

New Zealand Casemix Framework

For Publicly Funded Hospitals

Including

WIESNZ23 Methodology

and

Casemix Purchase Unit Allocation

for the

2023/24 Financial Year

Specification for Implementation on NMDS

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Whilst all care has been taken to ensure the information contained in this document is accurate and error free, there is no guarantee. The information contained in this document was deemed to be accurate at the time of development.

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**Acknowledgement of source of ICD-10-AM/ACHI**

*The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification,* (ICD-10-AM), the *Australian Classification of Health Interventions* (ACHI) Eleventh Edition, 2019.

*The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification,* (ICD-10-AM), the *Australian Classification of Health Interventions* (ACHI) Eleventh Edition, 2022.

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# Version Updates to Casemix Framework Document (WIESNZ23)

## Version 1.1 (June 2023)

* Updated VAD co-payment first and second criteria, see 4.4.7
* Added a new facility Waitemata Endoscopy (9080) to the casemix eligible facilities list, see 5.2.38
* Notes added to sections where back mapping of Twelfth Edition codes have an impact and added ICD-10-AM/ACHI Mapping Table document, see Appendix 8: ICD-10-AM/ACHI Mapping Table
* SAS document updated to include the new facility 9080 and VAD co-pay update, see Appendix 2: SAS Code to Calculate WIESNZ23 and Assign PUs

## Version 1.2 (August 2023)

* Added new facilities, Kaweka Health (3688), Selina Sutherland (8503), Hamilton Skin Cancer Centre (9320) and Fraser Clinic Tauranga (9325) to the casemix eligible facilities list, see 5.2.38

## Version 1.3 (January 2024)

* Added new facilities Greenlane Clinic Centre (3212), Tristram Clinic (9814), Alison Surgical Centre (9332) and updated facility name The Rutherford Clinic (8716) to Nelson Day Surgery to the casemix eligible facilities list, see 5.2.38. SAS document updated to include the new facilities.

# Purpose of this Document

This document provides the definitions for inclusion of hospital event records in casemix together with information related to the calculation of cost weights for these event records and the assignment of event records to purchase units. WIESNZ23 uses AR-DRG v10.0, which is based on ICD-10-AM/ACHI Eleventh Edition codes. A new set of cost weights is provided in the WIESNZ23 weights table.

This document is the latest in a succession of annual updates that describe New Zealand’s casemix environment. The documents from earlier years can be viewed on the Ministry of Health website: <https://www.tewhatuora.govt.nz/our-health-system/data-and-statistics/nz-health-statistics/data-references/#weighted-inlier-equivalent-separations-wies>

See Appendices at the end of the document for:

* Appendix 1: Table of 2023/24 FY DRG Cost Weights and Associated Variables for Calculating WIESNZ23
* Appendix 2: SAS Code to Calculate WIESNZ23 and Assign PUs
* Appendix 3: Cost Weights Project Group Membership
* Appendix 4: New Zealand Casemix History
* Appendix 5: XPUs and PUs Identified in this Document
* Appendix 6: List of NZ DRGs and DRG Mappings
* Appendix 7: List of Acronyms and Definitions
* Appendix 8: ICD-10-AM/ACHI Mapping Table
* Appendix 9: AR-DRG v7.0 vs AR-DRG v10.0 and NZ DRGs

# Changes Effected in this Version

The 2022 NCCPP work year was a major change year involving the upgrade to the new DRG version, AR-DRG v10.0 and a full new set of weights effective from 1 July 2023.

AR-DRG v10.0 accepts ICD-10-AM/ACHI Eleventh Edition codes.

Hospitals will upgrade to ICD-10-AM/ACHI/ACS Twelfth Edition 1 July 2023. Therefore, event records coded in ICD-10-AM/ACHI Twelfth Edition will have their codes back-mapped to ICD-10-AM/ACHI Eleventh Edition which are then used to derive AR-DRG v10.0.

AR-DRG v10.0 is significantly different to the current structure of AR-DRG v7.0, as it includes major revisions of the case complexity system and adjacent DRG (ADRG) splitting. Therefore, additional education will be necessary to ensure users of DRG information understand the AR-DRG v10.0 changes. For further information about AR-DRG v10.0 see link, <https://www.ihacpa.gov.au/resources/ar-drg-version-100>

The AR-DRG v10.0 definitions manuals are only available in hard copy and can be purchased from the Australian print provider Lane Print <http://ar-drg.laneprint.com.au/>

Exclusion rules are based on ICD-10-AM/ACHI Eleventh Edition clinical coding and AR-DRG v10.0.

This WIESNZ23 version includes the following changes from the previous year:

* ICD-10-AM/ACHI diagnosis and procedure codes including descriptions updated to Eleventh Edition
* DRGs and descriptions updated to AR-DRG v10.0
* New and revised same day/one day designations
* Revised NZ DRG Allocation
  + Deleted NZ DRG F03M
  + Updated NZ DRG B02W
  + Updated the code for the NZ DRG O66T to O66W
* Deleted co-payment for Atrial Septal Defect (ASD)
* Revised co-payment definitions and values for:
  + Abdominal Aortic Aneurysm (AAA)
  + Scoliosis (SCOL) renamed to Spinal Fusion (SF)
  + Electrophysiological Studies (EPS)
  + Live Donor Nephrectomy (LDN)
  + Ventricular Assist Device (VAD) for Adults
  + Complex Traumatic Limb (TLC)
  + Bilateral Mastectomy or Combined Mastectomy and Reconstruction (MR)
  + Gender Reaffirming Surgery (GR)
  + Peritonectomy with HIPEC (PH)
  + Pelvic Evisceration (PE) Surgery
* Revised co-payment value for:
  + Cardiac Lead Extraction (LE)
* Revised exclusion rules for:
  + Medical termination of pregnancy
  + Same day pharmacotherapy for treatment of neoplasm
  + Colposcopies
  + Gastroenterology procedures
  + Bronchoscopies
  + Same Day Transrectal Ultrasound (TRUS) Guided Biopsy of Prostate and Transperineal (TPA) Biopsy of Prostate
* Revised DRG Mapping and Exclusion of Ophthalmology Injections
* Revised excluded purchase unit codes for:
  + Peritoneal Dialysis
  + Same Day Radiotherapy
* Added new facility Franklin Private Hospital (9300) to the casemix eligible facilities list.

A more detailed list of changes arising during the review is given in section 3.2.1.

# Introduction

**Caveat:** This document describes the casemix environment for New Zealand’s publicly funded hospitals. It will apply in the second year of a new health sector commissioning structure, and this document has been written at a time when the new approaches are not fully known. Accordingly, there may be references to the health sector structures of 2021/22. However, it will be clear what is intended for the 2023/24 financial year. See 3.1 below for further advice.

This report specifies the final version of the 2023/24 FY[[1]](#footnote-2) WIESNZ23 methodology for identifying casemix events provided by New Zealand’s publicly funded hospitals. It is the same format as the document used in earlier years, though WIESNZ23 is based on the DRG schedule AR-DRG v10.0 and clinical coding in ICD-10-AM/ACHI Eleventh Edition after it has been back-mapped from ICD-10-AM/ACHI Twelfth Edition.

The intent of this document is to specify the casemix methodology used by publicly funded hospitals so that case weighted discharge values can be calculated for all National Minimum Dataset (NMDS) event records by National Collections and Reporting. Further variables are also defined, as required, to identify casemix specialties or Purchase Units (PUs), sometimes also referred to as Service Units, case complexity (for future costing work), and the cost weight version used. Publicly funded event records excluded from casemix purchasing are identified and where possible the correct non casemix PU applicable to the event record is defined, allowing these event records to be combined with the National Non-Admitted Patient Data Collection (NNPAC).

A secondary purpose of this document is to provide a definitive explanation of the hospital events that may be casemix purchased. As such, additional information beyond that required by National Collections for implementation in the NMDS is provided both as a background and to identify areas that may be subject to revision for future funding arrangements.

This specification is described as much as possible in plain English. There are, however, references to lists of *The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification* (ICD-10-AM), the *Australian Classification of Health Interventions* (ACHI) *Eleventh Edition (2019)* and *Twelfth Edition (2022),* *Australian Refined Diagnosis Related Groups* (AR-DRGs[[2]](#footnote-3)) and other lists of coded variables from the NMDS Data Dictionary. Such lists, including logical conjunctions of different sets of variables, are provided to exactly identify what is included (or excluded) in the English definition.

The NMDS cost weight output file (.ndw) is distributed by National Collections for each batch input file loaded into the NMDS. The file contains the results of the WIES calculation process for each event record within the file that is successfully loaded.

It gives the cost weight, purchase unit and DRG for each event record and a subset of information from the event record that was used to calculate each of these. The file comprises of a header record containing file information, and a cost weight transaction record for each event record loaded into the NMDS.

Note that the terms *Hospital and Health Service (HHS)* and *District provider arm* may be used interchangeably throughout this document.

## Background

Under the most recent previous funding arrangements the existing 20 District Health Boards (DHBs) are responsible for funding their provider arms from their Ministry of Health (MoH) funding packages, using the form of a service level agreement (SLA) and price volume (PV) schedule agreed between a DHB’s funder and its provider arm. DHB purchasing intentions, including volume targets, were notified to the Ministry of Health in district annual plans. DHBs purchased a range of inpatient events from their provider arms, some of which are funded using this casemix framework, principally medical/surgical events. This document extends the existing casemix and cost weight methodology, known as Weighted Inlier Equivalent Separations (WIES), with amendments for New Zealand from WIESNZ22 to WIESNZ23. The version for implementation from 1 July 2023 is known as WIESNZ23.

With the implementation of the Health Reforms with effect from 1 July 2022, the cessation of DHBs and the formation of Te Whatu Ora – Health New Zealand, the uses of pricing in the 2023/24 year and future years is yet to be determined, but is recognised to play a significant role in benchmarking, efficiency analysis, investment or disinvestment decision making and other operational and business management purposes.

Te Whatu Ora – Health New Zealand have indicated that costing across the sector will be important in future years and costing and subsequent pricing may impact certain funding streams; however, at this stage these cannot be identified.

Despite this uncertainty, the health sector’s ability to have a quality, accurate set of cost data with subsequent prices and weighted volume measures remains important as Te Whatu Ora will need to understand sector costs across its range of healthcare providers.

The casemix purchase units appearing in this schedule are derived from a mapping of Health Service Speciality codes as set out in this document, see 5.3.

## Recent History of Changes to this Casemix Framework

### Changes from WIESNZ22 to WIESNZ23

WIESNZ23 is based on ICD-10-AM/ACHI Eleventh Edition and AR-DRG v10.0.

Event records clinically coded in ICD-10-AM/ACHI Twelfth Edition will have their codes back-mapped to ICD-10-AM/ACHI Eleventh Edition which are then used to derive AR-DRG10.0.

Exclusion rules are based on ICD-10-AM/ACHI Eleventh Edition clinical coding and AR-DRG v10.0. The framework associated with WIESNZ23 is the same as WIESNZ22 except for the following:

* A change from basing the WIESNZ environment on AR-DRG v7.0 to one based on AR-DRG v10.0.
* Introduction of a large number of OD designations to match the structural change between the DRG classifications in which DRGs for same day events are removed, see 3.3. This sends large numbers of same day events into minor complexity DRGs.
* Introduction of a new Episode Clinical Complexity (ECC) Model to replace the PCCL model in AR-DRG v7.0.
* Adaptation of NZ-specific DRGs and weight co-payments to the new DRG classification where needed.
* ICD-10-AM/ACHI diagnosis and procedure codes including descriptions updated to Eleventh Edition
* Revised NZ DRG Allocation, see 4.2.2
  + Deleted NZ DRG F03M
  + Updated NZ DRG B02W
  + Updated the code for the NZ DRG O66T to O66W
* Deleted co-payment for Atrial Septal Defect (ASD)
* Revised co-payment definitions and values for:
  + Abdominal Aortic Aneurysm (AAA), see 4.4.3
  + Scoliosis (SCOL) renamed to Spinal Fusion (SF), see 4.4.4
  + Electrophysiological Studies (EPS), see 4.4.5
  + Live Donor Nephrectomy (LDN), see 4.4.6
  + Ventricular Assist Device (VAD) for Adults, see 4.4.7
  + Complex Traumatic Limb (TLC), see 4.4.8
  + Bilateral Mastectomy or Combined Mastectomy and Reconstruction (MR), see 4.4.9
  + Gender Reaffirming Surgery (GR), see 4.4.10
  + Peritonectomy with HIPEC (PH), see 4.4.13
  + Pelvic Evisceration (PE) Surgery, see 4.4.14
* Revised co-payment value for:
  + Cardiac Lead Extraction (LE), see 4.4.11
* Revised exclusion rules for:
  + Medical termination of pregnancy, see 5.2.23
  + Same day pharmacotherapy for treatment of neoplasm, see 5.2.27
  + Colposcopies, see 5.2.30
  + Gastroenterology procedures, see 5.2.33
  + Bronchoscopies, see 5.2.35
  + Same Day Transrectal Ultrasound (TRUS) Guided Biopsy of Prostate and Transperineal (TPA) Biopsy of Prostate, see 5.2.37
* Revised DRG Mapping and Exclusion of Ophthalmology Injections, see 5.2.39
* Revised excluded purchase unit codes for:
  + Peritoneal Dialysis from M60005 to M60004, see 5.2.24
  + Same Day Radiotherapy from M50024 or M50025 to M50031, see 5.2.28
* Added new facility Franklin Private Hospital (9300) to the casemix eligible facilities list with start date 1 July 2022, see 5.2.38

### Changes from WIESNZ21 to WIESNZ22

WIESNZ22 was based on ICD-10-AM/ACHI Eighth Edition and AR-DRG v7.0.

ICD-10-AM/ACHI Eleventh Edition was implemented 1 July 2019, however, not all public hospitals upgraded 1 July 2019. Event records coded in ICD-10-AM/ACHI Eleventh Edition had their codes back-mapped to ICD-10-AM/ACHI Eighth Edition which were then used to derive AR-DRG v7.0. Exclusion rules were based on ICD-10-AM/ACHI Eighth Edition coding and AR-DRG v7.0. The framework associated with WIESNZ22 was the same as WIESNZ21 except for the following:

* Removed section ‘Special Funding Arrangement for Temporomandibular Joint Replacement (TMJ)’
* Revised Scoliosis co-payment definition to exclude DRG I06Z
* Revised Live Donor Nephrectomy (LDN) co-payment value from 1.5817 to 1.3491
* Revised Ventricular Assist Devices (VADs) for Adults co-payment definition to include both left or right VADs (unilateral) and BiVADs (bilateral). Co-payment value revised for unilateral VAD from 21.0526 to 22.2877. New co-payment for BiVADs 44.5754
* Revised Gender Reaffirming Surgery (GR) definition to include procedure 3064101 [1184] *Orchidectomy, bilateral*
* Revised patient’s age to be calculated as at date of admission
* Revised Disability and Health of Older People exclusion rule to include the Waikato START program and allocate the appropriate excluded purchase unit codes
* Revised excluded purchase unit code for Postnatal Early Intervention from W03012 to W03013
* Added new excluded purchase unit code M86004 *Nuclear Medicine – PRRT Treatment* for Same Day Radiotherapy
* Revised anaesthesia criteria to include sedation only for exclusion rules ‘Lithotripsy’ and ‘Same Day Transrectal Ultrasound (TRUS) Guided Biopsy of Prostate and Transperineal (TPA) Biopsy of Prostate’
* Removed ‘all [1910]’ from section ‘Note on Anaesthesia Coding’
* Added new facilities Southern Cross Central Lakes Hospital (9297), South Island Plastic Surgery (9311), Mr Terrace Creagh (9312), Face Breast and Body (9313) and OneSixOne (9271) to the casemix eligible facilities list
* Added new section ‘Indicative price’, see Indicative Price – FYs from 2022/23.

