October 7, 2025

MHS GENESIS Radiology

for the

MHS Data Repository (MDR)

(Version 1.00.26)

Future Specification

Revision History

Version	Date	Originator	Para/Tbl/Fig	Description of Change
1.00.00	10/12/2018	S. Keane	Initial Document	Baseline.
1.00.01	10/24/2018	S. Keane	VII File Layout	Updated.
1.00.02	01/18/2019	S. Keane	VI-IX	Updated.
1.00.03	05/31/2019	S. Keane	Table 2	Update Table 2 and Remove Table 3.
1.00.04	12/10/2019	S. Keane	Entire Document	Change Record Key, Change Logic for records to keep, add fields from General Radiology Orders, Omit Bill Type and Revenue fields, Remove OMTF Fields, Remove FMP and Space Available Flag. Derive new fields.
1.00.05	02/13/2020	S. Keane	Table 2 and Section VIII	Added MTF Nurse Unit Location (nurse_unit) and updated Exclusions.
1.00.06	02/25/2020	S. Keane	Tables 1 and 2 and Section VIII	Add merge to MHS GENESIS Radiology Exam table. Cleanup derivation of MTF, MTF_resulted and subsequent fields. Update exclusions.
1.00.07	03/31/2020	S. Keane	Section V and Table 2	Update record duplication. Update MTF derivation. Update exclusions.
1.00.08	05/21/2020	S. Keane	Sections VI, VII	Remove variables from MHS GENESIS Radiology Exam table. Derive MEPRS4 Code, Performing and related fields.
1.00.09	05/29/2020	S. Keane	Section VII	Updated derivation of CPTMOD and CPTMOD_DESC.
1.00.10	06/19/2020	S. Keane	Section VII	Add personnel first names, Primary Care Manager Name, Primary Care Manager NPI, PCM NPI Type Code, Service Line Ordering, and Service Line Performing.
1.00.11	11/20/2020	S. Keane	Section VII	Remove first/last name fields. Replace with Full Name Patient, Physician Ordering, Physician Verifying, Personnel Completing, and Personnel Non-Physician Ordering variables.
1.00.12	02/02/2021	S. Keane	Section VII	Updated derivation of CPTMOD, CPTMOD_DESC and SIDE.
1.00.13	02/17/2022	S. Keane	Section IV	Add Time Slicing, Frequency of processing, and Frequency of updates.
1.00.14	08/19/2022	S. Keane	Section VII	Remove decimals from diagnosis code fields.
1.00.15	09/18/2023	S. Keane	Entire Document	Add Bulk Data Extract (BDE) Redshift 3.0 feed logic.
1.00.16	10/25/2024	S. Keane	Table 2	Update complete date logic.
1.00.17	12/06/2024	S. Keane	Table 2	Replace loc_nurse_unit_display with unit_display in 3.0.
1.00.18	03/06/2025	S. Keane	Section VII and X	Update join logic to Procedure table and apply format file to keep only labrad cpt codes. Hide T3 fields. Add T5 fields. Add Section IX Special Outputs section.
1.00.19	04/25/2025	S. Keane	Section IV, VI, VII	Apply filter to keep only completed exams. Update derivation of complete_dt_tm_local. Include derivation of reason_for_test.
1.00.20	04/29/2025	S. Keane	Section VII	Update T5 regions.

Version	Date	Originator	Para/Tbl/Fig	Description of Change
1.00.21	05/05/2025	S. Keane	Section VII	Remove Reason For Test.
1.00.22	05/13/2025	S. Keane	Section VII	Update Personnel ID related fields.
1.00.23	05/21/2025	S. Keane	Section VII	Update PATCAT derivation rules.
1.00.24	5/22/2025	S. Keane	Section VII	Update cptmod derivation rules.
1.00.25	09/03/2025	S. Keane	Section VII	Add MEPRDMIS. Add FULLCOST and VARCOST. Update MEPR3, MEPR1. Remove MEPR2.
1.00.26	10/07/2025	S. Keane	Section VIII	Add Certifying Provider, Assigned DMIS. Restore MEPR2.

MHS GENESIS Radiology Table

I. BACKGROUND

This specification describes the process required to create the Military Health System (MHS) Data Repository (MDR) GENESIS Radiology tables based on data received from Cerner PowerInsight Enterprise Data Warehouse (PI-EDW) feeds to the MDR and the MIP Redshift 3.0 feeds.

II. SOURCES

The source data files used to create the MHS GENESIS Radiology tables are extracted from the MHS GENESIS PI-EDW and MIP Redshift 3.0. The transfer of the raw source extracts is handled by the Solution Delivery Division (SDD) for loading into the MDR for further processing according to routine MDR operations. The format of the raw MHS GENESIS feeds to the MDR is described in the Department of Defense Healthcare Management System Modernization (DHMSM®) Program DRAFT Interface Control Document (ICD) for Bulk Data Extract (BDE).

III. TRANSMISSION (FILES AND FREQUENCY)

MHS GENESIS BDE PI-EDW feeds are provided weekly and MIP Redshift 3.0 feeds are updated daily.

IV. ORGANIZATION AND BATCHING

Source Data: The first step in MDR processing is to batch records received from MHS GENESIS. Raw data batches are stored in /mdr/raw/genesis according to routine MDR operating procedures.

Output Products: The processor outputs separate SAS data sets containing all years of radiology data. The processor performs merges and field derivations and must incorporate updates to records across raw data extracts. Table 2 lists the output data sets: fyXX.sas7bdat will be stored in /mdr/pub/genesis/radiology/fyXX.sas7bdat.

Time slicing: Data are organized into fiscal year files. The Fiscal Year is determined by DATE_COMPELETE.

Frequency of processing: Data are harvested weekly. Raw data batches are harvested, processed, and appended/updated to the master file. If data are received from a fiscal year not being processed that month, they will be held to batch with all other data received prior to that fiscal year's next update batch.

Frequency of updates:
Current FY: Weekly.
Prior FY: Weekly for one quarter (October, November, and December) then semiannually (April, October).
All years prior to prior FY: Annually (October) or on an as needed basis when data corrections or updates are required.

