

29 July 2024

**Risk Adjustment Specification for the MDR  
(Version 1.09.00)**

**Current Specification**

## Revision History

Version	Date	Para/Tbl/Fig	Originator	Description of Change
1.00.00	2/4/2013	<ul style="list-style-type: none"> <li>Whole Document</li> </ul>	W. Funk	<ul style="list-style-type: none"> <li>Initial version</li> </ul>
1.01.00	10/17/2013	<ul style="list-style-type: none"> <li>Section II</li> <li>Table 1</li> <li>Section VI</li> </ul>	W. Funk & J. MacLeod	<ul style="list-style-type: none"> <li>Section II: Noted that the Designated Provider data will be incorporated in a future version.</li> <li>Table 1: Established naming convention and member name</li> <li>Section VI: Clarified logic for field transformations</li> <li>Table 2: Added the Risk_Source variable</li> </ul>
1.01.00	11/19/2013	<ul style="list-style-type: none"> <li>Table 2</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>Clarified logic for the overseas and age_65 flags</li> </ul>
1.02.00	1/27/2014	<ul style="list-style-type: none"> <li>Section VI</li> <li>Table 2</li> <li>Throughout document</li> </ul>	W. Funk & J. MacLeod	<ul style="list-style-type: none"> <li>Section VI: Added logic for high risk neonate DXC categories to check the patient's age.</li> <li>Table 2: Added two weighted workload variables and one flag</li> <li>Throughout document – updated the number of diagnosis categories from 84 to 92</li> </ul>
1.03.00	3/12/2014	<ul style="list-style-type: none"> <li>Section VI</li> <li>Table 7</li> </ul>	W. Funk, J. MacLeod, & Geof Hileman	<ul style="list-style-type: none"> <li>Section VI: Added logic for deriving weighted workload and high cost user flags</li> <li>Section VI: Added some detail to the derivation of the number of months enrolled in Prime and to the number of months overseas.</li> <li>In Table 7, corrected the layout of the reference file.</li> </ul>
1.03.01	10/22/2014	<ul style="list-style-type: none"> <li>Section VI</li> </ul>	D. McDonald for W. Funk	<ul style="list-style-type: none"> <li>Specified the truncation level (100K) from which to take the risk values to replace into the PPS Lives data element</li> </ul>
1.04.00	4/2/2015	<ul style="list-style-type: none"> <li>Section VI, Table 2 and Table 3</li> </ul>	W. Funk	<ul style="list-style-type: none"> <li>Added new DEERS fields</li> </ul>
1.04.01	4/6/2015	<ul style="list-style-type: none"> <li>Section VI, Table 2 and Table 3</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>Fixed the names of the assigned uic and attached uic fields. They were reversed</li> </ul>
1.04.02	4/17/2015	<ul style="list-style-type: none"> <li>Section VI</li> <li>Section VI, Table 2 and Table 3</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>In bullet 11, added marital status</li> <li>Incorporated Designated Provider enrollees into the derivation logic for the ENR_DMISID fields.</li> <li>Increased the length of the PCMID from 10 to 32</li> </ul>
1.04.03	4/24/2015	<ul style="list-style-type: none"> <li>Section VI, Table 2 and Table 3</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>Modified logic for ENR_DMISID fields for the DP enrollees</li> </ul>
1.05.00	9/28/2016	<ul style="list-style-type: none"> <li>Section VI, Table 2, Table 3, Appendix A</li> <li>Table 2</li> </ul>	W. Funk	<ul style="list-style-type: none"> <li>Removed pharmacy mappings</li> <li>Added DEERS FM</li> </ul>
1.05.01	9/27/2017	<ul style="list-style-type: none"> <li>Table 3</li> </ul>	W. Funk	<ul style="list-style-type: none"> <li>Added fields related to NDAA 2017 and T2017</li> </ul>
1.05.02	10/2/2017	<ul style="list-style-type: none"> <li>Table 2</li> <li>Table 3</li> </ul>	W. Funk	<ul style="list-style-type: none"> <li>Edited fields related to ACV. Added fields related to NDAA 2017 and T2017</li> <li>Edited fields related to NDAA 2017 and T2017</li> </ul>
1.05.03	10/4/2017	<ul style="list-style-type: none"> <li>Section 6</li> <li>Table 2</li> </ul>	W. Funk/J. MacLeod	<ul style="list-style-type: none"> <li>Clarified transformation rules</li> <li>Modified logic in selected fields.</li> </ul>
1.05.04	4/13/2018	<ul style="list-style-type: none"> <li>Table 2</li> <li>Table 2</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>Modified some variable labels for consistency</li> <li>Added pre-FY18 logic back into some variables.</li> <li>Changed the ACV Group variable to be pulled from the DEERS VM6BEN data rather than being derived by the processor.</li> </ul>
1.06.00	1/21/2021	<ul style="list-style-type: none"> <li>Section VI</li> <li>Tables 2 and 3</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>Added the num_select variable</li> </ul>
1.06.01	1/24/2021	<ul style="list-style-type: none"> <li>Section V1</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>Updated the weighted workload logic</li> </ul>
1.07.00	12/23/2021	<ul style="list-style-type: none"> <li>Section V1</li> </ul>	W. Funk	<ul style="list-style-type: none"> <li>Added PCMA variables</li> </ul>

