15 January 2025

MHS GENESIS Appointment File BDE 3.0
for the
MHS Data Repository (MDR)
(Version 1.00.01)

Current Specification

Revision History

Version	Date	Originator	Para/Tbl/Fig	Description of Change
1.00.00	1/14/2025	Keith Hofmann	• Initial Document	• Initial Document.
1.00.01	1/15/2025	Keith Hofmann	• Table 2 • Appendix B	• Changed logic for event action dates (checkin_dt_tm, checkout_dt_tm, first_book_dt_tm, last_book_dt_tm) to sort based on action_dt_tm rather than updt_dt_tm • Changed appt_made_dt_tm to be based on last_book_dt_tm rather than first_book_dt_tm • Changed Referral Order Number to take the earliest attached order (by order_dt_tm), rather than the latest. • Changed Encounter Class to be based on encntr_type_class_cd (code set 69) rather than encntr_class_cd (code set 321). • Added T5 Regions (ben_t5_reg, enr_t5_reg, mtf_t5_reg), Readiness Service. (enr_readiness_svc, tx_readiness_svc), and Defense Health Networks (enr_network, tx_network). • Added Patient Portal Flag (and included it in the logic for Appointment Type). • Added VIDEO VISIT and MMH VIDEO appointment types to the appt_type and appt_type_legacy derivations. • Added CV and BD appointment prefixes to the appt_type derivation. • Renamed race/ethnicity fields from DEERS as race_deers and ethnic_deers. • Added new combined DEERS/MHS GENESIS race and ethnicity fields.

MDR MHS GENESIS Appointment File

I. SOURCE:

The source system is the Oracle Health Millenium database and data is sent via the Bulk Data Extract (BDE) 3.0 feeds. All records are based on records sent from SCH_EVENT table. In order to increase the utility of this file, it is merged against other tables from Millenium as well as other files on the MDR, as described below in Section VI.

II. TRANSMISSION (FORMAT AND FREQUENCY)

BDE 3.0 is sent daily by Oracle and ingested by Enterprise Intelligence and Data Solutions (EIDS) into Redshift, accessible in the genesis_vw schema. The MDR processor is run weekly and creates a SAS data set.

III. ORGANIZATION AND BATCHING

Source data: Organization and batching of records received from MHS GENESIS is performed by EIDS in Redshift, which is then consumed by the MDR processor.

Output products: SAS datasets containing all appointment records where the appt_dt_tm is in a fiscal year. The Appointment files are stored at /mdr/pub/genesis3/appointment/fyxx.sas7bdat.

IV. RECEIVING FILTERS

Records for appointments that have not yet occurred appear in the data, but in the MDR data sets, only appointments up to 45 days after the processing date are kept. The future FY should therefore be processed and published starting 45 days before the end of the FY. For example, if the current year is FY24, the FY25 file should be processed starting around 8/15/24.

V. UPDATE PROCESS

The primary key for the Appointment table is the SCH_EVENT_ID field. During the extraction of the raw Appointment records, de-duplication of records, or anytime an Appointment key collision occurs between incoming data and existing master data, the processor de-duplicates data by selecting the record with the most recent value of the update date/time (UPDT_DT_TM) for any multiple of records with the same primary key. Similar update processes are applied to the other raw data sets.

Once the raw data has been updated, the processor combines them as described here and assigns many other internally-derived variables as described in Table 2.

VI. FIELD TRANSFORMATIONS AND DELETIONS FOR MDR CORE DATABASE

This section of this functional specification describes the data merges that are necessary to append fields in the MDR MHS GENESIS Appointment file. Table 1 describes the reference files that are used in processing.