Archiving (APUB): Use routine archiving rules and procedures of the MDR.

Receiving Filters: There are no receiving filters.

Radiology records are identified from the Financial Charges, Charge Mod, Procedure, Radiology Order, and Orders tables where HEALTH_SYSTEM_ID=18635 (PI-EDW feed only), ACTIVITY_TYPE_REF in (711 Radiology, and 254663283 Radiology) or CPT/HCPCS code begins with 7 and the Last_order_status not in ('Canceled', 'Discontinued', 'Future', 'Incomplete', 'On Hold, Med Student', 'Suspended', 'Transfer/Canceled', 'Unscheduled', 'Voided With Results', 'Voided Without Results')) ~~(PI-EDW feed only)~~. We apply filter to include only completed records. All records were provided with the initial batch of data. Thereafter, new and changed records are sent each week.

V. UPDATE PROCESSES

New raw feeds contain either insert or update records. These records shall be used to update the master MHS GENESIS radiology datasets. The primary key consists of ENCOUNTER_KEY and ACCESSION AND ORDER_SK and CPT and CPTMOD. The processor shall delete duplicates before updating the table. Duplicate records, defined as those with the same primary key. When choosing among duplicate records, e.g. multiple records with the same primary key, the processor shall select the record with the most recent value for the variable: COMPLETED_DT_TM_LOCAL.

VI. FILE MERGES

Table 1a and Table 1b describe the various datasets that are necessary to append many of the fields in the MHS GENESIS Radiology file.

Table 1a: File Merges from PI-EDW Source Tables

Merge	Date Matching	Key Matching
MHS GENESIS Orders		
MHS GENESIS Radiology Order		ORDER_SK
MHS GENESIS Radiology Exam		RAD_ORDER_SK, SVC_RES_DEPT_HIER_SK
Service Resource Reference File		LVL_CODE_VALUEC with RESOURCE_REF from refe.csrdhref
MHS GENESIS Clinical Events		ORDER_SK
MHS GENESIS Encounter		ENCOUNTER_KEY
MHS GENESIS Financial Charges		ORDER_SK
MHS GENESIS Charges Mod		FIN_CHARGES_SK
MHS GENESIS Diagnosis		ENCOUNTER_KEY and CONTRIBUTOR_SYSTEM_REF = '110586353'
MHS GENESIS Procedure		ENCOUNTER_KEY and CONTRIBUTOR_SYSTEM_REF = '110586353'
MHS GENESIS Person		PERSON_SK
MHS GENESIS Personnel		PRSNL_SK
MHS GENESIS Location		LOCATION_SK

Merge	Date Matching	Key Matching
Longitudinal VM6 (LVM6)	DATE_COMPLETE between the begin and end dates associated with the segment	EDIPN
Master Person Index (MPI)		EDIPN
DEERS	DATE_COMPLETE	EDIPN or SSN
DMIS ID Index		MTF, MTF_ENR, MTF_RESULTED
Omni-CAD	year and month of CAD in DATE_COMPLETE	ZIP_D and SPONSVC

Table 1b: File Merges from MIP Redshift 3.0 Source Views

Source Table Name	View Name	Date Matching	Key Matching
MHS GENESIS Orders	genesis_vw.orders		order_id
MHS GENESIS Order Radiology	genesis_vw.order_radiology		order_id
MHS GENESIS Order Action	genesis_vw.order_action		order_id
MHS GENESIS Clinical Event			order_id
MHS GENESIS Encounter	genesis_vw.encounter		encntr_id
MHS GENESIS Encounter Alias	genesis_vw.encntr_alias		encntr_id
MHS GENESIS Encounter Info	genesis_vw.encntr_info		encntr_id
MHS GENESIS Resource Group	genesis_vw.resource_group		resource_cd
MHS GENESIS Financial Charges	genesis_vw.charge		charge_item_id
MHS GENESIS Charges Mod	genesis_vw.charge_mod		charge_item_id
MHS GENESIS Diagnosis	genesis_vw.diagnosis		encntr_id
MHS GENESIS Procedure	genesis_vw.procedure		encntr_id
MHS GENESIS Clinical Event	genesis_vw.clinical_event		event_id
MHS GENESIS Code Value	genesis_vw.code_value		code_value
MHS GENESIS Nomenclature	genesis_vw.nomenclature		nomenclature_id
MDR GENESIS Person			person_id
MDR GENESIS Personnel			person_id
MDR GENESIS Location			location_cd
MDR Longitudinal VM6 (LVM6)		date_complete	edipn
MDR Master Person Index (MPI)			edipn
MDR DEERS		date_complete	edipn or ssn
MDR DMIS ID Index			mtf,mtf_enr, mtf_resulted
MDR Omni-CAD		year and month of date_complete	zip_d and sponsvc

VII. FILE LAYOUT

The file layout of the MHS GENESIS Radiology Table is described in Table 2. Unless specified, business rules apply to both source tables. Listed by Source table then by SAS Name.