## Same Day (SD) and One Day (OD) Designations

For the DRGs designated SD on the cost weight schedule a same day weight is calculated from same day event costs even if the low boundary is 0 (zero). Similarly, for an OD designation, separate same day and one day weights are calculated from the costs of the respective event types even if the low boundary is 1. This method ensures a better distribution of revenue across the different weight types, principally the same day (SD), LOS=1, and inlier weights. The structural change between the DRG versions that removes almost all DRGs solely for same day events has necessitated the introduction of OD designations for 279 DRGs, over and above those carried forward from AR-DRG v7.0.

## Areas for Change in the Future

The current cost weight schedule is based solely on New Zealand costs and other data elements. This allows changes to be made to the way weights are developed as cost profiles and other aspects of New Zealand’s hospital data evolve or become better understood. In particular, further review and refinement of SD and OD designations will occur.

## Spinal Trauma

Health specialty code S44 *Orthopaedic spinal surgery* was created 1 July 2020 to enable the identification of spinal trauma event records reported to the NMDS.

The health speciality code S44 *Orthopaedic spinal surgery* is only valid for use by Canterbury District (agency 4021) and Counties Manukau District (agency 1023) and maps to health specialty code S45 *Orthopaedic surgery,* which maps to purchase unit code S45.01 *Orthopaedics – Inpatient Services,* see 5.3.

# WIESNZ23 Calculation

The following section describes the derived variables required, the DRG reallocation tests applied (AR-DRG => NZdrg100), the Mechanical Ventilation calculation, other co-payments, the matching of event records with appropriate cost weights and the WIESNZ23 case weight calculation. In what follows the phrases *case weight*, *cost weight*, and *costweight* may be used interchangeably. The table of information required to apply these calculations is provided in the WIESNZ23 file attached in Appendix 1: Table of 2023/24 FY DRG Cost Weights and Associated Variables for Calculating WIESNZ23.



## Derived Variables Required in Calculation

The following derived variables are used in the WIESNZ23 calculation.

### Length of Stay

The Length of Stay (LOS) calculation used in the methodology is the same as prior versions. It has a maximum of 365 days and minimum of 1 day applied, as well as having any Event Leave Days subtracted from the total elapsed days between admission and discharge dates. The minimum of 1 day is applied to deal with the few cases where Event Leave Days are equal to the difference between the admission and discharge dates. Note that for WIES calculations, sameday events are only those where the admission and discharge days have the same date. Hence, the calculated LOS equals the difference in integer days between the discharge and admission dates, minus any Event Leave Days.

Further, this is set to 365 if the LOS is greater than 365 or is set to 1 if the LOS = 0 (zero).

Note that LOS is calculated from two dates provided to the NMDS in datetime format. LOS is intended to represent the integer number of days between the event end date and the event start date and so only the date part of this format is used in calculating the LOS for an event.

### Extreme LOS Events

In the extremely rare cases where the length of stay of casemix events exceeds 365 days by a significant number of days, it is recommended that the service hospital statistically discharge the patient at 364 days.

## DRG Reallocations

Details of the DRG shifts prior to the case weight calculation are given in this section. These events, however, should **not** have the original AR-DRG overwritten, and to this end, the SAS code in Appendix 2 creates a new variable, NZdrg100, to hold the reassigned DRG appropriate for the case weight calculation. This WIES DRG set, or NZdrg100, contains the unmapped AR-DRGs as well as the additional NZ specific DRGs not used in AR-DRG for the purpose of applying the appropriate cost weights to NMDS event records.

As in previous years, adjustments are made to the original AR-DRG grouping when setting the NZdrg100 field. The following subsections detail the tests for the allocation of AR-DRGs to NZdrg100 DRGs for the purposes of the WIESNZ23 case weight calculation.

### Adjustment of Medical AR-DRGs with Radiotherapy (R64W)

Event records identified with medical AR-DRGs and which contain one or more of the ACHI Eleventh Edition procedure codes appearing in the first 30 procedure codes reported 1500000, 1500300 [1786], 1510000, 1510300 [1787], 1522400, 1523900, 1525400, 1526900 [1788], 1560000, 1560001, 1560002, 1560003, 1560004 [1789] (i.e. all external beam therapies) are mapped to the NZ DRG R64W *Radiotherapy from Medical DRGs*. Medical DRGs are those where the number part of the DRG code is greater than or equal to 60 (the format of DRG codes is AnnA). NZ DRG R64W was created in WIESNZ17 and is still current for WIESNZ23.

### NZ DRG Allocation

Three NZ specific DRGs (A39W, B02W, O66W) were developed in previous WIESNZ versions due to new technology and treatment regimens and are still current for WIESNZ23. For the full list of NZ DRGs see Appendix 6: List of NZ DRGs and DRG Mappings.

**A39W *Pelvic Evisceration***

The NZ specific DRG A39W was revised in WIESNZ17 to include pelvic exenteration events only, with an expanded definition to include male events in WIESNZ20 and is still current for WIESNZ23.

**Pelvic Evisceration Surgery – Female and Male**

Pelvic exenteration/evisceration surgery event records are identified by having one of the three ACHI Eleventh Edition procedure codes listed and must occur in the first 30 procedure codes reported:

* 9045000 [989] *Anterior pelvic exenteration* (includes: removal of bladder, fallopian tubes, ovaries, prostate, seminal vesicles, urethra, uterus, vagina)
* 9045001 [989] *Posterior pelvic exenteration* (includes: removal of anal canal, fallopian tubes, ovaries, prostate, rectum, seminal vesicles, sigmoid colon, uterus, vagina)
* 9045002 [989] *Total pelvic exenteration.*

**Pelvic Evisceration Surgery – Male**

Male pelvic exenteration surgery event records are identified as those having a principal diagnosis of:

C19 *Malignant neoplasm of rectosigmoid junction*

OR   
C20 *Malignant neoplasm of rectum*

AND   
There are at least four procedure codes with:

one selected from (3203000 *Rectosigmoidectomy with formation of stoma*, 3203900 *Abdominoperineal proctectomy* [934], 3202400 *High anterior resection of rectum*, 3202500 *Low anterior resection of rectum*, 3202600 *Ultra low anterior resection of rectum*, 3202800 *Ultra low anterior resection of rectum with hand sutured coloanal anastomosis* [935], 3201500 *Total proctocolectomy with ileostomy* [936])

AND

another selected from (3720900 *Radical prostatectomy*, 3720005 *Other open prostatectomy* [1167])

AND

another selected from (3700001 *Partial excision of bladder*, 3701400 *Total excision of bladder* [1102])

AND

another selected from (3660002 [1129] *Formation of incontinent intestinal urinary reservoir,* 5022101 [1384] *En bloc resection of lesion of soft tissue involving sacrum*),

AND

these procedure codes occur among the first 30 procedure codes reported.

Events satisfying either of these two definitions will map to NZ specific DRG A39W.

In WIESNZ21 a new co-payment was added for Waitemata District and remains the same for WIESNZ23, see section 4.4.14 Co-payment for Pelvic Evisceration (PE) Surgery.

**B02W *Stroke Clot Retrieval***

Clot retrieval was a new technology and service with a strong case for outcome improvement that developed more quickly than other new technologies.

The New Zealand Stroke Network promoted a service configuration with the service being very time-dependent for its use. Because of this, it was decided that clot retrieval events should be provided with their own NZ specific DRG B02W Stroke Clot Retrieval. The initial definition developed in WIESNZ19 for this NZ DRG reflected knowledge of the service at the time of the development. However, with the growth of this service new facets were identified, therefore NZ DRG B02W was revised in WIESNZ20 and remains current for WIESNZ23.

Stroke clot retrieval events are defined as those that satisfy conditions I, II, III and IV:

1. Event is from one of the three facilities: Auckland City Hospital (3260), Wellington Hospital (5811) and Christchurch Hospital (4011)

AND

1. Events do not initially group to a DRG featuring mechanical ventilation. These excluded DRGs are:

* A13A, A13B, A14A, A14B, A14C, A15A, A15B, A15C, B42A, B42B, E40A, E40B, F40A, F40B, T40Z, W01A, W01B, W01C, X40A, X40B, Y01Z

AND

1. Event has a principal diagnosis of I63[[3]](#footnote-4)\* *Cerebral infarction* or I64 *Stroke, not specified as haemorrhage or infarction*

AND

1. (EITHER

Event is a ***Completed Stroke Clot Retrieval (SCR)*** defined as those with one of the ACHI Eleventh Edition procedure codes 3541400 [702] *Embolectomy or thrombectomy of intracranial artery* or 3541401 [729] *Thrombectomy of intracranial vein* occurring in the first 30 procedure codes reported

OR

Event is an ***Incomplete Stroke Clot Retrieval (SCR)*** defined by having one of the ACHI Eleventh Edition procedure codes 5997002 [1990] *Cerebral angiography* or 6000000 [1992] *Digital subtraction angiography of head and neck, <= 3 data acquisition runs* occurring in the first 30 procedure codes reported

OR

Event is a ***Precerebral (carotid artery) treatment*** defined as having an admission type ‘AC’ (acute) AND has one of the ACHI Eleventh Edition procedure codes 3380000 [702] *Embolectomy or thrombectomy of carotid artery* or 3530700 [754] *Percutaneous transluminal angioplasty of single carotid artery, single stent* WHERE procedure date for these procedure codes is the same as the event start date

AND

These six procedure codes occur among the first 30 procedure codes reported).

**O66W *SFLP for Twin to Twin Transfusion Syndrome***

Analysis showed a small number of event records within a large throughput of DRGs, in this case O66A *Antenatal and Other Obstetric Admissions, Major Complexity,* O66B *Antenatal and Other Obstetric Admissions, Intermediate Complexity* and O66C *Antenatal and Other Obstetric Admissions, Minor Complexity*. The costs of the treatment method were swamped by the costs of these other event records. It was decided to develop a NZ specific DRG O66W for this treatment regime, with weights based on the reported costs without adjustment.

The NZ DRG was created in WIESNZ13 and remains current for WIESNZ23 but its code has been updated from O66T to O66W.

These event records are identified as those which have a principal diagnosis of O430 *Placental transfusion syndromes* and one of the first 30 ACHI Eleventh Edition procedure codes must be 9048800 [1330] *Endoscopic ablation of vessels of placenta.*

### Ophthalmology Injections and Skin Lesion Procedures

Excluded event records for Ophthalmology Injections and Skin Lesion Procedures are assigned to their own NZ DRG, refer to 5.2.39 and 5.2.40.

### All other AR-DRGs

All AR-DRGs v10.0 not reallocated in the above tests are given the same DRG code, ie, the NZdrg100 DRG is set to the same value as the AR-DRG v10.0.

## Adjusted Mechanical Ventilation Days

The WIESNZ23 calculation includes a component for Adjusted Mechanical Ventilation Days used to calculate the mechanical ventilation (MV) co-payment. However, in some DRGs the majority of event records include mechanical ventilation and the cost of this is already reflected in the case weight for that DRG. Therefore, these DRGs have their adjusted MV days set to zero.

### DRGs Excluded from Mechanical Ventilation Days

Each of the following NZ DRGs have their event records Adjusted Mechanical Ventilation Days set to zero and are ineligible for a MV co-payment:

B42A, B42B, C03W, E40A, E40B, J11W, L61Z, L68Z, P01Z, P03A, P03B, P04A, P04B, P05A, P05B, P07Z, P08Z, P60A, P60B, P61Z, P62A, P62B, P63A, P63B, P64A, P64B, P65A, P65B, P65C, P65D, P66A, P66B, P66C, P66D, P67A, P67B, P67C, P67D, P68A, P68B, P68C, P68D, T40Z, U40Z, X40A, X40B, 960Z, 961Z.  These DRGs are flagged as ‘I’ (ineligible) in the field mvelig in the WIESNZ23 weights table.

For DRGs A13A, A13B, A14A, A14B, A14C, A40Z, E03Z, F23Z, F40A, F40B, and W01A, W01B, W01C the hours of ventilation need to be > 96 to qualify the event for a mechanical ventilation co-payment. These DRGs are flagged as ‘4’ in the field mvelig in the WIESNZ23 weights table.

The DRGs P06A and P06B are flagged as ‘E’ (eligible for a co-payment) in the field mvelig in the WIESNZ23 weights table.

The DRGs B02W, H09Z, P02Z and all other DRGs not listed are flagged as ‘D’ (eligible for daily co-payments) in the field mvelig in the WIESNZ23 weights table.

### Calculation of Mechanical Ventilation Days from Hours

For all other AR-DRGs, Adjusted Mechanical Ventilation Days is calculated in the following way:

* If hours of ventilation are less than six, then Adjusted Mechanical Ventilation Days is set to zero
* If hours of ventilation are six or more then Adjusted Mechanical Ventilation Days are calculated by adding 12 hours to the hours reported, dividing the result by 24 and rounding up to integer days.

## General Calculation

For the WIESNZ23 calculation, each NMDS event record is initially allocated its NZdrg100 and this DRG is then matched to the file containing the NZdrg100 cost weights and other associated variables.

NZdrg100 DRGs are flagged as Sameday, Oneday or other DRGs in this file by the SDOD flag (Same Day/One Day WIES DRG Flag), but event records are classed as sameday, one day, or multiday as determined from admission and discharge dates or from LOS.

The development of the weight schedule has followed the same pattern as before, though the calculation continues to be presented in an easier format. It uses per diem rates for both high and low outliers, inlier weight, a one day weight, and a sameday weight.

The base WIES weight for sameday episodes (inlier and low outlier), one day episodes (inlier and low outliers), and multiday inliers can be read directly from the WIESNZ23 weights table using the appropriate column and row. The base WIES weight for multiday low outliers can be calculated by multiplying the per diem weight given in the WIESNZ23 weights table by the patient’s (length of stay – 1) and adding the one day weight. The base WIES weight for high outliers is obtained by multiplying the number of high outlier days by the high outlier per diem weight (from table) and adding the multiday inlier weight (from table). Technical details are provided in the following sections.

An event record LOS is compared with the NZdrg100 DRGs low and high LOS boundary points to determine the inlier category (Low, Inlier, High) and which particular cost weight should be applied to it. In the following sections, shortened variable names from the WIES DRG weights file are used. Note that in the following table *NZ-DRG10* is synonymous with AR-DRG v10.0, while DRG\_NZ, WIES DRG and NZdrg100 are synonymous for this classification when adapted to New Zealand.

