



16 JULY 2026

**MHS GENESIS  
Microbiology Results  
and Susceptibility  
for the  
MHS Data Repository  
(MDR) Specification**

Version 1.02.08

## MHS GENESIS Microbiology Results and Susceptibility Tables

Service Now Number DHAINC05669941

### Revision History

| Version | Date       | Originator | Para/Tbl/Fig             | Description of Change                                                                                                                                                   |
|---------|------------|------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.00.00 | 4/25/2019  | S. Keane   | Initial Document         | Baseline                                                                                                                                                                |
| 1.01.00 | 5/30/2019  | S. Keane   | Whole Document           | Add MHS GENESIS Microbiology Response phrases to Results file.                                                                                                          |
| 1.02.00 | 08/25/2020 | S. Keane   | Section VII Tables 1 & 2 | Match contents with final output.                                                                                                                                       |
| 1.02.01 | 9/21/2020  | S. Keane   | Section VII Tables 1 & 2 | Match contents with final output.                                                                                                                                       |
| 1.02.02 | 11/5/2020  | S. Keane   | Table 1                  | Update Field Lengths for: FIRST_NAME_P, LAST_NAME_P, PRSNL_COMPL_FNAME, PRSNL_COMPL_LNAME, PRSNL_ORD_FNAME, PRSNL_ORD_LNAME, PRSNL_VERIFIED_FNAME, PRSNL_VERIFIED_LNAME |
| 1.02.03 | 11/20/2020 | S. Keane   | Table 1                  | Remove first/last name fields. Replace with Full Name for Patient, Personnel Verified, Personnel Completing, and Personnel Non-Physician Ordering variables.            |
| 1.02.04 | 02/17/2022 | S. Keane   | Section IV               | Add Time Slicing, Frequency of processing, and Frequency of updates.                                                                                                    |
| 1.02.05 | 09/20/2023 | S. Keane   | Entire Document          | Add Bulk Data Extract (BDE) Redshift 3.0 feed logic.                                                                                                                    |
| 1.02.06 | 12/03/2024 | S. Keane   | Table 2.                 | Update business rules for BDE 3.0 MHS GENESIS Microbiology Susceptibility Results table.                                                                                |
| 1.02.07 | 03/06/2025 | S. Keane   | Table 2. and Section IX. | Hide T3 Region and add T5 Region. Add Special Outputs Section.                                                                                                          |
| 1.02.08 | 07/16/2026 | S. Keane   | Entire Document          | Apply CDAO branding.                                                                                                                                                    |

## MHS GENESIS Microbiology Results and Susceptibility Tables

### I. BACKGROUND

This specification describes the process required to create the Military Health System (MHS) Data Repository (MDR) GENESIS Microbiology Result and Susceptibility 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 Microbiology Result and Susceptibility 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 data. The processor performs merges and field derivations, and must incorporate updates to records across raw data extracts. The output datasets results.sas7bdat and suscept.sas7bdat will be stored in the following directory:  
/mdr/pub/genesis/laboratory/results/mb/results.sas7bdat

/mdr/pub/genesis/laboratory/results/mb/suscept.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.

MHS GENESIS Microbiology Result and Susceptibility tables will contain result-records for orders in the MHS GENESIS Laboratory table where Activity Type = “Microbiology”. Select result records that match order records on primary key. 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. The processor shall delete duplicates before updating the table. Duplicate records, defined as those with the same primary key. When choosing among duplicate records, the processor shall select the record with the most recent value for the variable: UPDT\_DT\_TM (update date/time (UPDT\_DT\_TM)) for multiple of records with the same primary key. Table A lists the final two (2) datasets and each table’s primary key. ORDER\_SK is used to link the tables.

**Table A: Final Datasets**

| Microbiology Results Final Datasets             | Primary Key        |
|-------------------------------------------------|--------------------|
| MHS GENESIS Microbiology Results                | ORDER_SK           |
| MHS GENESIS Microbiology Susceptibility Results | SUSCEPT_RESULTS_SK |

## VI. FILE MERGES

Tables B and C describe the data merges that are necessary to append many of the fields in the MHS GENESIS Microbiology Result and Susceptibility files.

