you to search for a specific AIMS variable.
 - Can search by original variable ID using prefix "ID" (example "ID:1448")
 - Can search by the concept ID/name fields by using prefix "mapped:" (example "mapped:propofol")

🥵 MPOG Varia	ble Mapping				_
Mapping Type:				~	
Instance:	MPOG_MAS	~	Organization:	University of Michigan Ann A $$	
Display Mode:	All Variables			~	
Search Filter:					

*There may be additional sites in the dropdown menu for multi-site institutions in which you are assigned (i.e., Henry Ford Detroit, Henry Ford West Bloomfield). For institutions with multiple sites, It is recommended that mapping is completed under the Merged Organization.



- To utilize the category filter option, click on the 'Mapping Type' field. A dropdown menu will appear, and you may select from the various options
- Select from the desired category from the 'Mapping Type' dropdown menu, as shown below

MPOG Varia Mapping Type:	ible Mapping	Ŷ			Imp	- C X
Instance:	Administration Route Administration Type (Inputs/Outputs/Meds)					
Display Mode:	Admission Type Ethnicity		Options:	Auto Search On	A	uto Select On
Search Filter:	Gender Lab Type Observation Detail Type (Event Details)	<u>Help</u>	Search Filter:			
D	Observation Type (Events/Physiologic/Outcomes) Procedure Service Race Staff Type Units of Measurement (Administration)	Туре	Map Unmap Exclude Skip	Name	ID	Туре
			Premappings Export History Examine			

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• In the example below, we have selected the Mapping Type 'Race.'

Mapping Type:	Race			~
Instance:	MPOG_MAS	~	Organization:	University of Michigan Ann A ${\scriptstyle \sim}$
Display Mode:	All Variables			~
Search Filter:				

• Once 'Race' has been selected from the dropdown menu, you will notice a variety of race related variables populate the window below. You may notice variables on the left side of the screen already appear green (mapped) if premapping has been completed.



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- Click the 'Race' variable you wish to map. Once the row has been selected, it will turn blue and a corresponding auto-searched MPOG concept will appear in the 'Description' field on the right side. If several options appear, you can click on one of the bold terms above the MPOG concept window to narrow the search. If the desired concept does not appear, use the search filter on the right side to modify your search.
- In this example, we have selected 'American Indian/Alaska Native.'

of MPGG Van	able Mapping					20	- 0 >		
Mapping Type:	Race				· •		Import Export		
Instance	MPOG_MAS	1	Organization	1: University of Michigan Ann	a				
Display Mode	All Variable	í.			w	Options:	Auto Search On Auto Select On		
Search Filter:					Help	Search Filter:	am		
							U		
ID	Org	Name	Times Used	Mapped As	Туре	Map			
W	University of	w	4,065,168	White	Race		American Indian or Alaska Native 304 Race		
8	University of		401,327	Black	Race				
0	University of I	0.	246,701	Asian or Pacific Islander	Race	Unmap			
н	University of I	н	105,059	Unknown	Race				
A	University of	A	95,157	Asian or Pacific Islander	Race	Exclude			
U	University of I	U	37,987	Unknown	Race		1		
D	University of	0	7,932	Unknown	Race		1		
<no given<="" id="" td=""><td>University of</td><td><no given="" id=""></no></td><td>7,416</td><td>Unknown</td><td>Race</td><td>Skip</td><td></td></no>	University of	<no given="" id=""></no>	7,416	Unknown	Race	Skip			
P	University of I	9	2,961	Asian or Pacific Islander	Race				
1	University of	1	653	Unknown Concept	Meto				
F.	University of	F.	355	Unknown Concept	Meta				
6	University of	6	141	Unknown Concept	Meta				
2	University of 1	2	137	Unknown Concept	Meto	Premappings			
C	University of	c	109	Unknown Concept	Meta	1			
K	University of	ĸ	31	Unknown Concept	Meta	P			
V	University of	V.	7	Unknown Concept	Meto	Export History			
7	University of	7	6	Unknown Concept	Meta	-			
5	University of	5	4	Unknown Concept	Meto	Examine			
3	the second of	1		Haberton Conserved	Make				



- Click the MPOG Variable you wish to map to. This will highlight it in blue.
- Click "Map". Your variable is now mapped to an MPOG Concept and will turn green. You can also map by double clicking the MPOG concept. The "Mapped As" column will be updated to reflect this change