1.08.00	12/21/2022	<ul style="list-style-type: none"> <li>• Section VI</li> <li>• Table 3</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>• Added variables DXC93 and DXC94</li> </ul>
1.08.01	02/22/2023	<ul style="list-style-type: none"> <li>• Section II</li> <li>• Section VI</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>• Added GENESIS data to the list of data sources used by the processor</li> <li>• Changed the weighted workload calculations to reference factors rather than specific numbers, because the factors vary by FY.</li> <li>• Added ICD10 diagnosis codes to PDHA exclusions</li> </ul>
1.09.00	07/29/2024	<ul style="list-style-type: none"> <li>• Table 2</li> </ul>	J. MacLeod	<ul style="list-style-type: none"> <li>• Set the format to 8. on the following fields: range_trunc_no, range_trunc_100, range_trunc_250, range_trunc_500, risk_trunc_no , risk_trunc_100, risk_trunc_250, risk_trunc_500, WW_FAC_12MO, and WW_FAC_FYTD</li> </ul>

# MDR Risk Adjustment

## I. BACKGROUND:

A new risk adjustment model has been developed by Health Affairs and will be implemented in measurements of per member per month costs in the MHS. Other uses are also envisioned, including panel sizing, identification of patients who may need case management, analyses of efficiency, and classifications of persons with diseases. The model assigns a relative financial risk score to each beneficiary, based on their disease profile and other demographic factors. The basic premise is that a beneficiary’s health data (diagnoses and drugs) will be collected for a rolling-twelve months. These conditions are then grouped into diseases and drug categories which carry with them weights that reflect the relative financial risk associated with having the condition or taking the drug. After adjusting for duplications among similar diseases, the weights are added across all of the assigned disease and drug categories (also including three types of additional additive factors) to arrive at a relative financial risk score for an individual. There is also a demographic only model that is used when people don’t have enough reliable data to assign a score. There are several versions of the model that will be used and stored in the MDR (different versions depending upon how ‘catastrophic caps’ are handled, referred to as different levels of truncation) but only one version of the risk scores will go to M2 in the initial phase.

In December 2021, the Agency for Healthcare Research and Quality (AHRQ) Pediatric Medical Complexity Algorithm is being implemented in this processor. AHRQ provides the programming code for this algorithm, resulting in new fields to characterize the complexity of pediatric patients.

## II. SOURCE:

The sources for the MDR Risk Adjustment Processor are the MDR SIDR, CAPER, GENESIS Admissions, GENESIS Encounter, TED-I, PDTS, TED-N, DEERS, and Designated Provider data files. The initial version of the software will not include the Designated Provider data. It will be incorporated at a later date.

## III. TRANSMISSION (FORMAT AND FREQUENCY):

No transmission is necessary. The MDR Risk Adjustment file is processed from existing MDR files.

## IV. ORGANIZATION AND BATCHING

Output Products: The MDR Risk Adjustment processor has two output files described in table 1.

