4 June 2025

MHS GENESIS Surgery Tables for the MHS Data Repository (MDR) (Version 1.04)

Future Specification

Revision History

Version	Date	Originator	Para/Tbl/Fig	Description of Change
1.00.00	9/1/2019	Casey Kangas	Initial Document	• Initial Document
1.00.01	4/7/2020	Casey Kangas	Table 6	• Added the Case Complete Indicator field
1.00.02	2/22/2021	Casey Kangas	Table 8	• Added the CPT field
1.01.00	4/19/2023	Casey Kangas	Table 6	• Added BDE 3.0 feed logic
1.02.00	10/29/2024	Casey Kangas	Table 4	• Removed BDE 2.4 logic • Renamed several fields and updated formats
1.03.00	1/14/2025	Wendy Funk	Table 1	• Added T5 regions. Removed requirement for T3 regions and MSMA.
1.04.00	06/4/2025	Casey Kangas	Table 4	• Added the Number of Procedures field

MDR GENESIS Surgery Tables

I. BACKGROUND

This specification describes the transformation process required to create the Military Health System (MHS) Data Repository (MDR) GENESIS Surgery tables based on data received from the Oracle Bulk Data Extract (BDE 3.0) feeds to Redshift.

II. SOURCE

The source system is the MHS GENESIS Oracle Millennium database.

III. RAW

Records in the MDR GENESIS Surgery tables are primarily based on data pulled from the MIP Redshift genesis_vw.surgical_case view. To increase the utility of this file, variables from other MDR tables in the following subject areas have been added: Encounter, Person, Personnel, and Location. Additionally, variables from the DEERS LVM, Omni-CAD, and DMIS ID Index tables have been added. Table 1 provides a listing of raw Redshift views that are used during the creation of the MDR GENESIS Surgery tables.

Table 1: MIP Redshift Raw Source Views

Raw Source Table	View Name	Description
Surgical Cases	genesis_vw.surgical_case	Contains surgical case level data.
Surgical Procedures	genesis_vw.surg_case_procedure	Contains surgical procedure level data. There can be multiple procedures that occur during a given case.
Surgical Case Times	genesis_vw.case_times	Contains timestamp values related to the case (ex. Surgery Start Time, Patient In/Out of Room Time, etc.)
Case Attendance	genesis_vw.case_attendance	Contains information about all people present in the operating room during a surgical case, including the role being performed.
Surgical Delays	genesis_vw.surgical_delay	Contains entries documented in the Intraoperative Record associated with surgical delays.
Case Cart	genesis_vw.case_cart_pick_list	Contains all the items on a case cart pick list, including requested qty, fill qty, used qty, returned qty, wasted qty, and charge qty.

IV. TRANSMISSION FREQUENCY

The MDR GENESIS Surgery tables are updated weekly.

V. ORGANIZATION

Output products: The MDR Genesis Surgery processor outputs several SAS data sets containing all years of surgical cases recorded in MHS GENESIS. The processor performs merges and field derivations and must incorporate updates to surgical case records across raw data extracts. Table 2 contains the location and name of the output products. The preparation of the output is described in subsequent sections of this document.

Table 2: MDR GENESIS Surgery Processor Output Products

MDR Surgery Processor Outputs	MDR Location	Table Name
MDR Surgery	/mdr/pub/genesis3/surgery/	surgery.sas7bdat
MDR Surgery Case Attendance	/mdr/pub/genesis3/surgery/	case_attendance.sas7bdat
MDR Surgery Cancels	/mdr/pub/genesis3/surgery/	cancels.sas7bdat
MDR Surgery Delays	/mdr/pub/genesis3/surgery/	delays.sas7bdat
MDR Surgical Case Cart Pick List	/mdr/pub/genesis3/surgery/	case_cart.sas7bdat

Archival of files is also required, so that corresponding “apub” and other processing files (i.e. log, aprod, etc) are also loaded into the MDR according to routine operating procedures.

VI. RECEIVING FILTERS

Surgery records are kept based on the following logic criteria:

- Surgery Start Date is greater than 2/1/2017.
- Cases with a Cancel Date greater than 2/1/2017 are diverted to the Cancels table.
- Test patients are excluded.

VII. UPDATE PROCESS

Raw BDE feeds from Oracle are sent to MIP Redshift, and the Redshift views (ex. genesis_vw.surgical_case) are updated daily. New and updated records are sent each day. New records are added to the existing table. Updated records replace the original record in the table based on the SURG_CASE_ID field, which is the primary key for the Surgical Case view. Similar processes are applied to the other raw supporting views within Redshift.

Once the raw data has been updated, the MDR processes it into the analytic table as described in this specification and assigns many other internally derived variables as described in Table 4.

VIII. FIELD TRANSFORMATIONS AND MDR MERGES

This section of this functional specification describes data merges that are necessary to append fields in the MDR GENESIS Surgery table. Table 3 lists additional MDR tables that are used in processing. Table 4 lists in detail all the fields added from these merges as well as any additional transformation rules.