R MPOG Var	iable Mapping	9							- 0 >
Mapping Type	Race				٣	1		Imp	ort Export
Instance:	MPOG_M/	45	Organization	University of Michigan Ann	A -				
Display Mode:	All Variable	es			*	Options:	Auto Search On	A	uto Select On
Search Filter:					Help	Search Filter:	am		
							U		
10	Org	Name	Times Used	Mapped As	Туре	Мар	Name	ID	Туре
W	University of	W	4,065,168	White	Race	L. Mark	American Indian or Alaska Native	304	Race
8	University of	8	401,327	Black	Race				and a second second
0	University of	0	246,701	Asian or Pacific Islander	Race	Unmap			
н	University of	(H)	105,059	Unknown	Race				
A	University of	A	95,157	Asian or Pacific Islander	Race	Exclude			
U	University of	U	37,987	Unknown	Race				
D	University of	D	7,932	Unknown	Race	1000			
<no given<="" id="" td=""><td>University of</td><td><no given="" id=""></no></td><td>7,416</td><td>Unknown</td><td>Race</td><td>Skip</td><td></td><td></td><td></td></no>	University of	<no given="" id=""></no>	7,416	Unknown	Race	Skip			
P	University of	P	2,961	Asian or Pacific Islander	Race				
1	University of	1	653	Unknown Concept	Meta				
F	University of	F	355	Unknown Concept	Meta				
6	University of	6	141	Unknown Concept	Meto				
2	University of	2	137	Unknown Concept	Meta	Premappings			
¢	University of	C	109	Unknown Concept	Meta	-			
K	University of	K	31	Unknown Concept	Meta	a second			
V	University of	V.	7	Unknown Concept	Meto	Export History			
7	University of	7	6	Unknown Concept	Meta	-			
5	University of	5	4	Unknown Concept	Meta	Examine			
	Halostatic al			Haliance Conserved	Aleka .				



• You may also filter by 'Display Mode' to sort the variables and help to focus mapping efforts. The categories are 'All Variables,' 'Pre-Mapped Variables Only,' 'Mapped Variables Only,' 'Unmapped Variables Only,' 'Excluded Variables Only,' and 'Skipped Variables Only.' By selecting from the dropdown menu, only the variables within the selected category will appear.

Mapping Type:	Race			~		
Instance:	MPOG_MAS ~	Organization:	University of Michigan Ann A	~		
Display Mode:	All Variables			~		
Search Filter	All Variables					
Search Finter.	Pre-Mapped Variables Only					
	Mapped Variables Only					
	Unmapped Variables Only					
ID	Excluded Variables Only			pe		
w	Skipped Variables Only					



Additional Functions within Variable Mapping

Examine

 The 'Examine' function allows you to view the Epic variable in greater detail by values from different cases this variable has been documented. This is beneficial when you desire additional context related to the variable you wish to map.

						1
Mapping Type:	Observatio	n Detail Type (Event Detai	ls)		~	
Instance:	MPOG_MA	S ~	Organization	University of Michigan Ann A	~	
Display Mode:	All Variable	s			*	Options:
Search Filter:					Help	Search Filter:
227 8	227		R411 73 68			
ID	Org	Name	Times Used	Mapped As	Туре	Map
3324	University of	Location	1,421,476	Emergence - Patient recovery lo	Intraop N ^	
185	University of	Position	1,193,212	Positioning - Patient position	Intraop N	Unman
3618	University of	Turned	1,186,909	Positioning - Procedure table tu	Intraop N	Ormap
27817	University of	Location	1,101,192	Monitoring - NIBP cuff location	Intraop N	
3185	University of	Arm care	712,783	Positioning - Patient arm positio	Intraop N	Exclude
5064	University of	Preoperative evaluation	697,721	Compliance - Patient identified	Intraop N	
7636	University of	Resp Rate	695,248	Postoperative vital signs - respir	Intraop N	Skip
4000	University of	Name	693,732	Misc - IV access	Intraop N	0.000
3999	University of	Size	693,732	Misc - IV access	Intraop N	
3998	University of	Side	693,732	Misc - IV access	Intraop N	
3996	University of	Туре	693,732	Misc - IV access	Intraop N	
399/	University of	Location	693,732	Misc - IV access	Intraop N	1 and the second
838/	University of	Antibiotic Keason	008,450	Compliance - Prophylactic antib	Intraop N	Premapping
5254	University of	Placed on	048,052	Warming attempts convective	Intraop N	
28451	University of	Temp Setting	648,652	warming attempts convective	Intraop N	Export Histor
3193	University of	Temperature probe	628,269	Monitoring - Temperature probe	Intraop N	and the second of the second second
20422	University of	Depth	582,551	Categorized note - Emergence	Intraop N	
3005	University of	NPO status	560.706	NPO status	Intraop N	Examine

Examine

- Highlight the variable row you wish to examine and click "Examine".
- A window will open containing detailed information related to the selected variable.