Table 1: Data Merges for MDR MHS GENESIS Appointment File

Merge	Date Matching	Additional Matching
BDE 3.0 Scheduling Appointment table (SCH_APPT)	Filter to beg_dt_tm > 2/6/2017	sch_event_id
BDE 3.0 Scheduling Event Patient table (SCH_EVENT_PATIENT)		sch_event_id
BDE 3.0 Scheduling Event Action table (SCH_EVENT_ACTION)		sch_event_id
BDE 3.0 Scheduling Event Attach table (SCH_EVENT_ATTACH)		sch_event_id
BDE 3.0 Schedule table (SCH_SCHEDULE)		sch_event_id
BDE 3.0 Scheduling Location table (SCH_LOCATION)		Join to sch_schedule table by schedule_id
BDE 3.0 Encounter table (ENCOUNTER)		encntr_id
BDE 3.0 Encounter Personnel Relationship table (ENCNTR_PRSNL_RELTN)		encntr_id
BDE 3.0 Encounter Alias table (ENCNTR_ALIAS)		encntr_id
BDE 3.0 Code Value table (CODE_VALUE)		Various merge keys. See below.
MDR MHS GENESIS Person File		person_sk
Master Person Index (MPI)		edipn, ssn, gender_r, dob_r, last_name, first_name
Longitudinal VM6 (LVM6)	Appointment date between the begin and end dates associated with the segment	EDIPN
OMNI-Cad	Year and month of CAD = appointment date	patzip, sponsvc
MDR MHS GENESIS Location File		scheduled_loc=location_sk
DMIS ID Index Table	FY	mtf and denrsite (two separate merges)
MDR MHS GENESIS Personnel File		provid*i*=person_sk

Upon matching to the MDR MHS GENESIS Person file, MDR MHS GENESIS Personnel file, and MDR MHS GENESIS Location file, records that meet the following criteria are deleted:

- Records where the test_person_ind = 1 in the MDR MHS GENESIS Person File.
- Records where any of the test_personnel_ind fields = 1 in the MDR MHS GENESIS Personnel File.
- Records where the test_location_ind = 1 in the MDR MHS GENESIS Location File.
- Records where the appointment date is before the go live date for the location for the MTF.

When future FYs are processed, some of these reference files may not be available. For those years, skip the LVM merge, the DMIS ID Index table merge based on denrsite, and the Omni CAD merge. For the DMIS ID Index table merge based on mtf, if the future year is not available, use the most recent year. For example, if the current year is FY24, the future year is FY25, but the FY25 DMIS ID Index Table is not available, merge all FY25 data to the FY24 DMIS ID Index table.

Business rules for each of the appended fields are described in the body of the format table in Section VII.

VII. FILE LAYOUT

The MDR MHS GENESIS Appointment file is stored in a SAS data set. Table 2 provides the file layout and processing rules.

Table 2: File Layout for MDR MHS GENESIS Appointment File

Field	Format	SAS Name	Source Element	Transformation
Scheduled Appt Key	$100	sch_appointment_sk	sch_event_id	Cast sch_event_id as varchar(100).
Appointment Type Text	$255	appt_type_txt	appt_synonym_free	No transformation
Extract Date to MDR	Date/Time	extract_dt_tm_utc	dl_eff_dt	No transformation
Update Date/Time	Date/Time	updt_dt_tm_utc	updt_dt_tm	No transformation (leave in UTC)
Appointment Status	$40.	appt_stat	sch_meaning	No transformation
Fields from the sch_appt table				
Appointment Date and Time	Date/Time	appt_dt_tm	beg_dt_tm	For a given sch_event_id, take the highest schedule_seq, then prioritize non-patient rows over patient rows (role_meaning = "PATIENT"). For tie-breakers, take the lowest role_seq, then the lowest sch_appt_id, then the latest updt_dt_tm. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
Calendar Slot Begin Date/Time	Date/Time	slot_beg_dt_tm	beg_dt_tm	For a given sch_event_id, take the highest schedule_seq, then prioritize non-patient rows over patient rows (role_meaning = "PATIENT"). For tie-breakers, take the lowest role_seq, then the lowest sch_appt_id, then the latest updt_dt_tm. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
Calendar Slot End Date/Time	Date/Time	slot_end_dt_tm	end_dt_tm	For a given sch_event_id, take the highest schedule_seq, then prioritize non-patient rows over patient rows (role_meaning = "PATIENT"). For tie-breakers, take the lowest role_seq, then the lowest sch_appt_id, then the latest updt_dt_tm. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
Calendar Slot Duration	8.	duration	duration	For a given sch_event_id, take the highest schedule_seq, then prioritize non-patient rows over patient rows (role_meaning = "PATIENT"). For tie-breakers, take the lowest role_seq, then the lowest sch_appt_id, then the latest updt_dt_tm.