Table 3: MDR Table Merges for MDR GENESIS Surgery Table

Merge	Date Matching	Additional Matching Methodology
MDR GENESIS Person Table	N/A	PERSON_ID
MDR GENESIS Personnel Table	N/A	SURGEON_PRSNL_ID = PRSNL_ID; ANESTH_PRSNL_ID = PRSNL_ID
MDR GENESIS Location Table	N/A	CURRENT_LOC
MDR GENESIS Encounter	surg_start_dt = visit_dt	ENCNTR_ID
Master Person Index (MPI)	N/A	EDIPN
Longitudinal VM6 (LVM6)	Surgery Start Date between the begin and end dates associated with the segment	EDIPN
DMISID Index	Surgery Start Date	DENRSITE
Omni-CAD	Surgery Start Date	PATZIP Sponsor Service

IX. File Layout

The MDR GENESIS Surgery table is stored as a SAS data set. Table 4 provides the file layout and transformation rules for the Surgery table. Tables 5-8 provide the file layouts for the related supporting tables that can be joined back to the Surgery table on the Surgical Case ID.

Table 4: Fields in the MDR GENESIS Surgery table

Field	Format	SAS Field Name	Source Element	Transformation
Fields from surg_case_procedure				
Surgical Case ID	N(8)	surg_case_id	surg_case_id	No transformation
Surgical Procedure ID	N(8)	surg_case_proc_id	surg_case_proc_id	No transformation
Scheduled Procedure	$100	sched_procedure	sched_surg_proc_cd	Join to code_value table where sched_surg_proc_cd matches the code_value and code_set = 200 and active_ind = 1 and retrieve display.
Procedure	$100	procedure	surg_proc_cd	Join to code_value table where sched_surg_proc_cd matches the code_value and code_set = 200 and active_ind = 1 and retrieve display.
Order ID	N(8)	order_id	order_id	No transformation.
Scheduled Primary Procedure Indicator	N(8)	sched_primary_proc_ind	sched_primary_ind	No transformation.
Primary Procedure Indicator	N(8)	primary_proc_ind	primary_proc_ind	No transformation.
Scheduled Anesthesia Type	$40	sched_anesthesia_type	sched_anesth_type_cd	Join to code_value table where sched_anesth_type_cd matches the code_value and code_set = 10050 and active_ind = 1 and retrieve display.
Anesthesia Type	$40	anesthesia_type	anesth_type_cd	Join to code_value table where sched_anesth_type_cd matches the code_value and code_set = 10050 and active_ind = 1 and retrieve display.
Surgeon Specialty of Procedure	$100	proc_surgeon_specialty	surg_specialty_id	Join to prsnl_group table where surg_specialty_id matches the prsnl_group_id and active_ind = 1 and retrieve prsnl_group_name.
Procedure Start Datetime	N(8)	proc_start_dt_tm	proc_start_dt_tm	Converted to local time.
Procedure Stop Datetime	N(8)	proc_stop_dt_tm	proc_end_dt_tm	Converted to local time.
Wound Class Procedure Level	$22	wound_class_proc	wound_class_cd	Join to code_value table where wound_class_cd matches the code_value and code_set = 10038 and active_ind = 1 and retrieve display.

Field	Format	SAS Field Name	Source Element	Transformation
Scheduled Procedure Count	N(8)	sched_proc_cnt	sched_proc_cnt	No transformation.
Scheduled Primary Surgeon ID	N(8)	sched_primary_surgeon_id	sched_primary_surgeon_id	No transformation.
Scheduled Blood Product Required Indicator	N(8)	sched_blood_product_req_ind	sched_blood_product_req_ind	No transformation.
Scheduled Frozen Section Required Indicator	N(8)	sched_frozen_section_req_ind	sched_frozen_section_req_ind	No transformation.
Scheduled Specimen Required Indicator	N(8)	sched_specimen_req_ind	sched_spec_req_ind	No transformation.
Scheduled Xray Req Indicator	N(8)	sched_xray_req_ind	sched_xray_ind	No transformation.
Scheduled Xray Tech Required Indicator	N(8)	sched_xray_tech_req_ind	sched_xray_tech_ind	No transformation.
Scheduled Implant Required Indicator	N(8)	sched_implant_req_ind	sched_implant_ind	No transformation.
Scheduled Procedure Duration	N(8)	sched_proc_duration	sched_dur	No transformation.
Procedure Text	$255	proc_txt	proc_text	No transformation.
Scheduled Modifier Text	$255	sched_modifier_txt	sched_modifier	No transformation.
Modifier Text	$255	modifier_txt	modifier	No transformation.
Procedure Complete Indicator	N(8)	complete_ind	proc_complete_qty	No transformation.
Perioperative Document Type	$40	perioperative_doc_type	perioperative_document .doc_type_cd	Join to code_value table where sched_surg_proc_cd matches the code_value and code_set = 14258 and active_ind = 1 and retrieve description.
Primary Surgeon ID – Procedure	N(8)	proc_surgeon_id	primary_surgeon_id	No transformation.
Concurrent Indicator	N(8)	concurrent_ind	concurrent_ind	No transformation.
Fields from surgical_case				
Surgical Case Number	$100	surgical_case_nbr_formatted	surg_case_nbr_formatted	No transformation.
Encounter ID	N(8)	encntr_id	encntr_id	No transformation.
Case Complete Indicator	N(8)	case_complete_ind	surg_complete_qty	No transformation.
MHS GENESIS Person ID	N(8)	person_id	person_id	No transformation