| **Variable**  **(Column Heading)** | **Label** | **Description** |
| --- | --- | --- |
| New Zealand DRG | NZDRG100 | AR-DRG v10.0 as adapted for New Zealand |
| Mechanical ventilation | mvelig | This describes the way mechanical ventilation severity co-payments are calculated for the NZDRG100. Options are:  D: at least six hours of ventilation is provided.  Events attract a daily rate of 0.7729 WIES.  E: events are allocated an additional 3.1323 WIES.  4: allocated for each day of mechanical ventilation after 4 days.  Events attract a daily rate of 0.7729 WIES.  I: ineligible for mechanical ventilation co-payments. |
| Other co-payments | coelig | Some groups of patients attract additional funds in recognition of their higher costs.  For New Zealand there are co-payments for abdominal aortic aneurysm, electrophysiological studies, spinal fusion, live donor nephrectomy, ventricular assist device, complex traumatic limb, bilateral mastectomy or combined mastectomy and reconstruction, gender reaffirming surgery, cardiac lead extraction, isolated limb infusion, peritonectomy with hipec and pelvic evisceration surgery. See Box 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, and 1m. |
| Low inlier boundary | lb | The low length of stay boundary for inliers. Patients with a length of stay less than the low boundary are classed as low outliers.  For most DRG\_NZs the low boundary has been set at a third of the estimated average length of stay for the DRG\_NZ. Boundaries are truncated to the nearest whole number. |
| High inlier boundary | hb | The high length of stay boundary for inliers. Patients with a length of stay greater than the high boundary are classed as high outliers.  For most DRG\_NZs the high boundary has been set at three times the estimated average length of stay for the DRG\_NZ. Boundaries are rounded to the nearest whole number. |
| Inlier average length of stay | alos | The average length of stay (days) for inliers. |
| Inlier weight | md\_in | The inlier multiday weight is used to allocate WIES to inliers that have a length of stay of at least two days.  For designated NZ-DRG10s, sameday/one day patients are excluded when deriving the inlier multiday weight. |
| NZDRG100 designation | SDOD | Flag for designated sameday (SD) or one day (OD) NZDRG100s |
| Multiday low outlier per diem weight | lo\_pd | The low outlier multiday per diem weight is used to allocate WIES to low outliers who have a length of stay of at least two days.  Not all NZDRG100s have low outliers. No weight is reported in these cases.  For most NZDRG100s the weight is derived from the average cost of multiday inliers excluding prosthesis and theatre costs, divided by the low boundary.  The WIES value for low outliers is calculated by multiplying the low outlier multiday per diem weight by the patient’s length of stay less one day and then adding the one day weight, i.e.  Low outlier WIES = od + (LOS – 1)\*lo\_pd |
| Sameday weight | sd | The sameday weight is used to allocate WIES to episodes where patients are admitted and discharged on the sameday. Depending upon the NZDRG100, sameday patients may be either low outliers or inliers:  Designated Sameday/Oneday NZDRG100s  The sameday weight is based on the costs of sameday patients.  Non-Same Day/One Day NZDRG100s with a low boundary of zero days  The sameday weight is set at the multiday inlier weight.  Non-Same Day/One Day NZDRG100s with a low boundary of 1 day  The sameday weight is set based on the average cost of inliers.  For medical DRGs the weight is set at half of the inlier average cost and for procedural DRGs is based on 100% of theatre and prosthesis costs and 50% of the average of other costs.  Non-Same Day/One Day NZDRG100s with a low boundary of 2 days or more (low outliers)  The sameday weight is based on 100% of theatre and prosthesis costs and 50% of the average of other costs, divided by the low boundary. |
| One day weight | od | The one day weight is used to allocate WIES to episodes where patients have a length of stay of one but who were not discharged on the sameday as they were admitted. Depending upon the NZDRG100, one day patients may be either low outliers or inliers:  Designated Sameday NZDRG100s  The one day weight is based on the costs of all inliers excluding sameday patients. If the patient is an inlier, they attract the full multiday inlier weight. If the patient is a low outlier, they attract the low outlier per diem weight.  Designated One day NZDRG100s  The one day weight is based on the costs of patients with a length of stay of one day.  Non-Same/One Day NZDRG100s with a low boundary of 1 day or less  The one day weight is set at the multiday inlier weight.  Non-Same/One Day NZDRG100s with a low boundary of 2 days or more (low outliers)  The one day weight is based on 100% of theatre and prosthesis costs and the average of other costs, divided by the low boundary. |
| High outlier per diem | ho\_pd | The high outlier multiday per diem weight is used to allocate additional WIES for all days of stay in excess of the high boundary after adjusting for any MV co-payment days.  The high outlier multiday per diem rate is based on the average cost of inliers excluding all implant and theatre costs according to the formula:  High factor \* (av inlier cost excl implant and theatre costs) / alos  Where the high factor is set at 0.7 for intervention NZDRG100s, 0.8 for medical NZDRG100s to recognise the days at the end of a patients stay are less resource intensive than days at the beginning of a patients stay. However, some variations exist on this pattern, and the high factor may be set higher than one for some high cost NZ-DRG100s. In addition, maximum and minimum criteria are also used. In the case of the high ALOS DRGs the lowering of their HB may produce more high outlier events, leading to more resource use after the high boundary. In this case the estimated per diem rate has not been discounted, with high factor being set to 1. |

### Calculating WIESNZ23

The remainder of this section 4.4 describes, in programming order, the components needed to determine the final cost weight for an event. The final weight consists of a base WIES weight with additional co-payment weights in special circumstances. To calculate the WIES weight allocated to a patient proceed as follows:

* Calculate the WIES co-payment for MV (mv\_copay) using the precalculated adjusted mechanical ventilation days (adjmvdays) see 4.3 and 4.4.2

(see Box 1);

* Calculate the co-payment for abdominal aortic aneurysm, electrophysiological studies, spinal fusion, live donor nephrectomy, ventricular assist device, complex traumatic limb, bilateral mastectomy or combined mastectomy and reconstruction, gender reaffirming surgery, cardiac lead extraction, isolated limb infusion, peritonectomy with hipec and pelvic evisceration surgery event records (see Boxes 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, 1m and 1n);
* Calculate the base WIES allocation using the NZdrg100 DRG and the patient’s length of stay adjusted for mechanical ventilation per diem. This can be done using the appropriate weights from the WIESNZ23 weights table; and
* Add the base WIES payment and co-payments (see Box 3).

The steps are described in detail with technical specifications provided in the following boxes.

### Co-payment for Mechanical Ventilation (MV)

To be eligible for a mechanical ventilation co-payment the patient must have had at least six hours of continuous mechanical ventilation and have been allocated to an NZdrg100 DRG that is eligible for a mechanical ventilation co-payment. NZdrg100 DRGs are classed as either:

* Eligible for daily co-payments of 0.7729 WIES (column mvelig = ‘D’ in the WIESNZ23 weights table)
* Eligible for a co-payment of 3.1323 (column mvelig = ‘E’ in the WIESNZ23 weights table)
* Eligible for daily co-payments at 0.7729 WIES for ventilated days in excess of four days (96 hours) mechanical ventilation (column mvelig = ‘4’ in the WIESNZ23 weights table) or
* Ineligible for co-payments (column mvelig = ‘I’ in the WIESNZ23 weights table).

**Box 1: Calculating Mechanical Ventilation (MV) Co-payments**

Select mv\_elig

case “D” then

if (hours on mechanical ventilation is greater than or equal to 6) then

Adjmvday = round ((hours mechanical ventilation +12)/24)

mv\_copay = adjmvday ´ 0.7729

else

adjmvday = 0

mv\_copay = 0

go to box 1b

case “E” then

if (hours on mechanical ventilation is greater than or equal to 6) then

Adjmvday = round ((hours mechanical ventilation +12)/24)

mv\_copay = 3.1323

else

adjmvday = 0

mv\_copay = 0

go to box 1b

case “4” then

if (hours on mechanical ventilation > 96) then

Adjmvday = round ((hours mechanical ventilation +12)/24) – 4

mv\_copay = adjmvday ´ 0.7729

else

adjmvday = 0

mv\_copay = 0

go to box 1b

otherwise do

adjmvday = 0

mv\_copay = 0

go to box 1b

Note that additional WIES for high outliers do not start until the LOS exceeds high boundary outlier days (column hb in WIESNZ23 weights table) plus adjusted mechanical ventilation days (‘adjmvday’ in the technical specifications Box 1).

### Co-payment for Abdominal Aortic Aneurysm (AAA)

To be eligible for a AAA co-payment the facility recorded for the event record must be one of the facilities listed and one of the first 30 ACHI Eleventh Edition procedure codes must be 3311600 [762] *Endovascular repair of aneurysm*, and the event must fall into one of the following DRGs F08A *Major Reconstructive Vascular Interventions W/O CPB Pump, Major Complexity* or F08B *Major Reconstructive Vascular Interventions W/O CPB Pump, Intermediate Complexity* or F08C *Major Reconstructive Vascular Interventions W/O CPB Pump, Minor Complexity*.

The co-payment value is 2.7742 WIES.

**Box 1b: Calculating** **Abdominal Aortic Aneurysm (AAA) Co-payment**

**When event record falls into one of the DRGs F08A, F08B, F08C** AND

when facility is in ('3260','3214','3612','3911','5311','4911','5811','4011','4211')

AND any of the first 30 recorded procedures = '3311600'

then aaa\_pay = 2.7742  
else aaa\_pay = 0;

go to box 1c

**Note:**

New ACHI Twelfth Edition procedure code3311601 [762] *Revision of endovascular* repair back maps to ACHI Eleventh Edition procedure code 3311600[762[ *Endovascular repair of aneurysm,* see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Co-payment for Spinal Fusion (SF)

This rule applies to all event records and is not associated with any specific DRGs. However, the DRGs the co-payment appears on will generally be confined to a small group. The co-payment value is 3.4079 WIES.

To be eligible for a spinal fusion co-payment, the district funding agency must be: 1022 (Auckland), 1023 (Counties Manukau), 2031 (Waikato), 3091 (Capital and Coast) or 4160 (Southern) AND

the NZdrg100 must be 'I09A','I09B','I09C' AND either one of the first 2 diagnoses is in 'M41%','Q763\*','Q675\*','M962','M963','M965' or one of the first 3 procedures is in '4031600', '4867800','4868100','4868400','4868700','4869000' [1390].

**Box 1c: Calculating Spinal Fusion (SF) Co-payment**

**When district funding agency** is in ('1022','1023','2031','3091','4160') AND the event falls into one of the DRGs I09A, I09B, I09C AND either any of the first 2 recorded diagnoses in ('M41%','Q763\*','Q675\*','M962','M963','M965') OR any of the first 3 recorded procedures in ('4031600','4867800','4868100','4868400','4868700','4869000')

then sf\_pay = 3.4079

else sf\_pay = 0;

go to box 1d

**Note:**

New ACHI Twelfth Edition procedure codes:

* 5110300 [1390] *Odontoid screw fixation*
* 5102000 [1390] *Simple internal fixation of spine*
* 9001108 [1390] *Internal fixation of spine, not elsewhere classified*
* 5102100 [1390] *Segmental internal fixation of spine, 1 or 2 levels*
* 5102300 [1390] *Segmental internal fixation of spine, 3 or 4 levels*
* 5102500 [1390] *Segmental internal fixation of spine, 5 or more levels*

back map to ACHI Eleventh Edition procedure codes:

* 4031600 [1390] *Odontoid screw fixation*
* 4867800 [1390] *Simple internal fixation of spine*
* 4868100 [1390] *Nonsegmental internal fixation of spine*
* 4868400 [1390] *Segmental internal fixation of spine, 1 or 2 levels*
* 4868700 [1390] *Segmental internal fixation of spine, 3 or 4 levels*
* 4869000 [1390] *Segmental internal fixation of spine, 5 or more levels*

See Appendix 8: ICD-10-AM/ACHI Mapping Table

### Co-payment for Electrophysiological Studies (EPS)

To be eligible for a EPS co-payment the facility recorded for the event record must be: 3260 (Auckland), 5311 (Waikato), 5811 (Wellington), 4011 (Christchurch) or 8268 (Anglesea Braemar) and the event must fall into one of the following DRGs F24B *Interventional Coronary Procs, Not Adm for AMI, Minor Comp*, F42A *Circulatory Dsrds, Not Adm for AMI W Invasive Cardiac Inves Int, Major Comp,* F42B *Circulatory Dsrds, Not Adm for AMI W Invasive Cardiac Inves Int, Minor Comp* and one of the first 30 ACHI Eleventh Edition procedure codes must be:

* 3820900 [665] *Cardiac electrophysiological study, < 3 catheters*
* 3821200 [665] *Cardiac electrophysiological study, > 4 catheters*
* 3828702 [601] *Catheter ablation of arrhythmia circuit or focus involving left atrial chamber*
* 3829001 [601] *Catheter ablation of arrhythmia circuit or focus involving both atrial chambers*
* 3828701 [601] *Catheter ablation of arrhythmia circuit or focus, not elsewhere classified*

The co-payment values are:

* 0.8969 for F24B *Interventional Coronary Procs, Not Adm for AMI, Minor Comp*
* 1.5081 for both F42A *Circulatory Dsrds, Not Adm for AMI W Invasive Cardiac Inves Int, Major Comp* and F42B *Circulatory Dsrds, Not Adm for AMI W Invasive Cardiac Inves Int, Minor Comp.*

**Box 1d: Calculating Electrophysiological Studies (EPS) Co-payment**

**When facility** is in ('3260','5311','5811','4011','8268') AND

event falls into DRG F24B

AND any of the first 30 recorded procedures is in ('3820900','3821200','3828702','3829001','3828701')

then eps\_pay = 0.8969

else eps\_pay = 0

**When facility** is in ('3260','5311','5811','4011','8268') AND

event falls into one of the DRGs F42A, F42B

AND any of the first 30 recorded procedures is in ('3820900','3821200','3828702','3829001','3828701')

then eps\_pay = 1.5081

else eps\_pay = 0

go to box 1e

**Note:**

New ACHI Twelfth Edition procedure code3829300 [609] *Percutaneous ventricular muscle ablation* back maps to ACHI Eleventh Edition procedure code 3828701 [601] *Catheter ablation of arrhythmia circuit or focus, not elsewhere classified,* see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Co-payment for Live Donor Nephrectomy (LDN)

To be eligible for a live donor nephrectomy co-payment (LDN) of 1.6511 WIES the DRG must be L04B *Kidney, Ureter and Major Bladder Interventions for Non-Neoplasm, Interm Comp* or L04C *Kidney, Ureter and Major Bladder Interventions for Non-Neoplasm, Minor Comp* and one of the first 30 ACHI Eleventh Edition procedure codes must be:

* 3651604 [1050] *Laparoscopic complete nephrectomy for transplantation, living* *donor*
* 3651605 [1050] *Complete nephrectomy for transplantation, living donor*.

**Box 1e: Calculating Live Donor Nephrectomy (LDN) Co-payment**

**When event record falls into one of the DRGs L04B, L04C** AND one of the procedures

('3651604','3651605') is recorded in the first 30 procedure codes for the event

then ldn\_pay = 1.6511

else ldn\_pay = 0;

go to box 1f

### Co-payment for Ventricular Assist Device (VAD) for Adults

A change of practice at Auckland City hospital includes provision of BiVADs, which cost twice as much as an LVAD. Accordingly, the co-payment rule was revised in WIESNZ22 and has been revised again in WIESNZ23. To be eligible for a ventricular assist device co-payment the DRG must be F22Z *Insertion of artificial heart device* AND:

* If a patient is adult, ie, age at admission is > 15, AND the procedure code 3862101 [608] *Removal of right ventricular assist device* is not coded on the event

AND

EITHER one of the procedure codes 3861800 [608] *Insertion of left and right ventricular assist device* OR9622900 [608] *Implantation of total artificial heart* is on the event record,

OR both procedure codes 3861500 [608] *Insertion of left ventricular assist device* AND 3861501 [608] *Insertion of right ventricular assist device* are on the event record in the first 30 procedures reported

THEN a co-payment of weight equivalent 40.5564 applies.

* If a patient is adult, ie, age at admission is > 15, AND the procedure code 3862101 [608] *Removal of right ventricular assist device* is coded on the event

AND

EITHER (the procedure codes (3861800 [608] *Insertion of left and right ventricular assist device* AND (9622900 [608] *Implantation of total artificial heart* OR 3861501 [608] *Insertion of right ventricular assist device*))) are on the event record,

OR (both procedure codes 3861500 [608] *Insertion of left ventricular assist device* AND 3861501 [608] *Insertion of right ventricular assist device* AND the procedure code 3861501 is coded twice) on the event record in the first 30 procedures reported

THEN a co-payment of weight equivalent 40.5564 applies.

* If a patient is adult, ie, age at admission is > 15, AND

EITHER the procedure code 3861500 [608] *Insertion of left ventricular assist device* is on the event record,

OR the event record contains 3862101 [608] *Removal of right ventricular assist device* AND

EITHER 3861800 [608] *Insertion of left and right ventricular assist device*

OR both of 3861500 [608] *Insertion of left ventricular assist device* AND 3861501 [608] *Insertion of right ventricular assist device* on the event record in the first 30 procedures reported

THEN a co-payment of weight equivalent 20.2782 applies.