Field	Format	SAS Name	Source Element	Transformation
Appointment Provider ID	$100.	provid1	person_id	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with a non-zero person_id. For a given sch_event_id, take the highest schedule_seq, then take from the first row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id.
Provider 2 ID	$100.	provid2	person_id	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with a non-zero person_id. For a given sch_event_id, take the highest schedule_seq, then take from the second row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id.
Provider 3 ID	$100.	provid3	person_id	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with a non-zero person_id. For a given sch_event_id, take the highest schedule_seq, then take from the third row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id.
Provider 4 ID	$100.	provid4	person_id	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with a non-zero person_id. For a given sch_event_id, take the highest schedule_seq, then take from the fourth row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id.
Provider 5 ID	$100.	provid5	person_id	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with a non-zero person_id. For a given sch_event_id, take the highest schedule_seq, then take from the fifth row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id.
Regular Resource 1	$100.	regular_resource 1	resource_cd	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with person_id = 0. For a given sch_event_id, take the highest schedule_seq, then take from the first row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id. Look up resource_cd in the sch_resource table and return mnemonic. If provid1 is populated, leave this field blank.
Regular Resource 2	$100.	regular_resource 2	resource_cd	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with person_id = 0. For a given sch_event_id, take the highest schedule_seq, then take from the second row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id. Look up resource_cd in the sch_resource table and return mnemonic. If provid1 is populated, leave this field blank.
Regular Resource 3	$100.	regular_resource 3	resource_cd	Filter to non-patient rows (role_meaning ≠ "PATIENT") and only those with person_id = 0. For a given sch_event_id, take the highest schedule_seq, then take from the third row by role_seq. If a tie-breaker is needed then use the lowest sch_appt_id. Look up resource_cd in the sch_resource table and return mnemonic. If provid1 is populated, leave this field blank.

Field	Format	SAS Name	Source Element	Transformation
Fields from the sch_event_patient table				
MHS GENESIS Person ID	$100	person_sk	person_id	Filter to records with version_dt_tm > current system time and take the latest updt_dt_tm for a given sch_event_id. Cast person_id as varchar(100).
MHS GENESIS Encounter ID	$100.	encounter_sk	encntr_id	Filter to records with version_dt_tm > current system time and take the latest updt_dt_tm for a given sch_event_id. If encntr_id is 0 or not available from the sch_event_patient table, get it from the sch_appt table instead by filtering to patient rows (role_meaning = "PATIENT") and taking the highest schedule_seq for a given sch_event_id. If a tie-breaker is needed, take the latest updt_dt_tm. Cast encntr_id as varchar(100).
Fields from the sch_event_action				
Check in Time	Date/Time	checkin_dt_tm	action_dt_tm	Retrieve action_dt_tm where sch_action_cd is 4519 (Check In). Take earliest action_dt_tm. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
Check out Time	Date/Time	checkout_dt_tm	action_dt_tm	Retrieve action_dt_tm where sch_action_cd is 4520 (Check Out). Take latest action_dt_tm. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
First Booking Action Date and Time	Date/Time	first_book_dt_tm	action_dt_tm	Retrieve action_dt_tm where sch_action_cd is 4517 (SCHEDULE). Take earliest action_dt_tm for a given sch_event_id. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
Last Booking Action Date and Time	Date/Time	last_book_dt_tm	action_dt_tm	Retrieve action_dt_tm where sch_action_cd is 4517 (SCHEDULE). Take latest action_dt_tm for a given sch_event_id. Adjust from UTC to local time using the genesis_time_zone field from the merge to the MDR DMIS ID Index table by mtf.
Appointment Made Date	Date/Time	appt_made_dt_tm	N/A	If last_book_dt_tm is populated and is earlier than appt_dt_tm, set to last_book_dt_tm. If last_book_dt_tm is populated and is later than appt_dt_tm, set to appt_dt_tm. If last_book_dt_tm is missing, set to missing.
Fields from the sch_event_attach table				
Referral Order Number	$100.	ref_order_sk	order_id	Take first referral (by order_dt_tm) for a given sch_event_id. Cast order_id as varchar(100).