Field	Format	SAS Field Name	Source Element	Transformation
Scheduled Priority	$40	sched_priority	sched_type_cd	Join to code_value table where sched_type_cd matches the code_value and code_set = 1304 and active_ind = 1 and retrieve display.
Case Level	$20	case_level	case_level_cd	Join to code_value table where case_level_cd matches the code_value and code_set = 10036 and active_ind = 1 and retrieve display.
Department	$40	dept	dept_cd	Join to code_value table where dept_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Scheduled Surgical Area	$40	sched_surgical_area	sched_surg_area_cd	Join to code_value table where sched_surg_area_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Surgical Area	$40	surgical_area	surg_area_cd	Join to code_value table where surg_area_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Scheduled Operating Room (OR)	$40	sched_or	sched_op_loc_cd	Join to code_value table where sched_op_loc_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Operating Room (OR)	$40	operating_room	surg_op_loc_cd	Join to code_value table where surg_op_loc_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
MHS GENESIS Primary Surgeon ID	N(8)	primary_surgeon_id	surgeon_prsnl_id	No transformation.
MHS GENESIS Anesthesiologist ID	N(8)	anesthesia_prsnl	anesth_prsnl_id	No transformation.
Surgeon Specialty of Case	$100	case_surgeon_specialty	surg_specialty_id	Join to prsnl_group table where surg_specialty_id matches the prsnl_group_id and active_ind = 1 and retrieve prsnl_group_name.
ASA Class	$20	asa_class	asa_class_cd	Join to code_value table where sched_surg_proc_cd matches the code_value and code_set = 10051 and active_ind = 1 and retrieve display.
Add On Indicator	N(8)	add_on_ind	add_on_ind	No transformation.
Wound Class Case Level	$22	wound_class_case	wound_class_cd	Join to code_value table where wound_class_cd matches the code_value and code_set = 10038 and active_ind = 1 and retrieve display.
Institution	$40	institution	inst_cd	Join to code_value table where inst_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Scheduled Start Datetime	N(8)	sched_start_dt_tm	sched_start_dt_tm	Converted to local time.

Field	Format	SAS Field Name	Source Element	Transformation
Surgery Start Datetime	N(8)	start_dt_tm	surg_start_dt_tm	Converted to local time.
Surgery Stop Datetime	N(8)	stop_dt_tm	surg_stop_dt_tm	Converted to local time.
Check In Datetime	N(8)	check_in_dt_tm	checkin_dt_tm	Converted to local time.
Case Cancellation Datetime	N(8)	cancel_dt_tm	cancel_dt_tm	Converted to local time.
Fields from case_times				
Patient In O.R. Datetime	N(8)	patient_in_or_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667192 and retrieve case_time_dt_tm converted to local time.
Patient Out O.R. Datetime	N(8)	patient_out_or_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667193 and retrieve case_time_dt_tm converted to local time.
Patient In PACU Datetime	N(8)	patient_in_pacu_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 683707 and retrieve case_time_dt_tm converted to local time.
Patient Out of PACU Datetime	N(8)	patient_out_pacu_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 684130 and retrieve case_time_dt_tm converted to local time.
Patient In SDS Recovery Unit Datetime	N(8)	patient_in_pacu_ii_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 683713 and retrieve case_time_dt_tm converted to local time.
Patient Out of SDS Recovery Unit Datetime	N(8)	patient_out_pacu_ii_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 683711 and retrieve case_time_dt_tm converted to local time.
Scheduled Stop Datetime	N(8)	sched_stop_dt_tm	case_time_dt_tm	Add sched_duration (in minutes) to sched_start_dt_tm.
Patient In Preop Area Datetime	N(8)	in_preop_holding_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 683697 and retrieve case_time_dt_tm converted to local time.
Patient Out of Preop Area Datetime	N(8)	out_preop_holding_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 683699 and retrieve case_time_dt_tm converted to local time.
Anesthesia Prep Start Datetime	N(8)	anesthesia_start_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667195 and retrieve case_time_dt_tm converted to local time.
O.R. Setup Datetime	N(8)	or_setup_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667189 and retrieve case_time_dt_tm converted to local time.

Field	Format	SAS Field Name	Source Element	Transformation
O.R. Ready Datetime	N(8)	or_ready_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667190 and retrieve case_time_dt_tm converted to local time.
Anesthesia Begin Datetime	N(8)	anesth_induction_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667195 and retrieve case_time_dt_tm converted to local time.
Surgeon Arrival Datetime	N(8)	surgeon_in_room_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667484 and retrieve case_time_dt_tm converted to local time.
Patient Ready Datetime	N(8)	ready_for_surgeon_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 684127 and retrieve case_time_dt_tm converted to local time.
Closing Start Datetime	N(8)	closing_start_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 683692 and retrieve case_time_dt_tm converted to local time.
Anesthesia End Datetime	N(8)	anesthesia_stop_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667196 and retrieve case_time_dt_tm converted to local time.
Anesthesia Provider Stop Datetime	N(8)	anesth_prov_stop_dt_tm	case_time_dt_tm	Join to case_times on surg_case_id where task_assay_cd = 667194 and retrieve case_time_dt_tm converted to local time.
MDR GENESIS Person				
EDIPN	$10.	edipn	alias	Join to person_alias on person_id where person_alias_type_cd = 22.
Patient SSN	$9.	patssn	alias	Join to person_alias on person_id where person_alias_type_cd = 18.
MRN	$40.	mrn	alias	Join to person_alias on person_id where person_alias_type_cd = 10.
Gender of Record	$10.	gender_r	sex_cd	Join to code_value table where sex_cd matches the code_value and code_set = 57 and active_ind = 1 and retrieve display.
Birth Date Time	N(8)	dob_r	birth_dt_tm	No transformation.
Race of Record	$41.	race_r	race_cd	Join to code_value table where race_cd matches the code_value and code_set = 282 and active_ind = 1 and retrieve display.
Ethnic Group of Record	$1.	ethnic_r	ethnic_grp_cd	Join to code_value table where ethnic_grp_cd matches the code_value and code_set = 27 and active_ind = 1 and retrieve display.

