**01 August 2012**

MHS Normative Data

for the

MHS Data Repository (MDR)

(Version 2.00.02)

Current Specification

**Revision History**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Originator** | **Para/Tbl/Fig** | **Description of Change** |
| 1.00.00 | 10/30/2009 | M. Weston | * Appendix D * Appendix F * Appendix G | * Clarification of “total” RVU * Scope, Active Duty Married flag, Gender * Addition of Appendix G. Peer Groups |
| 1.01.00 | 09/03/2010 | M. Weston | * Page 16 * Pages 18-19 | * DMISID Norms: change to RWPs based on MS-DRG and Total RVUs based on Enhanced Total RVU * Enrollment Norms: change from Simple RVUs to Total RVUs |
| 2.00.00 | 09/30/2011 | M. Weston | * Appendix A * Appendix C * Appendix D * Appendix E | * Added Regression Coefficients and other permanent reference tables for MS DRGs; and added DRG to previous names for clarification- Appendix A. * Removed redundancy and re-numbered Appendices. * Changed SADR to CAPER according to FY and updated other input resources. * Changed APG to either Enhanced Total RVU or deleted. * Added COMBEN and MARITAL\_STATUS to enrollment normative data- Appendix D. |
| 2.00.01 | 02/21/2012 | R. DeSagun | * Temporary SIDR NORMS Processing Fields for MS-DRGs | * Removed variable PEERGRP * Corrected Derivation column for COMBEN and MAR\_COMBEN to remove the word ‘Binary’ as they are not binary fields * Corrected Derivation column for XFRO else statement |
| * Permanent SIDR Norms Fields for MS-DRGs | * Removed MS\_ prefix on all variable names |
| 2.00.02 | 08/01/2012 | R. DeSagun | * Page 6 | * SIDR Norms Data Manipulation: Capping limit on Permanent SIDR Norms fields |

# MHS Norms in the MDR Functional Specification

1. Source

* The sources of data for the MHS Norms may include, but are not limited to, the following files: DEERS, DMISID, TED-I, TED-NI, MEQS, PDTS, SADR/CAPER, SIDR, WWR, the Solucient Sourcebook, annual MGMA Cost Surveys and other sources as directed by TMA.
* Sources of data for specific norms or groups of norms will be described in appendices to this document.

1. Input Feed

* Input feeds for MHS normative data will be as specified in the file specifications for the relevant data sources.
* Source file format: SAS data set for internal MDR files, flat files for external sources.
* Scope of the records:
* Private sector data will be updated no less frequently than every 2 years.
* MHS data will be updated annually.
* Normative data will be aggregated by fiscal year.

1. Organization and batching

* Data will be sliced by FY.
* Frequency of processing:
* Normative data will be calculated and processed annually.
* The initial data will include annual normative estimates for each fiscal year from FY03 to present, when feasible. Execution year norms will be estimated from historical norms, and inflated using approved inflation factors as appropriate.
* Specific reprocessing requirements will be outlined in the appendices.

1. Filters

* As specified in the appendices.

1. Data Manipulation

* As specified in the appendices.

1. Updating the Master Tables

* As specified in the appendices.

1. Record layout and content

* As specified in the appendices.

1. Special outputs

* As specified in the appendices.

1. Appendices

* Appendix A: Inpatient Record Norms
* Appendix B: MEPRS Record Norms
* Appendix C: DMISID Record Norms
* Appendix D: TRICARE Enrollment Record Norms
* Appendix E: Peer Groups

# Appendix A

# Norms for the *Standard Inpatient Data Record* (SIDR)

1. Sources

* Standard Inpatient Data Record (SIDR).
* DMISID Table.
* SIDR Norms Reference Table.
* National Hospital Discharge Survey

1. Input Feed

* Source file format: SAS data set
* Scope of the records: FY2003 to Present

1. Organization and batching

* Time slicing: Records are to be analyzed by FY to create normative estimates of death, variable cost, full cost, and length of stay measures.
* Frequency of processing:
* Norms will be estimated on an annual basis and a table of norms coefficients will be created for use in retrofitting existing SIDRs and processing incoming SIDRs.
* These estimates will be used to assign normative data fields to each SIDR at the time of the feed.
* When the lag time from the previous FY has resulted in reasonable data completion, and the MEPRS costs from that FY have been allocated to the SIDR records, the norms will be calculated and applied to the existing SIDRs during the annual retrofit. The norms reference tables for the most recently completed fiscal year will be adjusted for inflation to estimate norms for current and future fiscal year SIDRs. This process will be repeated every year.

1. Filters

* Only SIDRs submitted from fixed inpatient military medical treatment facilities will be used to calculate military norms, and only those records will have normative values applied to them. Furthermore, SIDRs with outlying values for bed days, variable costs, and full costs will be trimmed from the data when these outliers result in unreasonable coefficients and estimates.

1. Data Manipulation

* SAS will be used to perform data manipulations and norm estimates.
* The SIDR norms file for each FY must be saved for merges with subsequent SIDR feeds.
* Two types of merges are required for this process, one to merge the most current SIDR norms file with regular SIDR feeds, and retrofits to update the normative values in those SIDR records when the workload and costs associated with SIDRs for a given FY are considered sufficiently complete to warrant an update of the norms.
* In the event that any of the calculated Permanent SIDR NORMs fields goes over their respective format limit, ‘9’s will be filled into the field instead.

1. Updating the Master Tables

* Record-level estimates from the SIDR norms file for each FY will be merged into the SIDR file for that FY.
* In situations where there are new DRGs for a given FY that were not observed or recorded during the previous FY, normative values can be created by first grouping the previous FY’s SIDRs using the following year’s grouper to identify records that would have been grouped under the new DRG, and then estimating the normative values for the new DRGs. In cases where a new DRG appears to match closely with an old DRG, the old DRG norms may be used to approximate the new DRG norms until sufficient data on the new DRG is available.

