**5 February 2004**

Direct Care Completion Factors

for the

MHS Data Repository (MDR)

(Version 1.00.00)

Current Specification

**Revision History**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date**  | **Para/Tbl/Fig** | **Originator** | **Description of Change** |
| 1.00.00 | 02/05/2004 | * Entire document
 | K. Hutchinson | * Initial versioning.
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Direct Care Completion Factors

1. File Format

The direct care completion factors are provided as two tables of slightly different format, one each for SADR and SIDR completion factors, and are “!” delimited.

1. Periodicity

The direct care completion factors table will be updated on an as needed basis. This is usually monthly for the current year, and less often for previous years. The actual timing is dependent on the refreshing of the encounter data and processing of the worldwide workload report (WWR). The factors cannot be calculated for a month until both the encounter data and the WWR have been processed.

1. Record Selection

Completion factors are only calculated for MTFs that regularly submit WWR reports. Completion factors are provided only for inpatient facilities (for SIDRs) and for ambulatory clinics identified by all “B” (1st character of the MEPRS code) and “FBN” (for SADRs).

1. Refresh Batches

The direct care completion factors table will contain all completion factors for all DMIS IDs with encounter data and WWR reports. The completion factor table must be placed in the MDR on the same day as a refreshing of the SIDR and/or SADR file to which it is linked.

1. Estimation of Completion Factors

*Completion Factors for SADRs*

1. SADRs are tabulated by month, 3rd-level MEPRS (MEPRS3), and treatment DMIS ID, counting only those SADRS that pass the “HPA&E Countable Visit Algorithm” (see appendix) and which have a “B” as the first MEPRS character or are MEPRS code “FBN”.
2. Completion factors are calculated for those month/MEPRS3/DMIS ID combinations that have both a WWR visit count (total of both inpatient and outpatient visits) and a SADR tabulation count by dividing the latter by the former.
3. No completion factors are estimated for those month/MEPRS3/DMIS ID combinations where the first character of the MEPRS code is not “B” or “FBN”. The completion factor will be zero for any B\*\* or FBN code that has a WWR count but no tabulated SADRs.
4. For those combinations that have a tabulated SADR count but no WWR workload count, the completion factor is estimated as follows:
* The *preceding month’s* and the *estimation month’s* worldwide average completion factor is found by dividing the total number of tabulated SADRs from MEPRS codes with WWR workload, by the total amount of WWR workload from MEPRS codes with tabulated SADRs (for each month separately). These are labeled *AVERAGE*0 and *AVERAGE*1 in the formula below. If there is an initial month for which there is no previous month of worldwide data, the contemporary average (*AVERAGE*1) will be used as the estimate for the month/MEPRS3/DMIS ID combination.
* The completion factor for the previous month for the month/MEPRS3/DMIS ID combination to be estimated is retrieved or calculated. This is labeled *PREVIOUS* in the formula below.
* The estimate is calculated by:

*ESTIMATE* = (*PREVIOUS*) \* (*AVERAGE*1) / (*AVERAGE*0)

* If an estimate is greater than 100%, 100% will be used instead.
1. All month’s more current than the WWR feed will not have estimated completion factors, but will be present in the table (see format below) filled with “0”.
2. Any completion factor less than 0.4 is changed to “0”.

*Completion Factors for SIDRs*

1. SIDRs are tabulated by month and treatment DMIS ID (MTF), counting only those SIDRS which qualify for inclusion in the MDR. Generally, these SIDRs are completed records (“D records”) for care delivered at the MTF (as opposed to “absent sick” or “carded for record only”).
2. The Disposition Completion Factors (Disp CFs) are calculated for those month/MTF combinations that have both a WWR disposition count (if no disposition count is available, the admission count must be used) and a SIDR tabulation count by dividing the latter by the former.
3. For those combinations that have a tabulated SIDR count but no WWR workload count, the Disposition Completion Factor is estimated as follows:
* The *preceding month’s* and the *estimation month’s* worldwide average disposition completion factor is found by dividing the total number of tabulated SIDRs from MTFs with WWR workload, by the total amount of WWR disposition workload from MTFs with tabulated SIDRs (for each month separately). These are labeled *AVERAGE*0 and *AVERAGE*1 in the formula below. If there is an initial month for which there is no previous month of worldwide data, the contemporary average (*AVERAGE*1) will be used as the estimate for the missing month/MTF combination.
* The disposition completion factor for the previous month for the MTF to be estimated is retrieved or calculated. This is labeled *PREVIOUS* in the formula below.
* The estimate is calculated by:

*ESTIMATE* = (*PREVIOUS*) \* (*AVERAGE*1) / (*AVERAGE*0)

* If an estimate is greater than 100%, 100% will be used instead.
1. All month’s more current than the WWR feed will not have estimated disposition completion factors, but will be present in the table (see format below) filled with “0”.
2. Any disposition completion factor less than 0.4 is changed to “0”.
3. The Cost/Workload Completion Factor (C/W CF) is derived as follows:

*C/W CF = Minimum(1, (0.8\*Disp CF)+(0.2\*Disp CF^2))*

* 1. Application of Completion Factors:

The completion factors are meaningful as stand alone tables for user use, but they are also very powerful for improving the information available from direct care encounter data files. In general, the encounter data files contain only partial data because of (1) time lags in receiving data, and (2) permanent failure to complete encounter records for some encounters. Each of the main direct care encounter data files (SADR and SIDR) contain basic quantitative information based solely on that reported encounter. The completion factors allow extrapolations from the recorded encounters to estimate the total quantitative results in that view.