Table 2 File Layout for MHS GENESIS Radiology Table

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
MHS GENESIS: ORDER TABLE					
Exam Number	$100.00	accession	accession	accession	None.
Activity Type	$40.00	activity_type	activity_type_ref	activity_type_cd	Apply format $ord_activity_type (code set = 106).
Activity Type Code	$40.00	activity_type_ref	activity_type_ref	activity_type_cd	2.4 Apply format $ord_activity_type (code set = 106). Keep if activity_type_ref in ('711', '254663283'). 3.0 Keep if active_ind = 1 and activity_type_cd in (711, 254663283).
Date Time Order Completed Local	E8601DT19.	completed_dt_tm_local	completed_dt_tm	service_dt_tm, clin_relevant_updt_dt_tm	2.4/3.0. Convert to Local Time. Format e8601dt. 3.0 Coalesce(service_dt_tm, clin_relevant_updt_dt_tm).
Departmental Status	$29.00	dept_status	dept_status_ref	dept_status_cd	Apply format $dept_status (code set = 14281).
Last Order Status	$20.00	last_order_status	last_order_status_ref	order_status_cd	2.4 Apply format $last_order_status (code set = 6004). Keep if last_order_status_ref not in ('2542', '2544', '2545', '2546', '2547', '2549', '2552', '2553', '614538', '643467'). 3.0 keep if order_status_cd in (2543, 2548, 2550) and dept_status_cd in (0, 9312, 9316, 9321, 9332). If order_status_cd = 2550 and dept_status_cd = 0 then delete.
Date Time Order Local	E8601DT19.	order_dt_tm_local	order_dt_tm	orig_order_dt_tm	Convert to Local Time. Format e8601dt.
Order Location	$40.00	order_loc	order_loc	future_location_faciilty_cd	None.
Orders File Primary Key	$100.00	order_sk	order_sk	order_id	None.
Order Submission	$27.00	order_submit	orig_communication_ref	latest_communication_type_cd	Apply format $orig_communication (code set = 6006).
MHS GENESIS Test Ordered Description	$100.00	orderable_disp	orderable_disp	order_mnemonic	None.
MHS GENESIS Person ID	$100.00	person_sk	person_sk	person_id	None.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
MHS GENESIS: RADIOLOGY ORDER TABLE					
Report Status	$40.00	report_status	report_status_ref	report_status_cd	Apply format $ rad_report_status (code set = 14202).
Radiology Order Location	$40.00	rad_order_loc	order_loc	ord_loc_cd	None.
MHS GENESIS: RADIOLOGY EXAM TABLE					
MTF Resulted	$4.00	mtf_resulted	svc_res_dept_hier_sk		Match to refe_csrdhref on SVC_RES_DEPT_HIER_SK =SVC_RES_DEPT_HIER_SK. Apply format $MTF_REF to INST_REF. coalesce MTF_RESULTED, MTF_ACCESSION.
MHS GENESIS Service Resource Reference file (not part of BDE)					
MEPRS4 Code, Performing	$4.00	sr_meprs	lvl_4_meprs, lvl_5_meprs,meprs_cd	child_resource_cd	2.4 Match to refe_csrdhref on SVC_RES_DEPT_HIER_SK =SVC_RES_DEPT_HIER_SK. Obtain RESOURCE_REF. Next match RESOURCE_REF to LVL_CODE_VALUEC. Obtain MEPRS_CD. 3.0 use CHILD_RESOURCE_CD as RESOURCE_REF.
Resource Facility	$5.00	sr_fac	facility	child_resource_cd	2.4 Match to refe_csrdhref on SVC_RES_DEPT_HIER_SK =SVC_RES_DEPT_HIER_SK. Obtain RESOURCE_REF. Next match RESOURCE_REF to LVL_CODE_VALUEC. Obtain FACILITY. 3.0 use CHILD_RESOURCE_CD as RESOURCE_REF.
Resource Location	$40.00	sr_loc	lvl_4_desc, lvl_5_desc, lvl_desc	child_resource_cd	2.4 Match to refe_csrdhref on SVC_RES_DEPT_HIER_SK =SVC_RES_DEPT_HIER_SK. Obtain RESOURCE_REF. Next match RESOURCE_REF to LVL_CODE_VALUEC. Obtain LVL_DESC. 3.0 use CHILD_RESOURCE_CD as RESOURCE_REF.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
MHS GENESIS: ENCOUNTER TABLE					
Admission Type	$40.00	admit_type	admit_type_ref	admit_type_cd	2.4 Apply format $admit_type (code set = 3). 3.0 Apply code set 71.
Discharge Disposition Code	$60.00	dispcode	discharge_disposition_ref	disch_disposition_cd	Apply format $discharge_disposition (code set = 19).
Encounter PI-EDW Key	N(8)	encounter_key	encounter_key	n/a	None.
Encounter NK	$100.00	encounter_nk	encounter_nk	n/a	None.
Encounter Key Secondary	$100.00	encounter_sk	encounter_sk	encntr_id	None.
Encounter Status	$25.00	encounter_status	encounter_status_ref	encntr_status_cd	Apply format $encounter_status (code set = 261).
Encounter Type	$22.00	encounter_type	patient_type_ref	encntr_type_cd	Apply format $patient_type (code set =71).
Encounter Classification	$33.00	encounter_type_class	encounter_type_class_ref	encntr_type_class_cd	Apply format $encounter_type_class (code set = 69).
Financial Information Number (FIN)	$40.00	fin_e	formatted_financial_nbr	alias	2.4 No transformation. 3.0 from encntr_alias, get ALIAS as FIN_E where encntr_alias_type_cd = 1077 and active_ind = 1 and beg_effective_dt_tm < sysdate and end_effective_dt_tm > sysdate.
Reason For Visit	$255.00	reason_for_visit_txt	reason_for_visit_txt	reason_for_visit	None.
MHS GENESIS: FINANCIAL CHARGES TABLE					
Charge Description	$255.00	charge_desc	charge_desc	charge_description	None.
Charge Type	$51.00	charge_type	charge_type_ref	charge_type_cd	None.
Financial Charges Primary Key	$100.00	fin_charges_sk	fin_charges_sk	charge_item_id	None.
Institution Name	$60.00	institution_type	institution_ref	institution_cd	Apply format $institution_type (code set = 221).
Medical Service	$40.00	medical_service	medical_service_ref	med_service_cd	Apply format $medical_service (code set = 34).
Date Time Service Local	E8601DT19.	service_dt_tm_local	service_dt_tm	service_dt_tm	Convert to Local Time. Format e8601dt.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
MHS GENESIS: CHARGE MOD TABLE					
Procedure Code Modifier	$2.00	cptmod	field6	field6	2.4/3.0 Match on fin_charges_sk. Obtain field6. Apply code set 14002 and trim (desc_meaning) = ('MODIFIER') OR (field3_sk in apply format $cptmods (code set = 17769) and field3_sk not in ('34935489', '34939105')). if substr(cpt, 1, 1) not in ('7', '8') and missing(cptmod) then cptmod = 'TC'.
Procedure Code Modifier Description	$200.00	cptmod_desc	field7	field7	Match on fin_charges_sk. Obtain field7. Apply code set 14002 and trim (desc_meaning) = ('MODIFIER') OR (field3_sk in apply format $cptmods (code set = 17769) and field3_sk not in ('34935489', '34939105')).
CHGS Diagnosis Code J, where J = 1-n, and maxN = 20	$200.00	dx_chgs_1	field6	field6	Transpose field 6 where (field1_sk="3693"). Order by Field2_SK. Keep first 20 result variables. Remove decimal point where applicable.
CHGS Diagnosis Code Description J, where J = 1-n, and maxN = 20	$200.00	dx_chgs_desc_1	field7	field7	Transpose field 7 where (field1_sk="3693"). Order by Field2_SK. Keep first 20 result variables.
Procedure Code Side	$200.00	side	field 6	field 6	Match on fin_charges_sk. Obtain field6. Apply code set 14002 and trim (desc_meaning) = ('MODIFIER') AND field3_sk in ('34935489', '34939105').
MHS GENESIS Clinical Event					
~~Reason for Test~~	~~$100.00~~	~~reason_for_test~~	~~N/A~~	~~event_tag~~	~~2.4 None. 3.0 Get event_tag as Reason_For_Test from clinical_event matching on order_sk where event_cd in ((106540105, 111861135, 113187987, 114608481, 114608487, 114608505, 114608511, 114608547, 116199235, 116301939, 15447104407, 25999705, 319307317, 3346969, 4161291, 423974387, 4257739, 45331173, 427781,5763654399, 5763657291, 5763958477, 5763958981, 709469, 818343149, 8259064531, 9755155559).~~