Field	Format	SAS Name	Source Element	Transformation
Fields from the sch_location table				
Scheduled Unit Location Code	$100	scheduled_loc	location_cd	First, join to the sch_schedule table where state_meaning ≠ "RESCHEDULED". Take the highest schedule_seq for a given sch_event_id, and then the latest updt_dt_tm. Then, join to the sch_location table by schedule_id. Cast location_cd as varchar(100).
Scheduled Unit Location	$100	scheduled_loc_txt	location_cd	Look up location_cd in code_value table where code_set = 220 and active_ind = 1 and return display.
Fields from the encounter table				
Encounter Class	$40.	encounter_class	encntr_type_class_cd	Look up encntr_type_class_cd in code_value table where code_set = 69 and active_ind = 1 and return description.
Encounter Type	$40.	encounter_type	encntr_type_cd	Look up encntr_type_cd in code_value table where code_set = 71 and active_ind = 1 and return description.
Discharge Disposition	$40.	discharge_disposition	disch_disposition_cd	Look up disch_disposition_cd in code_value table where code_set = 19 and active_ind = 1 and return description.
Fields from the encntr_alias table				
Financial Number	$40.	fin	alias	Filter to encntr_alias_type_cd = 1077 and active_ind = 1. Take the latest updt_dt_tm for a given encntr_id. Cast alias as varchar(40).
Fields from the encntr_prsnl_reltn table				
Encounter Attending Provider ID	$100.	provid_enc	prsnl_person_id	Filter to encntr_prsnl_r_cd = 1119 (Attending Physician) and active_ind = 1. Take the latest updt_dt_tm for a given encntr_id. Cast prsnl_person_id as varchar(100).
Fields from the MDR MHS GENESIS Person File				
EDIPN	$10.	edipn	N/A	edipn. If the MPI merge results in a different EDIPN for this SSN, fill with the EDIPN from the MPI. This only occurs if the original EDIPN was not found in the MPI.
SSN	$9.	ssn	N/A	ssn. If the MPI merge results in a different SSN for this EDIPN, fill with the SSN from the MPI.
First Name	$100.	first_name	N/A	first_name
Last Name	$100.	last_name	N/A	last_name
MRN	$40.	mrn	N/A	mrn
IPI	$10.	ipi	N/A	ipi
Test Record Indicator (Person)	8.	test_person_flag	N/A	test_record_ind
Gender of Record	$10.	gender_r	N/A	gender

Field	Format	SAS Name	Source Element	Transformation
Date and Time of Birth of Record	Date/Time	dob_r	N/A	dob
Race of Record	$41.	race_r	N/A	race
Ethnic Group of Record	$1.	ethnic_r	N/A	ethnic
ZIP Code of Record	$25.	patzip_r	N/A	zip
Marital Status of Record	$20.	marital_r	N/A	marital
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 LVM6				
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	SAS Date	patdob	N/A	Fill with date of birth associated with this EDIPN.
Race (DEERS)	$1.	race_deers	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 (DEERS)	$1.	ethnic_deers	N/A	Fill with ethnicity associated with this EDIPN. . If there is no match for this patient in the LVM, set to Z.
Patient ZIP Code	$5.	patzip	N/A	Fill with ZIP Code if the begin date on the appointment record 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 begin date on the appointment record 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.
Beneficiary Category	$3.	bencat	N/A	Fill with Beneficiary Category if the begin date on the appointment record is between the begin and end date associated with the Beneficiary Category. If the appointment 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 UNK. See VM6 Specification, Exhibits G-18 and 19 for segment and field positions.
Common Beneficiary Category	$1.	comben	N/A	Derived from Beneficiary Category during LVM merge. See VM6 Specification, section A.1.12 for derivation. If there is no match for this patient, set to 3.

Field	Format	SAS Name	Source Element	Transformation
Sponsor Service, Aggregate	$1.	sponsvc	N/A	Fill with Sponsor Service Aggregated if the begin date on the appointment record is between the begin and end date associated with the Sponsor Service Aggregated. If the appointment 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 begin date on the appointment record is between the begin and end date associated with the Medical Privilege Code. If the appointment 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 begin date on the appointment record is between the begin and end date associated with the Medicare Eligibility Code. If the appointment 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.
ACV	$1.	acv	N/A	Fill with ACV if the begin date on the appointment record is between the begin and end date associated with the ACV. If the appointment date is before 1/1/18 and the appointment 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 appointment date is on or after 1/1/18, set to blank. See VM6 Specification, Exhibit G-18 for segment and field positions. Note that the ACV will be blank filled starting in CY18.
ACV Group	$15.	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.	pcmid	N/A	Fill with PCM ID if the begin date on the appointment record 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.