**Table B: File Merges from PI-EDW Source Tables**

| Merge                                           | Key Matching                                                                                              |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| MHS GENESIS Laboratory Orders                   | Select records where ACTIVITY_TYPE = 'Microbiology'. Match on ORDER_SK.                                   |
| MHS GENESIS Microbiology Order                  | Match on ORDER_SK. Use MICRO_ORDER_SK for additional matching.                                            |
| MHS GENESIS Microbiology Task                   | Match on MICRO_ORDER_SK. Use MICRO_TASK_SK for additional matching.                                       |
| MHS GENESIS Microbiology Susceptibility Results | Match on MICRO_TASK_SK.                                                                                   |
| MHS GENESIS Microbiology Report Response        | Match on MICRO_TASK_SK.                                                                                   |
| MHS GENESIS Clinical Event                      | Match on ORDER_SK. Select records where EVENT_CLASS_REF in ('230'). Use EVENT_SK for additional matching. |
| MHS GENESIS Clinical Event Result Associations  | Match on EVENT_SK.                                                                                        |
| MHS GENESIS Personnel                           | Match on VERIFIED_PRSNL.                                                                                  |

Table C: File Merges from MIP Redshift 3.0 Source Views

| Source Table Name                               | View Name                      | Date Matching               | Key Matching                  |
|-------------------------------------------------|--------------------------------|-----------------------------|-------------------------------|
| MHS GENESIS Microbiology Order                  | genesis_vw.mic_order_lab       |                             | encntr_id, order_id           |
|                                                 | genesis_vw.ce_microbiology     |                             | event_id                      |
| MHS GENESIS Microbiology Task                   | genesis_vw.mic_task_log        |                             | order_id, task_log_id         |
| MHS GENESIS Microbiology Susceptibility Results | genesis_vw.ce_susceptibility   |                             | event_id                      |
| MHS GENESIS Microbiology Report Response        | genesis_vw.mic_report_response |                             | task_log_id                   |
| MHS GENESIS Clinical Event                      | genesis_vw.clinical_event      | valid_until_dt_tm > sysdate | encntr_id, order_id, event_id |
| MHS GENESIS Clinical Event Specimen             | genesis_vw.ce_specimen_coll    |                             | event_id                      |
| MHS GENESIS Container                           | genesis_vw.container           |                             | container_id                  |

## VII. FILE LAYOUT

Table 1 describes the file layout and derivation rules for the MHS GENESIS Microbiology Results file. Unless specified, business rules apply to both source tables. Listed by Source table then by Variable Name.

Table 1 MHS GENESIS Microbiology Results

| Variable Name                                | SAS Name                             | Format      | PI-EDW 2.4 Field           | MIP Redshift 3.0 Field  | Business Rule                                                        |
|----------------------------------------------|--------------------------------------|-------------|----------------------------|-------------------------|----------------------------------------------------------------------|
| <b><i>MHS GENESIS Microbiology Order</i></b> |                                      |             |                            |                         |                                                                      |
| Date Time Culture Start                      | CULTURE_ST<br>ART_DT_TM              | E8601<br>DT | culture_start<br>_dt_tm    | culture_start<br>_dt_tm | Format e8601dt.                                                      |
| Date Time Culture Start Local                | CULTURE_ST<br>ART_DT_TM_<br>local    | E8601<br>DT | culture_start<br>_dt_tm    | culture_start<br>_dt_tm | Format e8601dt.<br>Convert to local Time.                            |
| Date Time Specimen Collected                 | FIRST_CTNR_<br>DRAWN_DT_<br>TM       | E8601<br>DT | first_ctnr_dr<br>awn_dt_tm | collect_dt_t<br>m       | Format e8601dt.                                                      |
| Date Time Specimen Collected Local           | FIRST_CTNR_<br>DRAWN_DT_<br>TM_local | E8601<br>DT | first_ctnr_dr<br>awn_dt_tm | collect_dt_t<br>m       | Format e8601dt.<br>Convert to local Time.                            |
| Nosocomial Infection Indicator               | NOSOCOIMA<br>L_IND                   | N(8)        |                            | non_socomi<br>al_ind    | 2.4 No Transformation. 3.0 Rename NON_SOCOMIAL_IND = NOSOCOMIAL_IND. |