**Table 1: Risk Adjustment Processor Output Products**

MDR File	File Naming Convention	Member Name
MDR Risk Adjustment Key File	/mdr/pub/riskadjustment	risk_adjustment
MDR Health Risk Category File	/mdr/pub/riskadjustment	health_risk

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

## V. RECEIVING FILTERS

N/A

## VI. FIELD TRANSFORMATIONS AND UPDATE PROCESS

### Steps:

Note for the steps listed below: for end-of-year processing, done once 4 months after the end of a fiscal year, the reporting period and the date range for the LELG data is N to N-12, instead of N to N-15 and N-4 to N-15 as it is for all other processing cycles. This is because, by four months past the end of a fiscal year, the population and workload data for a given FY are considered to be mature.

1. The first step involves gathering inputs from various MDR files (SIDR, CAPER, GENESIS Admissions, GENESIS Encounter, TEDs Non Pharmacy and PDTS and-Designated Provider) and shaping/filtering them to prep for further processing. This document assumes that this processor is stand-alone, but this step could be accomplished using interim files as well. To generate the required outputs, first the reporting period needs to be defined. Preparation of the risk adjustment files will be done at the beginning of each month, with availability each month corresponding to about the time the monthly DEERS data would be released. The reporting period is defined by the DEERS month to which the risk scores will be appended. Specifically, if the DEERS month is month N, the reporting period will cover dates between month N-15 and month N-4 inclusive. After limiting the required data to the reporting period<sup>1</sup>, retrieve all diagnoses<sup>2</sup> from the records; except:
  - a. For GENESIS Admission/GENESIS Encounter/CAPER/SIDR: any diagnosis that is recorded in the same encounter (GENESIS Admissions, GENESIS Encounter, CAPER or SIDR only) as a V705 4, V705 6, DOD0210, DOD0211, DOD0212, or DOD021 is excluded.
  - b. For TED-N and Designated Provider Non-Institutional: Only include the first line item per unique record key.
2. Follow the same steps for PDTS.
3. On each data record (SIDR, CAPER, GENESIS Admissions, GENESIS Encounters, TEDI, and TEDNI, and PDTS), assign weighted workload fields as follows:
  - a. CAPER and GENESIS Encounters:  
If (substr(MEPR3,1,1)='A') then WW=0  
Else if (fac\_flag = 'F') then WW=apcaggwt\*apc\_factor + trvuagg\*rvu\_factor  
Else WW = trvuagg\*rvu\_factor
  - b. SIDR, GENESIS Admissions, & TEDI:  
If (MSMDC = 19 or 20) then WW=mental health bed days \* mh\_days\_factor  
Else WW= Non-mental health RWP\*nonmh\_rwp\_factor
  - c. TEDNI:  
If (place of service = 21, 01, or 51) then WW=0  
Else if (place of service in ('02','03','04','05','06','07','08','09','10','12','13','14','15','16','17','18','19','26','27','28','29','30','31','32','33','34','52','54','55','56','61','62','99') or typsvc2 IN ('A','B','D','G','I','M')) then WW = total amount paid (summed at claim level over line items retained)

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<sup>1</sup> Use the begin date if there is more than one date on a record.

<sup>2</sup> 1<sup>st</sup> 5 characters of the diagnosis code with no decimal places.

Else if (totrvu = .) then WW== total amount paid (summed at claim level over line items retained)  
Else WW = TOTRVU \* rvu\_factor

d. PDTS:

if source IN ('C','D') then WW= full cost;  
else if source IN ('T','M') then WW = amount paid;  
else WW = 0;

Determine the full cost as follows:

- If Source System = "D", Dispensing Fee/Cost = TFL Script O&M Price + TFL Script Mill Pay Price – obtain the TFL script variables via a merge to the DMISID Index table by Treatment DMIS ID and FY.
- If Source System = "C" then Dispensing Fee/Cost = 0

Full Cost = Ingredient Cost + Dispensing Fee

The factors used in the calculations vary FY.