Field	Format	SAS Field Name	Source Element	Transformation
Marital Status of Record	$20.	marital_r	marital_type_cd	Join to code_value table where marital_type_cd matches the code_value and code_set = 38 and active_ind = 1 and retrieve display.
MDR GENESIS Location				
Treatment MTF	$4	mtf	institution	substring(institution,1,4)
MEPRS Code	$4	meprs_cd	code_value	Join to code_value_outbound where code_set = 220 and contributor_source_cd = 108418263
Clinic ZIP Code	$5	clinzip	N/A	No transformation.
Unit Description	$100	unit_name	description	Join to genesis_vw.code_value on loc_nurse_unit_cd = code_value and code_set = 220
Nurse Unit Location Code (NULC)	$45	unit_display	display	Join to genesis_vw.code_value on loc_nurse_unit_cd = code_value and code_set = 220
MDR GENESIS Encounter				
Encounter Type	$40.	encounter_type	encounter_type	Join to code_value table where encntr_type_cd matches the code_value and code_set = 71 and active_ind = 1 and retrieve display.
Financial Number (FIN)	$40.	fin	fin	Join to encntr_alias table where encntr_id matches and encntr_alias_type_cd = 1077 and active_ind = 1 and end_effective_dt_tm > sysdate and retrieve alias.
Discharge Disposition	$40.	discharge_disposition	discharge_disposition	Join to code_value table where discharge_disposition_cd matches the code_value and code_set = 19 and active_ind = 1 and retrieve display.
Medical Service	$40.	medical_service	medical_service	Join to code_value table where med_service_cd matches the code_value and code_set = 34 and active_ind = 1 and retrieve display.
Discharge Datetime	N(8)	discharge_dt_tm	discharge_dt_tm	Converted to local time.
Diagnosis Code 1–5	$7	dx1-dx10	dx1-dx10	No transformation.
Procedure Code 1-5	$5	cpt_1-cpt_13	cpt_1-cpt_13	No transformation.
Major Diagnostic Category (MDC)	$2	mdc	mdc	No transformation.
Diagnosis Group	$2	dxgrp	dxgrp	No transformation.
MDR GENESIS Personnel				
Primary Surgeon Name	$100	primary_surgeon	full_name	No transformation; merge to Personnel on primary_surgeon_id.
Primary Surgeon NPI	$10	surgeon_npi	npi	No transformation; merge to Personnel on primary_surgeon_id.

Field	Format	SAS Field Name	Source Element	Transformation
Primary Surgeon EDIPN	$10	surgeon_edipn	prsnl_edipn	No transformation; merge to Personnel on primary_surgeon_id.
Primary Surgeon Skill Type	$1	surgeon_skill_type	skill_type	No transformation; merge to Personnel on primary_surgeon_id.
Primary Surgeon Primary HIPAA Taxonomy	$10	surgeon_hipaa_taxonomy	hipaa1	No transformation; merge to Personnel on primary_surgeon_id.
Anesthesiologist Name	$100	anesfthesiologist	full_name	No transformation; merge to Personnel on anesthesia_prsnl.
Anesthesiologist NPI	$10	anesthesiologist_npi	npi	No transformation; merge to Personnel on anesthesia_prsnl.
Anesthesiologist EDIPN	$10	anesthesiologist_edipn	prsnl_edipn	No transformation; merge to Personnel on anesthesia_prsnl.
Anesthesiologist Primary HIPAA Taxonomy	$10	anesthesiologist_hipaa_ taxonomy	hipaa1	No transformation; merge to Personnel on anesthesia_prsnl.
Fields from the MPI				
Sponsor SSN	$9.	sponssn	N/A	If a record is found in the MPI with matching EDIPN or Patient SSN, fill with the Sponsor SSN from the MPI.
Person Association Reason Code	$2.	parc	N/A	If a record is found in the MPI with matching EDIPN or Patient SSN, fill with the PARC for the relationship between this patient and the sponsor on that record.
Fields from the LVM				
Gender	$1.	gender	N/A	Fill with gender associated with this EDIPN. If not found and gender_r = F or M, set to gender_r.
Date of Birth	N(8)	patdob	N/A	Fill with date of birth associated with this EDIPN
Race	$1.	race	N/A	Fill with race associated with this EDIPN. If there is no match for this patient in the LVM, set to Z.
Ethnic Group	$1.	ethnic	N/A	Fill with ethnicity associated with this EDIPN. If there is no match for this patient in the LVM, set to Z.
DEERS ZIP Code	$5.	deerszip	N/A	Fill with ZIP Code if the surgery date is between the begin and end date associated with the ZIP Code. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
Marital Status	$1.	marital	N/A	Fill with Marital Status if the surgery date is between the begin and end date associated with the Marital Status. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
DEERS Beneficiary Category	$3.	bencat	N/A	Fill with Beneficiary Category if the surgery date is between the begin and end date associated with the Beneficiary