		R Variable Details	i below may not be a represe	etative						-	D
C MPGG Yani	ible Mapping	Ornanization(D	ObsDatal Tune ID	ObcDatal Tune Name	CarelD Construe	RedCase ID	ObsDatel Value	ObtaniationTin	e EnteredTime	Obrifiatail Value Code	Obella
Mapping Type	Observation De	orgenzeosno	ouspease the	IT has had	CODE COUSING	wearest"in	Cincia Luman or Had	Geserventer	e. Envered mile	Supremi ane cone	I
				ET Tube Tube			Sincle Jumes of Hed		-		-
nstances	MPOG_MAS			FT Tube Type			single-timen cuffed		-		-
10000	participante companyo			ET Tube Type	12		single-turnen cuffed	-	-		-
splay Model	All Variables		1	FT Tube Tube			single-lumen culled	-	-		-
angh Eilter	-			ET Tube Type	3		single-lumen cuffed		-		+
Early Finder.				ET Tube Type			single-lumen cuffed		-		-
				ET Tube Type	3		single-lumen cuffed	1	-		t-
				ET Tube Type			single-lumen cuffed				-
D	Oro Nar			ET Tube Type	1		single-lumen cuffed	1			-
636	University of Res			ET Tube Type			single-lumen cuffed				-
000	University of Nam			ET Tube Type			single-lumen cuffed				
999	University of Size			ET Tube Type			Single-lumen cuffed				
998	University of Side			ET Tube Type	8		Single-lumen cuffed	8			
996	University of Tupe			ET Tube Type			Single-lumen cuffed				
997	University of Loci			ET Tube Type			Single-lumen cuffed				
387 1	University of Anti			ET Tube Type	8		RAE cuffed	3			
254	University of Plac			ET Tube Type			Single-lumen cuffed	4			
8451	University of Tem			ET Tube Type			single-lumen cuffed				1
193 1	University of Terrs			ET Tube Type			single-lumen cuffed	0			
6422	University of Dep			ET Tube Type	1		UTA	3	S		
005 (University of NPC			ET Tube Type	3		Single-lumen cuffed	3	2 2		1
7219	University of ET T			ET Tube Type	1		Single-lumen cuffed				
7221	University of Tape	<u> </u>		ET Tube Type			Single-lumen cuffed				
7220 1	University of ET T	1X									
9809	University of Eye I	Care	144,217 Positioning - Eye pr	otection d Intraop It	110000000	Fetal Heart	Rate Category	3166 24	ysiologic		
197	University of New	e distribution	402,938 Monitoring - Neuro	muscular bic Intraop 8		Fetal Heart	Rate- Decelerations	3183 Pł	ysiologic		
3820	University of L/M	n	74,362 Airway - Oxygen via	nasal cannu Intraop 1	Examine	Fetal Heart	Rate-Accelerations	3184 24	ysiologic		



Export History

 This function will pull the mapping logs to show which user completed each mapping and when that mapping was completed. It will be exported to your computer as an Excel file.

	Times Used	Mapped As	Туре	Map	Name
ē.	695,248	Postoperative vital signs - respir	Intraop N ^		Intubation Ende
	693,732	Misc - IV access	Intraop N		Intubation Endo
	693,732	Misc - IV access	Intraop N	Unmap	Epidural cathete
	693,732	Misc - IV access	Intraop N		Tracheostomy T
	693,732	Misc - IV access	Intraop N	Exclude	Neuraxial techn
	693,732	Misc - IV access	Intraop N		Vaporizer Settin
Reason	668,456	Compliance - Prophylactic antib	Intraop N		Aldrete Score
ň	648,652	Warming attempts convective	Intraop N	Skip	Confusion Asse
ting	648,652	Warming attempts convective	Intraop N		Patient warming
ure probe	628,269	Monitoring - Temperature probe	Intraop N		Pleth Variability
	582,551	Categorized note - Emergence	Intraop N		Aldrete Score: A
JS	560,706	NPO status	Intraop N		Aldrete Score: F
ize (mm)	471,878	Intubation Endotracheal Tube Si	Intraop N	Premappings	Aldrete Score: C
(cm)	471,379	Intubation Endotracheal Tube Se	Intraop N		Aldrete Score: C
ype	471,325	Intubation Endotracheal Tube Ty	Intraop N	an include	Aldrete Score: S
	444,217	Positioning - Eye protection d	Intraop N	Export History	Fetal Heart Rate
tribution	402,938	Monitoring - Neuromuscular bk	Intraop N		Fetal Heart Rate
	374,362	Airway - Oxygen via nasal cannu	Intraop N	Examine	Fetal Heart Rate
	244.067	Alexand Manhalistics Differ	Internet A		Tidal Mahane Co



Unmap

 The 'Unmap' feature allows you to unmap incorrectly mapped variables at any time.
 Simply select and highlight the variable in the MPOG side and click 'Unmap'. The variable will then turn white.