1. Record layout and content

* Three types of fields are used during the creation of SIDR-based norms.
  + Temporary fields based upon permanent SIDR fields are used to apply the regression coefficients.
  + The regression coefficients are stored as permanent fields in the SIDR Norms Reference Tables.
  + Permanent fields are added to the SIDR records, and populated with normative values for bed days, deaths, full costs, and variable costs derived from the temporary fields and the regression coefficients.
* These fields are summarized in the following tables: Temporary SIDR Norms Processing Fields (for DRGs and MS-DRGs), Permanent Regression Coefficients Reference Table Fields (for DRGs and MS-DRGs), and Permanent SIDR Norms Fields (for DRGs and MS-DRGs).
* DRG logic will apply to data FY04-FY09. MS-DRG logic will apply to data FY10+. With implementation of MS-DRG logic, the peer group coefficients were placed in a separate reference table.

**Temporary SIDR Norms Processing Fields for DRGs**

| **SAS Name** | **Source Table** | **Source Variable** | **Format** | **Derivation** |
| --- | --- | --- | --- | --- |
| PTWO | DMISID | PEERGRP | N(3) | Binary variable identifying large inpatient MTFs using Peer Group variable in DMISID Table |
| PONE | DMISID | PEERGRP | N(3) | Binary variable identifying largest inpatient MTFs using Peer Group variable in DMISID Table |
| PTRE | DMISID | PEERGRP | N(3) | Binary variable identifying intermediate inpatient MTFs using Peer Group variable in DMISID Table |
| ACT | SIDR | COMBEN | N(3) | Binary variable identifying active duty |
| AGENUM | SIDR | AGE | N(3) | Continuous variable describing age in years |
| DEATH | SIDR | DISPSTAT | N(3) | Binary variable identifying inpatient stays ending in death |
| FEM | SIDR | GENDER | N(3) | Binary variable identifying females |
| INF | SIDR | AGE | N(3) | Binary variable identifying infants |
| MAR | SIDR | MARITAL | N(3) | Binary variable identifying married persons |
| XFRN | SIDR | ADMITSRC | N(3) | Binary variable identifying transfers in |
| XFRO | SIDR | DISPSTAT | N(3) | Binary variable identifying transfers out |