**Box 1f: Calculating Ventricular Assist Device for Adults (VAD) Co-payment**

**When event record falls into DRG F22Z** AND

the age at admission >15 years of age AND the procedure code is not '3862101'

AND

EITHER one of the procedure codes '3861800' OR '9622900'

OR both procedure codes '3861500' AND '3861501' are recorded for the event in the first 30 procedures recorded

then bivad\_pay = 40.5564

else bivad\_pay = 0;

**When event record falls into DRG F22Z** AND

the age at admission >15 years of age AND the procedure code is '3862101'

AND

EITHER (the procedure codes ('3861800' AND ('9622900' OR '3861501')))

OR (both procedure codes ('3861500' AND '3861501') AND procedure code ('3861501') is recorded twice) are recorded for the event in the first 30 procedures recorded

then bivad\_pay = 40.5564

else bivad\_pay = 0;

**When event record falls into DRG F22Z** AND

the age at admission >15 years of age, AND

EITHER the procedure code is '3861500'

OR (the event record contains procedure code ('3862101') AND

EITHER procedure code ('3861800') OR both procedure codes ('3861500' and '3861501')) are recorded for the event in the first 30 procedures recorded

then vad\_pay = 20.2782

else vad\_pay = 0;

go to box 1g

### Co-payment for Complex Traumatic Limb (TLC)

To be eligible for a complex traumatic limb co-payment (TLC) of 4.9426 WIES the DRG must be I02A *Microvascular Tissue Transfers or Skin Grafts, Excluding Hand, Major Complexity* or I02B *Microvascular Tissue Transfers or Skin Grafts, Excluding Hand, Intermediate Comp* and the facility recorded for the event record must be 5812 (Hutt) or 3214 (Middlemore).

**Box 1g: Calculating Complex Traumatic Limb (TLC) Co-payment**

**When event record falls into one of the DRGs I02A, I02B** AND

when the facility is in ('3214','5812')

then tlc\_pay = 4.9426

else tlc\_pay = 0;

go to box 1h

### Co-payment for Bilateral Mastectomy or Combined Mastectomy and Reconstruction (MR)

Events involving either a bilateral mastectomy or a combined mastectomy and reconstruction are eligible for a co-payment when they are grouped to either the DRG J06B *Major Interventions for Breast Disorders, Minor Complexity* or J14Z *Major Breast Reconstructions.*

Write *Bi* for the set of procedure codes

* 3151801 [1748] *Simple mastectomy, bilateral*
* 3152401 [1747] *Subcutaneous mastectomy, bilateral*

Write *Uni* for the set of procedure codes

* 3151800 [1748] *Simple mastectomy, unilateral*
* 3152400 [1747] *Subcutaneous mastectomy, unilateral*

Write *Re* for the set of procedure codes

* 4553900 [1756] *Reconstruction of breast with insertion of tissue expander*
* 4553002 [1756] *Reconstruction of breast using flap*
* 4553300 [1756] *Reconstruction of breast using breast sharing technique, first stage*
* 4553600 [1756] *Reconstruction of breast using breast sharing technique, second stage*
* 4554500 [1757] *Reconstruction of nipple*
* 4554501 [1757] *Reconstruction of areola*
* 4554502 [1757] *Reconstruction of nipple and areola*

By *Uni\_Bi* is meant the combined lists of *Uni* and *Bi,* namely: 3151800 [1748], 3151801 [1748], 3152400 [1747], 3152401 [1747].

A co-payment is applied to those events where among their first 30 ACHI Eleventh Edition procedure codes there is:

EITHER a procedure code from *Bi* OR (a procedure code from *Uni\_Bi* AND a procedure code from *Re*).

The co-payment values are:

* 0.8133 for J06B *Major Interventions for Breast Disorders, Minor Complexity* (MRB)
* 1.5273 for J14Z *Major Breast Reconstructions* (MRZ).

**Box 1h: Calculating Bilateral Mastectomy or Combined Mastectomy and Reconstruction (MR) Co-payment**

**When event record falls into J06B** AND in the first 30 procedures recorded EITHER one procedure from

('3151801','3152401') is recorded

OR (one procedure is recorded from ('3151800','3152400','3151801','3152401') AND one procedure is recorded from ('4553900','4554500','4554501','4554502'))

then mrb\_pay = 0.8133

else mrb\_pay = 0;

**When event record falls into J14Z** AND in the first 30 procedures recorded EITHER one procedure from

('3151801','3152401') is recorded

OR (one procedure is recorded from ('3151800','3152400','3151801','3152401') AND one procedure is recorded from ('4553002','4553300','4553600'))

then mrz\_pay = 1.5273

else mrz\_pay = 0;

go to box 1i

### Co-payment for Gender Reaffirming Surgery (GR)

To be eligible for a gender reaffirming surgery co-payment (GR) of 1.1876 WIES the DRG must be U67A *Personality Disorders and Acute Reactions, Major Complexity* or U67B *Personality Disorders and Acute Reactions, Minor Complexity* and the first three characters of the principal diagnosis must be F64\* *Gender identity disorders*, and one or more of the first five ACHI Eleventh Edition procedure codes must be:

* 3064101 [1184] *Orchidectomy, bilateral*
* 3151801 [1748] *Simple mastectomy, bilateral*
* 3152401 [1747] *Subcutaneous mastectomy, bilateral*
* 3563812 [1252] *Laparoscopic salpingo-oophorectomy, bilateral*
* 3565301 [1268] *Total abdominal hysterectomy*
* 3566701 [1269] *Radical vaginal hysterectomy*
* 3566702 [1268] *Laparoscopic radical abdominal hysterectomy*
* 3566703 [1269] *Laparoscopically assisted radical vaginal hysterectomy*
* 3565307 [1268] *Laparoscopic total abdominal hysterectomy*
* 3575000 [1269] *Laparoscopically assisted vaginal hysterectomy*

**Box 1i: Calculating Gender Reaffirming Surgery (GR) Co-payment**

**When event record falls into one of the DRGs U67A, U67B** AND

the principal diagnosis is like 'F64\*' AND any of the first 5 recorded procedures in

('3064101','3151801','3152401','3563812','3565301','3566701','3566702','3566703','3565307','3575000')

then gr\_pay = 1.1876

else gr\_pay = 0;

go to box 1j

### Co-payment for Cardiac Lead Extraction (LE)

To be eligible for a cardiac lead extraction co-payment (LE) of 4.4932 WIES the DRG must be from the circulatory system MDC (ie, start with F), and among the first 30 ACHI Eleventh Edition procedure codes one or more of the procedure codes must be:

* 3835800 [654] *Removal of permanent transvenous electrode of other heart chamber(s) for cardiac pacemaker using extraction device*
* 3835801 [654] *Removal of permanent transvenous electrode of left ventricle for cardiac pacemaker using extraction device*
* 3835802 [654] *Removal of permanent transvenous electrode of left ventricle for cardiac defibrillator using extraction device*
* 3835803 [654] *Removal of permanent transvenous electrode of other heart chamber(s) for cardiac defibrillator using extraction device*

**Box 1j: Calculating Cardiac Lead Extraction (LE) Co-payment**

**When event record falls into a DRG starting with** '**F**'AND

one or more of the procedures ('3835800','3835801','3835802','3835803') is recorded in the first 30 procedure codes for the event

then le\_pay = 4.4932

else le\_pay = 0;

go to box 1k

### Co-payment for Isolated Limb Infusion (ILI)

To be eligible for an isolated limb infusion co-payment of 1.9801 WIES the DRG must be J69B *Skin Malignancy, Minor Complexity* and one of the first 30 ACHI Eleventh Edition procedure codes must be 3453300 [1886] *Isolated limb perfusion.*

**Box 1k: Calculating Isolated Limb Infusion (ILI) Co-payment**

**When event record falls into DRG J69B** AND

the procedure '3453300' is recorded in the first 30 procedure codes for the event

then ili\_pay = 1.9801

else ili\_pay = 0;

go to box 1l

### Co-payment for Peritonectomy with HIPEC (PH)

To be eligible for a peritonectomy with heated intraperitoneal chemotherapy (HIPEC) co-payment (PH) of 3.4955 WIES the event must group to one of the DRGs G02B *Major Small and Large Bowel Interventions, Intermediate Complexity,* G02C *Major Small and Large Bowel Interventions, Minor Complexity* or G04A *Peritoneal Adhesiolysis, Major Complexity*

AND

at least one of the cytoreduction procedures is in:

(3039200 [989] *Debulking of intra-abdominal lesion*, 3572000 [1299] *Debulking of lesion of pelvic cavity*, 9621100 [989] *Peritonectomy* or 9618900 [989] *Omentectomy*) and both the procedure codes from HIPEC procedure code set (9217800 [1880] *Heat therapy*, 9620100 [1920] *Intracavitary administration of pharmacological agent, antineoplastic agent*) and are among the first 30 ACHI Eleventh Edition procedure codes

AND

the operation dates for the HIPEC procedures are the same as the operation date for the cytoreduction procedure.

**Box 1l: Calculating Peritonectomy with HIPEC (PH) Co-payment**

**When event record falls into one of the DRGs (**'**G02B**'**,** '**G02C**','**G04A**'**)**

AND at least one of the cytoreduction procedures ('3039200','3572000','9621100','9618900') AND both the procedure codes from HIPEC procedure code set ('9217800','9620100') are recorded in the first 30 procedure codes for the event

AND the operation dates for the HIPEC procedures are the same as the operation date for the cytoreduction procedure.

then ph\_pay = 3.4955

else ph\_pay = 0;

go to box 1m

### Co-payment for Pelvic Evisceration (PE) Surgery

To be eligible for a pelvic evisceration surgery co-payment (PE) of 8.6817 WIES the NZ DRG must be A39W *Pelvic Evisceration Procedures* and the facility code recorded for the event must be ‘3215’ North Shore Hospital.

**Box 1m: Calculating Pelvic Evisceration (PE) Surgery Co-payment**

**When event record falls into NZ DRG A39W**

AND the facility code is '3215' North Shore Hospital

then pe\_pay = 8.6817

else pe\_pay = 0;

go to box 2a

### Base WIES

To calculate a patient's base WIES proceed as follows to determine:

* The patient’s NZdrg100
* The patient’s length of stay (LOS)
* The patient’s length of stay category (LOS\_cat: “S” = sameday, “O” = one day, “M” = multiday)
* The number of mechanical ventilation co-payment days (“adjmvday”) (see Box 1a)
* The patient’s inlier status (“I” = inlier, “L” = low outlier, “H” = high outlier).

The patient’s length of stay and length of stay category are derived from the admission date, discharge date and leave days. A maximum length of stay of one year (365 days) is used. Technical specifications are given in Box 2a.

**Box 2a: Determining Length of Stay Category and Maximum Length of Stay**

Sameday = 'Y' if admission date = discharge date

else sameday = 'N'

If (sameday = 'Y') then

LOS\_cat = “S”

go to step/box 2b

else if (sameday = 'N') and (LOS less than or equal to 1) then

LOS\_cat = “O”

go to step/box 2b

else

LOS\_cat = “M“

go to box 2b

The patient’s inlier status is determined by comparing the patient’s length of stay with the inlier boundaries for the NZdrg100 to which the patient is allocated. The low inlier (lb) and the high inlier (hb) boundaries are given in the WIESNZ23 weights table.

A patient is classified as an inlier when their length of stay is greater than or equal to the low inlier boundary (lb) and less than or equal to the sum of the high inlier boundary plus any mechanical ventilation co-payment days (hb+adjmvday). Patients with a length of stay less than the low inlier boundary are classified as low outliers.

Patients with a length of stay greater than the sum of the high inlier boundary and mechanical ventilation co-payment days are classified as high outliers. Technical specifications are given in Box 2b.

**Box 2b: Calculate Inlier Status**

If LOS < lb then

Inlier = “L”

go to box 2c

else if LOS > (hb + adjmvday) then

Inlier = “H”

go to box 2c

else

Inlier = “I”

go to box 2c

Separate columns occur in the WIESNZ23 weights table for episodes that are:

* sameday
* one day
* multiday low outliers
* multiday inliers
* high outliers.

The base WIES score for sameday episodes (inlier and low outlier), one day episodes (inlier and low outliers), and multiday inliers can be read directly from the WIESNZ23 weights table using the appropriate column and row (NZdrg100).

The base WIES score for multiday low outliers can be calculated by multiplying the patient’s length of stay less one day, by the per diem weight given in the WIESNZ23 weights table and adding the one day inlier weight (from table).

The base WIES score for high outliers is obtained by multiplying the number of high outlier days by the high outlier per diem weight (from table) and adding the multiday inlier weight (from table). Technical details are provided in Box 2c.

**Box 2c: Calculate Base WIES**

Select Inlier

case “L” do “Low Outliers”

select LOS\_cat

case “S” do “Same Day”

base\_WIES = sd

go to box 3

case “O” do “One Day”

base\_WIES = od

go to box 3

case “M” do “Multi day Low Outlier”

base\_WIES = (LOS-1) ´lo\_pd + od

go to box 3

case “I” do “Inlier”

select LOS\_cat

case “S” do “Same Day”

base\_WIES = sd

go to box 3

case “O” do “One Day”

base\_WIES = od

go to box 3

case “M” do “Multi day Inlier”

base\_WIES = md\_in

go to box 3

case “H” do “High Outlier”

high\_days = max (0, LOS - hb - adjmvday)

base\_WIES = Md\_in + high\_days ´ ho\_pd

go to box 3

High outlier days are days stayed in excess of the high outlier boundary plus any mechanical co-payment ventilation days (“adjmvdays” see Boxes 1 and 2b).

### Final WIES Weight

The WIES weight is calculated by adding the base WIES and the co-payment WIES. Details are provided in Box 3.

**Box 3: Calculating WIES Weight**

WIESNZ23 = base\_WIES + mv\_copay + aaa\_pay + sf\_pay + eps\_pay + ldn\_pay + bivad\_pay + vad\_pay + tlc\_pay + mr\_pay + gr\_pay + le\_pay + ili\_pay + ph\_pay + pe\_pay

# Purchase Unit Allocation

The following section describes the derived variables required, the exclusion tests applied, and the mappings used to allocate casemix Purchase Units to NMDS event records. Wherever possible, each exclusion test indicates the relevant purchase unit.



## Derived Variables Required in Allocation

The following derived variables are required for casemix exclusion testing.

### Patient’s Age

The patient’s age is calculated in integer years as at the date of admission.

In earlier versions of WIES age was calculated as at date of admission or discharge.

From WIESNZ22 patient’s age was calculated as at date of admission only across all WIES rules. In addition to the VAD co-payment 4.4.7, the change impacted the following seven exclusion rules:

1. Renal dialysis
2. Colposcopies
3. Cystoscopies
4. General Gastroenterology
5. Bronchoscopies
6. Hysteroscopy
7. TRUS/TPA.

### Length of Stay

(Refer to section 4.1.1) The calculated LOS equals the difference in integer days between the discharge and admission dates, minus any Event Leave Days. Further, this is set to 365 if the LOS is greater than 365 or is set to 1 if the LOS = 0 (zero).

## Exclusions from Casemix

This section lists the tests that identify whether or not a particular event record will be allocated to an inpatient casemix purchase unit. The exclusion rules below indicate the Nationwide Service Framework (NSF) equivalent purchase unit for NMDS event records, which will be generated by National Collections and Reporting and stored in a separate field. The tests are hierarchical and must be applied in the supplied sequence.

Note that the SAS methodology uses individual exclusion flag fields to generate an overall exclusion flag {Yes/No} for each event. These individual fields indicate where an event could be excluded for more than one reason.

Hospitals can report up to 99 diagnoses, procedures, and external cause codes for each event record. However, the grouper software (AR-DRG v10.0) uses only the first 30 diagnoses and 30 procedure codes (external cause codes are not included in grouper logic). Many of the tests below state how many procedure or diagnoses codes are reviewed to determine if the event record is included or excluded from casemix. Where this is not stated, the first 30 diagnosis or 30 procedure codes are reviewed. External cause codes are not included in these totals.

Hospitals that are concerned about the sufficiency of 30 diagnosis and 30 procedure codes should ensure their clinical coding is prioritised so that the critical codes are included within the first 30 diagnosis and procedure codes for each event record.

### Base Purchase – Publicly Funded Events (EXCLU)

Only publicly funded event records as indicated by the purchaser code are included for 2023/24. Publicly funded purchaser codes are 34 *MoH funded*, 35 *DHB funded* or 20 *Overseas resident eligible* for public hospital funded health care. Therefore, an event record will be excluded if it has a purchaser code, which is NOT 20, 34 or 35.

