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# Background

The purpose of this document is to describe how the Resource Utilization Groups (RUG) Weighted Patient Day (RWPD) calculations are performed for a single Continuing Care Reporting System (CCRS) facility for a specified reporting period.

This documentation is a description of how to produce RWPD data that matches the CCRS RWPD program output.

This description covers the processing of CCRS activities ( e.g., admissions, discharges and assessments) in order to produce RWPD events for a given reporting period.

Please note that the methodology and examples described in this document assume that all data has been successfully submitted to CCRS. Additionally, 2014–2015 dates and Case Mix Index (CMI) values are used in this document for fictitious examples of CCRS resident assessment data. These examples are illustrative and are still relevant for more recent fiscal years.

## RWPD methodology

CCRS data for each resident is used to create periods of care — patient days — that are classified as being assessed or unassessed.

Assessed patient days are those associated with a CCRS assessment that has a RUG-III (44-group) group. For the purposes of this document, the term “RUG-III” will refer to the RUG-III (44-group) version 5.11b classification scheme. The RUG group is assigned to each assessment using the Canadian version of the RUG-III grouping methodology. Assessed patient days can be further classified as on-time and late patient days. The RWPDs for assessed periods are calculated as the number of days associated with a RUG-III group multiplied by the group-specific Case Mix Index (CMI) value.

Unassessed patient days are those not associated with a RUG group. The RWPDs for unassessed periods are weighted depending on the number of days the person spent at the facility.

RWPD reports that summarize weighted patient days are produced for distinct reporting periods for each facility reporting data to CCRS.

See Appendix 3 for more information about the RUG-III grouping methodology and CMI values published by CIHI.



# Assessed patient days

When assessments are completed and submitted according to CCRS guidelines, the patient days are considered to be assessed. The RWPDs are calculated as the number of days associated

## RWPDP Weighting Option 2—Calculate RWPDP for late patient days using the lowest CMI

The late patient days are weighted using the lowest CMI value from among the fiscal year- and RUG group-specific CMI values.

### Example

An assessment submitted by an Ontario facility is assigned RUG group code SE1 and covers a 100-day period.

**Table 3 Example 2014–2015 RWPDP calculation using Option 2**

RWPDP event description	Patient days	Assessment RUC	CMI-2014 value	RWPDP assessed
Assessment	92	SE1	0.9767	89.8564
Late assessment	8	—	0.3819	3.0552
Total	100	—	—	92.9116

# Basic steps for this approach to creating RWP Data

This document describes an approach to creating RWP data for a single facility for a specified reporting period. The approach is described in the following sections:

## Section 1

Obtain data from CCRS records (admission, discharge, re-entry and assessment records) for episodes where any activity occurred within the specified RWP reporting period.

## Section 2

Use CCRS activity data to create unweighted RWP events for each resident.

## Section 3

For each RWP event, create weighted events by calculating the RWP value. Use the weighted events to derive resident totals, the approach is d,4dcu02(D)2.6( 1 Tw 13.737 0 Td [juW)-rt dic.3(f96(od(he)4T9



**Table 4 List of examples included in the appendices**

Example	Description
1	An episode with an admission, 3 assessments and a discharge occurring within the RWPD reporting period
2	An episode with an admission and 3 assessments occurring within the RWPD reporting period; the resident has not been discharged
3	An episode without an assessment occurring within the RWPD reporting period; resident discharged and weighted as unassessed 13
4	An episode without an assessment occurring within the RWPD reporting period lasting 24 days; resident discharged and weighted as unassessed 14
5	An episode with an admission assessment and discharge; then a re-entry within 92 days of the admission assessment and discharge under the same Unique Resident Identifier (URI)
6	A resident with 2 episodes (separate admissions). An episode with an admission assessment and discharge; then a different episode for the same resident captured as a re-entry with discharge under a different URI
7	An episode where there is a significant correction to an admission assessment and another significant correction to a quarterly assessment
8a	An episode where the first assessment is not an admission assessment Note that for Ontario complex continuing care facilities, an admission adjustment is made; for all other facilities (including Ontario long

# Section 1 CCRS data used within RWPD

Data is collected by facilities for each resident within CCRS. The data is collected by facility staff completing MDS 2.0 forms, entering the data into a computer system and submitting the data to CIHI. Data is checked against edit specifications at CIHI and, if accepted, is added to tables within the CCRS database. Data that is not accepted is returned to the facility for correction.

## 1.1 Fields required for RWPD

To produce the RWPD reports, selected fields are taken from the CCRS database (see Table 5).





Eventname	Description (event date and RUG group)
Discharge	<p>Created based on a CCRS discharge form</p> <p>(There are 3 discharge reason codes: 06 — discharge — return not anticipated; 07 — discharge — return anticipated; and 08 — discharged prior to completing initial es</p>



Remaining CCRS facilities (including Ontario LTC facilities)

For all other CCRS facilities (including Ontario LTC facilities), the admission adjustment is not applied for RWPD reports.

Example 8a in Appendix 1 includes an admission adjustment for an Ontario CCC facility.