**Permanent Regression Coefficients Reference Table Fields for DRGs**

| **SAS Name** | **Format** | **Derivation** |
| --- | --- | --- |
| DRG | C(3) | As specified by TRICARE grouper |
| DACT | BEST12 | Coefficient for variable ACT from SIDR logistic regression model on DEATH |
| DAGE | BEST12 | Coefficient for variable AGE from SIDR logistic regression model on DEATH |
| DFEM | BEST12 | Coefficient for variable FEM from SIDR logistic regression model on DEATH |
| DINF | BEST12 | Coefficient for variable INF from SIDR logistic regression model on DEATH |
| DINTER | BEST12 | Intercept term from SIDR logistic regression model on DEATH |
| DMAR | BEST12 | Coefficient for variable MAR from SIDR logistic regression model on DEATH |
| DXFRN | BEST12 | Coefficient for variable XFRN from SIDR logistic regression model on DEATH |
| LACT | BEST12 | Coefficient for variable ACT from SIDR log linear regression model on BEDDAYS |
| LAGE | BEST12 | Coefficient for variable AGE from SIDR log linear regression model on BEDDAYS |
| LDEATH | BEST12 | Coefficient for variable DEATH from SIDR log linear regression model on BEDDAYS |
| LFEM | BEST12 | Coefficient for variable FEM from SIDR log linear regression model on BEDDAYS |
| LINF | BEST12 | Coefficient for variable INF from SIDR log linear regression model on BEDDAYS |
| LINTER | BEST12 | Intercept term from SIDR log linear regression model on BEDDAYS |
| LMAR | BEST12 | Coefficient for variable MAR from SIDR log linear regression model on BEDDAYS |
| LXFRN | BEST12 | Coefficient for variable XFRN from SIDR log linear regression model on BEDDAYS |
| LXFRO | BEST12 | Coefficient for variable XFRO from SIDR log linear regression model on BEDDAYS |
| FCACT | BEST12 | Coefficient for variable ACT from SIDR log linear regression model on FULLCOST |
| FCAGE | BEST12 | Coefficient for variable AGE from SIDR log linear regression model on FULLCOST |
| FCDEATH | BEST12 | Coefficient for variable DEATH from SIDR log linear regression model on FULLCOST |
| FCFEM | BEST12 | Coefficient for variable FEM from SIDR log linear regression model on FULLCOST |
| FCINF | BEST12 | Coefficient for variable INF from SIDR log linear regression model on FULLCOST |
| FCINTER | BEST12 | Intercept term from SIDR log linear regression model on FULLCOST |
| FCMAR | BEST12 | Coefficient for variable MAR from SIDR log linear regression model on FULLCOST |
| FCXFRN | BEST12 | Coefficient for variable XFRN from SIDR log linear regression model on FULLCOST |
| FCXFRO | BEST12 | Coefficient for variable XFRO from SIDR log linear regression model on FULLCOST |
| VCACT | BEST12 | Coefficient for variable ACT from SIDR log linear regression model on INCCOST |
| VCAGE | BEST12 | Coefficient for variable AGE from SIDR log linear regression model on INCCOST |
| VCDEATH | BEST12 | Coefficient for variable DEATH from SIDR log linear regression model on INCCOST |
| VCFEM | BEST12 | Coefficient for variable FEM from SIDR log linear regression model on INCCOST |
| VCINF | BEST12 | Coefficient for variable INF from SIDR log linear regression model on INCCOST |
| VCINTER | BEST12 | Intercept term from SIDR log linear regression model on INCCOST |
| VCMAR | BEST12 | Coefficient for variable MAR from SIDR log linear regression model on INCCOST |
| VCXFRN | BEST12 | Coefficient for variable XFRN from SIDR log linear regression model on INCCOST |
| VCXFRO | BEST12 | Coefficient for variable XFRO from SIDR log linear regression model on INCCOST |
| CDAGE | BEST12 | Coefficient for variable AGE from NHDS logistic regression model on DEATH |
| CDFEM | BEST12 | Coefficient for variable FEM from NHDS logistic regression model on DEATH |
| CDINTER | BEST12 | Intercept term from NHDS logistic regression model on DEATH |
| CDMAR | BEST12 | Coefficient for variable MAR from NHDS logistic regression model on DEATH |
| CDXFRN | BEST12 | Coefficient for variable XFRN from NHDS logistic regression model on DEATH |
| CLAGE | BEST12 | Coefficient for variable AGE from NHDS log linear regression model on BEDDAYS |
| CLDEATH | BEST12 | Coefficient for variable DEATH from NHDS log linear regression model on BEDDAYS |
| CLFEM | BEST12 | Coefficient for variable FEM from NHDS log linear regression model on BEDDAYS |
| CLINTER | BEST12 | Intercept term from NHDS log linear regression model on BEDDAYS |
| CLMAR | BEST12 | Coefficient for variable MAR from NHDS log linear regression model on BEDDAYS |
| CLXFRN | BEST12 | Coefficient for variable XFRN from NHDS log linear regression model on BEDDAYS |
| CLXFRO | BEST12 | Coefficient for variable XFRO from NHDS log linear regression model on BEDDAYS |
| PDACT | BEST12 | Coefficient for variable ACT from SIDR Peer Group logistic regression model on DEATH |
| PDAGE | BEST12 | Coefficient for variable AGE from SIDR Peer Group logistic regression model on DEATH |
| PDFEM | BEST12 | Coefficient for variable FEM from SIDR Peer Group logistic regression model on DEATH |
| PDINF | BEST12 | Coefficient for variable INF from SIDR Peer Group logistic regression model on DEATH |
| PDINTER | BEST12 | Intercept term from SIDR Peer Group logistic regression model on DEATH |
| PDPTWO | BEST12 | Coefficient for variable PTWO from SIDR Peer Group logistic regression model on DEATH |
| PDPONE | BEST12 | Coefficient for variable PONE from SIDR Peer Group logistic regression model on DEATH |
| PDMAR | BEST12 | Coefficient for variable MAR from SIDR Peer Group logistic regression model on DEATH |
| PDPTRE | BEST12 | Coefficient for variable PTRE from SIDR Peer Group logistic regression model on DEATH |
| PDXFRN | BEST12 | Coefficient for variable XFRN from SIDR Peer Group logistic regression model on DEATH |
| PLACT | BEST12 | Coefficient for variable ACT from SIDR Peer Group log linear regression model on BEDDAYS |
| PLAGE | BEST12 | Coefficient for variable AGE from SIDR Peer Group log linear regression model on BEDDAYS |
| PLDEATH | BEST12 | Coefficient for variable DEATH from SIDR Peer Group log linear regression model on BEDDAYS |
| PLFEM | BEST12 | Coefficient for variable FEM from SIDR Peer Group log linear regression model on BEDDAYS |
| PLINF | BEST12 | Coefficient for variable INF from SIDR Peer Group log linear regression model on BEDDAYS |
| PLINTER | BEST12 | Intercept term from SIDR Peer Group log linear regression model on BEDDAYS |
| PLPTWO | BEST12 | Coefficient for variable PTWO from SIDR Peer Group log linear regression model on BEDDAYS |
| PLPONE | BEST12 | Coefficient for variable PONE from SIDR Peer Group log linear regression model on BEDDAYS |
| PLMAR | BEST12 | Coefficient for variable MAR from SIDR Peer Group log linear regression model on BEDDAYS |
| PLPTRE | BEST12 | Coefficient for variable PTRE from SIDR Peer Group log linear regression model on BEDDAYS |
| PLXFRN | BEST12 | Coefficient for variable XFRN from SIDR Peer Group log linear regression model on BEDDAYS |
| PLXFRO | BEST12 | Coefficient for variable XFRO from SIDR Peer Group log linear regression model on BEDDAYS |
| PFCACT | BEST12 | Coefficient for variable ACT from SIDR Peer Group log linear regression model on FULLCOST |
| PFCAGE | BEST12 | Coefficient for variable AGE from SIDR Peer Group log linear regression model on FULLCOST |
| PFCDEATH | BEST12 | Coefficient for variable DEATH from SIDR Peer Group log linear regression model on FULLCOST |
| PFCFEM | BEST12 | Coefficient for variable FEM from SIDR Peer Group log linear regression model on FULLCOST |
| PFCINF | BEST12 | Coefficient for variable INF from SIDR Peer Group log linear regression model on FULLCOST |
| PFCINTER | BEST12 | Intercept term from SIDR Peer Group log linear regression model on FULLCOST |
| PFCPTWO | BEST12 | Coefficient for variable PTWO from SIDR Peer Group log linear regression model on FULLCOST |
| PFCPONE | BEST12 | Coefficient for variable PONE from SIDR Peer Group log linear regression model on FULLCOST |
| PFCMAR | BEST12 | Coefficient for variable MAR from SIDR Peer Group log linear regression model on FULLCOST |
| PFCPTRE | BEST12 | Coefficient for variable PTRE from SIDR Peer Group log linear regression model on FULLCOST |
| PFCXFRN | BEST12 | Coefficient for variable XFRN from SIDR Peer Group log linear regression model on FULLCOST |
| PFCXFRO | BEST12 | Coefficient for variable XFRO from SIDR Peer Group log linear regression model on FULLCOST |
| PVCACT | BEST12 | Coefficient for variable ACT from SIDR Peer Group log linear regression model on INCCOST |
| PVCAGE | BEST12 | Coefficient for variable AGE from SIDR Peer Group log linear regression model on INCCOST |
| PVCDEATH | BEST12 | Coefficient for variable DEATH from SIDR Peer Group log linear regression model on INCCOST |
| PVCFEM | BEST12 | Coefficient for variable FEM from SIDR Peer Group log linear regression model on INCCOST |
| PVCINF | BEST12 | Coefficient for variable INF from SIDR Peer Group log linear regression model on INCCOST |
| PVCINTER | BEST12 | Intercept term from SIDR Peer Group log linear regression model on INCCOST |
| PVCPTWO | BEST12 | Coefficient for variable PTWO from SIDR Peer Group log linear regression model on INCCOST |
| PVCPONE | BEST12 | Coefficient for variable PONE from SIDR Peer Group log linear regression model on INCCOST |
| PVCMAR | BEST12 | Coefficient for variable MAR from SIDR Peer Group log linear regression model on INCCOST |
| PVCPTRE | BEST12 | Coefficient for variable PTRE from SIDR Peer Group log linear regression model on INCCOST |
| PVCXFRN | BEST12 | Coefficient for variable XFRN from SIDR Peer Group log linear regression model on INCCOST |
| PVCXFRO | BEST12 | Coefficient for variable XFRO from SIDR Peer Group log linear regression model on INCCOST |