	Times Used	Mapped As	Туре	Map	Name	ID
	695,248	Postoperative vital signs - respi	ir Intraop N ^	ep	Intubation Endotracheal Tube S	501
	693,732	Misc - IV access	Intraop N		Intubation Endotracheal Tube T	501
	693,732	Misc - IV access	Intraop N	Unmap	Epidural catheter type or brand	501
	693,732	Misc - IV access	Intraop N		Tracheostomy Tube Type	502
	693,732	Misc - IV access	Intraop N	Exclude	Neuraxial technique sterile pres	503
	693,732	Misc - IV access	Intraop N		Vaporizer Setting (%)	306
in (668,456	Compliance - Prophylactic antil	b Intraop N		Aldrete Score	307
	648,652	Warming attempts convectiv	e Intraop N	Skip	Confusion Assessment Method	308
	648,652	Warming attempts convectiv	e Intraop N		Patient warming method - gene	312
be	628,269	Monitoring - Temperature prob	Intraop N		Pleth Variability Index	312
	582,551	Categorized note - Emergence	Intraop N		Aldrete Score: Activity	315
1	560,706	NPO status	Intraop N		Aldrete Score: Respiration	315
n)	471,878	Intubation Endotracheal Tube S	Si Intraop N	Premappings	Aldrete Score: Circulation	315
	471,379	Intubation Endotracheal Tube S	intraop N		Aldrete Score: Consciousness	315
	471,325	Intubation Endotracheal Tube 1	∫ Intraop N		Aldrete Score: SpO2/Oxygenati	316
	444,217	Positioning - Eye protection	d Intraop N	Export History	Fetal Heart Rate Category	316
n	402,938	Monitoring - Neuromuscular bi	Ic Intraop N		Fetal Heart Rate- Decelerations	318
	374,362	Airway - Oxygen via nasal cann	L Intraop N	Examine	Fetal Heart Rate- Accelerations	318-
define.	244.067	Alexander Manallation Pitte	Labora A	Transmine.	Tidal Maluma Cab	210



Exclude

- The 'Exclude' function allows you to exclude selected variables from mapping.
- The Coordinating Center will advise you on which variables are appropriate for exclusion.
- Extreme caution must be applied when excluding variables from mapping, especially within the 'Administration Route' mapping type, as ALL data associated with 'route' will be excluded

	Times Used	Mapped As	Туре	Map	Name	ID
	695,248	Postoperative vital signs - respi	r Intraop N ^	100 FF	Intubation Endotracheal Tube S	501
	693,732	Misc - IV access	Intraop N		Intubation Endotracheal Tube T	501.
	693,732	Misc - IV access	Intraop N	Unmap	Epidural catheter type or brand	501
2	693,732	Misc - IV access	Intraop N		Tracheostomy Tube Type	502
	693,732	Misc - IV access	Intraop N	Exclude	Neuraxial technique sterile pres	503
	693,732	Misc - IV access	Intraop N		Vaporizer Setting (%)	306
in	668,456	Compliance - Prophylactic antib	Intraop N		Aldrete Score	307
	648,652	Warming attempts convective	e Intraop N	Skip	Confusion Assessment Method	308-
	648,652	Warming attempts convective	e Intraop N	2	Patient warming method - gene	312
be	628,269	Monitoring - Temperature prob	e Intraop N		Pleth Variability Index	312
	582,551	Categorized note - Emergence	Intraop N		Aldrete Score: Activity	315
	560,706	NPO status	Intraop N		Aldrete Score: Respiration	315
n)	471,878	Intubation Endotracheal Tube S	i Intraop N	Premappings	Aldrete Score: Circulation	315
	471,379	Intubation Endotracheal Tube S	Intraop N		Aldrete Score: Consciousness	315
	471,325	Intubation Endotracheal Tube T	j Intraop N		Aldrete Score: SpO2/Oxygenati	316
	444,217	Positioning - Eye protection o	d Intraop N	Export History	Fetal Heart Rate Category	316
m	402,938	Monitoring - Neuromuscular bl	c Intraop N		Fetal Heart Rate- Decelerations	318
-	374,362	Airway - Oxygen via nasal canno	u Intraop N	Examine	Fetal Heart Rate- Accelerations	318
100	244.067	ALC: NO ALC: N	Y.		TIMI CA	210



Exclude

- Highlight the variable(s) you wish to exclude from mapping and click "Exclude"
- Excluded variables will turn pink.