Example 8b in Appendix 1 shows the same scenario for a CCRS facility (not an Ontario CCC facility),

### 2.5.3 Late assessments (for a re-entry)

When there is a discharge and re-entry between assessments, the identification of late patient days is slightly more complex. The guideline that ongoing assessments are due within 92 days of the most recent assessment still applies.

If the event is a re-entry and the number of days between the prior assessment date and the next event date is more than 92 days, a late ongoing assessment event is created in the RWPD report:

`EVENT_DATE = PRIOR_ASSESSMENT_DATE + 92`

- x This date is 92 days after the previous assessment.
- x This date will be after the re-entry date and before the date of the next event.

`EVENT_DESCRIPTION = "Late PD (assessment due)"`

See Example 10 in Appendix 1 for examples of late patient day events.



## 2.6 Create basic RWPD events

The timeline of events can now be used to create basic RWPD events. An RWPD event will be created for each event on the timeline using the event information and the date of the next event.

The RWPD fields presented in Table 8 roughly correspond to what is presented in the CIHI CCRS RWPD reports.

**Table 8 RWPD event fields**

RWPDfield	Assignedusing
RWPD_EVENT	EVENT_NAME
RWPD_START_DATE	EVENT_DATE
RWPD_END_DATE	Blank (for discharge events) or NEXT_EVENT_DATE (when there is a next event) or RP_PD_DATE (see Table 1)
RWPD_PD	RWPD_PD = blank (for discharge events) or RWPD_PD = (RWPD_END_DATE -

## 2.7.1 Events that start before the reporting period and end within the reporting period

For these basic events, the event start date is before the reporting period and the event end date is within the reporting period (see Table 9). The basic event will be split into 2 parts: the part occurring before the reporting period will be discarded, and the part occurring within the reporting period will be used for the RWPD reports.

The example in Table 9 illustrates the process to produce Q4 reports (April 1, 2014, through March 31, 2015). A basic RWPD event has a start date of February 25, 2014, and an end date of May 25, 2014.

**Table 9** Example of an event covering days before the 2015 reporting period

Part of the event	Event start and end dates
First part	RWPD_START_DATE = February 25, 2014 RWPD_END_DATE = RP_START_DATE = April 1, 2014 (see Table 1) Note that the days within this period are discarded and would be counted in the RWPD report for 2013–2014.
Second part	RWPD_START_DATE = RP_START_DATE = April 1, 2014 (see Table 1) RWPD_END_DATE = May 25, 2014 Note that

The example in Table 10 illustrates the process to produce Q4 reports (April 1, 2014, through March 31, 2015). A basic RWPD event has a start date of March 13, 2015, and an end date of April 9, 2015.

**Table 10 Example of an event covering days after the 2015 reporting period**

Part of the event	Event start and end dates
First part	RWPD_START_DATE = March 13, 2015 RWPD_END_DATE = RWPD_PD_DATE = April 1, 2015 (see Table 1) Note that only days within this period are included in the 2014–2015 RWPD reports.
Second part	RWPD_START_DATE = RWPD_PD_DATE = April 1, 2015 (see Table 1) RWPD_END_DATE = April 9, 2015 Note that the days within this period are discarded and would be counted in the RWPD report for 2015–2016.

## 2.7.4 Identify within reporting period events

Only the RWPD events that occur within the reporting period are included in the RWPD reports for that reporting period (see Table 11).

**Table 11 Dates for identifying “within RP” events (Q4 2014-2015 reports)**

Type of event	Dates
Discharge events	RP_START_DATE " RWPD_START_DATE " RP_END_DATE April 1, 2014 " RWPD_START_DATE " March 31, 2015 (see Table 1)
Other events	RP_START_DATE " RWPD_START_DATE " RP_END_DATE T()6( 1d 0 Tw 7.293 0 TE)-7 "

## 3.1 Add CMI values to assessed events

CMI values corresponding to the fiscal year of the RWPD report period are used for RWPD calculations.

- x For all CCRS facilities except Ontario LTC facilities, the RUG-III (44-group) methodology is used. There is a fiscal year–specific CMI value for each of the 44 RUG groups.
- x For Ontario LTC facilities, the RUG-III (34-group) methodology is used. There is a fiscal year–specific CMI value for each of the 34 RUG groups.

### 3.1.1 Add CMI values to all events

The RWPD\_CMI value is added to all events:

$RWPD\_CMI = RWPD\_CMI + CMI$

## 3.2 RWPD pass 1 – Calculate assessed RWPD values

For each event that has an associated assessment — the RWPD\_RUG is not blank — the assessed RWPD fields are derived:

$$PD\_ASSESSSED = RWPD\_PD\_RP$$

$$RWPD\_ASSESSSED = RWPD\_PD\_RP \times RWPD\_CMI$$

Caution: Note that the reporting period patient days for each RWPD event are used, not the RWPD patient days of the original event.