**Permanent SIDR Norms Fields for DRGs**

| **Label Name** | **SAS Name** | **Format** | **Source Variables** | **Derivation** |
| --- | --- | --- | --- | --- |
| Bed Days Civ Norm | CNORDAYS | N(5.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| Bed Days MTF Norm | NORMDAYS | N(5.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| Bed Days MTF Peer Norm | PNORDAYS | N(6.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| Deaths Civ Norm | CNORDETH | N(8.6) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients, with odds converted to probability |
| Deaths MTF Norm | NORMDETH | N(8.6) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients, with odds converted to probability |
| Deaths MTF Peer Norm | PNORDETH | N(8.6) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients, with odds converted to probability |
| Full Cost MTF Norm | NORMFULL | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| Full Cost MTF Peer Norm | PNORFULL | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| Variable Cost MTF Norm | NORMVAR | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| Variable Cost MTF Peer Norm | PNORMVAR | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |

**Temporary SIDR Norms Processing Fields for MS-DRGs**

| **SAS Name** | **Source Table** | **Source Variable** | **Derivation** |
| --- | --- | --- | --- |
| COMBEN | SIDR | COMBEN | Variable identifying Beneficiary Group. (Comben \*1) |
| RECAGE | SIDR | RECAGE | Continuous variable describing age in years (recage \*1) |
| DEATH | SIDR | DISPSTAT | Binary variable identifying inpatient stays ending in death(if recdisp=’20’ then death=1; else death=0;) |
| GENDER | SIDR | RECSEX | Binary variable identifying gender (recsex \*1 ) |
| INF | SIDR | AGE | Binary variable identifying infants (if recage < 1 then inf=1; else inf=0;) |
| MAR | SIDR | MARITAL | Binary variable identifying married persons (if MARITAL=’M’, then MAR=1; else MAR=0) |
| XFRN | SIDR | ADMSRC | Binary variable identifying transfers in(if admsrc in (‘4’,’5’,’6’,’7’,’8’) then xfrn=1; else xfrn=0;) |
| XFRO | SIDR | RECDISP | Binary variable identifying transfers out (if recdisp in (‘02’,’05’) then xfro=1; else xfro=0;) |
| MAR\_COMBEN | Derived | MAR\*COMBEN | Variable identifying the interaction between Marital and COMBEN. (MAR\*(COMBEN\*1)) |