Field	Format	SAS Name	Source Element	Transformation
Enrollment Site	$4.	denrsite	N/A	Fill with enrollment DMIS ID, if the begin date on the appointment record is between the begin and end date associated with the enrollment DMIS ID. If the appointment 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.
HCDP – Enrolled	$3.	hcdp	N/A	Fill with enrollment HCDP code if the begin date of the appt 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 begin date on the appointment record is between the begin and end date associated with the Eligibility Group. If the appointment date is on or after 1/1/18 and the appointment 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 appointment 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 begin date on the appointment record is between the begin and end date associated with the Enrollment Group. If the appointment date is on or after 1/1/18 and the appointment 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 appointment date is before 1/1/18, set to blank. See VM6 Specification, Exhibit G-19 for segment and field positions.
PCM Type	$1.	pcm_type	N/A	Fill with Enrollment PCM Type if the begin date on the appointment record is between the begin and end date associated with the Enrollment PCM Type. If the appointment date is on or after 1/1/18 and the appointment 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 appointment date is before 1/1/18, set to blank. See VM6 Specification, Exhibit G-19 for segment and field positions.
HCDP - Assigned	$3.	hcdp_assgn	N/A	Fill with assigned HCDP code if the begin date on the appointment record is between the begin and end date associated with the assigned HCDP code. See VM6 Specification, Exhibit G-19 for segment and field positions.

Field	Format	SAS Name	Source Element	Transformation
Fields from the Omni-CAD				
Catchment Area ID	$4.	catch	N/A	Based on matching FY, FM and patzip; if sponsvc = A then set equal to AWORLD, if sponsvc in (F, S) 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 in (F, S) then set equal to FPRISM; if sponsvc in (M, N, V) then set equal to NPRISM, 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 in (F, S) 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.
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.
Fields from the DMIS ID Index Table (merging by denrsite)				
Enrollment Service	$1.	enrsvc	N/A	After matching on FY and denrsite, set to ubu_svc
Enrollment Readiness Service	$1.	enr_readiness_svc	N/A	After matching on FY and denrsite, set to readiness_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
Enrollment T17 Region	$2.	enr_t17_reg	N/A	After matching on FY and denrsite, set to t17_reg
Enrollment T5 Region	$2.	enr_t5_reg	N/A	After matching on FY and denrsite, set to t5_reg
Enrollment Network	$40.	enr_network	N/A	After matching on FY and denrsite, set to rep_mkt_name
Fields from the MDR MHS GENESIS Location File				
Scheduled MTF DMIS ID	$4	mtf	N/A	mtf
Scheduled MTF MEPS Code	$4	meprs_cd	N/A	meprs_cd

Field	Format	SAS Name	Source Element	Transformation
Test Location Indicator	8.	test_location_flag	N/A	test_location_flag
MHS GENESIS Go-Live Date	SAS Date	gen_begin_dt	N/A	gen_begin_dt
Fields from the DMIS ID Index Table (merging by mtf)				
Treatment Service	$1.	txsvc	N/A	After matching on FY and mtf, set to ubu_svc
Treatment Readiness Service	$1.	tx_readiness_svc	N/A	After matching on FY and mtf, set to readiness_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
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
Treatment MTF Time Zone	$3.	N/A	N/A	After matching on FY and mtf, set to genesis_time_zone. Not kept on final output, but used to adjust date-times to local time.
Treatment Network	$40.	tx_network	N/A	After matching on FY and mtf, set to rep_mkt_name
Fields from the MDR MHS GENESIS Personnel File				
Appointment Provider EDIPN	$10.	prov_edipn1	N/A	prsnl_edipn (where provid1=person_sk)
Appointment Provider NPI	$10.	prov_npi1	N/A	npi (where provid1=person_sk)
Appointment Provider Primary HIPAA Taxonomy	$10.	hipaa1	N/A	hipaa1 (where provid1=person_sk)
Test Record Indicator (Appointment Provider)	8.	test_personnel_flag1	N/A	test_record_ind (where provid1=person_sk). Set to missing if provid1 is blank.
Provider 2 EDIPN	$10.	prov_edipn2	N/A	prsnl_edipn (where provid2=person_sk)
Provider 2 NPI	$10.	prov_npi2	N/A	npi (where provid2=person_sk)
Provider 2 Primary HIPAA Taxonomy	$10.	hipaa2	N/A	hipaa1 (where provid2=person_sk)
Test Record Indicator (Provider 2)	8.	test_personnel_flag2	N/A	test_record_ind (where provid2=person_sk). Set to missing if provid2 is blank.
Provider 3 EDIPN	$10.	prov_edipn3	N/A	prsnl_edipn (where provid3=person_sk)
Provider 3 NPI	$10.	prov_npi3	N/A	npi (where provid3=person_sk)