Mapping Type:	Observation Detail Type			~
Instance:	MPOG_MAS	~	Organization:	University of Michigan Ann A $$
Display Mode:	Mapped Variables Only			~

						_
ID	Org	Name	Times Used	Mapped As	Туре	
29134	University of	Taped at @	134	Intubation Endotracheal Tube Se	Intraop N	1
47910	University of	Blade/View	129	Intubation view note	Intraop N	
38178	University of	Concerns	124	Airway - Laryngeal Mask Airway	Intraop N	
7758	University of	Stopped indicator	124	Variable Excluded from Import	Meta	
8559	University of	Paresthesia	120	Neuraxial insertion parasthesia y	Intraop N	
8563	University of	Aspiration	118	Neuraxial insertion aspiration of	Intraop N	
15814	University of	Skin Depth	116	Epidural catheter withdrawn to c	Intraop N	
36891	University of	Position Confirmed by	110	Categorized note - Positioning	Intraop N	
15905	University of	Sensory Level	108	Neuraxial technique - Bilateral S	Intraop N	
8570	University of	Test Dose	108	Epidural test dose administered	Intraop N	
8595	University of	Catheter status	106	Epidural anesthesia catheter pla	Intraop N	
40011	University of	Type of Medication	92	Misc – Medication Free Text Entr	Intraop N	
47914	University of	Cricoid Pressure	89	Intubation - cricoid pressure app	Intraop N	
36542	University of	Nurse's Name	86	Variable Excluded from Import	Meta	
36543	University of	Pain Score	86	Pain Score (Generic)	Physiolog	
36544	University of	Repositioned	86	Positioning - Patient position	Intraop N	
44130	University of	Motor Blockade	82	Regional - Motor response to st	Intraop N	
5976	University of	Attempts	82	Neuraxial technique number of	Intraop N	
26569	University of	Soncon Loud	00	Neurovial technique Rilatoral C	Intraon N	1

Skipped Variables

- The 'Skip' function allows you to skip a variable that you are purposefully leaving unmapped.
 - Examples of variables to be marked 'Skipped'
 - Variables that MPOG does not have a concept for
 - Variables that you have reviewed and determined that they do not need to be mapped at this time

	Times Used	Mapped As	Туре	Map	Name
	695,248	Postoperative vital signs - respir	Intraop N ^		Intuba
	693,732	Misc - IV access	Intraop N		Intuba
	693,732	Misc - IV access	Intraop N	Unmap	Epidur
	693,732	Misc - IV access	Intraop N		Trache
	693,732	Misc - IV access	Intraop N	Exclude	Neura
	693,732	Misc - IV access	Intraop N		Vapori
n	668,456	Compliance - Prophylactic antib	Intraop N		Aldret
	648,652	Warming attempts convective	Intraop N	Skip	Confu
	648,652	Warming attempts convective	Intraop N		Patien
be	628,269	Monitoring - Temperature probe	Intraop N		Pleth \
	582,551	Categorized note - Emergence	Intraop N		Aldret
	560,706	NPO status	Intraop N		Aldret
n)	471,878	Intubation Endotracheal Tube Si	Intraop N	Premappings	Aldret
	471,379	Intubation Endotracheal Tube Se	Intraop N		Aldret
-	471,325	Intubation Endotracheal Tube Ty	Intraop N		Aldret
	444,217	Positioning - Eye protection d	Intraop N	Export History	Fetal H
n	402,938	Monitoring - Neuromuscular blc	Intraop N		Fetal H
	374,362	Airway - Oxygen via nasal cannu	Intraop N	Examine	Fetal H
1.11	244067	ALL AND ALL DOT	V		T-1.13

	Name	ID	
0 I.	Intubation Endotracheal Tube S	501	
	Intubation Endotracheal Tube T		
ар	Epidural catheter type or brand		
	Tracheostomy Tube Type		
de	Neuraxial technique sterile pres		
	Vaporizer Setting (%)	306	
,	Aldrete Score		
	Confusion Assessment Method	308	
	Patient warming method - gene	312	
	Pleth Variability Index	312	
	Aldrete Score: Activity	315-	
	Aldrete Score: Respiration	315	
pings	Aldrete Score: Circulation		
	Aldrete Score: Consciousness	315	
	Aldrete Score: SpO2/Oxygenati	316	
istory	Fetal Heart Rate Category	316	
	Fetal Heart Rate- Decelerations	318	
ine	Fetal Heart Rate- Accelerations	318	
	Tidal Mahana Cat	210	



Epic Sites Only: Pre-Mapped Variables

- Epic sites use similar AIMS IDs (variable IDs), which can be mapped to the same concept. Once per year, MPOG will review the common Epic AIMS IDs and update the pre-mapping for these variables.
- New sites: Pre-mapping is applied before the site begins variable mapping.
- **Existing sites:** Can review the latest update to pre-mappings and adopt as appropriate for their site
- Click on the 'Pre-mappings' button at the bottom middle of the Variable Mapping tool to either accept or reject recommended mappings.
- Choose the 'Pre-Mappings Only' Display Mode to review those variables that have already been pre-mapped