### Publicly Funded Agencies

The agencies listed here have been identified as the providers through which the Ministry of Health, Te Whatu Ora – Health New Zealand and Districts will monitor publicly funded agreements. Only NMDS event records with an agency from the following list will be allocated a publicly funded purchase unit. All other event records will be excluded. Inclusion in the casemix environment requires a combination of agency code as in the following table and facility code as in 5.2.38.

| **Health (Funding) Agency\* Code** | **Agency Name** |
| --- | --- |
| 1011 | Northland |
| 1021 | Waitematā |
| 1022 | Auckland |
| 1023 | Counties Manukau |
| 1236 | Ministry of Health |
| 2031 | Waikato |
| 2042 | Lakes |
| 2047 | Bay of Plenty |
| 2051 | Tairāwhiti |
| 2071 | Taranaki |
| 3061 | Hawke’s Bay |
| 3081 | Mid Central |
| 3082 | Whanganui |
| 3091 | Capital & Coast |
| 3092 | Hutt Valley |
| 3093 | Wairarapa |
| 3101 | Nelson-Marlborough |
| 4111 | West Coast |
| 4121 | Canterbury |
| 4123 | South Canterbury |
| 4137 | Otago Dental School |
| 4160 | Southern |
| 8559 | Venturo |
| 8630 | Queen Elizabeth Hospital |
| 8656 | Mobile Surgical Bus |

**\***the term ‘Agency’ refers to ‘Funding Agency’

### Error DRGs and GIs Unrelated to Principal Diagnosis DRGs

Event records that group to the three Error AR-DRGs (960Z, 961Z, and 963Z) are excluded from casemix. These event records contain clinically atypical or invalid information and will be assigned to one of the three Error DRGs in AR-DRG10.0.

These are:

1. 960Z *Ungroupable*
2. 961Z *Unacceptable Principal Diagnosis*
3. 963Z *Neonatal Diagnosis Not Consistent With Age/Weight.*

There are three GIs Unrelated to Principal Diagnosis DRGs that occur because the principal diagnosis does not relate to the principal procedure (801A, 801B and 801C). These DRGs are not excluded from casemix, and are:

1. 801A *GIs Unrelated to Principal Diagnosis, Major Complexity*
2. 801B *GIs Unrelated to Principal Diagnosis, Intermediate Complexity*
3. 801C *GIs Unrelated to Principal Diagnosis, Minor Complexity.*

### Non-Treated Patients (Boarders – BOARDER or Cancelled Operations – CANC\_OP)

Event records where no treatment is provided are excluded from casemix. These include Boarders who may be admitted or admitted patients whose procedure is subsequently cancelled. The current costing process is such that costs for these events are spread across other casemix events and so are accounted for indirectly.

Boarders are tested for by checking that the principal diagnosis code is: (Z763 *Healthy person accompanying sick person* or Z764 *Other boarder in healthcare facility*)*.*

Cancelled Operations are tested for by checking that:

The first procedure code is blank

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

Length of stay is less than 2 days

AND

That one or more of the first six diagnosis codes contain the ICD-10-AM Eleventh Edition code for *Persons encountering health services for specific procedures, not carried out*, ie, one (or more) of the diagnosis 1-6 is in the range Z530–Z539 (excluding Z533 *Procedure abandoned after initiation*):

Z530 *Procedure not carried out because of contraindication*

Z531 *Procedure not carried out because of patient’s decision for reasons of belief or group pressure*

Z532 *Procedure not carried out because of patient’s decision for other and unspecified reasons*

Z538 *Procedure not carried out for other reasons*

Z539 *Procedure not carried out, unspecified reason.*

### Mental Health (EXCLU)

Event records that have a Mental Health Speciality Code are excluded. These services have a health speciality code commencing with ‘Y’ and are purchased under other funding arrangements.

### Non-Weight Bearing and Other Related Convalescence (MS02023)

Event records that have a health speciality code (HSC) of D55 Non-weight bearing and other related convalescence are excluded from casemix and are allocated the excluded purchase unit code MS02023 Non-Weight Bearing Convalescence Programme.

If HSC = D55 then XPU = MS02023

Health speciality code D55 is a convalescence service provided by step down facilities such as aged care facilities, private and rural hospitals. This service is provided to patients after a medical/surgical inpatient episode of care and before the client is able to receive a full rehabilitation service or safely return home.

Hospital facilities supply data to NMDS, but most rest home facilities do not. If, and only if, data is already supplied to NMDS, the HSC D55 is used to ensure this phase of their care is not allocated incorrectly to either a casemix or an active rehabilitation purchase unit. The unit of measure is bed days. It is recommended that hospitals don't use this HSC D55 unless they have payment and contract arrangements in place.

### Disability and Health of Older People

Event records that have a disability health speciality code are excluded from casemix. These services have a health speciality code commencing with ‘D’ and are purchased under other funding arrangements.

Waikato Hospital’s Older Persons, Rehabilitation, and Allied Health service have a dedicated program that supports patients to make a safe and prompt transition from hospital to home. This program is ‘Supported Transfer and Accelerated Rehabilitation Team (START)’. As the START program is provided in the patient’s home rather than through an inpatient rehabilitation service event records need to be allocated to the appropriate purchase unit code. Therefore, where the purchaser code is 35 *DHB funded* and the facility code is 5336 *Home Hospital* and the agency code is 2031 *Waikato* and the event start date is on or after 1 July 2022, then assign the purchase unit to EXCLU and if the health specialty code is:

1. D01 map to excluded PUC HOPR130 AT&R (Assessment, Treatment & Rehabilitation) – Hospital at Home
2. D41 map to excluded PUC DSSR130 AT&R (Assessment, Treatment & Rehabilitation) – Hospital at Home

If the health specialty code is anything else map the excluded PUC to EXCLU.

For all other events with a health speciality like ‘D%’ follow the below mappings.

Health specialties in the range:

(a) D00-D03 – are allocated to HOP214 Age Related AT&R

(b) D04 – is allocated to HOP1013 Carer Support Respite Day

(c) D20-D24 – are allocated to HOP235 Psychogeriatric AT&R

(d) D40-D44 – are allocated to DSS214 Young Physically Disabled AT&R.

Other disability health specialty codes relate to residential care, including short term respite care, and are purchased under a variety of non-casemix arrangements.

The following mappings have been allocated for the non-casemix purchase unit field in 2023/24 but the mapping is indicative only and hospitals may map event records to other codes using more detail. Care should be taken when using this mapping.

(e) D10-D11  – HOP1006 Aged Residential Care – Hospital

(f) D12 – HOP1044 Aged Residential Respite – Hospital level

(g) D13 – HOP1033 Aged Residential Care – Rest Home

(h) D14 – HOP1043 Aged Residential Respite – Rest Home level

(i) D30-D31 – HOP1035 Aged Residential Care – Specialist

(j) D32 – HOP1046 Aged Residential Respite – Psychogeriatric level

(k) D33 – HOP1032 Aged Residential Care – Dementia

(l) D34 – HOP1045 Aged Residential Respite – Dementia level

All other event records with a health specialty code commencing with D are excluded.

### Maternity Secondary and Tertiary Facility Table

The following table is sourced from the table of Maternity facilities contained in the document Maternity Services: A Reference Document, HFA, 2000 – Appendix 9[[4]](#footnote-5).

Only the designated secondary and tertiary maternity facilities have been listed, as the intent of that maternity project group was that a casemix framework should only apply for services provided in these facilities.

| **Document Facility Name** | **NMDS Hospital Facility Name** | **NMDS Facility Code** | **Secondary** | **Tertiary** |
| --- | --- | --- | --- | --- |
| Whangarei | Whangarei | 4111 | ✓ |  |
| North Shore | North Shore | 3215 | ✓ |  |
| Waitakere | Waitakere | 3216 | ✓ |  |
| National Women’s | National Womens | 3213 | ✓ | ✓ |
| Middlemore | Middlemore | 3214 | ✓ | ✓ |
| Auckland City | Auckland City | 3260 | ✓ | ✓ |
| Waikato Hospital | Waikato | 5311 | ✓ | ✓ |
| Rotorua | Rotorua | 5312 | ✓ |  |
| Tauranga | Tauranga | 4911 | ✓ |  |
| Whakatane | Whakatane | 3311 | ✓ |  |
| Gisborne | Gisborne | 3411 | ✓ |  |
| New Plymouth | Taranaki Base | 4711 | ✓ |  |
| Wanganui | Whanganui | 5711 | ✓ |  |
| Hastings | Hawkes Bay | 3612 | ✓ |  |
| Masterton | Wairarapa | 5511 | ✓ |  |
| Palmerston North | Palmerston North | 4311 | ✓ |  |
| Wellington | Wellington | 5811 | ✓ | ✓ |
| Hutt | Hutt Valley | 5812 | ✓ |  |
| Blenheim (Wairau) | Wairau | 3811 | ✓ |  |
| Nelson | Nelson | 3911 | ✓ |  |
| Christchurch Women’s | Christchurch Women’s | 4014 | ✓ | ✓ |
| Christchurch Hospital | Christchurch | 4011 | ✓ | ✓ |
| Greymouth | Grey Base | 5911 | ✓ |  |
| Timaru | Timaru | 4411 | ✓ |  |
| Dunedin | Dunedin | 4211 | ✓ | ✓ |
| Invercargill | Southland | 4511 | ✓ |  |

### Secondary/Tertiary Maternity, Primary Maternity, and Well Newborn

Maternity event records where the first character of the health speciality code (HSC) is 'P' and the facility is NOT listed in table 5.2.8 are referred to as 'Primary Maternity' events; these are excluded from casemix; see also 5.2.17 where the XPU for primary maternity labour, delivery and post-natal stay events are identified.

Secondary or tertiary maternity event records are those where the first character of the health specialty code is 'P' and the facility is listed in the secondary/tertiary maternity facility table in section 5.2.8.

In these facilities, well newborn babies, as opposed to 'neonates', will be covered by maternity inpatient casemix. In general, we expect well newborns to group to AR-DRG P68D *Neonate, AdmWt >= 2500g W/O Sig GI/Vent >= 96 hrs, >= 37 Comp Wks Gest, Min Comp* and be counted under the maternity inpatient casemix purchase unit W10.01.

The rules in sections 5.2.10 to 5.2.15 all relate to secondary and tertiary maternity facilities only.

### Postnatal Early Intervention (W03013)

Event records that have the Postnatal Early Intervention Health Speciality Code (P50) and the episode of care occurs in a facility listed in table 5.2.8 are excluded.

### Neonatal Inpatient Casemix (W06.03)

This test takes the form of an inclusion rule, as this is easier to specify than the converse exclusion rule. To be potentially included in neonatal casemix volumes an event record must occur in a facility listed in table 5.2.8, have a Paediatric Neonatal and Maternity Services health speciality code, and must meet one of three tests (originally agreed by the 98/99 joint HFA/HHS Maternity and Neonates project), which attempt to distinguish between well newborns and those who require additional health services:

The health speciality code is in the Paediatric Neonatal and Maternity Services range (P41, P42, P43, P60, P61, P70, P71[[5]](#footnote-6))

AND

{The health speciality code is in the range (P41, P42, P43)

OR

(The AR-DRG is in the range (P02Z, P03A, P03B, P04A, P04B, P05A, P05B, P06A, P06B, P07Z, P08Z, P61Z, P62A, P62B, P63A, P63B, P64A, P64B, P65A, P65B, P65C, P65D, P66A, P66B, P66C, P67A, P67B, P67C, P68A, P68B))

OR

(The AR-DRG is in the range (P01Z, P60A, P60B, P66D, P67D, P68C, P68D) AND

(The third diagnosis is NOT blank OR the first procedure is NOT blank))}.

### Amniocentesis (W03005)

For event records where the health speciality code starts with a 'P' and is not P50, and the episode of care occurs in a facility listed in table 5.2.8 and is not neonatal (5.2.11), sameday amniocentesis event records are excluded from casemix.

These event records are tested for by checking that:

The admission and discharge dates are the same

AND

The first procedure code is in:

(1660000 *Diagnostic amniocentesis*, 1661800 *Therapeutic amniocentesis*, 1662100 *Amnio-infusion* [1330]).

### Chorionic Villus Sampling (W03006)

For event records where the health speciality code starts with a 'P' and is not P50, and the episode of care occurs in a facility listed in table 5.2.8 and is not neonatal (5.2.11), sameday chorionic villus sampling events are excluded from casemix.

These event records are tested for by checking that:

The admission and discharge dates are the same

AND

The first procedure code is 1660300 [1330] *Chorionic villus sampling*.

### Rhesus Isoimmunisation and Other Isoimmunisation (W03007)

For event records where the health speciality code starts with 'P' and is not P50, and the episode of care occurs in a facility listed in table 5.2.8 and is not neonatal (5.2.11), sameday rhesus isoimmunisation events are excluded from casemix if there have been no procedural interventions.

These event records are tested for by checking that:

The admission and discharge dates are the same

AND

The principal diagnosis code is in:

(O360 *Maternal care for rhesus isoimmunisation*, O361 *Maternal care for other isoimmunisation*)

AND

There are no procedure codes.

### Lactation Disorders Associated with Childbirth (W03010)

For event records where the health speciality code starts with 'P' and is not P50, and the event occurs in a facility listed in table 5.2.8 and is not neonatal (5.2.11), sameday lactation events are excluded from casemix.

These event records are tested for by checking that:

The admission and discharge dates are the same

AND

The principal diagnosis code is in:

(O9230, O9231, O9240, O9241, O9250, O9251, O9260, O9261, O9270, O9271).

### Maternity Casemix (W10.01)

All other event records where the health speciality code starts with 'P' and is not P50, and the event occurs in a facility listed in table 5.2.8 and is not neonatal (5.2.11) are allocated to the purchase unit W10.01 Maternity Casemix.

### Primary Maternity (W02020)

All primary maternity event records are excluded from casemix 5.2.9. Primary maternity event records where the first character of the health specialty code is 'P' and the facility is not listed in the secondary/tertiary facility table in 5.2.8, and the DRG has either a first character of 'P' or has the first three characters in the following DRG groups; O01, O02, O04, O60, O61 or O66 are assigned an XPU and Relative Value Unit (RVU).

These primary maternity event records are all allocated to the non-casemix purchase unit W02020 *Inpatient maternity care in a primary maternity facility.*

Primary maternity event records excluded and assigned XPU W02020 will then go through a decision process to calculate a Relative Value Unit (RVU) needed for reflecting their relative resource inputs, on a scale different to the standard WIESNZ casemix events.

The following flow diagram 5.2.18 outlines the decision process for the calculation of RVUs and is based on the following selection and decision criteria.