**Permanent Regression Coefficients Reference Table Fields for MS-DRGs**

**MTF Norms and Civilian Norms**

| **SAS Name** | **Format** | **Derivation** |
| --- | --- | --- |
| msdrg | Char 3 | MEDICARE SEVERITY DIAGNOSIS RELATED GROUP (MS-DRG) |
| ms\_cdage | BEST12 | Coefficient for variable AGE from NHDS logistic regression model on DEATH |
| ms\_cddays | BEST12 | Coefficient for variable Beddays from NHDS logistic regression model on DEATH |
| ms\_cdgender | BEST12 | Coefficient for variable Gender from NHDS logistic regression model on DEATH |
| ms\_cdinf | BEST12 | Coefficient for variable Infant from NHDS logistic regression model on DEATH |
| ms\_cdinter | BEST12 | Intercept term from NHDS logistic regression model on DEATH |
| ms\_cdmar | BEST12 | Coefficient for variable Marital from NHDS logistic regression model on DEATH |
| ms\_clage | BEST12 | Coefficient for variable Age from NHDS log linear regression model on BEDDAYS |
| ms\_cldeath | BEST12 | Coefficient for variable Death from NHDS log linear regression model on BEDDAYS |
| ms\_clgender | BEST12 | Coefficient for variable Gender from NHDS log linear regression model on BEDDAYS |
| ms\_clinf | BEST12 | Coefficient for variable Infants from NHDS log linear regression model on BEDDAYS |
| ms\_clinter | BEST12 | Intercept term from NHDS log linear regression model on BEDDAYS |
| ms\_clmar | BEST12 | Coefficient for variable Marital from NHDS log linear regression model on BEDDAYS |
| ms\_clxfrn | BEST12 | Coefficient for XFRN (transfer in) variable from NHDS log linear regression model on BEDDAYS |
| ms\_clxfro | BEST12 | Coefficient for XFRO (transfer out) variable from NHDS log linear regression model on BEDDAYS |
| ms\_dage | BEST12 | Coefficient for variable AGE from SIDR logistic regression model on DEATH |
| ms\_dcomben | BEST12 | Coefficient for variable Comben from SIDR logistic regression model on DEATH |
| ms\_ddays | BEST12 | Coefficient for variable Bed days from SIDR logistic regression model on DEATH |
| ms\_dgender | BEST12 | Coefficient for variable Gender from SIDR logistic regression model on DEATH |
| ms\_dinf | BEST12 | Coefficient for variable Infant from SIDR logistic regression model on DEATH |
| ms\_dinter | BEST12 | Intercept term from SIDR logistic regression model on DEATH |
| ms\_dmar | BEST12 | Coefficient for variable Marital from SIDR logistic regression model on DEATH |
| ms\_fcage | BEST12 | Coefficient for variable Age from SIDR log linear regression model on FULLCOST |
| ms\_fccomben | BEST12 | Coefficient for variable Comben from SIDR log linear regression model on FULLCOST |
| ms\_fcdays | BEST12 | Coefficient for variable Bed days from SIDR log linear regression model on FULLCOST |
| ms\_fcdeath | BEST12 | Coefficient for variable Death from SIDR log linear regression model on FULLCOST |
| ms\_fcgender | BEST12 | Coefficient for variable Gender from SIDR log linear regression model on FULLCOST |
| ms\_fcinter | BEST12 | Intercept term from SIDR log linear regression model on FULLCOST |
| ms\_fcxfrn | BEST12 | Coefficient for variable XFRN (transfer in) from SIDR log linear regression model on FULLCOST |
| ms\_fcxfro | BEST12 | Coefficient for variable XFRO (transfer out) from SIDR log linear regression model on FULLCOST |
| ms\_lage | BEST12 | Coefficient for variable Age from SIDR log linear regression model on BEDDAYS |
| ms\_lcomben | BEST12 | Coefficient for variable Comben from SIDR log linear regression model on BEDDAYS |
| ms\_ldeath | BEST12 | Coefficient for variable Death from SIDR log linear regression model on BEDDAYS |
| ms\_lgender | BEST12 | Coefficient for variable Gender from SIDR log linear regression model on BEDDAYS |
| ms\_linf | BEST12 | Coefficient for variable Infant from SIDR log linear regression model on BEDDAYS |
| ms\_linter | BEST12 | Intercept term from SIDR log linear regression model on BEDDAYS |
| ms\_lmar | BEST12 | Coefficient for variable Marital from SIDR log linear regression model on BEDDAYS |
| ms\_lmarcomben | BEST12 | Coefficient for variable comben \* age from SIDR log linear regression model on BEDDAYS |
| ms\_lxfrn | BEST12 | Coefficient for variable XFRN (transfer in) from SIDR log linear regression model on BEDDAYS |
| ms\_lxfro | BEST12 | Coefficient for variable XFRO (transfer out) from SIDR log linear regression model on BEDDAYS |
| ms\_vcage | BEST12 | Coefficient for variable Age from SIDR log linear regression model on INCCOST |
| ms\_vccomben | BEST12 | Coefficient for variable Comben from SIDR log linear regression model on INCCOST |
| ms\_vcdays | BEST12 | Coefficient for variable Bed days from SIDR log linear regression model on INCCOST |
| ms\_vcdeath | BEST12 | Coefficient for variable Death from SIDR log linear regression model on INCCOST |
| ms\_vcgender | BEST12 | Coefficient for variable Gender from SIDR log linear regression model on INCCOST |
| ms\_vcinter | BEST12 | Intercept term from SIDR log linear regression model on INCCOST |
| ms\_vcxfrn | BEST12 | Coefficient for variable XFRN (transfer in) from SIDR log linear regression model on INCCOST |
| ms\_vcxfro | BEST12 | Coefficient for variable XFRO (transfer out) from SIDR log linear regression model on INCCOST |

**Permanent Regression Coefficients Reference Table Fields for MS-DRGs**

**By MTF Peer Group**

| **SAS Name** | **Format** | **Derivation** |
| --- | --- | --- |
| msdrg | Char 3 | MEDICARE SEVERITY DIAGNOSIS RELATED GROUP (MS-DRG) |
| Peergrp | Char 1 | Peer Group |
| ms\_pdage | BEST12 | Coefficient for variable Age from SIDR Peer Group logistic regression model on DEATH |
| ms\_pdcomben | BEST12 | Coefficient for variable Comben from SIDR Peer Group logistic regression model on DEATH |
| ms\_pddays | BEST12 | Coefficient for variable Bed days from SIDR Peer Group logistic regression model on DEATH |
| ms\_pdgender | BEST12 | Coefficient for variable Gender from SIDR Peer Group logistic regression model on DEATH |
| ms\_pdinter | BEST12 | Intercept term from SIDR Peer Group logistic regression model on DEATH |
| ms\_pdmar | BEST12 | Coefficient for variable Marital from SIDR Peer Group logistic regression model on DEATH |
| ms\_pfcage | BEST12 | Coefficient for variable Age from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfccomben | BEST12 | Coefficient for variable Comben from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfcdays | BEST12 | Coefficient for variable Bed days from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfcdeath | BEST12 | Coefficient for variable Death from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfcgender | BEST12 | Coefficient for variable Gender from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfcinter | BEST12 | Intercept term from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfcxfrn | BEST12 | Coefficient for variable XFRN (Transfer in) from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_pfcxfro | BEST12 | Coefficient for variable XFRO (Transfer out) from SIDR Peer Group log linear regression model on FULLCOST |
| ms\_plage | BEST12 | Coefficient for variable Age from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plcomben | BEST12 | Coefficient for variable Comben from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_pldeath | BEST12 | Coefficient for variable Death from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plgender | BEST12 | Coefficient for variable Gender from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plinf | BEST12 | Coefficient for variable Infant from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plinter | BEST12 | Intercept term from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plmar | BEST12 | Coefficient for variable Marital from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plmarcomben | BEST12 | Coefficient for variable Marital \* Comben from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plxfrn | BEST12 | Coefficient for variable XFRN (transfer in) from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_plxfro | BEST12 | Coefficient for variable XFRO (transfer out) from SIDR Peer Group log linear regression model on BEDDAYS |
| ms\_pvcage | BEST12 | Coefficient for variable Age from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvccomben | BEST12 | Coefficient for variable Comben from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvcdays | BEST12 | Coefficient for variable Bed days from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvcdeath | BEST12 | Coefficient for variable Death from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvcgender | BEST12 | Coefficient for variable Gender from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvcinter | BEST12 | Intercept term from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvcxfrn | BEST12 | Coefficient for variable XFRN (transfer in) from SIDR Peer Group log linear regression model on INCCOST |
| ms\_pvcxfro | BEST12 | Coefficient for variable XFRO (transfer out) from SIDR Peer Group log linear regression model on INCCOST |