	Times Used	Mapped As	Туре	Map	Name	ID
	695,248	Postoperative vital signs - respi	r Intraop N ^		Intubation Endotracheal Tube S	501
	693,732	Misc - IV access	Intraop N		Intubation Endotracheal Tube T	501
	693,732	Misc - IV access	Intraop N	Unmap	Epidural catheter type or brand	501
	693,732	Misc - IV access	Intraop N		Tracheostomy Tube Type	502
	693,732	Misc - IV access	Intraop N	Exclude	Neuraxial technique sterile pres	503
	693,732	Misc - IV access	Intraop N		Vaporizer Setting (%)	306
n)	668,456	Compliance - Prophylactic antil	b Intraop N	P	Aldrete Score	307
	648,652	Warming attempts convectiv	e Intraop N	Skip	Confusion Assessment Method	308
	648,652	Warming attempts convectiv	e Intraop N		Patient warming method - gene	312
e	628,269	Monitoring - Temperature prob	fintraop N		Pleth Variability Index	312
	582,551	Categorized note - Emergence	Intraop N		Aldrete Score: Activity	315
	560,706	NPO status	Intraop N		Aldrete Score: Respiration	315
)	471,878	Intubation Endotracheal Tube S	i Intraop N	Premappings	Aldrete Score: Circulation	315
	471,379	Intubation Endotracheal Tube S	intraop N		Aldrete Score: Consciousness	315
	471,325	Intubation Endotracheal Tube T	j Intraop N		Aldrete Score: SpO2/Oxygenati	316
	444,217	Positioning - Eye protection	d Intraop N	Export History	Fetal Heart Rate Category	316
ю;	402,938	Monitoring - Neuromuscular bi	k Intraop N		Fetal Heart Rate- Decelerations	318
	374,362	Airway - Oxygen via nasal cann	u Intraop N	Examine	Fetal Heart Rate- Accelerations	318
	244.007	A		CONTROL OF ADDRESS	T 1 134 1	210



Category Exclusion Rules

Can Exclude	Do Not Exclude
Administration Type	Administration Route
Observation Type	Units of Administration
Observation Type Detail	Room Type
Lab Type	Procedure Type



Auto Search

• While auto search is ON, the variable name that is selected on the left-hand side will auto populate in the search filter on the right side. Clicking the auto search button will turn this function OFF and will not auto populate the search filter.

eg MPOG Ver	iable Mapping								- 13 >
Mapping Type	Observatio	n Detail Type (Event Deta	els)					Impo	ort Esport
Instance:	MPOG_MA	S -	Organization	University of Michigan Ann A					
Display Mode:	Unmapped	Variables Only			*	Options:	Auto Search On	Au	ito Select On
Search Filter:	1				Help	Search Filter:	way interpretation	kak.	
							XRay interpretation		
ID	Org	Name	Times Used	Mapped As	Туре	Map	Name	ID	Туре
51812	University of	Position	3,206	Unknown Concept	Meta		Studies - Stress Test Interpretation	70267	Preop
47925	University of	Nasal Side	3,173	Unknown Concept	Meta	100000	Studies - LV Ejection Fraction Inter	70270	Preop
22953	University of	Starting Level	2,549	Unknown Concept	Meto	Unmap	Studies - Stress Test Inducible Isch	70271	Preop
26491	University of	Amount ppm	2,483	Unknown Concept	Meta		Studies - Cath Interpretation	70401	Preop
22954	University of	Ending Level	2,483	Unknown Concept	Meta	Exclude	Studies - C/R Interpretation	70403	Preop
22955	University of	Ultrafilt/ate	2,466	Unknown Concept	Meta		Studies - ECHO Interpretation	70405	Preop
22956	University of	Volume Added	2,463	Unknown Concept	Meta		Studies - EKG Interpretation	70407	Preop
43890	University of	mi's left in syringe	2,402	Unknown Concept	Meto	Skip	Studies - Labs Interpretation	70408	Preop
36307	University of	Yes/No	2,198	Unknown Concept	Meto		Studies - Other Interpretation	70410	Preop
44314	University of	Lidocaine Amount	2,142	Unknown Concept	Meta		Studies - PFT Interpretation	70412	Preop
48721	University of	Area	1,953	Unknown Concept	Meta				
47277	University of	Phase of Care	1,468	Unknown Concept	Meta				
47278	University of	Event Type	1,438	Unknown Concept	Meta	Premappings			
3573	University of	XRay interpretation	1,412	Unknown Concept	Meta				
43717	University of	Sacral Coverage	1,229	Unknown Concept	Meta	in the second			
53293	University of	Hemodynamic Stability	1,200	Unknown Concept	Meta	Export History			
53294	University of	Admit Type	1,200	Unknown Concept	Meta				
53292	University of	Expected Airway	1,200	Unknown Concept	Meta	Examine			
43308	Maria and	BAP11 BL	4.566	Dalara Canant	Ad	- I.			