**Initial Filter**

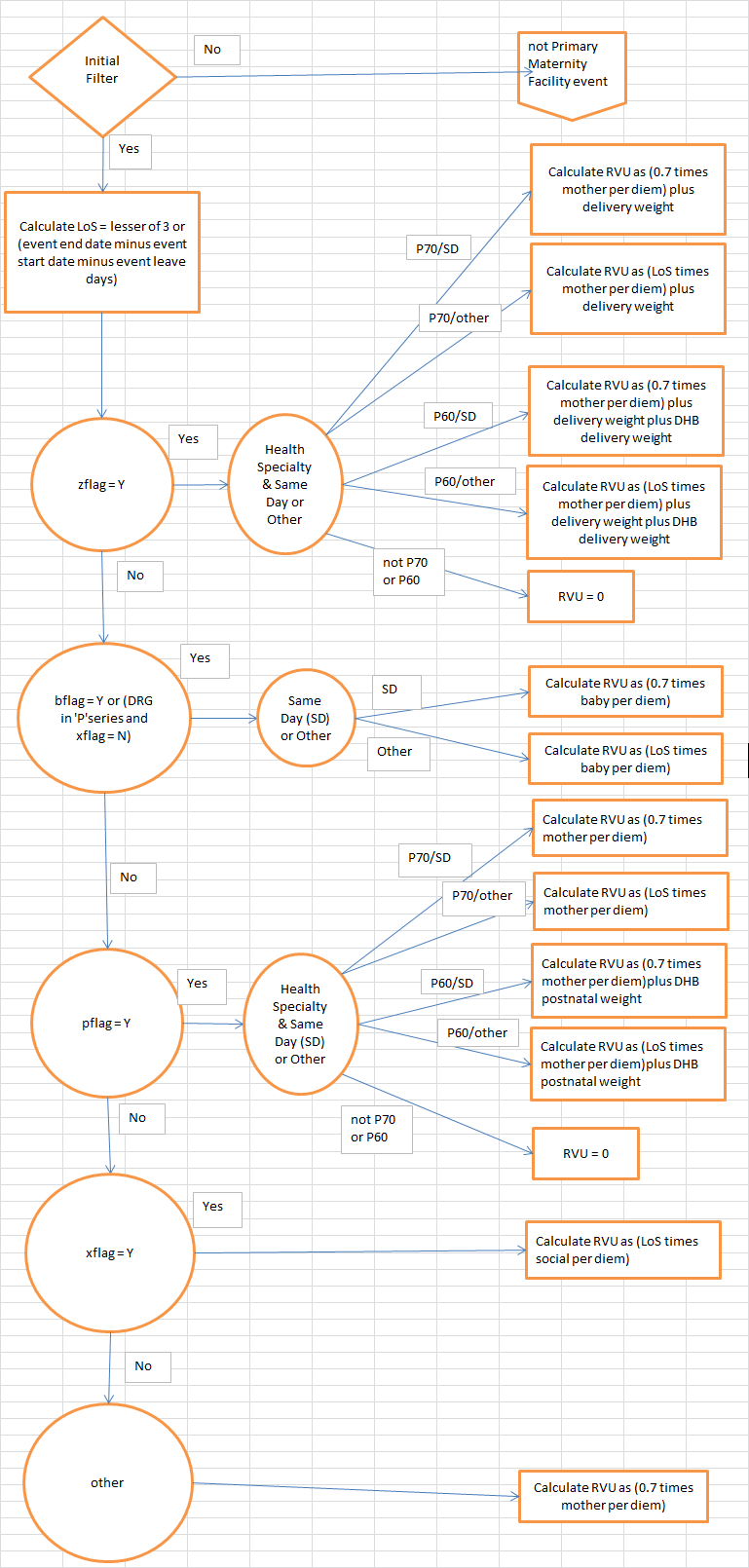
The events to which the flags below are applied are those that meet the definition of primary maternity events as in 5.2.9 and 5.2.17: the DRG has either a first character of 'P' or has the first three characters in the following DRG groups; O01, O02, O04, O60, O61 or O66.

**Flags**

|  |  |  |  |
| --- | --- | --- | --- |
| **Flag** | **Description** | **Rule** | **Output** |
| zflag | Identifies delivery on mother's record | Z37 in first three characters of any diagnosis code | Y |
| bflag | Identifies birth on the baby's record | Z38 in first three characters of any diagnosis code and zflag not = Y | Y |
| oflag | Identifies complications of delivery | O47 or O60-O75 in first three characters of any diagnosis code | Y |
| pflag | Identifies postnatal care on mother's record | Z39 in first three characters of any diagnosis code | Y |
| xflag | Identifies admissions for social factors on the baby’s record | bflag = N and XPU start with W02 and DOB <365 days and diag01 = Z7622 | Y |

Refer to Appendix 4 for the Primary Maternity RVUs.

### Relative Value Unit (RVU) Flow Diagram for Primary Maternity



### Transplants (T0103, T0106, T0111, T0113)

Some organ transplants are not purchased via casemix, namely liver, heart and lung transplants.

The AR-DRGs H09Z *Liver Transplant*, E03Z *Lung or Heart-Lung Transplant*, and F23Z *Heart Transplant* are excluded from casemix and non-casemix purchase units are allocated as follows:

* H09Z at Starship (facility code 3260 and patient’s age <16) has Excluded Purchase Unit (XPU) T0113 *Liver Transplant Children*
* H09Z not at Starship (facility code not 3260 OR patient’s age >15) has XPU T0111 *Liver Transplant Adult*
* F23Z has XPU T0103 *Heart Transplant*
* E03Z has XPU T0106 *Lung Transplant*.

### Spinal Injuries (S50001, S50002)

Some Spinal Services are excluded as they are not purchased via casemix. Excluded Spinal Services are those with the health speciality code S50 *Spinal Surgery*. Event records where the admission type is WN (Waiting List) map to S50002 *Spinal Services non-acute*, and all other admission types map to S50001 *Spinal Services acute cases*.

### Surgical Termination of Pregnancy – 2nd Trimester (S30009) – 14 to 25 completed weeks

Non-acute Surgical Termination of Pregnancy (ToP) 2nd trimester event records are excluded from casemix.

These are tested for by checking that:

The AR-DRG is equal to O05Z *Abortion with GIs*

AND

The event is not acute (i.e. Admission Type not ‘AC’)

AND

The first procedure code is in: 3564000, 3564001, 3564003, 3564303 [1265]

AND

The principal diagnosis is in range (O040-O049 {O04\*}) AND **any one** of the other diagnosis codes is in the set {O092, O093}.

### Surgical Termination of Pregnancy – 1st Trimester (S30006) – 1 to 13 completed weeks

Non-acute Surgical Termination of Pregnancy (ToP) 1st trimester event records are excluded from casemix.

These are tested for by checking that:

The AR-DRG is equal to O05Z *Abortion W GIs*

AND

The event is not acute (i.e. Admission Type not ‘AC’)

AND

The first procedure code is in: 3564000, 3564001, 3564003, 3564303 [1265]

AND

The principal diagnosis is in the range (O040-O049 {O04\*}) AND **none** of the other diagnosis codes is in the set {O092, O093}.

### Medical Termination of Pregnancy – Treatment (S30010)

Non-acute Medical Termination of Pregnancy (ToP) event records are excluded from casemix.

These are tested for by checking that:

The AR-DRG is equal to O63A *Abortion W/O GIs, Major Complexity* or O63B *Abortion W/O GIs, Minor Complexity*

AND

The event is not acute (i.e. Admission Type not ‘AC’)

AND

The principal diagnosis is coded as one of O049 *Medical abortion complete* or *unspecified without complication* or Z322 *Initiation of medical abortion*

AND

Any one of the other diagnosis codes is O090, O091, O099 (duration of pregnancy)

AND

The first procedure code is in:

(9046201 [1330] *Termination of pregnancy [abortion procedure], not elsewhere classified,* 9620319 [1920] *Oral administration of pharmacological agent,* *other and unspecified pharmacological agent,* OR blank

AND

The second procedure is blank.

**Note:**

New ACHI Twelfth Edition procedure codes9046101 [1330] *Fetotoxic injection, not elsewhere classified* and 9620311 [1920] *Oral administration of pharmacological agent, phage therapy agent* back map to ACHI Eleventh Edition procedure codes 9046201 [1330] *Termination of pregnancy [abortion procedure], not elsewhere classified* and 9620319 [1920] *Oral administration of pharmacological agent,* *other and unspecified pharmacological agent* respectively, see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Peritoneal Dialysis (M60004)

AR-DRG L68Z *Peritoneal Dialysis* (principal diagnosis of Z492 *Other dialysis*) is excluded from casemix. Peritoneal dialysis event records are matched to the PU M60004 *Renal Medicine – Recurrent home based CAPD.*

### Renal Haemodialysis (M60008)

Haemodialysis event records for adults are excluded from casemix.

These are tested for by checking that:

The AR-DRG L61Z *Haemodialysis* (principal diagnosis of Z491 *Extracorporeal dialysis*)

AND

The patient’s age is greater than 15 years old.

### Note on Anaesthesia Coding

Anaesthesia coding in ACHI Eleventh Edition includes a large number of procedure codes that are in the block [1910] *Cerebral anaesthesia*. The following codes are either included in or referred to in each of the exclusions 5.2.28 to 5.2.32, 5.2.34, 5.2.35, 5.2.37, 5.2.39 and 5.2.40. We will refer to these as ‘general anaesthesia’ 92514 codes and ‘sedation’ 92515 codes. Block [1910] includes general anaesthesia and sedation.

*General anaesthesia codes:*

9251410, 9251419, 9251420, 9251429, 9251430, 9251439, 9251440, 9251449, 9251450, 9251459, 9251469, 9251490, 9251499.

*Sedation codes:*

9251510, 9251519, 9251520, 9251529, 9251530, 9251539, 9251540, 9251549, 9251550, 9251559, 9251569, 9251590, 9251599.

Where reference is made to anaesthesia codes not from block [1910] this refers to anaesthesia codes from block [1909] *Conduction anaesthesia* where the first five digits come from the set:

* 92508 *Neuraxial block*
* 92509 *Regional block, nerve of head or neck*
* 92510 *Regional block, nerve of trunk*
* 92511 *Regional block, nerve of upper limb*
* 92512 *Regional block, nerve of lower limb*
* 92519 *Intravenous regional anaesthesia.*

**Note:**

Anaesthesia code 92513xx *Infiltration of local anaesthesia* from block [1909] has been omitted from the list above, as there is no requirement to code local anaesthesia (LA).

Analgesia/anaesthesia codes from block [1333] *Analgesia and anaesthesia during labour and delivery procedure* only relate to the context of labour and delivery, and therefore, are also not included in the list above.

### Same Day Pharmacotherapy for Treatment of Neoplasm (MS02009, M30020, M54004)

Sameday event records for Pharmacotherapy for treatment of neoplasm are excluded from casemix in some circumstances.

These are tested for by checking that:

The admission and discharge dates are the same

AND

The principal diagnosis is Z511 *Pharmacotherapy session for neoplasm*

These events will be excluded from casemix unless:

The event has five or more procedure codes

OR

The event has at least one procedure code that is either IP chemo, GA, IGG, or brachy

OR

The event is a combo event.

IP Chemo = 3531702 [741] *Peripheral arterial or venous catheterisation with administration of other therapeutic agent* or 9619600 [1920] *Intra-arterial administration of pharmacological agent,* *antineoplastic agent* or 9619800 [1920] *Intrathecal administration of pharmacological agent, antineoplastic agent.*

GA = 92514xx [1910] *General anaesthesia.*

IGG = 1370605 [1893] *Administration of gamma globulin*

Brachy = 1531200 [1790] *Brachytherapy, intravaginal, high dose rate* or 1532706 [1792] *Brachytherapy with implantation of removable single plane, high dose rate.*

Combo = events which contain an outpatient (OP) chemo procedure together with at least one procedure from blood transfusion (BT), where:

OP chemo = 9619700 [1920] *Intramuscular administration of pharmacological agent, antineoplastic agent,* 9619900 [1920] *Intravenous administration of pharmacological agent, antineoplastic agent,* 9620000 [1920] *Subcutaneous administration of pharmacological agent, antineoplastic agent,* 9620100 [1920] *Intracavitary administration of pharmacological agent, antineoplastic agent,* 9620600 [1920] *Unspecified administration of pharmacological agent, antineoplastic agent,* 9620900 [1920] *Loading of drug delivery device, antineoplastic agent.*

BT = 1370601 [1893] *Administration of whole blood,* 1370602 [1893] *Administration of packed cells,* 1370603 [1893] *Administration of platelets.*

The non-casemix purchase unit is allocated as follows:

If the Health Specialty Code is:

* M30 Haematology = M30020 *Chemotherapy Haematology (non-paediatric*)
* M34 or M54 Paediatric = M54004 *Chemotherapy Specialist Paediatric Oncology*
* Any other health specialty code = MS02009 *Chemotherapy any Health Specialty.*

**Note:**

New ICD-10-AM Twelfth Edition diagnosis code Z2921 *Prophylactic pharmacotherapy for neoplasm* back maps to Z511 *Pharmacotherapy session for neoplasm*, see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Same Day Radiotherapy (M50031, M86004)

Sameday event records for radiotherapy are excluded from casemix.

These are tested by checking that:

The admission and discharge dates are the same

AND

The principal diagnosis is Z510 *Radiotherapy session*

AND

There are no procedure codes from the following: 1530400, 1531200, 1532000 [1790], 9076401 [1791], 1532706, 1532707 [1792], block [1910]

The XPU is determined as follows:

* If the event record has a procedure code 9096000 [1795] *Administration of a therapeutic dose of other unsealed radioisotope* the XPU is M86004 *Nuclear Medicine – PRRT Treatment*
* Else the event is assigned XPU M50031 *Oncology Radiotherapy – Fractions.*

### Lithotripsy (S70006)

Some sameday Lithotripsy event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

That the first procedure code is in:

(9095600, 9095700 [962], 3654600 [1126], 9219900 [1880])

AND

That the second procedure code is in:

(9095600, 9095700 [962], 3654600 [1126], 9219900 [1880], sedation codes, blank)

AND

That the third procedure code is in:

(9095600, 9095700 [962], 3654600 [1126], 9219900 [1880], sedation codes, blank).

**Note:**

New ACHI Twelfth Edition procedure codes:

* 9095601 [962] *Endoscopic lithotripsy of biliary tract*
* 9095701 [962] *Endoscopic lithotripsy of gallbladder*

Both codes back map to ACHI Eleventh Edition procedure code 9095600 [962] *Extracorporeal shockwave lithotripsy [ESWL] of biliary tract.*

New ACHI Twelfth Edition procedure code 9219901 [1880] *Endoscopic lithotripsy of sites not elsewhere classified* back maps to ACHI Eleventh Edition procedure code 9219900 [1880] *Extracorporeal shockwave lithotripsy [ESWL] of sites not elsewhere classified*, see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Colposcopies (NCSP-10, NCSP-20)

Some sameday Colposcopy event records are excluded from casemix and allocated to NCSP-10 *Colposcopy assessments* or NCSP-20 *Colposcopy directed treatment*.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

The patient’s age is greater than 15 years old

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

That the first procedure code is in:

(3553902, 3560800, 3560801, 3564600, 3564700 [1275], 3560802, 3561101, 3561800, 3561801 [1276], 3561803 [1278], 3553904, 3561400 [1279], 3553903 [1282], 3561500 [1291])

AND

That the second procedure code is in: (3553902, 3560800, 3560801, 3564600, 3564700 [1275], 3560802, 3561101, 3561800, 3561801 [1276], 3561803 [1278], 3553904, 3561400 [1279], 3553903 [1282], 3561500 [1291], block [1910] codes, blank)

AND

That the third procedure code is in: (block [1910] codes, blank).

Rules for allocating the non casemix purchase unit are as advised by the National Screening Unit (NSU). The non casemix purchase unit is allocated using the following rules in the stated order:

If any one of the procedure codes is in:

3561800, 3561801 [1276], 3553902, 3560800, 3560801, 3564600, 3564700 [1275] and 3561101 [1276], assign to NCSP-20.

The remaining event records are assigned to NCSP-10.

### Cystoscopies (MS02004)

Some sameday Cystoscopy event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

The patient’s age is greater than 15 years old

AND

That the first procedure code is either any code from: 3686000, 3686001, 3680300 [1065], 3681800, 3681801, 3682400, 3682401 [1066], 3682101, 3682103, 3683301 [1067], 3680302, 3680602, 3685700 [1068], or is in: (3680901 [1074], 3680301 [1086], 3681200, 3681201 [1089], 3684003, 3684506, 3684507 [1096], 3683600 [1098], 3684002, 3684504, 3684505 [1100], 3682700 [1108], 3731500 [1112], 3681501, 3731801 [1116])

AND

That the second procedure code is either any code from: 3686000, 3686001, 3680300 [1065], 3681800, 3681801, 3682400, 3682401 [1066], 3682101, 3682103, 3683301 [1067], 3680302, 3680602, 3685700 [1068], or is in: (3680901 [1074], 3680301 [1086], 3681200, 3681201 [1089], 3684003, 3684506, 3684507 [1096], 3683600 [1098], 3684002, 3684504, 3684505 [1100], 3682700 [1108], 3731500 [1112], 3681501, 3731801 [1116], sedation codes, blank)

AND

That the third procedure code is in: (sedation codes, blank).

### Hysteroscopy (S30012)

Some sameday Hysteroscopy event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute/arranged (i.e. Admission Type not ‘AC’ or ‘AA’)

AND

The patient’s age is greater than 15 years old

AND

There are at most three non-blank procedures codes

AND

Any of the first three recorded procedures is 3563000 [1259] *Diagnostic hysteroscopy*

AND

Neither of the other two possible procedure codes are from blocks [1910] or [1909].