**Permanent SIDR Norms Fields for MS-DRGs**

| **Label Name** | **SAS Name** | **Format** | **Source Variables** | **Derivation** |
| --- | --- | --- | --- | --- |
| MS-DRG Bed Days Civ Norm | CNORDAYS | N(5.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| MS-DRG Bed Days MTF Norm | NORMDAYS | N(5.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| MS-DRG Bed Days MTF Peer Norm | PNORDAYS | N(6.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| MS-DRG Deaths Civ Norm | CNORDETH | N(8.6) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients, with odds converted to probability |
| MS-DRG Deaths MTF Norm | NORMDETH | N(8.6) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients, with odds converted to probability |
| MS-DRG Deaths MTF Peer Norm | PNORDETH | N(8.6) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients, with odds converted to probability |
| MS-DRG Full Cost MTF Norm | NORMFULL | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| MS-DRG Full Cost MTF Peer Norm | PNORFULL | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| MS-DRG Variable Cost MTF Norm | NORMVAR | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |
| MS-DRG Variable Cost MTF Peer Norm | PNORMVAR | N(9.2) | Temporary SIDR norms processing fields and SIDR Norms regression coefficients | Exponentiated sum of products of temporary variables and regression coefficients |

1. Special outputs

* SIDR Norms Reference Tables will be placed in the MDR for each FY, containing the logistic and log linear regression coefficients for predicting all SIDR-based norms by DRG and FY. These tables will be used to create norms in individual records in subsequent data feeds into the SIDR, as well as retrofits of the SIDR table.
* SIDR Norms Reference Table for FY03 is based upon previous functional specification and censored linear regression models, and should not be used with processing logic for SIDRs from FY04 and later years. FY10 and later years are based on MSDRGs instead of DRGs.

# Appendix B

# Norms for the MEPRS Table

1. Sources

* Medical Expense Productivity and Resource System (MEPRS).

1. Input Feed

* Source file format: SAS data set
* Scope of the records: FY2003 to Present

1. Organization and batching

* Time slicing: Records are to be analyzed by FY to create normative estimates of bed days per available inpatient FTE and total inpatient cost per bed day for the MHS and its facility peer groups. Cost norms for current and future years will be created by inflating the cost norms from the most recent historical year.
* Frequency of processing:
* Norms will be estimated on an annual basis and a table of normative values will be created for use in adding those values to the MEPRS table.
* These estimates will be used to assign normative data fields to selected records each time the MEPRS table is updated.

1. Filters

* Only records of DMISIDs that are associated with an approved inpatient facility peer group for a given fiscal year in the DMISID table will have norms applied.

1. Data Manipulation

* SAS will be used to perform data manipulations and norm application.
* The MEPRS norms file for each FY is saved in the MDR for merges with subsequent data feeds and retrofits.

1. Updating the Master Tables

* Record-level estimates from the MEPRS norms reference file for each FY will be merged into the MEPRS file for that FY or monthly feed, and then used to create normative values for the number of clinical bed days and inpatient costs associated with each inpatient work center within each inpatient MTF, in accordance with the MDR and M2 MEPRS table functional specifications. Bed day norms will be calculated and applied to all ‘A’ accounts (inpatient wards) and ‘DJ’ accounts (intensive care units). Inpatient cost norms will be calculated and applied to all ‘A’ accounts.

1. Record layout and content

* The following fields will be present in the MEPRS norms reference table, which will be used to place normative values in the MEPRS table.

**MEPRS Norms Reference File Fields**

| **SAS Name** | **Label** | **Format** | **Derivation** |
| --- | --- | --- | --- |
| PGP | Peer Group | C(1) | Values 1-4 derived from DMISID Table |
| DMISID | DMISID | C(4) | none |
| MEPR3 | Third Level MEPRS Code | C(3) | First three characters of MEPRS 4th level code |
| EXBMNORM | Total Inpt Cost / Bed Day MTF Norm | N(11.2) | MHS cost per Bed Day by MEPR3 |
| EXBPNORM | Total Inpt Cost / Bed Day MTF Peer Norm | N(11.2) | Peer group cost per Bed Day by MEPR3 |
| OBDMNORM | Bed Days / Avail Inpt FTE MTF Norm | N(9.3) | CHCS Bed Days per available inpatient FTE by MEPR3 |
| OBDPNORM | Bed Days / Avail Inpt FTE MTF Peer Norm | N(9.3) | Peer group CHCS Bed Days per available inpatient FTE by MEPR3 |

**MEPRS File Norm Fields**

| **SAS Name** | **Label** | **Format** | **Derivation** |
| --- | --- | --- | --- |
| EXPMTF | Total Inpt Cost, MTF Norm | N(11.2) | EXBMNORM\*MEPRS Bed Days |
| EXPPEER | Total Inpt Cost, MTF Peer Norm | N(11.2) | EXBPNORM\*MEPRS Bed Days |
| OBDMTF | Bed Days, MTF Norm | N(9.3) | OBDMNORM\*Avail Inpt FTEs |
| OBDPEER | Bed Days, MTF Peer Norm | N(9.3) | OBDPNORM\*Avail Inpt FTEs |

1. Special outputs

* MEPRS Norms Reference Tables will be placed in the MDR for each FY, containing the norms to be placed in selected DMISID records for each FY. These tables will be used to place norms in individual records in subsequent data feeds and retrofits of the MEPRS table.