| Variable Name                | SAS Name           | Format   | PI-EDW 2.4 Field                 | MIP Redshift 3.0 Field | Business Rule                                                                             |
|------------------------------|--------------------|----------|----------------------------------|------------------------|-------------------------------------------------------------------------------------------|
| Number of Containers         | NBR_OF_CONTAINERS  | N(8)     |                                  | n/a                    | 2.4 No Transformation. 3.0 NULL.                                                          |
| Number of Specimens          | NBR_OF_SPECIMENS   | N(8)     |                                  | n/a                    | 2.4 No Transformation. 3.0 NULL.                                                          |
| Order Comment                | ORDER_COMMENT      | \$255.00 | source_site_freertext            | source_text            | 2.4 rename SOURCE_SITE_FREEXT = ORDER_COMMENT.<br>3.0 rename SOURCE_TEXT = ORDER_COMMENT. |
| Order Status                 | ORDER_STATUS       | \$20.00  | status_ref                       | status_cd              | put(STATUS_REF, \$MICS1.) as ORDER_STATUS (code set 1031).                                |
| Positive Response Indicator  | ORDER_POSITIVE_IND | N(8)     |                                  | positive_ind           | None.                                                                                     |
| Specimen                     | SPECIMEN           | \$38.00  | first_specimen_type_ref          | specimen_type_cd       | put(FIRST_SPECIMEN_TYPE_REF, \$SPECT.) as SPECIMEN (code set 2052).                       |
| Specimen Collected Indicator | COLLECTED_IND      | N(8)     |                                  | specimen_id            | 2.4 No Transformation. 3.0 If specimen_id is null then 0; else 1.                         |
| Specimen Collection Method   | COLLECTION_METHOD  | \$13.00  | first_ctnr_collection_method_ref | collection_method_cd   | put(FIRST_CTNR_COLLECTION_METHOD_REF, \$COLLM.) as COLLECTION_METHOD (code set 2058).     |
| Specimen Collection Priority | PRIORITY           | \$11.00  | collection_priority_ref          | collect_priority_cd    | put(COLLECTION_PRIORITY_REF, \$collection_priority.) as PRIORITY, (code set 2054).        |
| Specimen Container           | CONTAINER_TYPE     | \$59.00  | first_ctnr_type_ref              | spec_cntnr_cd          | put(FIRST_CTNR_TYPE_REF, \$SPECC.) as CONTAINER_TYPE (code set 2051).                     |

| Variable Name                                 | SAS Name             | Format   | PI-EDW 2.4 Field        | MIP Redshift 3.0 Field | Business Rule                                                                                       |
|-----------------------------------------------|----------------------|----------|-------------------------|------------------------|-----------------------------------------------------------------------------------------------------|
| Specimen Container Units                      | CONTAINER_UNITS      | \$60.00  | first_cntr_units_ref    | units_cd               | 2.4 put(FIRST_CNTR_UNIT_S_REF, \$UNITII.) as CONTAINER_UNITS (code set 240). 3.0 Apply code set 54. |
| Specimen Site                                 | SPECIMEN_SITE        | \$38.00  | first_specimen_site_ref | body_site_cd           | put(FIRST_SPECIMEN_SITE_REF, \$BODYIS.) as SPECIMEN_SITE (code set 1028).                           |
| Volume                                        | VOLUME               | N(8)     | first_cntr_volume       | collect_volume         | 2.4 rename FIRST_CNTR_VOLUME = VOLUME. 3.0 rename COLLECT_VOLUME = VOLUME.                          |
| <b>MHS GENESIS Clinical Event</b>             |                      |          |                         |                        |                                                                                                     |
| Accession Number Clinical Events              | ACCESSION_NBR        | \$100.00 |                         | accession_nbr          | None.                                                                                               |
| Date Time Verified                            | VERIFIED_DT_TM       | E8601DT  |                         | verified_dt_tm         | None.                                                                                               |
| Date Time Verified Local                      | VERIFIED_DT_TM_local | E8601DT  | verified_dt_tm          | verified_dt_tm         | Format e8601dt. Convert to local Time.                                                              |
| Event SK                                      | EVENT_SK             | \$100.00 |                         | event_id               | None.                                                                                               |
| MHS Genesis Test Ordered Desc Clinical Events | EVENT_CODE           | \$60.00  | event_code_ref          | event_cd               | put(event_code_ref,\$ev_code.) as EVENT_CODE(code set 72).                                          |
| Normalcy Indicator                            | EVENT_NORMACY        | \$14.00  | event_normacy_ref       | normalcy_cd            | put(EVENT_NORMACY_REF, \$ev_norm.) as EVENT_NORMACY (code set 52).                                  |
| Order SK                                      | ORDER_SK             | \$100.00 |                         | order_id               | None.                                                                                               |
| <b>MHS GENESIS Microbiology Task</b>          |                      |          |                         |                        |                                                                                                     |
| Organism n (where n = 1-8)                    | ORGANISM             | \$60.00  | organism_ref            | organism_cd            | put(ORGANISM_REF, \$ORGAO.) as ORGANISMn (code set 1021). Transpose Organism.                       |