Auto Select

 After mapping a variable on the left-hand side, having auto select ON will automatically jump to the next variable. To turn this function OFF, click the "auto select" button.

eg MPOG Var	uble Mapping	1							- 0 ×
Mapping Type:	Observatio	on Detail Type (Event Deta	85)					Impo	ort Export
Instance:	MPOG_MA	us	Organization	University of Michigan Ann A				-1	#5F78
Display Mode:	Unmapped	d Variables Only			w.	Options	Auto Search On	A	uto Select On
Search Filter:					Help	Search Filter:	way interpretation		
							XRay interpretation		
ID	Org	Name	Times Used	Mapped As	Type	Map	Name	ID	Type
51812	University of	Position	3.206	Unknown Concept	Meta		Studies - Stress Test Interpretation	70267	Preop
47925	University of	Nasal Side	3,173	Unknown Concept	Meta	10000	Studies - LV Ejection Fraction Inter	70270	Preop
22953	University of	Starting Level	2,549	Unknown Concept	Meta	Unmap	Studies - Stress Test Inducible Isch-	70271	Preop
26491	University of	Amount ppm	2,483	Unknown Concept	Meta		Studies - Cath Interpretation	70401	Preop
22954	University of	Ending Level	2,483	Unknown Concept	Mets	Exclude	Studies - CXR Interpretation	70403	Preop
22955	University of	Ultrafiltrate	2,466	Unknown Concept	Meta		Studies - ECHO Interpretation	70405	Preop
22956	University of	Volume Added	2,463	Unknown Concept	Meta	1.000	Studies - EKS Interpretation	70407	Preap
43890	University of	mi's left in syringe	2,402	Unknown Concept	Meta	Skip	Studies - Labs Interpretation	70408	Preop
36307	University of	Yes/No	2,196	Unknown Concept	Meta	1	Studies - Other Hiterpretation	70410	Preop
44314	University of	Lidocaine Amount	2,142	Unknown Concept	Meta		Studies - PFT Interpretation	70412	Preop
48721	University of	Area	1,953	Unknown Concept	Meta				
47277	University of	Phase of Care	1,468	Unknown Concept	Meta				
47278	University of	Event Type	1,438	Unknown Concept	Meta	Premappings			
3573	University of	XRay interpretation	1,412	Unknown Concept	Meto	-			
43717	University of	Sacral Coverage	1,229	Unknown Concept	Meta	and a set of			
53293	University of	Hemodynamic Stability	1,200	Unknown Concept	Meto	Export History			
53294	University of	Admit Type	1,200	Unknown Concept	Meto				
53292	University of	Expected Ainway	1,200	Unknown Concept	Meta	Examine			
£550+	the course	BAFAL News	1.500	Haberry Presses	Ad	The second se			

Export

• You can export all variables and their mappings to an Excel spreadsheet through the export button

Aapping Type: nstance:	MPOG_MAS	Organization	• University of Michigan Ann A			a <u>i</u>	Impor	rt Exp
isplay Mode: earch Filter:	All Variables			Help	Options: Search Filter:	Auto Search On	Aut	o Select On
D	Org Name	Times Used	Mapped As	Туре	Мар	Name	ID	Type
					Unmap			
					1000			
					Ciclude			
					Skip			
					Skip			
					Skip			

Tips for Mapping Success

- Focus on mapping variables with high row counts ('Times Used').
- Once you have mapped the majority of high row count variables, you can begin to focus your attention to mapping the lower row count variables that may be relevant for anesthesia research or quality purposes.

			\frown	
ID	Org	Name	Times Used	Mapped As
1600000310	University of	Heart Rate Source	14,656	Unknown Concept
40877	University of	Perfus Stockert Air Needl	13,003	Unknown Concept
40876	University of	Perfus Stockert Air Needl	13,003	Unknown Concept
40886	University of	Perfus Stockert CP RPM	13,003	Unknown Concept
40890	University of	Perfus Stockert LV Vent(n	13,002	Unknown Concept
40895	University of	Perfus Stockert Pump Suc	13,002	Unknown Concept
40889	University of	Perfus Stockert LV Vent R	13,002	Unknown Concept
40894	University of	Perfus Stockert Pump Su	13,002	Unknown Concept
16011780	University of	BP Method	10,304	Unknown Concept
3040103232	University of	Pulse Oximetry Type	9,689	Unknown Concept



• Utilizing the MPOG Concept Browser utility will facilitate efficient identification of corresponding MPOG concepts. Please reference the Module: Getting Started-Concept Browser for more information

Concept Browser Please select a concept type and query string Concept type [All concept types] Query string propofol Count Mode Concept occurrences * Hide inactive concepts Submit