# Appendix C

# Norms for the DMISID Table

1. Sources

* Defense Medical Information System ID (DMISID).
* DMISID Norms Reference Table.
* Standard Ambulatory Data Record (SADR, FY 05-09) OR Comprehensive Ambulatory/Professional Encounter Record (CAPER, FY10 +).
* Standard Inpatient Data Record (SIDR)
* Civilian Cost Survey from the Medical Group Management Association FY05-09
* The Comparative Performance of US Hospitals from Thomas Reuters FY05-09
* Medical Expense Productivity and Resource System (MEPRS).
* TRICARE Encounter Data Institutional (TED-I).
* TRICARE Encounter Data Non Institutional (TED-NI).

1. Input Feed

* Source file format: SAS data set
* Scope of the records: FY2003 to Present

1. Organization and batching

* Time slicing: Records from various sources are to be analyzed by FY to create normative estimates of costs per APG, Total RVU, and RWP weight for the MHS and its facility peer groups.
* Frequency of processing:
* Norms will be estimated on an annual basis and a table of normative values will be created for use in adding those values to the DMISID table.
* These estimates will be used to assign normative data fields to selected records each time the DMISID table is updated.

1. Filters

* Only records of DMISIDs that are associated with an approved facility peer group in the DMISID table will have norms applied.

1. Data Manipulation

* SAS will be used to perform data manipulations and norm application.

1. Updating the Master Tables

* Record-level estimates from the DMISID norms reference file for each FY will be merged into the DMISID file for that FY.

1. Record layout and content

* The following fields will be present in the DMISID norms reference table, which will be used to place normative values in the DMISID table.

**DMISID Norms Reference File Fields**

| **SAS Name** | **Label** | **Format** | **Derivation** |
| --- | --- | --- | --- |
| PGP | Peer Group | C(1) | Appendix G |
| APGMTF | Cost per APG Wt MTF Norm | N(8.2) | FY05-FY09: Mean MHS cost per APG |
| APGPEER | Cost per APG Wt MTF Peer Norm | N(8.2) | FY05-FY09: Mean MHS peer group cost per APG |
| RVUMTF | Cost per RVU Wt MTF Norm | N(8.2) | Mean MHS cost per Total RVU |
| RVUPEER | Cost per RVU Wt MTF Peer Norm | N(8.2) | Mean MHS peer group cost per Total RVU |
| RVUCIV | Cost per RVU Wt Civ Norm | N(8.2) | Mean civilian cost per Total RVU |
| RVUMC | Cost per RVU Wt Civ MC Norm | N(8.2) | Mean civilian managed care cost per Total RVU |
| RWPMTF | Cost per RWP Wt MTF Norm | N(8.2) | Mean MHS cost per RWP. FY09 and forward: RWPs are based on MS-DRG. |
| RWPPEER | Cost per RWP Wt MTF Peer Norm | N(8.2) | Mean MHS peer group cost per RWP. FY09 and forward: RWPs are based on MS-DRG. |
| RWPCIV | Cost per RWP Wt Civ Norm | N(8.2) | Mean civilian cost per RWP. FY09 and forward: RWPs are based on MS-DRG. |
| RWPMC | Cost per RWP Wt Civ MC Norm | N(8.2) | Mean civilian managed care cost per RWP. FY09 and forward: RWPs are based on MS-DRG. |

Note: (1) FY09 and forward: Total RVUs are based on Enhanced Total RVU (RVU\_ET) Previously, Total RVUs were the sum of Organizational Work RVU (OWRVU) and PPS Facility RVU (PPSFRVU). (2) FY10 and forward: APG is no longer available on CAPER.

1. Special outputs

* DMISID Norms Reference Tables will be placed in the MDR for each FY, containing the norms to be placed in selected DMISID records for each FY. These tables will be used to place norms in individual records in subsequent data feeds and retrofits of the DMISID table.

# Appendix D

# Norms for the *TRICARE Enrollment File* (TEF)

1. Sources

* Defense Medical Information System ID (DMISID).
* Pharmaceutical Detail Transaction Service (PDTS).
* Standard Ambulatory Data Record (SADR, FY 05-09) OR Comprehensive Ambulatory/Professional Encounter Record (CAPER, FY10 +)
* Standard Inpatient Data Record (SIDR).
* TRICARE Encounter Data Institutional (TED-I).
* TRICARE Encounter Data Non Institutional (TED-NI).

1. Input Feed

* Source file format: SAS data set
* Scope of the records: Based on current fiscal year.

1. Organization and batching

* Time slicing: Records are to be analyzed by FYs to create normative estimates of bed days, admissions, RVUs, variable costs, and full costs per enrollee per month.
* Frequency of processing:
* Norms will be estimated on an annual basis and a table of norms coefficients will be created for use in retrofitting existing enrollment records and processing incoming enrollment records.
* These estimates will be used to assign normative data fields to selected records at the time of the feed.

1. Filters

* Only records of TRICARE Prime enrollees enrolled at DHP-funded enrollment sites such as fixed MTFs and Managed Care Support Contractors (MCSC) for which there is reasonably complete cost and workload data will be used to create and apply enrollment norms. This will exclude Navy afloat, enrollees to Army TO&E facilities, Coast Guard enrollment sites, and USFHP enrollees. Only records from enrollment DMISIDs that are associated with an approved peer group in the DMISID table, in addition to Regional MCSC enrollment IDs will be included.
* Enrollment records with missing and unpredictable values for gender, marital status, age, or other variables used to differentiate normative values will not have norms applied to those specific records.