| Variable Name                                         | SAS Name   | Format  | PI-EDW 2.4 Field | MIP Redshift 3.0 Field | Business Rule                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------|------------|---------|------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>MHS GENESIS Clinical Event Result Associations</i> |            |         |                  |                        |                                                                                                                                                                                                                                                                                                                                                                             |
| LOINC Code                                            | LOINC_CODE | \$60.00 | value            | source_identifier      | 2.4 Obtain value AS LOINC_CODE match on REF_CODE_NOMEN = NOMENCLATURE_SK (convert to numeric) from refe_cnref where health_system_source_id = 18635 and active_ind =1 and vocabulary_ref in ('680001', '1220'). 3.0 Obtain source_identifier as LOINC_CODE match on ref_cd_map_detail = nomenclature_id where concept_cki ILIKE '%LOINC%' OR source_vocabulary_cd = 680001. |

| Variable Name     | SAS Name          | Format   | PI-EDW 2.4 Field | MIP Redshift 3.0 Field | Business Rule                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-------------------|----------|------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOINC Description | LOINC_DESCRIPTION | \$255.00 | Description      | source_string          | 2.4 Obtain description as<br>LOINC_DESCRIPTION<br>match on<br>REF_CODE_NOMEN =<br>NOMENCLATURE_SK<br>(convert to numeric)<br>from refe_cnref where<br>health_system_source<br>_id = 18635 and<br>active_ind =1 and<br>vocabulary_ref in<br>( '680001', '1220'). 3.0<br>Obtain source_string<br>as<br>LOINC_DESCRIPTION<br>match on<br>ref_cd_map_detail =<br>nomenclature_id<br>where concept_cki<br>ILIKE '%LOINC%' OR<br>source_vocabulary_cd<br>= 680001. |

| Variable Name                | SAS Name             | Format  | PI-EDW 2.4 Field     | MIP Redshift 3.0 Field | Business Rule                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|----------------------|---------|----------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOINC Lab Test Name          | LAB_OBSERVATION_NAME | \$60.00 | display              | short_string           | 2.4 Obtain display AS LAB_OBSERVATION_NAME match on REF_CODE_NOMEN = NOMENCLATURE_SK (convert to numeric) from refe_cnref where health_system_source_id = 18635 and active_ind =1 and vocabulary_ref in ('680001', '1220'). 3.0 Obtain short_string as LAB_OBSERVATION_NAME match on ref_cd_map_detail = nomenclature_id where concept_cki ILIKE '%LOINC%' OR source_vocabulary_cd = 680001. |
| <b>MHS GENESIS Personnel</b> |                      |         |                      |                        |                                                                                                                                                                                                                                                                                                                                                                                              |
| Personnel Verified EDIPN     | PRSNL_VERIFIED_EDIPN | \$10.00 | prsnl_verified_edipn | prsnl_verified_edipn   | 2.4 Obtain PRSNL_EDIPN from Personnel; Match on VERIFIED_PRSNL from clev_ccevent = PRSNL_SK from personnel. 3.0 Use verified_prsnl_id as verified_prsnl.                                                                                                                                                                                                                                     |
| Personnel Verified HIPAA     | PRSNL_VERIFIED_HIPAA | \$10.00 | prsnl_verified_hipaa | prsnl_verified_hipaa   | 2.4 Obtain HIPAA1 from Personnel; Match on VERIFIED_PRSNL from clev_ccevent = PRSNL_SK from personnel. 3.0 Use verified_prsnl_id as verified_prsnl.                                                                                                                                                                                                                                          |

| Variable Name                        | SAS Name               | Format   | PI-EDW 2.4 Field       | MIP Redshift 3.0 Field | Business Rule                                                                                                                                                |
|--------------------------------------|------------------------|----------|------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personnel Verified Name              | PRNSL_VERIFIED_NAME    | \$61.00  | prsnl_verified_name    | prsnl_verified_name    | 2.4 Obtain FULL_NAME from Personnel; Match on VERIFIED_PRSNL from clev_ccevent = PRSNL_SK from personnel. 3.0 Use verified_prsnl_id as verified_prsnl.       |
| Personnel Verified MD Flag           | PRSNL_VERIFIED_MD_FLAG | N(8)     | prsnl_verified_md_flag | prsnl_verified_md_flag | 2.4 Obtain PHYSICIAN_IND from Personnel; Match on VERIFIED_PRSNL from clev_ccevent = PRSNL_SK from personnel. 3.0 Use verified_prsnl_id as verified_prsnl.   |
| Personnel Verified NPI               | PRSNL_VERIFIED_NPI     | \$10.00  | prsnl_verified_npi     | prsnl_verified_npi     | 2.4 Obtain NPI from Personnel; Match on VERIFIED_PRSNL from clev_ccevent = PRSNL_SK from personnel. 3.0 Use verified_prsnl_id as verified_prsnl.             |
| Personnel Verified Test Indicator    | PRSNL_VERIFIED_FLAG    | \$1.00   | prsnl_verified_flag    | prsnl_verified_flag    | 2.4 Obtain TEST_RECORD_IND from Personnel; Match on VERIFIED_PRSNL from clev_ccevent = PRSNL_SK from personnel. 3.0 Use verified_prsnl_id as verified_prsnl. |
| <b>MHS GENESIS Laboratory Orders</b> |                        |          |                        |                        |                                                                                                                                                              |
| Accession Number                     | ACCESSION              | \$100.00 |                        |                        | None.                                                                                                                                                        |
| Ben Cat Common                       | COMBEN_D               | \$1.00   |                        |                        | None.                                                                                                                                                        |
| Beneficiary Category                 | BENCAT_D               | \$3.00   |                        |                        | None.                                                                                                                                                        |
| Beneficiary Zip Code                 | ZIP_D                  | \$5.00   |                        |                        | None.                                                                                                                                                        |