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
MHS GENESIS: PROCEDURE TABLE					
Date Time Procedure Local	DATETIME19.	proc_dt_tm_local	proc_dt_tm_local	proc_dt_tm	Convert to Local Time. Format e8601dt.
Procedure File Primary Key	$100.00	procedure_sk	procedure_sk	procedure_id	2.4 None. 3.0 Merge to Procedure Table by encounter Key where active_ind = 1 and end_effective_dt_tm > sysdate. Merge to Nomenclature using nomenclature_id and principle_type_cd = 1263 and .source_vocabulary_cd = 1217 and n2.contributor_system_cd = 460. Apply labrad format file to keep only labrad cpt codes.
MHS GENESIS: DIAGNOSIS TABLE					
CCE Diagnosis Code K, where K = 1-n, and maxN = 20	$60.00	dx_cce_1	diag_nomen	source_identifier	2.4 Merge to Diagnosis by Encounter key and CONTRIBUTOR_SYSTEM_REF = '110586353' aka CCE. Merge to Nomenclature on DIAG_NOMEN = nomenclature_sk and vocabulary_ref ='19350056' and active_ind = 1 and health_system_id=18635. Obtain "Value". Order by PRIORITY_SEQ. Remove decimal point where applicable. 3.0 From nomenclature, obtain source_identifier as dx_cce, where source_vocabulary_cd = 19350056 and active_ind = 1. Remove decimal point where applicable.
CCE Diagnosis Code Description K, where K = 1-n, and maxN = 20	$255.00	dx_cce_desc_1	diag_nomen	source_string	2.4 Merge to Diagnosis by Encounter key and CONTRIBUTOR_SYSTEM_REF = '110586353' aka CCE. Merge to Nomenclature on DIAG_NOMEN = nomenclature_sk and vocabulary_ref ='19350056' and active_ind = 1 and health_system_id=18635. Obtain "Description". Order by PRIORITY_SEQ. 3.0 From nomenclature, obtain source_string as dx_cce_desc, where source_vocabulary_cd = 19350056 and active_ind = 1.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
MHS GENESIS: LOCATION TABLE					
GENESIS Go Live Date	MMDDYY10.	gen_begin_dt	gen_begin_dt	gen_begin_dt	GEN_BEGIN_DT; Match loc_merge = location_sk.
Location Facility Patient Care Node Indicator	N(8)	loc_facility_patcare_node_ind	loc_facility_patcare_node_ind	loc_facility_patcare_node_ind	LOC_FACILITY_PATCARE_NODE_IND; Match loc_merge = location_sk.
MTF	$4.00	mtf	mtf	mtf	MTF; where loc_merge = location_sk. . If missing MTF then mtf_accession.
No MTF MEPRS Code Flag	N(8)	nomeprs_flag	nomeprs_flag	nomeprs_flag	NOMEPRS_FLAG; where loc_merge = location_sk
Parent MTF Name	$40.00	organization_name	organization_name	organization_name	ORGANIZATION_NAME; where loc_merge = location_sk.
Test Location Flag	N(8)	test_location_flag	test_location_flag	test_location_flag	TEST_LOCATION_FLAG; where loc_merge = location_sk.
MTF Display Name	$45.00	unit_display	unit_display	unit_name	2.4 UNIT_DISPLAY; where loc_merge = location_sk. 3.0 UNIT_NAME where loc_merge = location_sk.
MTF Name	$100.00	unit_name	unit_name	unit_name	UNIT_NAME; where loc_merge = location_sk.
MTF Nurse Unit Location	$45.00	nurse_unit	loc_nurse_unit_disp	unit_display	2.4 LOC_NURSE_UNIT_DISP; where loc_merge = location_sk.3.0 unit_display where loc_merge = location_sk.
MHS GENESIS: PERSON TABLE					
Patient Name	$61.00	name	full_name	full_name	FULL_NAME; match on person_sk.
Patient IPI	$10.00	ipi	ipi	ipi	IPI; match on person_sk.
Patient Test Flag	N(8)	patient_test_flag	test_record_ind	test_record_ind	TEST_RECORD_IND; match on person_sk.
MHS GENESIS: PERSONNEL TABLE					
Ordering Physician	$100	order_doc_prsnl	order_doc_prsnl	order_physician_id	2.4 None. 3.0 Use order_physician_id as order_doc_prsnl.
Physician Ordering EDIPN	$10.00	prov_ord_edipn	prsnl_edipn	prsnl_edipn	2.4 EDIPN; Match on order_doc_prsnl = prsnl_sk. 3.0 Use order_physician_id as order_doc_prsnl.
Physician Ordering Flag	$1.00	prov_ord_flag	test_record_ind	test_record_ind	2.4 TEST_RECORD_IND; Match on order_doc_prsnl = prsnl_sk. 3.0 Use order_physician_id as order_doc_prsnl.
Physician Ordering HIPAA Taxonomy	$10.00	prov_ord_hipaa	hipaa1	hipaa1	2.4 HIPAA1; Match on order_doc_prsnl = prsnl_sk. 3.0 Use order_physician_id as order_doc_prsnl.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
Physician Ordering Name	$61.00	prov_ord_name	full_name	full_name	2.4 FULL_NAME; Match on order_doc_prsnl = prsnl_sk. 3.0 Use order_physician_id as order_doc_prsnl.
Physician Ordering MD Flag	N(8)	prov_ord_md_flag	physician_ind	physician_ind	2.4 PHYSICIAN_IND; Match on order_doc_prsnl = prsnl_sk. 3.0 Use order_physician_id as order_doc_prsnl.
Physician Ordering NPI	$100.00	prov_ord_npi	npi	npi	2.4 NPI; Match on order_doc_prsnl = prsnl_sk. 3.0 Use order_physician_id as order_doc_prsnl.