The facility-assessed CMI based on assessed patient days is calculated after the first pass only. This CMI is defined as the total RWPD assessed divided

# Section 4: Additional summary information

Once the RWPD calculations have been completed, additional summary variables are created:

$$\text{FACILITY\_ASSESSSED\_CMI} = \text{Total RWPD\_ASSESSSED} \div \text{Total PATIENT\_DAYS\_ASSESSSED}$$

$$\text{FACILITY\_TOTAL\_CMI} = (\text{Total RWPD\_ASSESSSED} + \text{Total RWPD\_UNASSESSSED}) \div (\text{Total PD\_}$$





RWPD event data

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD
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RWPD event data

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD assessed	RWPD unassessed 13	RWPD unassessed 14
Admission	AuTf re f*M								



## Example 5: Episode with a re-entry

For this example, data is submitted for 2 episodes of care for the same resident where the second period started with a re-entry.

### Activity data

Activity	Activity date	RUGIII (44group)
Admission	June 2, 2014	—
Admissionassessment	June 16, 2014	RUA
Discharge	July 9, 2014	—
Reentry	July 26, 2014	—
Discharge	August 7, 2014	—

Note

— Not applicable.

### RWPD event data

Event

## Example 6: Episodes with different URIs

Compare this example with Example 5 where the similar activities are submitted to CCRS using a re-entry.

For this example, data is submitted for 2 episodes of care for the same resident. Data from the 2 episodes is submitted to CCRS using different URI values — so the episodes are processed independently.

Since the second episode does not include an assessment and the number of patient days is less than 14, the patient days are weighted as unassessed 13 and use the facility-assessed CMI.

Activity data

URI 6.1			

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD assessed	RWPD unassessed 13	RWPD unassessed 14
URI 6.2									
Admission	Jul-26-14	Aug-7-14	12	—	—	0.7440	—	8.9284	—
Discharge	Aug-7-14	—	—	—	—	—	—	—	—
Subtotal	—	—	12	—	—	—	—	8.9284	—
Total	—	—	49	—	—	—	45.4323	8.9284	—

RWPD event data

Event	RWPD start
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RWPD event data

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD assessed	RWPD unassessed 13	RWPD unassessed 14
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RWPD event data

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD assessed	RWPD unassessed 13	RWPD unassessed 14
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Admission



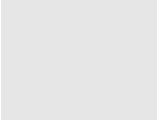
# Facility RWPD Summary (RWPD Option 1)

The following table is the facility RWPD summary based on the 11 examples weighted using RWPD Option 1 (excluding Example 8a).

Event	Patient days (PD)	RUG Weigh
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RWPD event data



## RWPD event data

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD assessed	RWPD unassessed 13	RWPD unassessed 14
URI 6.1									
Admission	Jun-2-14	Jun-16-14	14	Jun-16-14	RUA	1.2279	17.1906	—	—
Admission assessment	Jun-16-14	Jul-9-14	23	Jun-16-14	RUA	1.2279	28.2417	—	—
Discharge	Jul-9-14	—	—	—	—	—	—	—	—
Subtotal	—	—	37	—	—	—	45.4323	—	—
URI 6.2									
Admission	Jul-26-14	Aug-7-14	12	—	—	0.7278	—	8.7330	—
Discharge	Aug-7-14	—	—	—	—	—	—	—	—
Subtotal	—	—	12	—	—	—	—	8.7330	—



RWPD event data

Event	RWPD start date	RWPD end date	Patient days	Associated assessment date	RWPD RUG group	RWPD CMI value	RWPD assessed	RWPD unassessed 13	RWPD unassessed 14
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## Facility RWPD Summary (RWPD Option 2)

The following table is the facility RWPD summary based on the 11 examples weighted using RWPD Option 2 (excluding Example 8a).

Event	Patient days (PD)	RUG Weighted Patient Days (RWPD)	CMI value
Assessed	1,454	1,075.0997	—
Assessed (late)	49	18.7131	—
Assessed (subtotal)*	1,503	1,093.8128	0.7278
Unassessed 13	25	18.1938	—
Unassessed 14	38	14.5122	—
Unassessed (subtotal)	63	32.7060	—



Fiscal year–

RUGIII (44-group) category	RUGIII (44-group) rank	RUGIII (44-group) name	RUGIII (44-group) CMI 2014
4. Clinically Complex	21	CC2	0.9484
	22	CC1	0.8275
	23	CB2	0.7657
	24	CB1	0.7111
	25	CA2	0.6916
	26	CA1	0.6166
5. Impaired Cognition	27	IB2	0.5902
	28	IB1	0.5691
	29	IA2	0.4806
	30	IA1	0.4460
6. Behaviour Problems	31	BB2	0.5816
	32	BB1	0.5529
	33	BA2	0.4663
	34	BA1	0.3955
7. Reduced Physical Functions	35	PE2	0.6869
	36	PE1	0.6719
	37	PD2	0.6277
	38	PD1	0.6122
	39	PC2	0.5677
	40	PC1	0.5498
	41	PB2	0.4195
	42	PB1	0.4214
	43	PA2	0.4011
	44	PA1	0.3819