| Variable Name                        | SAS Name          | Format   | PI-EDW 2.4 Field | MIP Redshift 3.0 Field | Business Rule                    |
|--------------------------------------|-------------------|----------|------------------|------------------------|----------------------------------|
| Date Complete                        | DATE_COMPLETE     | \$8.00   |                  |                        | None.                            |
| Date Time Order Local                | ORDER_DT_TM_LOCAL | DATETIME |                  |                        | None.                            |
| Eligibility Group                    | ELG_GRP           | \$1.00   |                  |                        | None.                            |
| Encounter PI-EDW Key                 | ENCOUNTER_KEY     | N(8)     |                  | n/a                    | 2.4 No Transformation. 3.0 NULL. |
| Encounter SK                         | ENCOUNTER_SK      | \$100.00 |                  | n/a                    | 2.4 No Transformation. 3.0 NULL. |
| Encounter Type                       | ENCOUNTER_TYPE    | \$22.00  |                  |                        | None.                            |
| Enrollment Group                     | ENR_GRP           | \$1.00   |                  |                        | None.                            |
| Financial Information Number (FIN)   | FIN_E             | \$40.00  |                  |                        | None.                            |
| Fiscal Month                         | FM                | \$2.00   |                  |                        | None.                            |
| Fiscal Year                          | FY                | \$4.00   |                  |                        | None.                            |
| Genesis Go Live Date                 | gen_begin_dt      | MMDDYY   |                  |                        | None.                            |
| Inpatient Indicator                  | INPT              | \$1.00   |                  |                        | None.                            |
| Medical Record Number                | MRN               | \$40.00  |                  |                        | None.                            |
| MEPRS4 Code, Ordering                | MEPRS_CD          | \$4.00   |                  |                        | None.                            |
| MHS Genesis Flag                     | MHS_GENESIS_FLAG  | \$1.00   |                  |                        | None.                            |
| MHS Genesis Test Ordered Description | ORDERABLE_DISP    | \$100.00 |                  |                        | None.                            |
| MTF                                  | MTF               | \$4.00   |                  |                        | None.                            |
| MTF Display Name                     | UNIT_DISPLAY      | \$45.00  |                  |                        | None.                            |
| MTF Name                             | UNIT_NAME         | \$100.00 |                  |                        | None.                            |
| Parent MTF Name                      | ORGANIZATION_NAME | \$40.00  |                  |                        | None.                            |
| Patient Age                          | PATAGE            | N(8)     |                  |                        | None.                            |
| Patient Date of Birth                | PATDOB            | YYMMDDN  |                  |                        | None.                            |
| Patient EDIPN                        | EDIPN             | \$10.00  |                  |                        | None.                            |