Field	Format	SAS Name	Source Element	Transformation
Provider 3 Primary HIPAA Taxonomy	$10.	hipaa3	N/A	hipaa1 (where provid3=person_sk)
Test Record Indicator (Provider 3)	8.	test_personnel_flag3	N/A	test_record_ind (where provid3=person_sk). Set to missing if provid3 is blank.
Provider 4 EDIPN	$10.	prov_edipn4	N/A	prsnl_edipn (where provid4=person_sk)
Provider 4 NPI	$10.	prov_npi4	N/A	npi (where provid4=person_sk)
Provider 4 Primary HIPAA Taxonomy	$10.	hipaa4	N/A	hipaa1 (where provid4=person_sk)
Test Record Indicator (Provider 4)	8.	test_personnel_flag4	N/A	test_record_ind (where provid4=person_sk). Set to missing if provid4 is blank.
Provider 5 EDIPN	$10.	prov_edipn5	N/A	prsnl_edipn (where provid5=person_sk)
Provider 5 NPI	$10.	prov_npi5	N/A	npi (where provid5=person_sk)
Provider 5 Primary HIPAA Taxonomy	$10.	hipaa5	N/A	hipaa1 (where provid5=person_sk)
Test Record Indicator (Provider 5)	8.	test_personnel_flag5	N/A	test_record_ind (where provid5=person_sk). Set to missing if provid5 is blank.
Encounter Provider EDIPN	$10.	prov_edipn_enc	N/A	prsnl_edipn (where provid_enc=person_sk)
Encounter Provider NPI	$10.	prov_npi_enc	N/A	npi (where provid_enc=person_sk)
Encounter Provider Primary HIPAA Taxonomy	$10.	hipaa_enc	N/A	hipaa1 (where provid_enc=person_sk)
Test Record Indicator (Encounter Provider)	8.	test_personnel_flag_enc	N/A	test_record_ind (where provid_enc=person_sk). Set to missing if provid_enc is missing.
Primary Provider EDIPN	$10.	prov_edipn_prim	N/A	prsnl_edipn (where provid_prim=person_sk)
Primary Provider NPI	$10.	prov_npi_prim	N/A	npi (where provid_prim=person_sk)
Primary Provider Primary HIPAA Taxonomy	$10.	hipaa_prim	N/A	hipaa1 (where provid_prim=person_sk)
Internally Derived Fields				
Scheduled Appt PI-EDW Key	8.	sch_appointment_key	N/A	Set to missing. PI-EDW field not available in BDE 3.0.
Encounter PI-EDW Key	8.	encounter_key	N/A	Set to missing. PI-EDW field not available in BDE 3.0.
Online Appointment Flag	$1.	online_appt_flag	N/A	If the appointment type contains the word “online” then set to 1, else set to 0.
Patient Portal Flag	$1.	patient_portal_flag	N/A	If appt_type_txt starts with “yy” then set to 1, else set to 0.
Walk-In Flag	$1.	walk_in_flag	N/A	If appt_type_txt starts with “Walk-In*” (i.e. the first seven characters are Walk-In) then set to 1, else set to 0.

Field	Format	SAS Name	Source Element	Transformation
Appointment Prefix from Appointment Type	$9.	appt_prefix	N/A	If appt_type_txt is in the format Appointment Prefix-Appointment Type-Duration (at least two hyphens) take the portion up to the first hyphen. If the Appointment Prefix contains a hyphen (e.g. MIL-REDNS)[1], take up to the second hyphen. Else if appt_type_txt is in the format Appointment Prefix Appointment Type (separated by a space, and only one space) where Appointment Type = 24HR, FTR, GRP, PROC, SPEC, VIRT, then take the portion up to the space. If the Appointment Prefix contains a space (e.g. PREV MED)[2], take up to the second space. Else, blank fill.
Appointment Type	$16.	appt_type	N/A	If appt_type_txt is in the format Appointment Prefix-Appointment Type-Duration (at least two hyphens) take the portion between the two hyphens. If the Appointment Prefix contains a hyphen (e.g. MIL-REDNS), take the portion between the second and third hyphens. Else if appt_type_txt is in the format Appointment Prefix Appointment Type (separated by a space, and only one space) where Appointment Type = 24HR, FTR, GRP, PROC, SPEC, VIRT, VIDEO VISIT, MMH VIDEO, then take the portion after the (first) space. If the Appointment Prefix contains a space (e.g. PREV MED), take after the second space. If appt_type_txt is not in either of those formats, but can be easily mapped to an appointment type (e.g. Future Appointment -> Future)[3], populate with the characters up to the word "Appointment". Else if walk_in_flag = 1 set to 'Walk-In'. Else if patient_portal_flag = 1 set to 'Patient Portal'. Else if appt_type_txt = 'Dental Visit', set to Dental. Else if appt_type_txt starts with 'Surgery' set to Surgery. Else if appt_type_txt starts with (MRI, US, MG, CT, PT, IV, LD, NM, XR, IR, CV, BD) set to that prefix. Else, blank fill.
Duration from the Appointment Type	$3.	duration_r	N/A	If appt_type_txt is in the format Appointment Prefix-Appointment Type-Duration (at least two hyphens) take the portion after the second hyphen. If the Appointment Prefix contains a hyphen (e.g. MIL-REDNS), take the portion after the third hyphen. Else, blank fill.