Verifying Physician	$100	verified_physician_prsnl	verified_physician_prsnl	verified_physician_prsnl	EDIPN; Match on verified_physician_prsnl = prsnl.
Physician Verifying EDIPN	$10.00	prov_verf_edipn	prsnl_edipn	prsnl_edipn	EDIPN; Match on verified_physician_prsnl = prsnl.
Physician Verifying Flag	$1.00	prov_verf_flag	test_record_ind	test_record_ind	TEST_RECORD_IND; Match on verified_physician_prsnl = prsnl.
Physician Verifying HIPAA Taxonomy	$10.00	prov_verf_hipaa	hipaa1	hipaa1	HIPAA1; Match on verified_physician_prsnl = prsnl.
Physician Verifying Name	$61.00	prov_verf_name	full_name	full_name	FULL_NAME; Match on verified_physician_prsnl = prsnl.
Physician Verifying MD Flag	N(8)	prov_verf_md_flag	physician_ind	physician_ind	PHYSICIAN_IND; Match on verified_physician_prsnl = prsnl.
Physician Verifying NPI	$100.00	prov_verf_npi	npi	npi	NPI; Match on verified_physician_prsnl = prsnl.
Completed Personnel	$100	completed_prsnl	completed_prsnl	action_personnel_id	2.4 None. 3.0 Use action_personnel_id as completed_prsnl.
Personnel Completing EDIPN	$10.00	prsnl_compl_edipn	prsnl_edipn	prsnl_edipn	2.4 EDIPN; Match on completed_prsnl = prsnl_sk. 3.0 Use action_personnel_id as completed_prsnl.
Personnel Completing Flag	$1.00	prsnl_compl_flag	test_record_ind	test_record_ind	2.4 TEST_RECORD_IND; Match on completed_prsnl = prsnl_sk. 3.0 Use action_personnel_id as completed_prsnl.
Personnel Completing HIPAA Taxonomy	$10.00	prsnl_compl_hipaa	hipaa1	hipaa1	2.4 HIPAA1; Match on completed_prsnl = prsnl_sk. 3.0 Use action_personnel_id as completed_prsnl.
Personnel Completing Name	$61.00	prsnl_compl_name	full_name	full_name	2.4 FULL_NAME; Match on completed_prsnl = prsnl_sk. 3.0 Use action_personnel_id as completed_prsnl.
Personnel Completing MD Flag	N(8)	prsnl_compl_md_flag	physician_ind	physician_ind	2.4 PHYSICIAN_IND; Match on completed_prsnl = prsnl_sk. 3.0 Use action_personnel_id as completed_prsnl.
Personnel Completing NPI	$100.00	prsnl_compl_npi	npi	npi	2.4 NPI Match on completed_prsnl = prsnl_sk. 3.0 Use action_personnel_id as completed_prsnl.
Order Personnel	$100	order_prsnl	order_prsnl	order_provider_id	2.4 None. 3.0 Use order_provider_id as order_prsnl.
Personnel Ordering EDIPN	$10.00	prsnl_ord_edipn	prsnl_edipn	prsnl_edipn	2.4 EDIPN; Match on order_prsnl = prsnl_sk 3.0 Use order_provider_id as order_prsnl.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
Personnel Ordering Flag	$1.00	prsnl_ord_flag	test_record_ind	test_record_ind	TEST_RECORD_IND; Match on order_prsnl = prsnl_sk 3.0 Use order_provider_id as order_prsnl.
Personnel Ordering HIPAA	$10.00	prsnl_ord_hipaa	hipaa1	hipaa1	HIPAA1; Match on order_prsnl = prsnl_sk 3.0 Use order_provider_id as order_prsnl.
Personnel Ordering Name	$61.00	prsnl_ord_name	full_name	full_name	FULL_NAME; Match on order_prsnl = prsnl_sk 3.0 Use order_provider_id as order_prsnl.
Personnel Ordering MD Flag	N(8)	prsnl_ord_md_flag	physician_ind	physician_ind	PHYSICIAN_IND; Match on order_prsnl = prsnl_sk 3.0 Use order_provider_id as order_prsnl.
Personnel Ordering NPI	$100.00	prsnl_ord_npi	npi	npi	NPI; Match on order_prsnl = prsnl_sk 3.0 Use order_provider_id as order_prsnl.
MHS GENESIS Encounter subject area: RAW_USER_DEF_ HIST					
Beneficiary Category on Record	$40.00	bencat_e	bencat_e	display	2.4 Match on encounter_sk = parent_entity_sk and parent_entity_name = 'ENCOUNTER' and user_defined_type_REF = '109901057'; then apply BENCAT format. 3.0 From encntr_info, match on encntr_id where info_sub_type_cd = 109901057 and active_ind = 1 beg_effective_dt_tm < sysdate and end_effective_dt_tm > sysdate; Apply code set 100070.
PATCAT Encounter Code	$40.00	patcat_e	patcat_e	display	2.4 Match on encounter_sk = .parent_entity_sk and parent_entity_name = 'ENCOUNTER' and user_defined_type_REF = '109901051'; then apply PATCAT format. 3.0 ei as (SELECT encntr_id, value_cd, row_number() over (PARTITION BY encntr_id ORDER BY beg_effective_dt_tm desc, updt_dt_tm desc) as rn FROM genesis_vw.encntr_info WHERE active_ind = 1 AND info_sub_type_cd = 109901051) LEFT JOIN ei ON e.encntr_id = ei.encntr_id AND ei.rn = 1 LEFT JOIN genesis_vw.code_value cvei ON ei.value_cd = cvei.code_value AND cvei.code_set = 100075 AND cvei.active_ind = 1.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