4. Data types with more than one diagnosis code per record will need to be reshaped in the preparation of these files. Outputs from this step include: person ID, diagnosis, setting [1=GENESIS Admissions, SIDR, TED-I, DP-I, 2=GENESIS Encounters, CAPER, TED-N, DP-N], a rolling twelve month weighted workload, a fiscal year to date weighted workload, and number of diagnoses. The pharmacy interim file would have person ID, a rolling twelve month weighted workload, and a fiscal year to date weighted workload. The fiscal year to date field, should be for the FY at month N-4.
5. There is a reference file to group the diagnoses into categories and to assign demographic values. There is also a reference file that is used to address duplication of patients across levels of complexity within a disease state. File layouts are provided at the end of this document. These references will be updated no more frequently than once a year.
6. Pre-Processing of Disease File. In this step, the workload files prepared are combined. That is, the diagnosis-related outputs are concatenated and then summarized so that the diagnosis file will include the person ID, a rolling twelve-month weighted workload, a fiscal year to date weighted workload, diagnosis code, the setting, the number of records (for the person, diagnosis) from either of GENESIS Admissions/SIDR/TEDI, DP Institutional and the number of records in either of GENESIS Encounter, CAPER, TED-N, and DP Non-Institutional. The PDTS file still contains only the person ID, NDC, a rolling twelve-month weighted workload, and a fiscal year to date weighted workload.
7. Identification of disease states: The files from step 6 are then merged to the reference files identified in step 5.

Diagnosis: Diagnoses are grouped and diagnosis variables DXC1-DXC92 are created and there is a requirement that there be either 1 corresponding diagnosis in GENESIS Admissions/SIDR/TED-I/DP-I or two corresponding diagnoses from GENESIS Encounter/CAPER/TED-N/DP-N that map to the same diagnosis category<sup>3</sup> (includes 2 diagnoses that are the same) in order to receive a 1 value. If any records are flagged as DXC73, DXC74, or DXC75 (high risk neonate), check the patient's age. If the patient's age is greater than 0, set the flag to 0. The final layout for the diagnosis file will contain person ID, DXC1-DXC92.

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<sup>3</sup> The diagnosis codes themselves don't have to be the same for this rule; they just have to map to the same DXC.

Flags for Autism (DXC93) and COVID (DXC94) are also assigned, though these two flags are not part of the calculation of the risk and range fields. They are stand-alone fields. Set DXC93 to 1 if the first three characters of the diagnosis code is F84. Otherwise set it to 0. Set DXC94 to 1 if the diagnosis code is U071. Otherwise set it to 0.

8. Imposition of Hierarchies: For the diagnosis file from step 7b, a hierarchy is imposed to ensure proper risk score assignment. This hierarchy imposition only affects a small number of DX Categories. Apply the diagnosis hierarchy reference table to the file from 7b. If a person has any of the diagnosis categories on any row of the diagnosis hierarchy table, only allow the person to have a 1 value for the category they qualify for with the highest DXC value. For example, if a beneficiary has a 1 for DXC 77, 78 and 79, then DXC 77 and DXC78 would be set to 0, while DXC79 would retain the value of 1. There are no hierarchies for the RXC categories.
9. Derive the High Cost User Flag as follows: if the 12-month weighted workload is > \$100,000 and the FYTD weighted workload is > \$100,000, set the High Cost User Flag to B; else if the 12-month weighted workload is > \$100,000, set the High Cost User Flag to T; else set the High Cost User Flag to N.
10. Final layout: person ID, the rolling twelve month weighted workload, and the fiscal year to date weighted workload, High Cost User Flag, DXC1-DXC92, PCMA Condition Less, PCMA Condition More and PCMA1-PCMA18.
11. Mapping to LELG and DMIS ID Index Table: Next, the file from step 9 is matched to the appropriate longitudinal eligibility files, keeping only records for people who were eligible at least one month between N and N-15, by person ID. Keep all records for people who appear in either the LELG or in the workload file (from step 9). If the person is in the LELG data, but not in the workload file, set the High Cost User Flag to N. For FY18 and later, merge to the DMIS ID Index Table by FY and Enrollment DMIS ID to add the Enrollment Region. Add the following variables:
  - a. # Months in Prime during the reporting period (N-4 to N-15) – For FY17 and earlier, ACV values A, E, H, and J indicate enrollment in Prime; For FY18 and later, Enrollment Group=P.
  - b. # Months enrolled in Select during the reporting period (N-4 to N-15) – For FY18 and later, Enrollment Group = S indicates enrollment in Select. Prior to FY18, people could not enroll in Select.
  - c. # Months Eligible during the reporting period (N-4 to N-15)
  - d. Overseas Enrollment Flag: Indicates the beneficiary had overseas enrollment in the reporting period (N-4 to N-15) – For FY17 and earlier, ACV values B and F indicate overseas enrollment; For FY18 and later, Enrollment Group=P, Enrollment Service = 'M', and Enrollment Region overseas (OE, OL, OP, or O) indicate enrollment overseas enrollment.
  - e. 65 and older flag: Indicates the beneficiary was 65 or older by the beginning of month N
  - f. Birth Flag: Indicates person was born during the reporting period (N-4 to N-15)
12. Merge the file from step 10 to the DEERS PBEN month being processed (month N). Keep person ID, enrollment DMISID, alternate care value, age group code, zip code, catchment area, PRISM area, MTF service area, gender, DoD occupation code, attached unit, assigned unit, beneficiary category, bencat common, sponsor service aggregate, Medicare eligibility code, marital status, PCM ID and derived death date from DEERS PBEN. (We can eliminate this step if we add death date to the LELG. Recommend we do that to simplify). Derive a flag to indicate whether or not the person died during the reporting period. The layout after the merge and flag derivation is person ID, the 6 flags noted above and DXC1-DXC92.
13. Assignment of risk scores, done once for each truncation level<sup>4</sup>:

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<sup>4</sup> Truncation refers varying levels of “catastrophic cap” assignment.

- a. Read in the file from step 11 and merge to weight reference file (rows 4 and later) to assign weights to each category that a person has a 1 value for, for each level of truncation.
  - b. Sum the weights from each DXC (done separately, 4 times, for each truncation level). Add the intercept constant to all records (from row 1 of the reference tables). If the beneficiary is AD, add the constant from the AD row of the appropriate table. If the person was born during the reporting period, add the birth constant from the reference tables.
  - c. Map the 4 associated scores in data elements with a naming convention that represents, “accrued risk category to date” and derive the risk categories by grouping values within ranges to be specified by HA<sup>5</sup>.
  - d. For Prime patients only, if there is 9+ months of Prime enrollment, or if the person was born or died during the year AND was enrolled in PRIME at least one month during the year, then assign four new risk variables (one for each truncation level) with the name convention representing “Risk Score”, and fill it with the accrued risk score as calculated from step 12c. If none of these conditions are true, then assign the risk score by matching to the demographic table by age, gender and beneficiary category, and selecting the appropriate value. For all non-Prime, non-Active Duty patients, set the value to zero. Add a flag value to discern whether weight comes from clinical conditions or just the demographic model. Set the flag to C if the risk scores were assigned using the accrued risk, set the flag to D, if they were assigned using the demographic model, and set to N, if no risk score was assigned.
  - e. Replace the PPS Lives data element everywhere it occurs in MDR and M2 with the risk values from truncation level “100K” and store the remaining 3 risk values in new fields.
14. Add the AHRQ Pediatric Medical Complexity Algorithm (PMCA) variables.
- a. For the rolling 12-month reporting period, pull the diagnosis codes for all patients under the age of 18, keeping the unique record id and edipn in addition to the diagnosis codes.
  - b. Run the data through the AHRQ PMCA SAS code to append flag variables about pediatric beneficiaries.
  - c. Merge the output of the PMCA code to the output of step 13

**VII. RECORD LAYOUT AND CONTENT**

The MDR Risk Adjustment Key File is stored in a SAS dataset. Table 2 describes the content and business rules used to prepare the file.

**Table 2: MDR Risk Adjustment Key File Layout and Business Rules**

Data Element	SAS Name	Format	Source Element	Business Rule
DEERS Person ID	patuniq	\$10	All Sources	No transformation. This data element is the key merge field among all of the files.
Accrued Risk Range To Date – Untruncated	range_trunc_no	8.	N/A	See Section VI
Accrued Risk Range to Date – 500K Truncation	range_trunc_500	8.	N/A	See Section VI
Accrued Risk Range to Date – 250K Truncation	range_trunc_250	8.	N/A	See Section VI
Accrued Risk Range to Date – 100K Truncation	range_trunc_100	8.	N/A	See Section VI

<sup>5</sup> It is possible that a decision will be made that not all 4 levels of truncation need to be calculated.