[1] Currently, the known appointment prefixes with a hyphen are: MIL-REDNS, ADDM-SARP, CASE-MGMT, SURG-GEN, NUTR-DIET, and HEAR-CON

[2] Currently, the only known appointment prefix under this nomenclature with a space is: PREV MED

[3] Currently, the known mappings like this are: Future Appointment -> Future, Specialty Appointment -> Specialty, Same Day Appointment -> Same Day, Virtual Appointment -> Virtual, Group Appointment -> Group, Future Appointment Online -> Future Online, Procedure Appointment -> Procedure, Same Day Appointment Online -> Same Day Online

Field	Format	SAS Name	Source Element	Transformation
Legacy Appointment Type	$6.	appt_type_legacy	N/A	If appt_type = 'Future', 'Future Online', 'FTR', or 'Routine' set to FTR, else if appt_type = 'Same Day', 'Same Day Online', '24HR', or 'Walk-In' set to 24HR, else if appt_type = 'Specialty', 'Specialty Online', or 'SPEC' set to SPEC, else if appt_type = 'Group' or 'GRP' set to GRP, else if appt_type = 'Procedure', 'Surgery', or 'PROC' set to PROC, else if appt_type = 'Virtual', 'VIRT', 'VIDEO VISIT', or 'MMH VIDEO' set to VIRT, else if appt_type = 'Well' set to WELL. Else set to NOMAP
Legacy Appointment Status	$2.	appt_stat_legacy	N/A	If appt_stat = 'CANCELED' set to 3, else if appt_stat = 'NOSHOW' set to 4, else if appt_stat = 'CHECKED OUT' or 'CHECKED IN' and walk_in = '1' set to 5, else if appt_stat = 'CHECKED OUT' or 'CHECKED IN' and walk_in = '0' set to 2, else if appt_stat = 'CONFIRMED' or 'SCHEDULED' set to 12, else set to 14[4]
CY	$4.	cy	N/A	CY of appointment date
CM	$2.	cm	N/A	CM of appointment date
FY	$4.	fy	N/A	FY of appointment date
FM	$2.	fm	N/A	FM of appointment date
Length of Time Until Appointment	8.2	days_until	N/A	Subtract appt_made_dt_tm from appt_dt_tm and divide by 86400 (to convert seconds to days). If either appt_made_dt_tm or appt_dt_tm is missing, set to missing.
Primary Provider ID	$100.	provid_prim	N/A	If provid_enc is populated and is non-zero then set to provid_enc. Else if provid1 is populated and is non-zero, then set to provid1. Else leave blank.
Primary Provider Source	$4.	prov_prim_source	N/A	If provid_enc is populated and is non-zero then set to "ENC". Else if provid1 is populated and is non-zero, then set to "APPT". Else leave blank.
Patient Age	8.	patage	N/A	Age in years from date of birth (from DEERS) to appointment 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.
Product Line from MEPRS Code	$7.	prodline	N/A	Derived based on txsvc and meprs_cd (See Appendix A)
Race	$1.	race	N/A	If bencat in (ACT, GRD), prioritize race information from DEERS. Else prioritize race information from MHS GENESIS. See Appendix B for full derivation.
Ethnicity	$1.	ethnic	N/A	If bencat in (ACT, GRD), prioritize ethnicity information from DEERS. Else prioritize ethnicity information from MHS GENESIS. See Appendix B for full derivation.

[4] Currently includes appt_stat = 'Hold' and appt_stat is blank

VIII. REFRESH FREQUENCY

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.

IX. DATA MARTS

See M2 Appointment Functional Specification.