Field	Format	SAS Field Name	Source Element	Transformation
				Category. If the surgery date is outside of the dates associated with the Beneficiary Category, or there is no match for this patient in the LVM, or if the LVM segment returns "Z", set to OTH. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
DEERS Common Beneficiary Category	$1.	comben	N/A	Derived from Beneficiary Category during LVM merge. See VM6 Specification, section A.1.12 for derivation.
DEERS Sponsor Service	$1.	dsponsvc	N/A	Fill with Sponsor Service Aggregated if the surgery date is between the begin and end date associated with the Sponsor Service Aggregated. If the surgery date is outside of the dates associated with the Sponsor Service, or there is no match for this patient in the LVM, set to Z. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
DEERS Sponsor Service Aggregate	$1.	dsvcagg	N/A	Fill with Sponsor Service Aggregated if the surgery date is between the begin and end date associated with the Sponsor Service Aggregated. If the surgery date is outside of the dates associated with the Sponsor Service, or there is no match for this patient in the LVM, set to Z. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
Privilege Code	$1.	privilege	N/A	Fill with Medical Privilege Code if the surgery date is between the begin and end date associated with the Medical Privilege Code. If the surgery date is outside of the dates associated with the Privilege Code, or there is no match for this patient in the LVM, set to 9. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
Medicare Eligibility Flag	$1.	medicare_flag	N/A	Fill with Medicare Eligibility Code if the surgery date is between the begin and end date associated with the Medicare Eligibility Code. If the surgery date is outside of the dates associated with the Medicare Flag, or there is no match for this patient in the LVM, set to N. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
DEERS Alternate Care Value	$1.	acv	N/A	Fill with ACV if the surgery date is between the begin and end date associated with the ACV. If the surgery date is before 1/1/18 and the surgery date is outside of the dates associated with the ACV, or there is no match for this patient in the LVM, set to Z. If the surgery date is on or after 1/1/18, set to blank. See VM6 Specification, Exhibit G-

Field	Format	SAS Field Name	Source Element	Transformation
				18 for segment and field positions. Note that the ACV will be blank filled starting in CY18.
ACV Group	$2.	acvgroup	N/A	Derived from ACV and comben (before 1/1/18) or enrollment group, PCM type, eligibility group, and comben (after 1/1/18). If there is no match for this patient in the LVM, set to O. See VM6 Specification, section G.3 for derivation.
PCM ID	$18.	pcm_id	N/A	Fill with PCM ID if the surgery date is between the begin and end dates associated with the PCM ID. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
PCM Type	$1.	pcm_type	N/A	Fill with Enrollment PCM Type if the surgery date is between the begin and end date associated with the Enrollment PCM Type. If the surgery date is on or after 1/1/18 and the surgery date is outside of the dates associated with the Enrollment Group, or there is no match for this patient in the LVM, set to Z. If the surgery date is before 1/1/18, set to blank. See VM6 Specification, Exhibit G-19 for segment and field positions.
DEERS Enrollment DMIS ID	$4.	denrsite	N/A	Fill with enrollment DMIS ID, if the surgery date is between the begin and end date associated with the enrollment DMIS ID. If the surgery date is outside of the dates associated with the enrollment site, or there is no match for this patient in the LVM, set to “NONE”. See VM6 specification, Exhibits G-18 and 19 for segment and field position.
DEERS Health Care Delivery Program Code – Enrolled	$3.	hcdp_enr	N/A	Fill with enrollment HCDP code if the surgery date is between the begin and end date associated with the enrollment HCDP code. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
Eligibility Group	$1.	elg_grp	N/A	Fill with Eligibility Group if the surgery date is between the begin and end date associated with the Eligibility Group. If the surgery date is on or after 1/1/18 and the surgery date is outside of the dates associated with the Eligibility Group, or there is no match for this patient in the LVM, set to Z. If the surgery date is before 1/1/18, set to blank. See VM6 Specification, Exhibit G-19 for segment and field positions.
Enrollment Group	$1.	enr_grp	N/A	Fill with Enrollment Group if the surgery date is between the begin and end date associated with the Enrollment Group. If the surgery date is on or after 1/1/18 and the