Data Element	SAS Name	Format	Source Element	Business Rule
Prime Enrollee Risk Score – Untruncated	risk_trunc_no	8.	N/A	See Section VI
Prime Enrollee Risk Score – 500K Truncation	risk_trunc_500	8.	N/A	See Section VI
Prime Enrollee Risk Score – 250K Truncation	risk_trunc_250	8.	N/A	See Section VI
Prime Enrollee Risk Score – 100K Truncation	risk_trunc_100	8.	N/A	See Section VI
Source of Risk Score	RISK_SOURCE	\$1	N/A	See Section VI.
Weighted Workload Factor – Rolling 12 month	WW_FAC_12MO	8.	N/A	See Section VI.
Weighted Workload Factor – FY to date	WW_FAC_FYTD	8.	N/A	See Section VI.
High Cost User Flag	HIGH_COST_USER	\$1	N/A	See Section VI.
From DEERS VM6				
Enrollment MTF	enr_dmisid	\$4	D_MI_PCM_EDVSN_DMIS_ID	For FY18 and later: If ENR_GRP is “P”, “L” or “U”, set to D_MI_PCM_EDVSN_DMIS_ID, else leave blank For FY17 and earlier: If ACV is A, E, H, J, G or L, or (the first three characters of the D_MI_PCM_EDVSN_DMIS_ID are 019 and the ACV=U), set to D_MI_PCM_EDVSN_DMIS_ID, else leave blank
Alternate Care Value	acv	\$1	MDR_ACV	For FY18 and later: Blank fill For FY17 and earlier: No transformation.
Age Group Code	agegrp	\$1	D_AGE_GROUP_CD	No transformation.
Zip Code	zipcode	\$5	D_ZIP_CD	No transformation.
Catchment Area	catch	\$4	D_CATCH_AREA_CD	No transformation.
PRISM Area	prism	\$4	D_PRISM_CD	No transformation.
MTF Service Area	mtfsa	\$4	D_MTFSA_CD	No transformation.
Gender	patsex	\$1	PN_SEX_CD	No transformation.
DoD Occupation Code	dodocc	\$4	DOD_OCC_CD	No transformation.
Attached Unit	attach_uic	\$8	ATTCH_UIC	No transformation.
Assigned Unit	assign_uic	\$8	ASSGN_UIC	No transformation.
Beneficiary Category	bencat	\$3	R_BEN_CAT_CD	No transformation.
Bencat Common	comben	\$1	D_COM_BEN_CAT_CD	No transformation.
Sponsor Service, Aggregate	svcagg	\$1	D_SPON_BR_SVC_CD	No transformation.
Medicare Eligibility Code	medicare	\$1	D_MDC_ELIG_CD	No transformation.
PCM ID	pcmid	\$32	D_MI_PCM_ID	For FY18 and later: If ENR_GRP is “P” “L” or “U” then set to D_MI_PCM_ID_CD For FY17 and earlier: No transformation.

Data Element	SAS Name	Format	Source Element	Business Rule
Marital Status	marital	\$1	MDR_MARITAL_AGG	No transformation.
Enrollment Group	enr_grp	\$2	D_ENR_GRP_CD	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
Eligibility Group	elg_grp	\$2	D_ELG_GRP_CD	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
ACV Group	acvgroup	\$2	D_ACV_GROUP	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
HCDP – Assigned	hcdp_assgn	\$3	D_HCDP_ASSGN_CD	For FY18 and later: Blank fill if the Assigned HCDP begin and end dates for the HCDP to do not include the first of the month of the DEERS data (month N). For FY17 and earlier: Blank Fill
HCDP - Enrolled	hcdp	\$4	D_MI_HCDP_PLAN_CVG_CD	For FY18 and later: Blank fill if the Derived Medical Insured Enrollment Management Contractor Enrollment begin and end dates for the enrolled HCDP to do not include the first of the month of the DEERS data (month N). For FY17 and earlier: Blank Fill
PCM Type	pcm_type	\$1	D_PCM_TYPE_CD	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
From Longitudinal Eligibility				
# Months Eligible	num_months	N		Number of months the person is eligible in the reporting period.
# Months in Prime	num_prime	N		For FY18 and later: Number of months the person has ENR_GRP="P" For FY17 and earlier: Number of months the person has a Prime ACV.
# Months in Select	num_select	N		For FY18 and later: Number of months the person has ENR_GRP = "S" For FY17 and earlier: Set to 0.
Overseas Flag	overseas	\$1		Set to 1 if person was overseas at any time during the reporting period, else set to 0. If the person does not appear in the longitudinal eligibility data at all, set the flag to 9, for unknown.