| Variable Name                            | SAS Name             | Format   | PI-EDW 2.4 Field | MIP Redshift 3.0 Field | Business Rule |
|------------------------------------------|----------------------|----------|------------------|------------------------|---------------|
| Patient Name                             | NAME                 | \$61.00  |                  |                        | None.         |
| Patient Gender                           | GENDER_D             | \$1.00   |                  |                        | None.         |
| Patient Race                             | RACE                 | \$1.00   |                  |                        | None.         |
| Patient SSN                              | SSN                  | \$9.00   |                  |                        | None.         |
| Person SK                                | PERSON_SK            | \$100.00 |                  |                        | None.         |
| Personnel Completing EDIPN               | PRSNL_COM PL_EDIPN   | \$10.00  |                  |                        | None.         |
| Personnel Completing HIPAA Taxonomy      | PRSNL_COM PL_HIPAA   | \$10.00  |                  |                        | None.         |
| Personnel Completing Name                | PRSNL_COM PL_NAME    | \$61.00  |                  |                        | None.         |
| Personnel Completing MD Flag             | PRSNL_COM PL_MD_FLAG | N(8)     |                  |                        | None.         |
| Personnel Completing NPI                 | PRSNL_COM PL_NPI     | \$100.00 |                  |                        | None.         |
| Personnel Non-Physician Ordering EDIPN   | PRSNL_ORD _EDIPN     | \$10.00  |                  |                        | None.         |
| Personnel Non-Physician Ordering HIPAA   | PRSNL_ORD _HIPAA     | \$10.00  |                  |                        | None.         |
| Personnel Non-Physician Ordering Name    | PRSNL_ORD _NAME      | \$61.00  |                  |                        | None.         |
| Personnel Non-Physician Ordering MD Flag | PRSNL_ORD _MD_FLAG   | N(8)     |                  |                        | None.         |
| Personnel Non-Physician Ordering NPI     | PRSNL_ORD _NPI       | \$100.00 |                  |                        | None.         |
| Sponsor ID                               | SPONSSN              | \$9.00   |                  |                        | None.         |
| Sponsor Service                          | SPONSVC              | \$1.00   |                  |                        | None.         |
| Sponsor Service, Aggregate               | SVCAGG               | \$1.00   |                  |                        | None.         |

| Variable Name               | SAS Name            | Format | PI-EDW 2.4 Field | MIP Redshift 3.0 Field | Business Rule                                                                                                     |
|-----------------------------|---------------------|--------|------------------|------------------------|-------------------------------------------------------------------------------------------------------------------|
| Tmt MTF Military Service    | MTF_SVC             | \$1.00 |                  |                        | None.                                                                                                             |
| Tmt MTF Parent of Record    | MTF_PARENT_REC      | \$4.00 |                  |                        | None.                                                                                                             |
| Tmt MTF T17 Region          | MTF_T17_REGION      | \$2.00 |                  |                        | None.                                                                                                             |
| Tmt MTF T3 Region           | MTF_T3_REG          | \$2.00 |                  |                        | Hide. Not populated as of Jan 2025.                                                                               |
| Tmt MTF T5 Region           | MTF_T5_REG          | \$2.00 |                  |                        | Populated FY23+.                                                                                                  |
| <i>Internally Derived</i>   |                     |        |                  |                        |                                                                                                                   |
| Related Suscept-Result Flag | RESULT_FLAG_SUSCEPT | N(8)   |                  |                        | 2.4 If micro_order_sk in (Results, Suscept) then 1; else 0. 3.0 If order_id in (Results, Suscept) then 1; else 0. |

Table 2 describes the file layout and derivation rules for the MHS GENESIS Microbiology Susceptibility file.

**Table 2 MHS GENESIS Microbiology Susceptibility Results**

| Variable Name                         | SAS Name           | Format   | PI-EDW 2.4 Field        | MIP Redshift 3.0 Field | Business Rule                                                              |
|---------------------------------------|--------------------|----------|-------------------------|------------------------|----------------------------------------------------------------------------|
| <i>MHS GENESIS Microbiology Order</i> |                    |          |                         |                        |                                                                            |
| Order SK                              | ORDER_SK           | \$100.00 | order_sk                | order_id               | None.                                                                      |
| Body Site                             | SPECIMEN_SITE      | \$38.00  | first_specimen_site_ref | body_site_cd           | put(FIRST_SPECIMEN_SITE_REF, \$BODYSITE) as SPECIMEN_SITE (code set 1028). |
| Number of Containers                  | NBR_OF_CONTAINERS  | N(8)     |                         | n/a                    | 2.4 No Transformation. 3.0 NULL.                                           |
| Order Positive Indicator              | ORDER_POSITIVE_IND | N(8)     |                         | positive_ind           | None.                                                                      |
| Specimen                              | SPECIMEN           | \$38.00  | first_specimen_type_ref | specimen_type_cd       | put(FIRST_SPECIMEN_TYPE_REF, \$SPECTYPE) as SPECIMEN (code set 2052).      |
| Specimen Container                    | CONTAINER_TYPE     | \$59.00  | first_ctnr_type_ref     | spec_cntnr_cd          | put(FIRST_CTNR_TYPE_REF, \$SPECC) as CONTAINER_TYPE (code set 2051).       |