ID	Concept Name	Concept Type	# of Occurrences
10377	PROPOFOL	Intraoperative Medications (Administered Mixtures)	16,421,111
10378	PROPOFOL W/ REMIFENTANIL 10 MG/ML + 5 MCG/ML	Intraoperative Medications (Administered Mixtures)	24
10453	PROPOFOL W/ KETAMINE 10 MG/ML + 1 MG/ML	Intraoperative Medications (Administered Mixtures)	6,60
10572	PROPOFOL W/ KETAMINE 10MG/ML + UNSPECIFIED KETAMINE	Intraoperative Medications (Administered Mixtures)	34.
10577	PROPOFOL W/ KETAMINE 10 MG/ML + 0.5 MG/ML	Intraoperative Medications (Administered Mixtures)	1,14
10578	PROPOFOL W/ KETAMINE 10 MG/ML + 1.5 MG/ML	Intraoperative Medications (Administered Mixtures)	2
10579	PROPOFOL W/ KETAMINE 10 MG/ML + 2 MG/ML	Intraoperative Medications (Administered Mixtures)	71
10597	PROPOFOL W/ ALFENTANIL 10 MG/ML + 50 MCG/ML	Intraoperative Medications (Administered Mixtures)	86



Groups to Map First

DO NOT EXCLUDE IN ANY OF THESE CATEGORIES

- Race
- Gender
- Ethnicity
- Procedure Service
- Admission Type
- Staff Type



Groups to Map Last

- Lab Type
 - Map variables that are important to surgical/anesthesia care i.e. Hgb/Hct/Creatinine/Troponin/Glucose. Focus on mapping labs that MPOG has concepts for an exclude the rest
- Administration Type
 - This category includes IN's and OUT's such as fluids, medications, blood products, EBL and urine output.
 - Exclude "volume (mL)" medication variables.
 - **Exclude all physiologic and gas flow variables from this mapping group



Groups to Map Last

- Administration Route
 - Do Not Exclude in this category map unspecified concepts to "Other"
- Units of Measurement Administration
 - Do not exclude in this category leave those variables without a corresponding MPOG concept unmapped or mark as 'Skipped'
- Observation Detail Type
 - These are observation Details. Map Observation Type first.
- Observation Type (procedure notes)



Contact: support@mpog.zendesk.com

Variable Type Mapping Guide- EPIC Sites Only

Variable Type	Description	Notes
LEV-* variables	Timed Event Notes	Most reliable when looking for timing of events (i.e. intubation/extubation)
EAP/HLX-* variables	Procedure Note Documentation	Provides the details associated with a procedure: size, number of attempts etc. Observed time is not always populated. If no time associated with EAP/HLX note, map related LEV note as well.



Variable Type Mapping Guide - EPIC Sites Only

Variable Type	Description	Notes	
FLO-* variables	Data from flowsheet	Data from flowsheet. LDA documentation corresponding to placement, removal etc. Usually duplicate doc	
CT-* variables	Case Tracking Variables	Exclude these if multiple variables show for event times. *If you do not have an LEV variable for a certain concept you will need to include the CT variable.	
AT-* variables	Attestations	Exclude or leave unmapped	



Variable Mapping Tips

- For key anesthesia events such as ETT/LMA placement, extubation, arterial/central line placement, regional and neuraxial block notes: Prioritize LEV/HLX/EAP variables for mapping
 - Exclude FLO variables associated with these concepts <u>if</u> both an HLX/EAP and LEV variable exists.
- If duplicate variables exist for critical times such as anesthesia start/end, surgery start/end, In room times, etc.:
 - Consider excluding CT variables (typically nursing documentation). If there are only nursing (CT) variables, keep them and map (Phase I, Phase II in/out times, etc.).
 - <u>Bottom line</u>: Anesthesia documentation is preferred but adopt nursing documentation if anesthesia documentation is not available for critical times/events.



How Mapping Translates to MPOG Case Viewer

The 'type' of MPOG concept you map to an AIMS variable will determine where the data within that variable will display in Case Viewer.

- Those mapped to 'Physiologic' and 'Intraop Note' type concepts will populate in the **Chart** section of case viewer
- Those mapped to 'Preop' type concepts will populate in the H&P section of case viewer
- Those mapped to 'Outcomes' type concepts will populate in the **Outcomes** section of case viewer

Name	ID	Туре
BP Combined Invasive Unspecified Site 3	3706	Physiologic
BP Combined Aorta	3707	Physiologic
BP Combined Invasive Unspecified Site 5	3708	Physiologic
Unmapped Intraoperative Note Concept	50000	Intraop Notes
AACD Time Room Ready Date/Time	50001	Intraop Notes
AACD Anesthesia Start Date/Time	50002	Intraop Notes
Respiratory - Oral steroids required	71230	Preop
Respiratory - Prior intubation for pulmonary f	71235	Preop
Respiratory - Most recent exacerbation (Date)	71240	Preop
Unmapped Outcome Concept	90000	Outcomes
Intraoperative observed quality assurance eve	90001	Outcomes
Postoperative visit patient pain score	90002	Outcomes