PATCAT Person Code	$40.00	patcat_p	patcat_p	display	2.4 Match on person_sk = parent_entity_sk and parent_entity_name = 'PERSON' and user_defined_type_REF = '114540103'; then apply PATCAT format. 3.0 pi as (SELECT person_id, value_cd, row_number() over (PARTITION BY person_id ORDER BY beg_effective_dt_tm desc, updt_dt_tm desc) as rn FROM genesis_vw.person_info WHERE active_ind = 1 AND info_sub_type_cd = 114540103) LEFT JOIN pi ON e.person_id = pi.person_id AND pi.rn = 1 LEFT JOIN genesis_vw.code_value cvpi ON pi.value_cd = cvpi.code_value AND cvpi.code_set = 100075 AND cvpi.active_ind = 1.
MDR: Master Person Index (MPI)					
Person ID	$10.00	edipn	edipn	n/a	None.
Person Association Reason Code	$2.00	parc	parc	n/a	None.
Sponsor ID	$9.00	sponssn	spssn	n/a	None.
Patient SSN	$9.00	ssn	pssn	n/a	None.
MDR: Longitudinal VM6 (LVM6)					
ACV	$1.00	acv_d	acv	n/a	None.
ACV Group	$2.00	acvgroup	acvgrp	n/a	In MDR, when preparing the M2 feed map "PR" to "Prime" "DP" to "Designated Provider" "OP" to "Overseas Prime" "PL" to "Plus" "O" to "Other" "R" to "Reliant".
Beneficiary Category	$3.00	bencat_d	ben	n/a	None.
Ben Cat Common	$1.00	comben_d	cben	n/a	None.
Patient Date of Birth	N(8)	patdob	dob	n/a	None.
Eligibility Group	$1.00	elg_grp	elggrp	n/a	None.
Enrollment Group	$1.00	enr_grp	enrgrp	n/a	None.
Patient Ethnicity	$1.00	ethnic	ethnic	n/a	None.
Patient Gender	$1.00	gender_d	sex	n/a	None.
HCDP - Enrolled	$3.00	hcdp	hcdp	n/a	None.
HCDP - Assigned	$3.00	hcdp_asgn	asghcdp	n/a	None.
LVM4 Match Indicator	N(8)	lvm_match	match	n/a	None.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
DEERS Marital Status	$1.00	marital	ms	n/a	None.
DEERS Medicare Flag	$11.00	medicare_flag	mf	n/a	None.
Enrollment MTF	$4.00	mtf_enr	enr	n/a	None.
PCM ID	$18.00	pcm_id	pcm	n/a	None.
PCM Type	$1.00	pcm_type	pcmtyp	n/a	None.
Privilege Code	$1.00	privilege	priv	n/a	None.
Patient Race	$1.00	race	race	n/a	If RACE is blank, then RACE = 'Z'.
Relationship to Sponsor	$1.00	rel	rel	n/a	None.
Sponsor Service	$1.00	sponsvc	svc	n/a	None.
Sponsor Service, Aggregate	$1.00	svcagg	aggsvc	n/a	None.
TPR Eligibility Flag	$1.00	tpr	tpr	n/a	None.
Beneficiary Zip Code	$5.00	zip_d	zip	n/a	None.
DEERS or PCM Table (tbd)					
Primary Care Manager Name	$40	pcmid_nm	d_mi_pcm_nm	n/a	D_MI_PCM_NM from DEERS merge.
Primary Care Manager NPI	$10	pcmid_npi	d_pcm_np_id	n/a	D_PCM_NP_ID from DEERS merge.
PCM NPI Type Code	$1	pcmid_npi_typ	d_pcm_np_id_typ_cd	n/a	D_PCM_NP_ID_TYP_CD from DEERS merge.
MDR: DMISID INDEX					
Performing CMAC Locality Code	$3.00	cmaccd	locality	n/a	Convert 2 digit "Locality" to 3 digit (e.g. add leading zero).
MEPRS Parent	$4.00	meprdmis	n/a	n/a	MEPRS Parent (MEPR_PAR) of the MEPRS4 Code, Performing (sr_meprs).
Treatment MTF Major Command	$8.00	mtf_cmd	majcmnd	n/a	Derive using mtf_resulted.
Enrollment Parent MTF	$4.00	mtf_enr_parent	mtf_parent_rec	n/a	Derive using mtf_enr.
Enrollment MTF Branch of Service	$1.00	mtf_enr_svc	mtf_svc	n/a	Derive using mtf_enr.
Enrollment MTF T17 Region	$2.00	mtf_enr_t17_reg	mtf_t17_reg	n/a	Derive using mtf_enr.
Enrollment MTF T3 Region	$2.00	enr_t3_reg	mtf_t3_reg	n/a	Hide. Derive using mtf_enr. Not populated as of Jan 2025.
Treatment MTF MSMA	$3.00	mtf_msma	msm_id	n/a	Derive using mtf_resulted.
Treatment MTF Parent of Record	$4.00	mtf_parent_rec	ubu_par	n/a	Derive using mtf_resulted.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
Treatment MTF Branch of Service	$1.00	mtf_svc	ubu_svc	n/a	Derive using mtf_resulted.
Treatment MTF T3 Region	$2.00	mtf_t3_reg	t3_reg	n/a	Hide. Derive using mtf_resulted. Not populated as of Jan 2025.
Ordering MTF Service	$1.00	omtf_svc	mtf_svc	n/a	Derive using mtf.
Ordering MTF T17 Region	$2.00	omtf_t17	mtf_t17_reg	n/a	Derive using mtf.
Ordering MTF T3 Region	$2.00	omtf_t3	mtf_t3_reg	n/a	Hide. Derive using MTF. Not populated as of Jan 2025.
Beneficiary Site T5 Region	$2	ben_t5_reg	N/A	N/A	T5_REG from DMIS ID Index OR OMNI-Cad based on matching FY and appropriated field. Populated FY23+.
Enrollment Site T5 Region	$2	mtf_enr_t5_reg	N/A	N/A	T5_REG from DMIS ID Index, based on matching FY and ENRDMIS Populated FY23+.
Ordering Site T5 Region	$2	omtf_t5	N/A	N/A	T5_REG from DMIS ID Index, based FY and ORDDMIS Populated FY23+.
Treatment DMIS ID T5 Region	$2	mtf_t5_reg	N/A	N/A	T5_REG from DMIS ID Index, based FY and TXDMIS Populate FY23+.
MDR: OMNI-CAD					
Beneficiary T17 Region	$2.00	ben_t17_reg	t17reg	n/a	None.
Beneficiary T3 Region	$2.00	ben_t3_reg	region	n/a	None.
Beneficiary MTF Service Area	$4.00	mtfsvcarea	bpa	n/a	None.
PRISM Area ID	$4.00	prism	prism	n/a	None.
Tricare Prime Remote Flag	$1.00	tprflag	tprflag	n/a	TPRFLAG = Obtain from Omni-cad. TPR Flag (TPRFLAG), based on matching FY, FM, and Beneficiary Zip Code (PATZIP).