| Variable Name                                          | SAS Name              | Format  | PI-EDW 2.4 Field          | MIP Redshift 3.0 Field   | Business Rule                                                                                                                                |
|--------------------------------------------------------|-----------------------|---------|---------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Specimen Container Units                               | CONTAINER_UNITS       | \$60.00 | first_cntr_units_ref      | units_cd                 | 2.4 put(FIRST_CNTR_UNITS_REF, \$UNITII.) as CONTAINER_UNITS (code set 240). 3.0 Apply code set 54.                                           |
| Volume                                                 | VOLUME                | N(8)    | first_cntr_volume         | collect_volume           | 2.4 rename FIRST_CNTR_VOLUME = VOLUME. 3.0 rename COLLECT_VOLUME = VOLUME.                                                                   |
| <b>MHS GENESIS Microbiology Task</b>                   |                       |         |                           |                          |                                                                                                                                              |
| Organism                                               | ORGANISM              | \$60.00 | organism_ref              | organism_cd              | put(ORGANISM_REF, \$ORGAO.) as ORGANISM (code set 1021).                                                                                     |
| <b>MHS GENESIS Microbiology Susceptibility Results</b> |                       |         |                           |                          |                                                                                                                                              |
| Abnormal Response Indicator                            | ABNORMAL_RESPONSE_IND | N(8)    |                           | abnormal_flag            | None.                                                                                                                                        |
| Alpha Numeric Result                                   | ALPHA_NUMERIC_RESULT  | \$20.00 | alpha_numeric_result_ref  | result_cd                | 2.4 put(ALPHA_NUMERIC_RESULT_REF, \$ALPSR.) as ALPHA_NUMERIC_RESULT (code set 1025). 3.0 apply code sets 64, 1025 where suscept_seq_nbr = 1. |
| Antibiotic Medication                                  | ANTIBIOTIC_MEDICATION | \$32.00 | antibiotic_medication_ref | antibiotic_cd            | put(ANTIBIOTIC_MEDICATION_REF, \$ANTIA.) as ANTIBIOTIC_MEDICATION 3.0 apply code sets (code sets 39, 1011).                                  |
| Chartable Indicator                                    | CHARTABLE_IND         | N(8)    |                           | chartable_flag           | None.                                                                                                                                        |
| Detail Test Type                                       | DETAIL_TEST_TYPE      | \$30.00 | detail_test_type_ref      | detail_susceptibility_cd | put(DETAIL_TEST_TYPE_REF, \$SUSCD.) as DETAIL_TEST_TYPE (code set 1004). 3.0 Apply code set 1004 where suscept_seq_nbr =2.                   |

| Variable Name                     | SAS Name                    | Format   | PI-EDW 2.4 Field          | MIP Redshift 3.0 Field   | Business Rule                                                                                                                                    |
|-----------------------------------|-----------------------------|----------|---------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Interpretation Result             | INTERPRETATION_RESULT       | \$28.00  | interpretation_result_ref | result_cd                | 2.4 put(INTERPRETATION_RESULT_REF, \$SUSIR.) as INTERPRETATION_RESULT (code set 64). 3.0 Apply code sets (64, 1025) where suscept_seq_nbr = 2.   |
| MIC Dilution                      | MIC_DILUT                   | \$100.00 | result_txt                | result_cd                | 2.4 If RESULT_TYPE_FLAG = 7 then RESULT_TXT = MIC_INTERP; else RESULT_TXT = MIC_DILUT. 3.0 Apply code sets (64, 1025) where suscept_seq_nbr = 1. |
| MIC Interpretation                | MIC_INTERP                  | \$100.00 | result_txt                | result_cd                | 2.4 If RESULT_TYPE_FLAG = 7 then RESULT_TXT = MIC_INTERP; else RESULT_TXT = MIC_DILUT. 3.0 Apply code sets (6,1025) where suscept_seq_nbr = 2.   |
| Numeric Result                    | NUMERIC_RESULT              | N(8)     |                           | result_numeric_value     | None.                                                                                                                                            |
| Panel                             | PANEL                       | \$27.00  | panel_ref                 | panel_antibiotic_cd      | 2.4 put(PANEL_REF, \$MICRT.) as PANEL (code set 1010). 3.0 apply code sets 1010, 132038.                                                         |
| Panel Complete Required Indicator | PANEL_COMPLETE_REQUIRED_IND | N(8)     |                           | n/a                      | 2.4 No Transformation. 3.0 NULL.                                                                                                                 |
| Result Status                     | RESULT_STATUS               | \$45.00  | result_status_ref         | susceptibility_status_cd | put(RESULT_STATUS_REF, \$MICSII.) as RESULT_STATUS (code set 1901).                                                                              |
| Result Unit                       | RESULT_UNIT                 | \$60.00  | result_unit_ref           | result_unit_cd           | put(RESULT_UNIT_REF, \$unit_ref.) as RESULT_UNIT (code set 54).                                                                                  |