### Gastroenterology Procedure Codes used to Identify Excluded Events

The purpose of the next two clauses is to describe the exclusion rules for the three types of general gastroenterology ‘scope’ procedures known collectively as ERCP, Colonoscopy, and Gastroscopy. It restricts the number of procedure codes present to at most three and is applied in a way that is independent of the order in which procedures are coded.

Collectively, we define the **ERCP block of procedure codes** to include ERCP (*Endoscopic Retrograde Cholangiopancreatography*), ERC (*Endoscopic Retrograde Cholangiography*), and ERP (*Endoscopic Retrograde Pancreatography*). The procedure codes are:

3044200, 3048400, 3048401, 9622400 [957], 3045201 [958], 3045202 [959], 3045103 [960], 3048500, 3048501 [963], 9029400 [968], 3045200, 3049400 [971], 3048402 [974], 3049102, 3049103, 3049104, 9034900 [975], 9029401 [979].

and is referred to as the *ERCP block*.

Similarly, the **Colonoscopy block of procedure codes** are:

3207500 [904], 3208400, 3209000, 3208402, 3209002 [905], 3202300, 3202301, 3202302 [906], 3047902, 9030800 [908], 3207501, 3207800, 3208100 [910], 3208401, 3208700, 3209001, 3209300 [911], 9029702 [914], 3209400 [917], 3202303, 3202304, 3202305 [929], 3047901 [931], 3209900, 9031500 [933].

and is referred to as the *Colon block*.

The **Gastroscopy block of procedure codes** are:

3047303, 4181600 [850], 3047604 [851], 3047810, 4182500 [852], 3049000, 3049001, 3049002 [853], 3047602, 3047822 [856], 3047304, 3047813, 4182200, 9029700 [861], 4181900, 4183100, 4183200 [862], 3047807 [870], 3047603 [874], 9029701 [880], 3047500, 3047501 [882], 3209500 [891], 9206800, 9206801, 9206802 [892], 1182000, 3047300, 3047302, 3047305, 3047307, 3047308, 3068000 [1005], 3047800, 3047814 [1006], 3047801, 3047802, 3047803, 3047815, 3047816, 3047817, 3047820, 3047821 [1007], 3047301, 3047306, 3047804, 3047818 [1008].

and is referred to as the *Gastro block*.

These code blocks are used to identify the Excluded Purchase Unit (XPU) that will be assigned to a casemix excluded event record. To state the rule for excluding these procedures in a way that is independent of the coding order requires the aggregated gastroenterology code block which concatenates the ERCP, Colon and Gastro code blocks as defined above.

The **Aggregated Gastroenterology Code Block** is:

Oesophagus: 3047303, 4181600 [850], 3047604 [851], 3047810, 4182500 [852], 3049000, 3049001, 3049002 [853], 3047602, 3047822 [856], 3047304, 3047813, 4182200, 9029700 [861], 4181900, 4183100, 4183200 [862]

Stomach: 3047807 [870], 3047603 [874], 9029701 [880], 3047500, 3047501 [882]

Small Intestine: 3209500 [891], 9206800, 9206801, 9206802 [892]

Large Intestine: 3207500 [904], 3208400, 3209000, 3208402, 3209002 [905], 3202300, 3202301, 3202302 [906], 3047902, 9030800 [908], 3207501, 3207800, 3208100 [910], 3208401, 3208700, 3209001, 3209300 [911], 9029702 [914], 3209400 [917]

Rectum and Anus: 3202303, 3202304, 3202305 [929], 3047901 [931], 3209900, 9031500 [933]

Gallbladder and Biliary Tract: 3044200, 3048400, 3048401, 9622400 [957], 3045201 [958], 3045202 [959], 3045103 [960], 3048500, 3048501 [963], 9029400 [968], 3045200, 3049400 [971]

Pancreas: 3048402 [974], 3049102, 3049103, 3049104, 9034900 [975], 9029401 [979]

Other Sites of Digestive System: 1182000, 3047300, 3047302, 3047305, 3047307, 3047308, 3068000 [1005], 3047800, 3047814 [1006], 3047801, 3047802, 3047803, 3047815, 3047816, 3047817, 3047820, 3047821 [1007], 3047301, 3047306, 3047804, 3047818 [1008].

For ease of reference in the next sections we shall refer to this as the *Agg\_Gastro block.*

### Exclusion Rules for Some Gastroenterology procedures (MS02006, M25008, MS02014, MS02007, MS02005)

Some sameday ERCP, Colonoscopy and Gastroscopy event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

The patient’s age is greater than 15 years old

AND

There are at most three non-blank procedure codes

AND

At least one of the first three procedure codes is from the *Agg\_Gastro block*

AND

That the first procedure code is in: (*Agg\_Gastro block*, sedation codes)

AND

That the second procedure code is in: (*Agg\_Gastro block*, sedation codes, blank)

AND

That the third procedure code is in: (*Agg\_Gastro block*, sedation codes, blank).

Event records excluded from casemix by this rule are assigned an XPU in the following order:

* If procedure code 1182000 [1005] *Panendoscopy via camera capsule* is in one of the first three procedure codes, then the XPU is M25008 *Capsule Endoscopy*; else
* If a procedure code from the *ERCP block* is in one of the first three procedure codes, then the XPU is MS02006 *ERCP*; else
* If there is at least one code from each of the *Colon block* and the *Gastro block* among the first three procedure codes, then the XPU is MS02014 *Colonoscopy/Gastroscopy* for Combined Colonoscopy-Gastroscopy; else
* If the only *Agg\_Gastro block* procedure code(s) in the first three procedure codes is/are from the *Colon block* then the XPU is MS02007 *Colonoscopy*; else
* If the only *Agg\_Gastro block* procedure code(s) in the first three procedure codes is/are from the *Gastro block* then the XPU is MS02005 *Gastroscopy*.

### Bronchoscopies (MS02003)

Some sameday Bronchoscopy event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

The patient’s age is greater than 15 years old

AND

That the first procedure code is in:

(4176403, 4184900, 4185500 [520], 4176404 [532], 4188901, 4188905 [543], 4189502, 4189802, 4189804 [544], 9016301 [545], 4190400 [546], 9016501, 9621701 [547])

AND

That the second procedure code is in:

(4176403, 4184900, 4185500 [520], 4176404 [532], 4188901, 4188905 [543], 4189502, 4189802, 4189804 [544], 9016301 [545], 4190400 [546], 9016501, 9621701 [547], sedation codes, blank)

AND

That the third procedure code is in the range: (sedation codes, blank).

**Note:**

New ACHI Twelfth Edition procedure codes:

* 4189805 [544] *Broncho-alveolar lavage [BAL]*
* 4189806[544] *Whole lung lavage*

Both codes back map to ACHI Eleventh Edition procedure code 4189802 [544] *Fibreoptic bronchoscopy with broncho-alveolar lavage [BAL],* see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Same Day Blood Transfusions (MS02001, M50009)

Some sameday Blood Transfusion event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

The first procedure code is in:

(1370601, 1370602, 1370603, 9206000 [1893])

AND

The second procedure code is in:

(1370601, 1370602, 1370603, 9206000 [1893], blank)

AND

The third procedure is blank.

If HSC = M50 then PU = M50009 *Oncology*

Else for any other HSC then PU = MS02001 *Blood Transfusions – Any Health Specialty.*

### Same Day Transrectal Ultrasound (TRUS) Guided Biopsy of Prostate and Transperineal (TPA) Biopsy of Prostate (S70008)

Some sameday Transrectal Ultrasound (TRUS) Guided Biopsy of Prostate and Transperineal (TPA) Biopsy of Prostate event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

The patient’s age is greater than 15 years old

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

That the first procedure code is:

(3721800 [1163] *Needle biopsy of prostate or seminal vesicle)*

AND

That the second procedure code is in: (sedation codes, blank)

AND

That the third procedure is blank.

**Note:**

New ACHI Twelfth Edition procedure codes:

* 3721600 [1163] *Needle biopsy of prostate or seminal vesicle via transrectal route*
* 3721901 [1163] *Needle biopsy of prostate or seminal vesicle via transperineal route*

Both codes back map to ACHI Eleventh Edition procedure code 3721800 [1163] *Needle biopsy of prostate or seminal vesicle,* seeAppendix 8: ICD-10-AM/ACHI Mapping Table.

### Designated Hospital for Casemix[[6]](#footnote-7)

A range of facilities, listed here, have been identified as valid to provide services at the level required for casemix events. All other facilities historically designated as ‘rural’ or ‘private’ are excluded.

Note that with public hospital sub-contracting the list of included facilities may require updating periodically.

Only NMDS event records with a facility from the following list in combination with an agency from the table in section 5.2.2 will be allocated a casemix purchase unit. If an event record includes a facility code which is not listed it will be excluded from casemix but may be included in non-casemix purchase unit allocation.

Should new facility codes be approved to be added to the WIES facilities eligible list during 2023/24 they will be documented in this section and at the start of this document.

Hospitals are reminded that event records loaded into the NMDS against facilities that occur prior to their eligibility will be excluded from casemix and may need to be re-submitted for them to be included.

| **Facility Code** | **Facility Name** |
| --- | --- |
| 0314 | Primecare Eye Centre |
| 3111 | Ashburton |
| 3212 | Greenlane Clinic Centre |
| 3214 | Middlemore |
| 3215 | Northshore |
| 3216 | Waitakere |
| 3250 | Manukau Super Clinic |
| 3260 | Auckland City Hospital |
| 3262 | Elective Surgery Centre |
| 3265 | WDHB Slark Hyperbaric Unit |
| 3311 | Whakatane |
| 3411 | Gisborne |
| 3611 | Napier |
| 3612 | Hastings Memorial |
| 3688 | Kaweka Health |
| 3811 | Wairau |
| 3911 | Nelson |
| 4011 | Christchurch |
| 4013 | Burwood |
| 4014 | Christchurch Womens |
| 4111 | Whangarei Area Hospital |
| 4112 | Kaitaia |
| 4113 | Dargaville |
| 4114 | Bay of Islands |
| 4211 | Dunedin |
| 4311 | Palmerston North |
| 4313 | Horowhenua |
| 4411 | Timaru |
| 4511 | Southland |
| 4711 | Taranaki Base |
| 4712 | Hawera |
| 4811 | Taumarunui |
| 4911 | Tauranga |
| 5011 | Thames |
| 5311 | Waikato |
| 5312 | Rotorua |
| 5313 | Te Kuiti |
| 5323 | Tokoroa |
| 5329 | Taupo General |
| 5511 | Wairarapa – previously Masterton |
| 5711 | Wanganui |
| 5811 | Wellington |
| 5812 | Hutt |
| 5816 | Kenepuru |
| 5911 | Grey Base Hospital |
| 7000 | MacMurray Centre |
| 8024 | Quay Park Surgical Centre Auckland |
| 8206 | Southern Cross North Harbour |
| 8218 | Southern Cross Brightside |
| 8233 | Mercy Auckland |
| 8255 | Gillies Hospital (was Southern Cross Auckland) |
| 8268 | Anglesea Braemar Hospital |
| 8270 | Southern Cross Hamilton |
| 8280 | Grace Hospital (was Norfolk Southern Cross) |
| 8281 | Southern Cross Rotorua |
| 8284 | Chelsea Hospital Gisborne |
| 8292 | Royston |
| 8297 | Southern Cross New Plymouth |
| 8313 | Aorangi (was Mercy) |
| 8314 | Southern Cross Palmerston North |
| 8331 | Bowen |
| 8351 | Manuka Street Trust Hospital Nelson |
| 8366 | St Georges |
| 8377 | Southern Cross Trust Christchurch |
| 8383 | Bidwell Trust |
| 8394 | Mercy Hospital Dunedin |
| 8405 | Southern Cross Invercargill |
| 8420 | Southern Cross Tauranga |
| 8432 | Wakefield |
| 8459 | Auckland Surgical Centre |
| 8462 | Boulcott Clinic |
| 8471 | Southern Cross Wellington |
| 8473 | Braemar Hospital |
| 8477 | Lakes Care Surgical Hospital |
| 8482 | Royal Navy Hospital |
| 8487 | Churchill Trust |
| 8495 | Eye Institute |
| 8499 | Auckland Eye Hospital |
| 8503 | Selina Sutherland |
| 8507 | Manor Park Hospital |
| 8549 | Endoscopy Auckland |
| 8579 | Park St Eye Clinic |
| 8580 | Oxford Day Clinic |
| 8595 | Ascot Hospital |
| 8630 | Queen Elizabeth Hospital Rotorua |
| 8644 | Kensington Hospital |
| 8656 | Mobile Surgical Bus |
| 8714 | Thorndon Eye Clinic |
| 8715 | Wellington Eye Clinic |
| 8716 | Nelson Day Surgery |
| 8718 | Anglesea Procedure Centre |
| 8719 | Harley Chambers |
| 8720 | Southern Eye Specialists |
| 8721 | Dr Ian Dallison’s Rooms |
| 8722 | Auckland City Surgical Services |
| 8757 | The Mater Hospital Sydney |
| 8774 | Skin Institute Parnell |
| 8784 | Scott Clinic |
| 8785 | Ormiston Hospital |
| 8791 | Queen Elizabeth Hospital Southern Cross |
| 8792 | Urology 161 |
| 8801 | Rodney Surgical Centre |
| 8805 | Cardinal Point Specialist Centre |
| 8861 | Otago Dental School |
| 8867 | St Georges Radiology |
| 8912 | Bridgewater Day Surgery |
| 8915 | Retina Specialists |
| 8916 | Milford Eye Clinic |
| 8920 | Surgery on Shakespeare |
| 8921 | Mercy Endoscopy |
| 8924 | Oncology Surgery |
| 8929 | Grace Southern Cross Hospital Tauranga |
| 8971 | Eye Specialist Ltd Whangarei |
| 8976 | Southern Endoscopy Centre |
| 8977 | St Marks Road Surgical Centre |
| 8979 | Rotorua Eye Clinic |
| 9080 | Waitemata Endoscopy |
| 9107 | Forte Health (Private Surgical Hospital) |
| 9136 | Mater Misericordiae Health Services Brisbane |
| 9188 | Christchurch Eye Surgery |
| 9195 | Northland Orthopaedic Centre Ltd |
| 9204 | KM Surgical, Christchurch |
| 9225 | Hamilton Radiology |
| 9245 | The Rutherford Clinic |
| 9271 | OneSixOne |
| 9283 | East Bay Specialist Centre |
| 9284 | Cambridge Specialist Centre |
| 9297 | Southern Cross Central Lakes Hospital |
| 9300 | Franklin Private Hospital |
| 9311 | South Island Plastic Surgery |
| 9312 | Mr Terrance Creagh |
| 9313 | Face Breast and Body |
| 9320 | Hamilton Skin Cancer Centre |
| 9325 | Fraser Clinic Tauranga |
| 9332 | Alison Surgical Centre |
| 9814 | Tristram Clinic |

### DRG Mapping and Exclusion of Ophthalmology Injections (S40007)

This rule is for injections of a therapeutic agent (e.g. Avastin) into the posterior chamber of eye. These event records will be assigned to a NZ specific DRG with its own cost weight reflecting the outpatient price.

Sameday Ophthalmology Injection event records are excluded from casemix.

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

The event falls into DRG C03A *Retinal Interventions, Major Complexity* or C03B *Retinal Interventions, Minor Complexity*

AND

There are at most three non-blank procedure codes

AND

The first procedure code is:

4274003 [209] *Administration of therapeutic agent into posterior chamber*

AND

The second procedure code is:

4274003 [209] OR is anaesthesia not from block [1910] OR is blank

AND

The third procedure is anaesthesia not from block [1910] OR is blank.

Ophthalmology Injection event records will be assigned NZdrg100 C03W *Same Day Ophthalmology Injections of Therapeutic Agents* and assigned to excluded purchase unit S40007.

### DRG Mapping and Exclusion of Skin Lesion Procedures (MS02016)

Sameday skin lesion excision event records are excluded from casemix. These event records will be assigned to a NZ specific DRG with its own cost weight reflecting the outpatient price. The skin lesion procedure codes included in the rule are listed below and are referred to as the ‘skin lesion procedure list’.