To accommodate this, certain quantitative fields in encounter data (costs, prices, days of stay, admission or visit counts, relative value units, relative weighted products, APG weights) can be estimated to completion. The estimation for appropriate measures produces a calculated “total” for that measure by dividing the “raw” measure in the encounter record by the matched completion factor for that month, treatment DMIS ID, and (for SADR only) work center at a 3rd-level MEPRS. This allows “total” measures to be calculated for analyses and all the missing data will be estimated to completion. (Example: $80 “raw” cost for a visit, matched completion factor of 0.75, yields a “total” completed cost of $80/0.75 = $106.67.)

Table 1. File Layout for Direct Care Completion Factors for SADR

| Field | Element Name | Type | Values |
| --- | --- | --- | --- |
| 1 | Tmt DMIS ID | Char(4) | e.g., 0117 |
| 2 | MEPRS | Char(3) | e.g., BAA |
| 3 | Fiscal Year | Char(4) | e.g., 2001 |
| 4 | Fiscal Month | Char(2) | 1 – 12 |
| 5 | Completion Factor | Dec(9,7) |  |

Table 2. File Layout for Direct Care Completion Factors for SIDR

| Field | Element Name | Type | Values |
| --- | --- | --- | --- |
| 1 | Tmt DMIS ID | Char(4) | e.g., 0117 |
| 2 | Fiscal Year | Char(4) | e.g., 2001 |
| 3 | Fiscal Month | Char(2) | 1 – 12 |
| 4 | Disposition Completion Factor | Dec(9,7) |  |
| 5 | Cost/Workload Completion Factor | Dec(9,7) |  |

APPENDIX: HPA&E Countable Visit Algorithm

The HPA&E Countable Visit Algorithm is an attempt to identify which SADRs are likely to be of appointment types classified as “countable” in the CHCS user-controlled table. This is helpful for estimation of the number of appointments for which there are no SADRs based on the reported number of countable visits from systems fed by CHCS (MEPRS and WWR, for example).

The algorithm counts SADRs that satisfy the following criteria:

1. The work center is designated as an ambulatory care work center as MEPRS code begins with “B” **AND**
2. SADRs are not for no-shows or cancellations (Appointment type = 2, 5, 7, 8, or 9) or for patients who left without being seen (Disposition type = 5) AND
3. At least one of the following is true:
* The provider specialty indicates a provider status authorizing independent skilled caregiving.[[1]](#footnote-1)
* The clinic is a specialty clinic where the primary providers are not normally of that status, and the E&M code is 99211.[[2]](#footnote-2)
* A significant service occurred and was reported in the E&M CPT Code.[[3]](#footnote-3)
* The clinic is a significant ambulatory procedure visit (APV) clinic[[4]](#footnote-4)
* The clinic is an allergy clinic, E&M code is 99211, and at least one of the four procedural CPT codes falls in the significant procedure ranges for allergy work.[[5]](#footnote-5)
1. If the first three characters of the MEPRS code are "FBN", the countable visit flag is "Y" regardless of any other characteristics in the SADR.
1. These are provider specialties in the following ranges: 000-075, 080-108, 110-200, 204-208, 215, 300-400, 401-407, 500-518, 602-605, 607-700, 702-710, 713, 800-816, 901. [↑](#footnote-ref-1)
2. These are the clinics: Cast (BEB), Orthopedic Appliance (BEE), Social Work (BFE), Substance Abuse Rehab (BFF), Optometry (BHC), Physical Therapy (BLA), and Occupational Therapy (BLB). [↑](#footnote-ref-2)
3. Significant CPT codes are any in the ranges 99201-99205, 99212-99215, 99217-99223, 99231-99236, 99238-99239, 99241-99245, 99251-99255, 99261-99263, 99271-99275, 99281-99285, 99288, 99291-99292, 99295-99298, 99301-99303, 99311-99313, 99315-99316, 99321-99323, 99331-99333, 99341-99357, 99371-99373, 99381-99387, 99391-99397, 99401-99404, 99411, '99412, 99420, 99429, 99431-99440, 99450, 99455, 99456, 99499. [↑](#footnote-ref-3)
4. In all services for FY01 and backwards, these are clinics whose 4th position MEPRS code is a “5”; it also includes “7” for Army and Air Force in FY00 and FY01, and “9” for Air Force in FY00 and FY01. It is possible that some services use some other values besides “5” in FY99, but the MEPRS office had not responded by the date this was written. In all services for FY02 and forward, these are clinics whose 4th position MEPRS code is a “5” or “7”. [↑](#footnote-ref-4)
5. Significant allergy CPT codes are any in the ranges 95115, 95117, 95120, 95125, 95130-95134, 95144-95149, 95165, 95170, 95180, 95199 [↑](#footnote-ref-5)