| Variable Name                                 | SAS Name             | Format   | PI-EDW 2.4 Field | MIP Redshift 3.0 Field                   | Business Rule                                                                                                                                                                   |
|-----------------------------------------------|----------------------|----------|------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Susceptibility Results SK                     | SUSCEPT_RESULTS_SK   | \$100.00 |                  | event_id, micro_seq_nbr, suscept_seq_nbr | 2.4 No Transformation. 3.0 Order by event_id, micro_seq_nbr, suscept_seq_nbr then concatenate( event_id, ~, micro_seq_nbr, ~, row_num (1-n) for every unique suscept_seq_nbr) . |
| <b>MHS GENESIS Clinical Event</b>             |                      |          |                  |                                          |                                                                                                                                                                                 |
| Date Time Verified Local                      | VERIFIED_DT_TM_local | E8601DT  | verified_dt_tm   | verified_dt_tm, verified_tz              | Format e8601dt. Convert to local Time.                                                                                                                                          |
| Encounter SK                                  | ENCOUNTER_SK         | \$100.00 |                  | n/a                                      | 2.4 No Transformation. 3.0 NULL.                                                                                                                                                |
| MHS Genesis Test Ordered Desc Clinical Events | EVENT_CODE           | \$60.00  | event_code_ref   | event_cd                                 | put(event_code_ref,\$ev_code.) as EVENT_CODE (code set 72).                                                                                                                     |
| <b>MHS GENESIS Laboratory Orders</b>          |                      |          |                  |                                          |                                                                                                                                                                                 |
| Accession Number                              | ACCESSION            | \$100.00 |                  |                                          | None.                                                                                                                                                                           |
| Ben Cat Common                                | COMBEN_D             | \$1.00   |                  |                                          | None.                                                                                                                                                                           |
| Beneficiary Category                          | BENCAT_D             | \$3.00   |                  |                                          | None.                                                                                                                                                                           |
| Date Complete                                 | DATE_COMPLETE        | \$8.00   |                  |                                          | None.                                                                                                                                                                           |
| Date Time Order Local                         | ORDER_DT_TM_LOCAL    | DATETIME |                  |                                          | None.                                                                                                                                                                           |
| Encounter Type                                | ENCOUNTER_TYPE       | \$22.00  |                  |                                          | None.                                                                                                                                                                           |
| Financial Information Number (FIN)            | FIN_E                | \$40.00  |                  |                                          | None.                                                                                                                                                                           |
| Fiscal Month                                  | FM                   | \$2.00   |                  |                                          | None.                                                                                                                                                                           |
| Fiscal Year                                   | FY                   | \$4.00   |                  |                                          | None.                                                                                                                                                                           |
| Inpatient Indicator                           | INPT                 | \$1.00   |                  |                                          | None.                                                                                                                                                                           |
| Medical Record Number                         | MRN                  | \$40.00  |                  |                                          | None.                                                                                                                                                                           |

| Variable Name                 | SAS Name          | Format   | PI-EDW 2.4 Field | MIP Redshift 3.0 Field | Business Rule |
|-------------------------------|-------------------|----------|------------------|------------------------|---------------|
| MEPRS4 Code, Ordering         | MEPRS_CD          | \$4.00   |                  |                        | None.         |
| MHS Genesis Test Ordered Desc | ORDERABLE_DISP    | \$100.00 |                  |                        | None.         |
| MTF                           | MTF               | \$4.00   |                  |                        | None.         |
| MTF Display Name              | UNIT_DISPLAY      | \$45.00  |                  |                        | None.         |
| MTF Name                      | UNIT_NAME         | \$100.00 |                  |                        | None.         |
| Parent MTF Name               | ORGANIZATION_NAME | \$40.00  |                  |                        | None.         |
| Patient EDIPN                 | EDIPN             | \$10.00  |                  |                        | None.         |

### VIII. EXCLUSIONS

Here are the conditions required to exclude and/or remove records from the MHS GENESIS Microbiology Results and Susceptibility files. If any of the following conditions are met, either delete the record or output to an error file.

If primary key is missing or zero.

### IX. SPECIAL OUTPUTS

This file serves as the input to the MIP Core MHS GENESIS Microbiology Results 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 Microbiology Results table should be updated at the same cadency of the M2 file and row counts should be validated against the MDR Export transmittals.