1. Data Manipulation

* SAS will be used to perform data manipulations and norm estimates.
* The enrollment norms file for each FY is saved in the MDR for merges with subsequent TEF feeds and retrofits.

1. Updating the Master Tables

* Record-level estimates from the enrollment norms file for each FY will be merged into the TRICARE Enrollment file for that FY.

1. Record layout and content

* The following fields will be present in the enrollment norms lookup table, which will be used to place normative values in the TEF.

**Enrollment Norms Reference File Fields**

| **MDR Field** | **SAS Name** | **Format** | **Notes** |
| --- | --- | --- | --- |
| Active Duty Married | ADMAR | $1 | FY05-FY09: Y=Active Duty (comben=4) and Married; else N=Not Active Duty Married. Deleted beginning in FY10. |
| Age Group | AGEGP | $1 | A=0 to 4, B=5 to 14, C=15 to 17, D=18 to 24, E=25 to 34, F=35 to 44, G=45 to 64, H=65 and over. |
| Common Beneficiary Group | COMBEN | $1 | FY10+: 1 = Dependent of Active Duty/Guard; 2 = Retired; 3 = Dep of Retired or Survivor, Other, Unknown; 4 = Active Duty and Guard |
| Marital Status | MARITAL\_STATUS | $1 | FY10+: S=Single; M=Married |
| Gender | GENDER | $1 | F=Female M=Male |
| Peer Group | PGP | $1 | Values 1-4 and A-D and M derived from DMISID Table |
| Bed Days MHS Norm | DAYSPER | N(8.6) | Normal Bed Days per enrollee per month |
| Dispositions MHS Norm | DISPPER | N(8.6) | Normal Admissions per enrollee per month |
| Full Cost MHS Norm | FCOSPER | N(8.2) | Normal Full Cost per enrollee per month |
| RVUs MHS Norm | RVUSPER | N(9.4) | Normal RVUs per enrollee per month. FY08 RVUs are SIMPLE. FY09 and forward are TOTAL RVUs based on Enhanced Total RVU (RVU\_ET) for direct care part and Total RVU (TOTRVU) for purchased care. |
| Variable Cost MHS Norm | VCOSPER | N(8.2) | Normal Variable Cost per enrollee per month |
| Bed Days MHS Peer Norm | PDAYSPER | N(8.6) | Normal Bed Days per enrollee per month by peer group |
| Admissions MHS Peer Norm | PDISPPER | N(8.6) | Normal Admissions per enrollee per month by peer group |
| Full Cost MHS Peer Norm | PFCOSPER | N(8.2) | Normal Full Cost per enrollee per month by peer group |
| RVUs MHS Peer Norm | PRVUSPER | N(9.4) | Normal RVUs per enrollee per month by peer group. FY08 RVUs are SIMPLE. FY09 and forward are TOTAL RVUs based on Enhanced Total RVU (RVU\_ET) for direct care part and Total RVU (TOTRVU) for purchased care |
| Variable Cost MHS Peer Norm | PVCOSPER | N(8.2) | Normal Variable Cost per enrollee per month by peer group |

1. Special outputs

* Enrollment Norms Reference Tables will be placed in the MDR for each FY, containing the norms to be placed in selected TRICARE Prime enrollment records for each FY. These tables will be used to create norms in individual records in subsequent data feeds into the TEF, as well as retrofits of the TEF.

# Appendix E

# Peer Groups

1. Sources

* Standard Inpatient Data Record (SIDR).
* Standard Ambulatory Data Record Record (SADR, FY 05-09) OR Comprehensive Ambulatory/Professional Encounter Record (CAPER, FY10 +)
* DMISID Table.

1. Input Feed

* Source file format: text files
* Scope of the records: FY2003 to Present

1. Organization and batching

* Time slicing: Records are to be analyzed by FY to create normative estimates for DMISID Peer Groups. Peer Groups are assigned to Clinics and Hospitals by either Ambulatory Patient Groups FY05-FY10 (APGs), Total Enhanced RVUs (FY11+) or Relative Weighted Products (RWPs), respectively.
* Frequency of processing:
* Norms will be estimated on an annual basis and a table of normative values will be created for use in adding those values to the MEPRS norms, DMISID norms, SIDR norms, and Enrollment norms.
* These estimates will be used to assign normative data fields to selected records each time any of the norms programs is updated.

1. Filters

* Only records of ambulatory encounters and inpatient direct care that have values for RWP, Total Enhanced RVUs or APG, for a given FY and are identified with a Branch of Service Authority not equal to D; or DMISIDs that are identified as a Managed Care Support Contractor will have the DMISID Peer Group assigned.

1. Data Manipulation

* The DMISID Peer Group norms file for each FY is saved in the MDR for merges with subsequent data feeds and retrofits.

1. Updating the Master Tables

* Record-level estimates from the DMISID Peer Group norms reference file for each FY will be merged into the DMISID Peer Group file for that FY.

1. Record layout and content

* The following fields will be present in the DMISID Peer Group norms reference table, which will be used to define Peer Groups in the MEPRS norms, SIDR norms, Enrollment norms, and DMISID norms.

**DMISID Peer Group Norms Reference File Fields**

| **SAS Name** | **Label** | **Format** | **Derivation** |
| --- | --- | --- | --- |
| PEERGRP | Peer Group | C(1) | FY07: Values 1-4, A-D, M  1= Large Hospitals  2=Medium Hospitals  3=Small Hospitals  4=Tiny Hospitals  A=Large Clinics  B=Medium Clinics  C=Small Clinics  D=Tiny Clinics  M=MCS Contractor  FY08 and forward: Values 1-3, A-C, M  1=Large Hospitals  2=Medium Hospitals  3=Small Hospitals  A=Large Clinics  B=Medium Clinics  C=Small Clinics  M=MCS Contractor |
| DMISID | DMIS ID | C(4) | none |

1. Special outputs

* DMISID Peer Group Norms Reference Tables will be placed in the MDR for each FY.