Field	Format	SAS Field Name	Source Element	Transformation
				surgery date is outside of the dates associated with the Enrollment Group, or there is no match for this patient in the LVM, set to Z. If the surgery date is before 1/1/18, set to blank. See VM6 Specification, Exhibit G-19 for segment and field positions.
DEERS Health Care Delivery Program Code - Assigned	$3.	hcdp_asgn	N/A	Fill with assigned HCDP code if the surgery date is between the begin and end date associated with the assigned HCDP code. See VM6 Specification, Exhibit G-19 for segment and field positions.
Fields from the DMISID Index Table				
Treatment Service	$1.	txsvc	N/A	After matching on FY and mtf, set to ubu_svc
Treatment Parent DMIS ID	$4.	mtf_parent	N/A	After matching on FY and mtf, set to ubu_par
Treatment T3 Region	$2.	mtf_t3_reg	N/A	After matching on FY and mtf, set to t3_reg. No longer required as of January 2025.
Treatment T17 Region	$2.	mtf_t17_reg	N/A	After matching on FY and mtf, set to t17_reg
Treatment T5 Region	$2.	mtf_t5_reg	N/A	After matching on FY and mtf, set to t5_reg
Treatment Major Command	$8.	txcmnd	N/A	After matching on FY and mtf, set to majcmnd
Treatment MSM Area ID	$3.	txmsma	N/A	After matching on FY and mtf, set to msm_id. No longer required as of January 2025.
Enrollment Service	$1.	enrsvc	N/A	After matching on FY and denrsite, set to ubu_svc
Enrollment Site Parent DMIS ID	$4.	enr_parent	N/A	After matching on FY and denrsite, set to ubu_par
Enrollment T3 Region	$2.	enr_t3_reg	N/A	After matching on FY and denrsite, set to t3_reg. No longer required as of January 2025.
Enrollment T17 Region	$2.	enr_t17_reg	N/A	After matching on FY and denrsite, set to t17_reg
Enrollment Site T5 Region	$2	enr_t5_reg	N/A	After matching on FU and denrsite, set to t5_reg
Fields from the Omni-CAD Table				
Catchment Area ID	$4.	catch	N/A	Based on matching FY, FM and patzip; if sponsvc = A then set equal to AWORLD, if sponsvc = F then set equal to FWORLD; if sponsvc in (M, N, V) then set equal to NWORLD, otherwise set equal to OWORLD. If zip code not found in MDR Omni-CAD, set equal to '0999'
PRISM Area ID	$4.	prism	N/A	Based on matching FY, FM and patzip; if sponsvc = A then set equal to APRISM, if sponsvc = F then set equal to FPRISM; if sponsvc in (M, N, V) then set equal to NPRISM,

Field	Format	SAS Field Name	Source Element	Transformation
				otherwise set equal to OPRISM. If zip code not found in MDR Omni-CAD, set equal to '0999'
MTF Service Area ID	$4.	mtfsvcarea	N/A	Based on matching FY, FM and patzip; if sponsvc = A then set equal to ABPA, if sponsvc = F then set equal to FBPA; if sponsvc in (M, N, V) then set equal to NBPA, otherwise set equal to OPRISM. If zip code not found in MDR Omni-CAD, set equal to '0999'
T3 Residence Region	$2.	ben_t3_reg	N/A	Based on matching FY, FM and patzip; Set equal to T3_REG. If zip code not found in MDR Omni-CAD, leave blank. No longer required as of January 2025.
T17 Residence Region	$2.	ben_t17_reg	N/A	Based on matching FY, FM and patzip; Set equal to T17_REG. If zip code not found in MDR Omni-CAD, leave blank.
T5 Residence Region	$2.	ben_t5_reg	N/A	Based on matching FY, FM and patzip; Set equal to T5_REG. If zip code not found in MDR Omni-CAD, leave blank.
Internally Derived Fields				
Encounter Date	N(8)	encdate	datepart(surg_start_dt_tm)	Derived from the Surgery Start Date.
Encounter Date – Character	$8.	encdate_c	encdate	Character format (YYYYMMDD) of the Encounter Date
Calendar Year	$4.	cy	N/A	CY of the Encounter date
Calendar Month	$2.	cm	N/A	CM of the Encounter date
Fiscal Year	$4.	fy	N/A	FY of the Encounter date
Fiscal Month	$2.	fm	N/A	FM of the Encounter date
Patient Age	8.	patage	N/A	Age in years from date of birth (from DEERS) to surgery date. If date of birth from DEERS is not available, use dob_r.
Age Group	$1.	agegrp	N/A	If Patient Age is 0-4, set to A; if 5-14, B; if 18-24, C; if 25-34, D; if 35-44, F; if 45-64, G; if 65+, H; else X.
Primary Record Indicator	N(8)	d_primary_rec	N/A	Set to 1 for first procedure record for each case, based on sorting by SURG_CASE_ID, PRIMARY_PROC_IND, and SCHED_PRIMARY_PROC_IND.
Scheduled Start to Patient in OR Time (in minutes)	N(8)	sched_start_to_patient_in	PATIENT_IN_OR_DT_TM SCHED_START_DT_TM	Calculate as (PATIENT_IN_OR_DT_TM - SCHED_START_DT_TM) / 60. Result is in minutes. If resulting value more than 24 hours in advance (-1,440 minutes), then cap result at -1,440. If resulting value is more than 48 hours behind (2,880 minutes) schedule, cap the result at 2,880.
Patient in OR to Surgery Start Time (in minutes)	N(8)	patient_in_to_surg_start	START_DT_TM PATIENT_IN_OR_DT_TM	Calculate as (START_DT_TM - PATIENT_IN_OR_DT_TM) / 60. Result is in minutes. If resulting value is less than zero, then derive result as 0.