X. SPECIAL OUTPUTS

N/A

Appendix A: Product Line Derivation from MEPRS Code

Table A1: Product Line Derivation

Product Line	Full Name Description	Service	MEPRS
PC	Primary Care	A, N, P	BGA, BHA, BDA, BAA, BJA, BHB, BHI, BDC, BDB, BKA, BHZ, BGZ, BHH, BAZ, BDZ
PC	Primary Care	All except A, N, P	BGA, BHA, BDA, BAA, BJA, BHB, BHI, BDC, BDB, BKA, BHZ, BGZ, BHH
ORTHO	Orthopedics	All	BLA, BEA, BEF, BEZ, BEB, BEE, BEC, BED, BLB
MH	Mental Health	All	BFD, BFE, BFF, BFA, BFB, BFC
OBGYN	Obstetrics/Gynecology	All	BCC, BCB, BCD, BCA
OPTOM	Optometry	All	BHC, BBD
IMSUB	Internal Medicine Subspecialty	All	BAG, BAC, BAL, BAK, BAB, BAN, BAQ, BAS, BAM, BAF, BAJ, BAO, BAH, BAE, BAU, BAT, BAV
ER	Emergency Room	All	BIA
SURG	General Surgery	All	BBA
SURGSUB	Surgical Subspecialty	All	BBI, BBG, BBC, BBK, BBJ, BBH, BBB, BBZ, BBE
ENT	Otolaryngology	All	BBF
DERM	Dermatology	All	BAP
OTHER	Other	All	All other MEPRS Codes

Appendix B: Combined DEERS/MHS GENESIS Race and Ethnicity Derivations

DEERS recently changed their coding of race from C/M/N/R to A/B/D/E/G. This logic includes both value sets, but maps towards the newer DEERS values (A/B/D/E/G).

B.1 DEERS Race Logic:

- If race_deers is C or E, map to E (White)
- If race_deers is N or G, map to G (Black or African American)
- If race_deers is R or A, map to A (American Indian or Alaskan Native)
- If race_deers is M:
  - If ethnic_deers is E, H, L, Q, W, map to D (Native Hawaiian or Pacific Islander)
  - Else map to B (Asian)
- If race_deers is B, map to B (Asian)
- If race_deers is D, map to D (Native Hawaiian or Pacific Islander)

B.2 MHS GENESIS Race Logic:

- If race_r contains “Alaska” (e.g. American Indian or Alaska Native), map to A
- If race_r contains “Asian” (e.g. Asian), map to B
- If race_r contains “Hawaiian” (e.g. Native Hawaiian or Other Pacific Islander), map to D
- If race_r contains “White” (e.g. White), map to E
- If race_r contains “Black” (e.g. Black or African American), map to G

B.3 DEERS Ethnicity Logic:

- If ethnic_deers is 1, 4, 6, 9, S, map to H (Hispanic or Latino)
- If ethnic_deers is not 1, 4, 6, 9, S, X, Y, Z, map to N (Not Hispanic or Latino)

B.4 MHS GENESIS Ethnicity Logic:

- If ethnic_r is H, N, map to ethnic_r

B.5 Combined Race Logic:

- If bencat is ACT, GRD:
  - Use the DEERS Race Logic from B.1 above.
  - If race_deers is not in any of those values (A, B, C, D, E, G, M, N, R) use the MHS GENESIS Race Logic from B.2 above.
    - If race_r does not contain Alaska, Asian, Hawaiian, White, or Black:
      - If race_deers = X, map to X
      - Else if race_r = “Other Race”, map to X
      - Else map to Z
- Else if bencat is not ACT, GRD:
  - Use the MHS GENESIS Race Logic from B.2 above.
  - If race_r does not contain Alaska, Asian, Hawaiian, White, or Black use the DEERS Race Logic from B.1 above.
    - If race_deers is not in any of those values (A, B, C, D, E, G, M, N, R):
      - If race_r = “Other Race”, map to X
      - Else if race_deers = X, map to X
      - Else map to Z

B.6 Combined Ethnicity Logic:

If bencat is ACT, GRD:

Use the DEERS Ethnicity Logic from B.3 above.

If ethnicity_deers is X, Y, or Z (or missing) use the MHS GENESIS Ethnicity Logic from B.4 above.

If ethnicity_deers is X, Y, or Z (or missing) and ethnicity_r is not H or N, map to Z.

Else if bencat is not ACT, GRD:

Use the MHS GENESIS Ethnicity Logic from B.4 above.

If ethnicity_r is not H or N use the DEERS Ethnicity Logic from B.3 above.

If ethnicity_r is not H or N and ethnicity_deers is X, Y, or Z (or missing), map to Z.