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
INTERNALLY DERIVED					
Patient Age Group	$1.00	agegrp	patage	n/a	if 0 le patage2 le 4 then agegrp = 'A'; else if 5 le patage2 le 14 then agegrp = 'B'; else if 15 le patage2 le 17 then agegrp = 'C'; else if 18 le patage2 le 24 then agegrp = 'D'; else if 25 le patage2 le 34 then agegrp = 'E'; else if 35 le patage2 le 44 then agegrp = 'F'; else if 45 le patage2 le 64 then agegrp = 'G'; else if 65 le patage2 le 69 then agegrp = 'H'; else if 70 le patage2 le 74 then agegrp = 'I'; else if 75 le patage2 le 79 then agegrp = 'J'; else if 80 le patage2 le 84 then agegrp = 'K'; else if patage2 ge 85 then agegrp = 'L'; else agegrp = 'Z';
Calendar Month	$2.00	cm	date_complete	n/a	CM of DATE_COMPLETE.
Number of Services of Record	N(2)	count	n/a	n/a	equals 1.
Procedure Code	$5.00	cpt	proc_chgs, proc_fin	n/a	if PROC_CHGS not IN ('0', '') THEN CPT = PROC_CHGS; ELSE CPT = PROC_FINC.
Procedure Code Description	$255.00	cpt_desc	multiple	n/a	if cpt = proc_pdx then CPT_DESC = proc_pdx_desc; else if proc_chgs = proc_finc then CPT_DESC = proc_finc_desc; else if (proc_chgs ne proc_finc) and (cpt = proc_chgs) then CPT_DESC = proc_chgs_desc; else if (proc_chgs ne proc_finc) and (cpt = proc_finc) then CPT_DESC = proc_finc_desc; else CPT_DESC = proc_chgs_desc;
Calendar Year	$4.00	cy	date_complete	n/a	CY of DATE_COMPLETE.
Date Completed	$8.00	date_complete	completed_dt_tm, order_dt_tm	n/a	if completed_dt_tm not missing or blank; else order_dt_tm.
Number of Services	N(2)	drvcount	n/a	n/a	if (nactcpt = "I" or CPT = '') then 0 ; else 1.
CCE Diagnosis Code Count	N(8)	dx_cce_maxn	n/a	n/a	Count DX_CCE per row.
FM	$2.00	fm	date_compelete	n/a	FM of DATE_COMPLETE.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
RVU, Facility	N(6.2)	fprvu	cptcount, drvcount	n/a	Using CPT Weight Table: obtain Raw MHS updated Facility Practice Expense RVU of CPT Code (pexpfadc) for the CPT Code and Modifier combination by corresponding calendar year; , multiply by derived number of services.
FY	$4.00	fy	date_compelete	n/a	FY of DATE_COMPLETE.
Inpatient Indicator	$1.00	inpt	encounter_type		if encounter_type = 'Inpatient' then INPT="Y"; else INPT= "N".
Location	$40.00	loc_merge	encounter_type	n/a	Derive using first valid value (e.g. non-zero or not blank), in specified order, from rad_order_loc, patient_loc, order_loc, current_loc, admit_loc.
MEPRS 1-Level Code, Ordering	$1.00	mepr1	patient_loc, order_loc, current_loc, admit_loc	n/a	2.4 MEPR1 = substr(MEPRS_CD,1,1). 3.0 MEPR1 = substr(MEPR3,1,1). If MEPR3 = 'UNK' then set MEPR1 to 'Z'.
MEPRS 2-Level Code	$2.00	mepr2	meprs_cd	n/a	2.4 MEPR3 = substr(MEPRS_CD,1,3). 3.0 MEPR2 = substr(MEPR3,1,2). If MEPR3 = 'UNK' then set MEPR2 to 'ZZ'.
MEPRS 3-Level Code, Ordering	$3.00	mepr3	meprs_cd	n/a	2.4 MEPR3 = substr(MEPRS_CD,1,3). 3.0 Derive MEPR3 by mapping the value of medical_service using the appropriate format: Use $meprmapA. if inpt = 'Y'. Use $meprmap. if inpt= 'N'. If medical_service is missing or MEPR3 = 'NOM' then set to 'UNK'.
MHS GENESIS Flag	$1.00	mhs_genesis_ flag	n/a	n/a	equals 1.
Record Type Modifier	$2.00	mod	n/a	n/a	if cptmod in ('50', '51', '99') then MOD = cptmod; ELSE MOD = '';
Medical Record Number	$40.00	mrn	formatted_mrn	n/a	Use MRN_P from Person unless missing. Else use MRN_E from Encounter.
Inactive CPT Code Indicator	$1.00	nactcpt	cpt	n/a	Lookup CPT by CY of Date of Service in CY CPT reference file, if CPT then NACTCPT = A; else NACTCPT = I.
RVU, Non-Facility	N(6.2)	nprvu	cptcode, drvcount	n/a	Lookup CPT by CY of Date of Service in CY CPT reference file, if CPT then NACTCPT = A; else NACTCPT = I.
M2 Key	$6.00	m2key	n/a	n/a	Base 62 of MDR Key.
MDR Key	N(8)	mdrkey	n/a	n/a	Sequential counter of records.
MTF Accession	$4.00	mtf_accession	accession	n/a	Substring ACCESSION from 2 for 4.If 0 or 0000 or blank then blank. Do Not keep in the final table.
Number of Orders	N(8)	ordcount	order_sk	n/a	if first order_sk then 1 else 0.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
Patient Age	N(8)	patage	dob_p, patdob	n/a	Use DOB_P, PATDOB to calculate age.
PATCAT Code	40	patcat	patcat	n/a	if patcat_p not in ('', '0') then PATCAT = patcat_p; else if patcat_p in ('', '0') then PATCAT = patcat_e; else PATCAT = '';
Record Type Flag	13	record_type_flag	encounter_type, ecount	n/a	if encounter_type = 'Inpatient' then INPATIENT RAD'; else if encounter_type = 'Clinic' then 'ENCOUNTER RAD'; else if ecount > 2 then RECORD_TYPE_FLAG then 'ENCOUNTER RAD'; else if substr(cpt,1,1) = ('7') then 'RADIOLOGY'; else RECORD_TYPE_FLAG = 'OTHER RAD'.
RVU, Total	N(6.2)	rvu	orderable_disp	n/a	Sum the values of Work RVU and Non-facility practice RVUs.
RVU, Work	N(6.2)	rvuwork	cptcount, drvcount	n/a	Using CPT Weight Table: obtain Raw MHS updated Work RVU of CPT code (workdc) for the CPT Code and Modifier combination by corresponding calendar year; multiply by derived number of services.
Service Line Ordering	$5	svclineo	cptcount, drvcount	n/a	Apply format from service line map. svclineo = put(mepr3, $slfmt)
Service Line Performing	$5	svclinep	mepr3	n/a	Apply format from service line map. svclinep = put(substr(sr_meprs,1,3), $slfmt)
Certifying Provider, Assigned DMIS	$4	Prov_verf_dmis	n/a	n/a	Join prov_verf_npi to NPPES reference table and bring back the assigned DMIS. FY23+.
Cost Fields (FY23+ BDE3.0)					
Full Cost	8.2	fullcost	n/a	n/a	Total radiology full cost = Applied Work RVU + Non-facility Practice RVU. In SAS: fullcost = sum(r_fcostw, r_fcostp).
Rad Full Cost / Practice (Non-facility) RVU	10.6	r_fcostp (not stored)	n/a	n/a	Calculated as: FY Full Cost × Non-facility Practice RVU. Represents MEPRS Parent's unit cost for Radiology in the matching year. Not stored on the final table.
Rad Full Cost / Work RVU	10.6	r_fcostw *(not stored)*	n/a	n/a	Calculated as: FY Full Cost × Work RVU. Represents MEPRS Parent's unit cost for Radiology in the matching year. Not stored on the final table.
Rad Variable Cost / Practice (Non-facility) RVU	10.6	r_vcostp (not stored)	n/a	n/a	Calculated as: FY Variable Cost × Non-facility Practice RVU. Represents MEPRS Parent's unit cost for Radiology in the matching year. Not stored on the final table.