Data Element	SAS Name	Format	Source Element	Business Rule
65 and Older Flag	age_65	\$1		Set to 1 if person is 65 or older at any time during the reporting period, else set to 0. If the person does not appear in the longitudinal eligibility data at all set the flag to Z, for unknown.

The MDR Health Risk Category File is stored in a SAS Dataset. Table 3 describes the content and business rules used to prepare the file.

**Table 3: MDR Health Risk Category File Layout and Business Rules**

Data Element	SAS Name	Format	Source Element	Business Rule
Person ID	patuniq	\$10	All Sources	No transformation
Diagnosis Category 1 – Diagnosis Category 94	DXCn	\$5	N/A	94 different values for diagnosis categories. See Section VI.
From the AHRQ Pediatric Medical Complexity Algorith				
PCMA Chronic Condition Flag – Less Conservative	pcma_less	\$1	diagnosis codes from all sources	AHRQ PCMA SAS Code
PCMA Chronic Condition Flag – More Conservative	pcma_more	\$1	diagnosis codes from all sources	AHRQ PCMA SAS Code
PCMA1 – PCMA18	pcma-pcma18	\$1	diagnosis codes from all sources	AHRQ PCMA SAS Code
From DEERS VM6				
Enrollment MTF	enr_dmisid	\$4	D_MI_PCM_EDVSN_DMIS_ID	For FY18 and later: If ENR_GRP is “P”, “L” or “U”, set to D_MI_PCM_EDVSN_DMIS_ID, else leave blank For FY17 and earlier: If ACV is A, E, H, J, G or L, or (the first three characters of the D_MI_PCM_EDVSN_DMIS_ID are 019 and the ACV=U), set to D_MI_PCM_EDVSN_DMIS_ID, else leave blank
Alternate Care Value	acv	\$1	MDR_ACV	For FY18 and later: Blank fill For FY17 and earlier: No transformation.
Age Group Code	agegrp	\$1	D_AGE_GROUP_CD	No transformation.
Zip Code	zipcode	\$5	D_ZIP_CD	No transformation.
Catchment Area	catch	\$4	D_CATCH_AREA_CD	No transformation.
PRISM Area	prism	\$4	D_PRISM_CD	No transformation.
MTF Service Area	mtfsa	\$4	D_MTFSA_CD	No transformation.
Gender	patsex	\$1	PN_SEX_CD	No transformation.
DoD Occupation Code	dodocc	\$4	DOD_OCC_CD	No transformation.
Attached Unit	attach_uic	\$8	ATTCH_UIC	No transformation.
Assigned Unit	assign_uic	\$8	ASSGN_UIC	No transformation.

Data Element	SAS Name	Format	Source Element	Business Rule
Beneficiary Category	bencat	\$3	R_BEN_CAT_CD	No transformation.
Bencat Common	comben	\$1	D_COM_BEN_CAT_CD	No transformation.
Sponsor Service, Aggregate	svcagg	\$1	D_SPON_BR_SVC_CD	No transformation.
Medicare Eligibility Code	medicare	\$1	D_MDC_ELIG_CD	No transformation.
PCM ID	pcmid	\$32	D_MI_PCM_ID	For FY18 and later: If ENR_GRP is "P" "L" or "U" then set to D_MI_PCM_ID_CD For FY17 and earlier: No transformation.
Marital Status	marital	\$1	MDR_MARITAL_AGG	No transformation.
Enrollment MTF T3 Region	enr_t3_reg	\$2	D_T3_ENR_RGN_CD	No transformation
Enrollment MTF T2017 Region	enr_t17_reg	\$2	D_T17_ENR_RGN_CD	No transformation
Beneficiary T3 Region	ben_t3_reg	\$2	D_T3_RES_REGION_CD	No transformation
Beneficiary T2017 Region	ben_t17_reg	\$2	D_T17_REG_REGION_CD	No transformation
Enrollment Group	enr_grp	\$2	D_ELG_GRP_CD	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
Eligibility Group	elg_grp	\$2	D_ENR_GRP_CD	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
PCM Type	pcm_type	\$1	D_PCM_TYPE_CD	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
ACV Group	acvgroup	\$2	D_ACV_GROUP	For FY18 and later: No transformation For FY17 and earlier: Blank fill.
HCDP – Assigned	hcdp	\$3	D_MI_HCDP_PLN_CVG_CD	For FY18 and later: Blank fill if the begin and end dates for the HCDP to do not include the first of the month of the DEERS data (month N). For FY17 and earlier: Blank Fill
HCDP - Enrolled	hcdp_assgn	\$3	ASG_HCDP_PLN_CVG_CD	For FY18 and later: Blank fill if the begin and end dates for the enrolled HCDP to do not include the first of the month of the DEERS data (month N). For FY17 and earlier: Blank Fill
From Longitudinal Eligibility				
# Months Eligible	num_months	N		Number of months the person is eligible in the reporting period.