Field	Format	SAS Field Name	Source Element	Transformation
Surgery Start to PACU Time (minutes)	N(8)	surg_start_to_pacu	PATIENT_IN_PACU_DT_TM START_DT_TM	Calculate as (PATIENT_IN_PACU_DT_TM - START_DT_TM) / 60. Result is in minutes. If resulting value is less than zero, then derive result as null. If resulting value is more than 48 hours, cap the result at 2,880.
Time in PACU	N(8)	time_in_pacu	PATIENT_OUT_PACU_II_DT_TM PATIENT_IN_PACU_DT_TM	Calculate as PATIENT_OUT_PACU_II_DT_TM - PATIENT_IN_PACU_DT_TM) / 60. Result is in minutes. If resulting value is less than zero, then derive result as 0. If resulting value is more than 48 hours, then set to null. If resulting value is null and time_in_pacu_1 is not null, then set to time_in_pacu_1. If resulting value is null and time_in_pacu_2 is not null, then set to time_in_pacu_2.
Time in PACU 1	N(8)	time_in_pacu_1	PATIENT_OUT_PACU_DT_TM PATIENT_IN_PACU_DT_TM	Calculate as (PATIENT_OUT_PACU_DT_TM - PATIENT_IN_PACU_DT_TM) / 60. Result is in minutes. If resulting value is less than zero, then derive result as 0. If resulting value is more than 48 hours, then set to null.
Time in PACU 2	N(8)	time_in_pacu_2	PATIENT_OUT_PACU_II_DT_TM PATIENT_IN_PACU_II_DT_TM	Calculate as (PATIENT_OUT_PACU_II_DT_TM - PATIENT_IN_PACU_II_DT_TM) / 60. Result is in minutes. If resulting value is less than zero, then derive result as 0. If resulting value is more than 48 hours, then set to null.
Patient In to PACU Out Time (in minutes)	N(8)	patient_in_to_pacu_out	PATIENT_OUT_PACU_II_DT_TM PATIENT_OUT_PACU_DT_TM PATIENT_IN_OR_DT_TM	Calculate as (PATIENT_OUT_PACU_II_DT_TM - PATIENT_IN_OR_DT_TM) / 60. If null, then calculate as (PATIENT_OUT_PACU_DT_TM - PATIENT_IN_OR_DT_TM) / 60. Result is in minutes. If resulting value is less than zero, then derive result as null. If resulting value is more than 48 hours, then set to null.
Anesthesia Duration	N(8)	anesthesia_duration	ANESTHESIA_INDUCTION_DT_TM ANESTHESIA_STOP_DT_TM	Calculate as (anesthesia_stop_dt_tm - anesth_induction_dt_tm) / 60
Time in OR	N(8)	time_in_or	PATIENT_IN_OR_DT_TM PATIENT_OUT_OR_DT_TM	Calculate as (patient_out_or_dt_tm - patient_in_or_dt_tm) / 60
Number of Procedures	N(8)	num_procedures	N/A	Set to 1 for every record.

Table 5: File Layout for MDR GENESIS Surgery Case Attendance Table

Field	Format	SAS Name	Source Element	Transformation
Surgical Case ID	N(8)	surg_case_id	surg_case_id	No transformation.
Case Attendance Key	N(8)	case_attendance_id	case_attendance_id	No transformation.
Attendee Key	N(8)	case_attendee_id	case_attendee_id	No transformation. Used for join to personnel table.

Field	Format	SAS Name	Source Element	Transformation
Role Performed	$40	role_performed	role_perf_cd	Join to code_value table where role_perf_cd matches the code_value and code_set = 10170 and active_ind = 1 and retrieve display.
In OR Datetime	N(8)	in_or_dt_tm	in_dt_tm	Converted to local time.
Out OR Datetime	N(8)	out_or_dt_tm	out_dt_tm	Converted to local time.
Reason for Relief	$40	reason_for_relief	reason_for_relief_cd	Join to code_value table where reason_for_relief_cd matches the code_value and code_set = 100004 and active_ind = 1 and retrieve display.
Signing Attendee Indicator	N(8)	signing_attendee_ind	signing_attendee_ind	No transformation.
Fields from MDR GENESIS Personnel				
Personnel Name	$100	personnel_name	full_name	No transformation.
Personnel NPI	$10	personnel_npi	npi	No transformation.
Personnel EDIPN	$10	personnel_edipn	prsnl_edipn	No transformation.
Personnel Skill Type	$1	personnel_skill_type	skill_type	No transformation.

Table 6: File Layout for MDR Surgery Cancels Table

Field	Format	SAS Name	Source Element	Transformation
Surgical Case ID	N(8)	surg_case_id	surg_case_id	No transformation.
Surgical Case Number	$100	surgical_case_nbr_formatted	surg_case_nbr_formatted	No transformation.
Financial Number (FIN)	$40	fin	fin	No transformation.
Cancelled Reason	$37	cancel_reason	cancel_reason_cd	Join to code_value table where cancel_reason_cd matches the code_value and code_set = '10035','14229', or '14774' and active_ind = 1 and retrieve display.
Cancelled Datetime	N(8)	cancel_dt_tm	cancel_dt_tm	Converted to local time.
Scheduled Operating Room (OR)	$40	sched_or	sched_op_loc_cd	Join to code_value table where sched_op_loc_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Scheduled Surgical Area	$40	sched_surgical_area	sched_surg_area_cd	Join to code_value table where sched_surg_area_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Scheduled Start Datetime	N(8)	sched_start_dt_tm	sched_start_dt_tm	Converted to local time.
Scheduled End Datetime	N(8)	sched_stop_dt_tm	sched_stop_dt_tm	Converted to local time.