Field	Format	SAS Name	PI-EDW (2.4) Field	MIP Redshift 3.0 Field	Business Rule
Rad Variable Cost / Work RVU	10.6	r_vcostw *(not stored)*	n/a	n/a	Calculated as: FY Variable Cost × Work RVU. Represents MEPRS Parent's unit cost for Radiology in the matching year. Not stored on the final table.
Variable Cost	8.2	varcost	n/a	n/a	Total radiology variable cost = Applied Work RVU + Non-facility Practice RVU. In SAS: varcost = sum(r_vcostw, r_vcostp).

VIII. EXCLUSIONS

Remove any column that contains all null or blank values. If any of the following conditions are met, either delete the record or output to an error file.

If CY less than 2017.

If datepart (coalesce (COMPLETED_DT_TM, ORDER_DT_TM)) less than gen_begin_dt.

If (PROC_DT_TM ne . and datepart (PROC_DT_TM) < gen_begin_dt).

If ~~ENCOUNTER_KEY is missing and ORDER_SK is missing or zero~~ both ENCOUNTER_KEY and ORDER_SK are zero or null.

If MTF is missing and MTF_resulted is missing or NONE.

If MTF_resulted equal to TEST or VA.

If PATIENT_TEST_FLAG is equal to 1.

If TEST_LOCATION_FLAG is equal to 1.

If CPT is missing and CHARGE_DESC = "PORTABLE".

IX. MDR Feed to M2

The processor should create a dataset that can be joined with or appended with MDR CADRE Radiology which then feeds a combined dataset to M2.

X. SPECIAL OUTPUTS

This file serves as the input to the MIP Core MHS GENESIS Radiology Orders table. In accordance with Technical Data Standards, the data should be made available to users with the same file names, field names and formats as the source data, with underscores replacing spaces in the names, if desired. The MIP core MHS GENESIS Radiology Orders table should be updated at the same cadency of the M2 file and row counts should be validated against the MDR Export transmittals.