Data Element	SAS Name	Format	Source Element	Business Rule
# Months in Prime	num_prime	N		For FY18 and later: Number of months the person has ENR_GRP="P" and an enrollment region not = OP, OE, OL, or O For FY17 and earlier: Number of months the person has a Prime ACV.
# Months in Select	num_select	N		For FY18 and later: Number of months the person has ENR_GRP = "S" For FY17 and earlier: Set to 0.
Overseas Flag	overseas	\$1		Set to 1 if person was overseas at any time during the reporting period, else set to 0.
65 and Older Flag	age_65	\$1		Set to 1 if person is 65 or older at any time during the reporting period
DEERS Fiscal Month	deers_fm	\$2		Set to DEERS fiscal month "n", as noted in step 1.

**VIII. REFRESH FREQUENCY**

Monthly, after the DEERS data has completed processing each month.

**IX. QUALITY REVIEW REQUIREMENTS**

TBD

**X. DATA MARTS**

N/A

**XI. SPECIAL OUTPUTS**

N/A

## APPENDIX A: REFERENCE FILES

There are 5 new reference files to be used in preparation of the MDR Risk Adjustment files. They are described in this appendix.

**Table 4: Diagnosis Code Table Layout:**

Data Element	Note	Position in Format File
Diagnosis Code	5 characters, no decimals	Left Side
Mapping Category	Category Description, 65 characters	Right Side: 1-65
Diagnosis Category	5 characters	Right Side: 66-70

**Table 5: Weight Table Layout:** This is a combined table including both DXC weights and RXC weights. The 1<sup>st</sup> 3 rows of the table represent intercept values while the rest of the table contains the weights for each DXC and RXC.

Data Element	Note	Position in Format File
Category	5 characters	Left Side
Description	65 characters	Right Side: 1-65
Untruncated Weight	5 <sup>th</sup> decimal place	Right Side: 66-72
Weight – 500K CC	5 <sup>th</sup> decimal place	Right Side: 73-79
Weight – 250K CC	5 <sup>th</sup> decimal place	Right Side: 80-86
Weight – 100K CC	5 <sup>th</sup> decimal place	Right Side: 87-93

**Table 6: Demographic Weight Table Layout – tab delimited**

Data Element	Note
Gender  Age	Gender and Age concatenated together
AD Untruncated Weight	5 <sup>th</sup> decimal place
ADD Untruncated Weight	5 <sup>th</sup> decimal place
NADD Untruncated Weight	5 <sup>th</sup> decimal place
AD Weight – 500k CC	5 <sup>th</sup> decimal place
ADD Weight – 500k CC	5 <sup>th</sup> decimal place
NADD Weight – 500k CC	5 <sup>th</sup> decimal place
AD Weight – 250k CC	5 <sup>th</sup> decimal place
ADD Weight – 250k CC	5 <sup>th</sup> decimal place
NADD Weight – 250k CC	5 <sup>th</sup> decimal place
AD Weight – 100k CC	5 <sup>th</sup> decimal place
ADD Weight – 100k CC	5 <sup>th</sup> decimal place
NADD Weight – 100k CC	5 <sup>th</sup> decimal place

**Table 7: Diagnosis Hierarchy Table:**

Data Element	Note	Position in Format File
Hierarchy Name	42 characters	Left Side
HCAT1	5 characters	Right Side: 1-5
HCAT2	5 characters	Right Side: 6-10
HCAT2	5 characters	Right Side: 11-15
HCAT4	5 characters	Right Side: 16-20
HCAT5	5 characters	Right Side: 21-25
HCAT6	5 characters	Right Side: 26-30