Field	Format	SAS Name	Source Element	Transformation
Medical Service	$40.	medical_service	medical_service	Join to code_value table where med_service_cd matches the code_value and code_set = 34 and active_ind = 1 and retrieve display.
Calendar Year	$4.	cy	sched_start_dt_tm	CY of the Scheduled Start date
Calendar Month	$2.	cm	sched_start_dt_tm	CM of the Scheduled Start date
Fiscal Year	$4.	fy	sched_start_dt_tm	FY of the Scheduled Start date
Fiscal Month	$2.	fm	sched_start_dt_tm	FM of the Scheduled Start date
Primary Surgeon ID	N(8)	primary_surgeon_id	surgeon_prsnl_id	No transformation.
Primary Surgeon Name	$100	primary_surgeon	full_name	No transformation; merge to Personnel on primary_surgeon_id.
Institution	$40	institution	inst_cd	Join to code_value table where inst_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Patient EDIPN	$10.	edipn	alias	Join to person_alias on person_id where person_alias_type_cd = 22.
Encounter ID	N(8)	encntr_id	encntr_id	No transformation.

Table 7: File Layout for MDR Surgery Delays Table

Field	Format	SAS Name	Source Element	Transformation
Surgical Case ID	N(8)	surg_case_id	surg_case_id	No transformation.
Surgical Delay ID	N(8)	surg_delay_id	surg_delay_id	No transformation.
Delay Reason	$50	delay_reason	delay_reason_cd	Join to code_value table where delay_reason_cd matches the code_value and code_set = 10033 and active_ind = 1 and retrieve display.
Sequence	N(8)	display_seq	display_seq	No transformation.
Delay Duration (minutes)	N(8)	delay_duration	delay_duration	No transformation.

Table 8: File Layout for MDR Surgical Case Cart Pick List Table

Field	Format	SAS Name	Source Element	Transformation
Surgical Case ID	N(8)	surg_case_id	surg_case_id	No transformation.
Item ID	N(8)	item_id	item_id	No transformation.
Item Description	$255	item_desc	unique_field	Join to item_definition on item_id = item_id and return unique_field.
Surgical Area	$40	surgical_area	surg_area_cd	Join to case_cart on surg_case_id, then join to code_value table where surg_area_cd matches the code_value and code_set = 221 and active_ind = 1 and retrieve display.
Fill Location	$40	fill_location	fill_locn_cd	Join to code_value table where fill_locn_cd matches the code_value and code_set = 220 and active_ind = 1 and retrieve display.

Field	Format	SAS Name	Source Element	Transformation
Return Location	$40	return_location	return_locn_cd	Join to code_value table where return_locn_cd matches the code_value and code_set = 220 and active_ind = 1 and retrieve display.
Filled Quantity	N(8)	fill_qty	fill_qty	No transformation.
Hold Quantity	N(8)	hold_qty	hold_qty	No transformation.
Opened Quantity	N(8)	open_qty	open_qty	No transformation.
Used Quantity	N(8)	used_qty	qty_used	No transformation.
Requested Quantity	N(8)	requested_qty	request_qty	No transformation.
Returned Quantity	N(8)	return_qty	return_qty	No transformation.
Wasted Quantity	N(8)	wasted_qty	wasted_qty	No transformation.
Case Cart Pick List ID	N(8)	case_cart_pick_lst_id	case_cart_pick_lst_id	No transformation.
Finalized Datetime	N(8)	case_cart_finalized_dt_tm	finalize_dt_tm	Join to case_cart on surg_case_id. Converted to local time.
Verified Datetime	N(8)	case_cart_verfd_dt_tm	verified_dt_tm	Join to case_cart on surg_case_id. Converted to local time.
Case Cart Verified By Personnel ID	N(8)	case_cart_verfd_by_prsnl	verified_by_id	No transformation.
Item Description	$200	ft_item_desc	free_text_item_desc	No transformation.
Wasted Reason	N(8)	wasted_reason_cd	wasted_reason_cd	No transformation.

X. DATA QUALITY

It is expected that when the MDR Genesis Surgery processor is run each week, that basic quality checks are performed throughout the process. It is recommended that the EIDS vendor develop a spreadsheet which tracks key characteristics of the data across processing cycles; making it relatively easy to understand how the data should generally look. EIDS vendors need to review these statistics each month prior to releasing the data. J5 AED (the functional proponent and the specification author) should be contacted immediately should any quality issues arise. These checks, at a minimum, should include:

- Total record counts in the data feed should have a relatively stable distribution across FY and FM. Any anomalies should immediately be investigated.
- The number of records that match when doing the GENESIS Patient table merge should be consistent.
- The distribution of all categorical fields (ex. Surgical Procedure) should be consistent. The results of proc freq analyses will verify this.
- The number of null values for important fields such as EDIPN, Surgery Date, and Procedure should be tracked across monthly updates.
- When reading in the surgery data feed, a small number of records should be printed off and manually inspected to ensure they have read in properly and the percentage of records that are inserts and updates should be compared for consistency across processing cycles.
- Cross tabulations should be reviewed on derived elements to ensure the derivation logic works.
- A data flow tracker should be built to ensure that all records that are intended to make it into the final Surgery dataset do. In other words, all inserts, updates, and deletions should be tracked and explained in the data flow worksheet.