3007102 [232], 3007528 [303], 3007523 [402], 4503000 [748], 3019500, 3019501, 3019504, 3019505 [1612], 3007100 [1618], 3018600, 3018601, 3018900, 3018901 [1619], 3120500, 3123000, 3123001, 3123002, 3123003, 3123004, 3123500, 3123501, 3123502, 3123503, 3123504 [1620].

These event records are tested for by checking:

That the admission and discharge dates are the same

AND

That the event is non-acute (i.e. Admission Type not ‘AC’)

AND

There are at most six non-blank procedure codes

AND

The first procedure code is in the skin lesion procedure list

AND

The second procedure code is in the skin lesion procedure list OR is anaesthesia not from block [1910] OR is blank

AND

The third procedure code is in the skin lesion procedure list OR is anaesthesia not from block [1910] OR is blank

AND

The fourth procedure code is in the skin lesion procedure list OR is anaesthesia not from block [1910] OR is blank

AND

The fifth procedure code is in the skin lesion procedure list OR is anaesthesia not from block [1910] OR is blank

AND

The sixth procedure code is anaesthesia not from block [1910] OR is blank.

Skin Lesion Procedure event records will be assigned NZdrg100 J11W *Same Day Skin Lesion Procedures* and assigned to excluded purchase unit MS02016.

## Mapping of Health Speciality Codes to Casemix Purchase Units (PUs)

Casemix Purchase Units are derived from a mapping of health speciality codes. This mapping only applies for included event records, ie, any event record excluded from casemix should not be given a casemix PU code. Note that the SAS code gives excluded event records a PU code of “EXCLU” rather than blank.

The following health speciality codes are initially remapped to other health service speciality codes. Many of these health specialty codes have been retired from use in the NMDS but are still included here for completeness. In particular, retired pregnancy and childbirth health speciality codes which could be mapped to any of the P range (P60, P61 or P70, P71) have been arbitrarily mapped to (P60 and P61).

'M01','M02','M03' = 'M00'

'M06','M07','G01' = 'M05'

'M11','M12','M13' = 'M10'

'M16','M17','M18','M19' = 'M15'

'M21','M22','M23' = 'M20'

'M26','M27','M28' = 'M25'

'M31','M32','M33' = 'M30'

'M36','M37','M38' = 'M35'

'M41','M42','M43' = 'M40'

'M46','M47','M48' = 'M45'

'M51','M52','M53' = 'M50'

'M56','M57','M58' = 'M55'

'M61','M62','M63' = 'M60'

'M66','M67','M68' = 'M65'

'M71','M72','M73' = 'M70'

'M76','M77','M78' = 'M75'

'M81','M82','M83' = 'M80'

'M87','M88' = 'M85'

'M91','M92','M93' = 'M90'

'P00','P10','P20' = 'P60'

'P30' = 'P61'

'S01','S02','S03' = 'S00'

'S06','S07','S11','S12','S13' = 'S10'

'S16','S17','S18' = 'S15'

'S21','S22','S23' = 'S20'

'S26','S27','S28' = 'S25'

'S31','S32','S33' = 'S30'

'S36','S37','S38' = 'S35'

'S41','S42','S43' = 'S40'

'S44','S46','S47','S48' = 'S45'

'S51','S52','S53' = 'S50'

'S55','S56','S57' = 'S59'

'S61','S62','S63' = 'S60'

'S66','S67','S68' = 'S65'

'S71','S72','S73' = 'S70'

'S76','S77','S78' = 'S75'

other = '???';

**And from there mapped to the following purchase units:**

'S20' = 'D01.01'

'S50' = 'EXCLU'

'M00','M08','M85','M86','M89','H01' = 'M00.01'

'M05' = 'M05.01'

'M10' = 'M10.01'

'M14' = 'M10.05'

'M15' = 'M15.01'

'M20','M95','M96' = 'M20.01'

'M24' = 'M24.01'

'M25' = 'M25.01'

'M30' = 'M30.01'

'M34' = 'M34.01'

'M40','M75' = 'M40.01'

'M45' = 'M45.01'

'M49' = 'M49.01'

'M50','M90' = 'M50.01'

'M54','M94' = 'M54.01'

'M29','M39','M44','M55','M59','M64', 'M69','M74','M79',

'M84','M97','M98' = 'M55.01'

'M60' = 'M60.01'

'M65' = 'M65.01'

'M35','M70' = 'M70.01'

'M80' = 'M80.01'

'S00','S10' = 'S00.01'

'S05','S08' = 'S05.01'

'S15','S19' = 'S15.01'

'S25' = 'S25.01'

'S30' = 'S30.01'

'S35' = 'S35.01'

'S40' = 'S40.01'

'S45' = 'S45.01'

'S58','S59' = 'S55.01'

'S24','S60','S65' = 'S60.01'

'S70' = 'S70.01'

'S75' = 'S75.01'

'P41','P42','P43' = 'W06.03'

'P00','P10','P20','P30', 'P39','P60','P61','P70','P71' = 'W10.01'

other = 'EXCLU';

**Each PU code is then described:**

'D01.01' = 'Inpatient Dental treatment (DRGs)'

'M00.01' = 'General Internal Medical Services – Inpatient Services (DRGs)'

'M05.01' = 'Emergency Medicine – Inpatient Services (DRGs)'

'M10.01' = 'Cardiology - Inpatient Services (DRGs)'

'M10.05' = 'Specialist Paediatric Cardiac - Inpatient Services (DRGs)'

'M15.01' = 'Dermatology - Inpatient Services (DRGs)'

'M20.01' = 'Endocrinology & Diabetic - Inpatient Services (DRGs)'

'M24.01' = 'Metabolic Services - Inpatient Services (DRGs)'

'M25.01' = 'Gastroenterology - Inpatient Services (DRGs)'

'M30.01' = 'Haematology - Inpatient Services (DRGs)'

'M34.01' = 'Specialist Paediatric Haematology – Inpatient Services (DRGs)'

'M40.01' = 'Infectious Diseases (incl Venereology) – Inpatient Services (DRGs)'

'M45.01' = 'Neurology - Inpatient Services (DRGs)'

'M49.01' = 'Specialist Paediatric Neurology Inpatient Services (DRGs)'

'M50.01' = 'Oncology - Inpatient Services (DRGs)'

'M54.01' = 'Specialist Paediatric Oncology - Inpatient Services (DRGs)'

'M55.01' = 'Paediatric Medical - Inpatient Services (DRGs)'

'M60.01' = 'Renal Medicine - Inpatient Services (DRGs)'

'M65.01' = 'Respiratory - Inpatient Services (DRGs)'

'M70.01' = 'Rheumatology (incl Immunology) - Inpatient Services (DRGs)'

'M80.01' = 'Palliative Care - Inpatient Services (DRGs)'

'S00.01' = 'General Surgery - Inpatient Services (DRGs)'

'S05.01' = 'Anaesthesiology and Pain Management - Inpatient Services (DRGs)'

'S15.01' = 'Cardiothoracic - Inpatient Services (DRGs)'

'S25.01' = 'Ear, Nose and Throat - Inpatient Services (DRGs)'

'S30.01' = 'Gynaecology - Inpatient Services (DRGs)'

'S35.01' = 'Neurosurgery - Inpatient Services (DRGs)'

'S40.01' = 'Ophthalmology - Inpatient Services (DRGs)'

'S45.01' = 'Orthopaedics - Inpatient Services (DRGs)'

'S55.01' = 'Paediatric Surgical Services (DRGs)'

'S60.01' = 'Plastic & Burns - Inpatient Services (DRGs)'

'S70.01' = 'Urology - Inpatient Services (DRGs)'

'S75.01' = 'Vascular Surgery - Inpatient Services (DRGs)'

'W10.01' = 'Maternity Inpatient (DRGs)'

'W06.03' = 'Neonatal Inpatient (DRGs)'

other = 'Not a DRG casemix Purchase Unit';

## Identifying Flows Between Districts for Casemix Events

The first casemix funding exclusion rules were intended to identify casemix events funded by DHB funding only. This concept was expanded to include similar events funded directly by the Ministry of Health. As a result, not all casemix events identified in this document should be included in extracts intended to identify casemix event flows between Te Whatu Ora – Health New Zealand Districts.

Note too that at the time of writing the National Collections field codes have not yet been updated and the purchaser codes and their descriptors identified in 5.2.1 may change. Nor is it known if the former Ministry of Health purchased casemix events will need to be separated from the district purchased/provided casemix events in the identification of these flows.

To identify casemix event flows and weighted volumes in 2023/24the following criteria apply:

The Casemix Purchase Unit assigned to an event record can be any PU except EXCLU;

AND

The Funding Agency Code is a valid casemix agency as shown in section 5.2.2, but is neither 4137 Otago Dental School nor 8559 (Venturo) nor 8630 (Queen Elizabeth Hospital) nor 8656 (Mobile Surgical Bus)

AND

The Purchaser Code is either 35 *DHB funded* or 20 *Overseas resident eligible* for Te Whatu Ora – Health New Zealand funded health care.

# Appendix 1: Table of 2023/24 FY DRG Cost Weights and Associated Variables for Calculating WIESNZ23

This appendix contains some notes on the cost weight schedule for use with AR-DRG v10.0 as adjusted for use in New Zealand, and then known as nzdrg100.

### Variable names translation

|  |  |
| --- | --- |
| Header | Description |
| SDOD | field showing which DRGs are designated as SD or OD; see 3.3 and 4.4 |
| Mvelig | denotes the type of mechanical ventilation co-payment that applies to this DRG – see the table in 4.4 |
| Coelig | denotes the co-payment that will apply where the co-payment only occurs on the indicated DRG |
| Hialosdrg | indicates that the DRG is considered one with high LOS events and its inlier range may have been set using factors other than 3 or 1.5 |
| Sd | Same day cost weight |
| Od | One day cost weight |
| Lo\_pd | Low outlier cost weight per diem |
| Md\_in | Multiday inlier cost weight |
| Ho\_pd | High outlier per diem cost weight |
| Lb | Low boundary point of the inlier range |
| Hb | High boundary point of the inlier range |
| Alos | Average inlier LOS |

This table should be read in conjunction with the table in section 4.4, which provides further information on meaning and calculation.

### Notes on the WIESNZ23 cost weight schedule

The development of these cost weights is based on casemix event records in the National Minimum Data Set (NMDS). In any given year there can be instances of DRGs that are not used or do not appear in the casemix set as they are excluded from casemix, or there may have been no sameday event records and that cost weight is missing from the results. In order to have a complete DRG cost weight schedule in the document embedded below, for some DRGs more than one year of data was considered for determining the inlier boundary points when the number of cases per annum was small.

Users of this weight schedule should note that the following DRGs are not included in casemix and are included only for completeness: 960Z, 961Z, 963Z, H09Z, E03Z, F23Z, C03W, J11W, L68Z.

The weights shown have not been developed in the same way as for casemix event records and should not be viewed as a valid estimate of relative resource use in New Zealand. The final three DRGs listed are price-weighted with the non-casemix purchase units that will fund these events.

### WIESNZ23 for use with AR-DRG v10.0 as adapted for New Zealand



# Appendix 2: SAS Code to Calculate WIESNZ23 and Assign PUs

\*\* SAS program to calculate WIESNZ23 costweight values \*\*;

\*\* Input drg is AR-DRG v100 and clinical codes are ICD10 V11 \*\*;

\*\* LC 08/08/23 – Update the code adding eligible facilities (’3688’,’8503’,’9320’,’9325’)advised by Tracy \*\*;

\*\* EA 29/01/24 – Update the code adding eligible facilities (’3212’,’9332’,’9814’)advised by Tracy \*\*;



# Appendix 3: Cost Weights Project Group Membership

Affiliations in this table are as at the start of calendar year 2022.

With effect from 1 July 2022 all group members were transferred to employment with Te Whatu Ora – Health New Zealand.

|  |  |
| --- | --- |
| **Name** | **Affiliation** |
| Andrea O’Brien | Counties Manukau DHB |
| Angela Pidd | Ministry of Health |
| Brenda Jull | Bay of Plenty DHB |
| Helen Strong | Southern DHB |
| Julie Harris | Waitemata DHB |
| Justine Tringham | Auckland DHB |
| Kevin Gilberd | Waikato DHB |
| Linda Cha | Ministry of Health |
| Lynette Batt | Southern DHB |
| Mei-Fen Sundgren | Ministry of Health |
| Michael Rains | TAS |
| Neela Bastiampillai | Ministry of Health |
| Nikki Hill | Auckland DHB |
| Phil Gibbs | Nelson Marlborough DHB |
| Pirom Tawngdee | Capital & Coast DHB |
| Sandy English | Nelson Marlborough DHB |
| Simon Berry | Canterbury DHB |
| Tracy Thompson | Ministry of Health |

# Appendix 4: New Zealand Casemix History

The following table summarises the New Zealand casemix environment since 1998.

This includes the clinical coding classification (ICD), DRG set, cost weight version as designated in New Zealand, and unit prices for casemix-purchased events.

### ICD Editions and WIES Versions

| **Implementation Year** | **Clinical Coding Systems** | **AN-DRG or AR-DRG Version** | **Cost Weights (WIES) Version** |
| --- | --- | --- | --- |
| 1998/99 | ICD-9-CMA-II  Australian 2nd clinical modification to ICD-9 | AN-DRG 3.1 | WIES 5, with no adjustment from the Victorian set. |
| 1999/00 | ICD-10-AM/MBS-E  1st Edition | AN-DRG 3.1  Coding back-mapped to ICD-9-CM-A and grouped to this DRG set. | As for 1998/99 |
| 2000/01 | ICD-10-AM/MBS-E  1st Edition | AN-DRG 3.1  Coding back-mapped to ICD-9-CM-A and grouped to this DRG set. | WIES 5a, adapted to include NZ costs for blood and pre-admission clinics. |
| 2001/02 | ICD-10-AM/MBS-E  2nd Edition | AR-DRG 4.1 | WIES 8a, with NZ LOS profile and NZ costs as for 2000/01. Where NZ ALOS was significantly different from Victorian ALOS, an adjustment to nursing/ward costs was made. |
| 2002/03 | ICD-10-AM/MBS-E  2nd Edition | AR-DRG 4.2 | WIES 8b |
| 2003/04 | ICD-10-AM/MBS-E  2nd Edition | AR-DRG 4.2 | WIES 8c |
| 2004/05 | ICD-10-AM/ACHI  3rd Edition | AR-DRG 4.2  Coding back-mapped to ICD 10-AM/ACHI 2nd Edition. | WIES 8c as for 2003/04 |
| 2005/06 2006/07 2007/08 | ICD-10-AM/ACHI  3rd Edition | AR-DRG 5.0 | WIES 11, with NZ LOS profile, NZ costs for blood and pre-admission clinics, also for some costs where jurisdictional differences were identified – mainly pharmaceutical costs and stent/implant/prostheses utilisation. Other costs from Victorian data were those associated to the NZ morbidity profile. |

| **Implementation Year** | **Clinical Coding Systems** | **AN-DRG or AR-DRG Version** | **Cost Weight (WIES) Version** |
| --- | --- | --- | --- |
| 2008/09 | ICD-10-AM/ACHI  6th Edition | AR-DRG 5.0, as modified for use in New Zealand. Coding back-mapped to ICD-10-AM/ACHI 3rd Edition. | WIESNZ08, which uses Victoria’s WIES model for the weight development, but only New Zealand data elements, in particular NZ-only cost data. |
| 2009/10 | ICD-10-AM/ACHI  6th Edition | AR-DRG 5.0 as modified for use in New Zealand. Coding back- mapped to ICD-10-AM/ACHI 3rd Edition. | WIESNZ09 |
| 2010/11 | ICD-10-AM/ACHI  6th Edition | AR-DRG 5.0 as modified for use in New Zealand. Coding back mapped to ICD-10-AM/ACHI 3rd Edition. | WIESNZ10, same as WIESNZ09 except that F42A and F42B weights have been adjusted downwards to accommodate the EPS co-payment. |
| 2011/12 | ICD-10-AM/ACHI  6th Edition | AR-DRG 6.0 | WIESNZ11 |
| 2012/13 | ICD-10-AM/ACHI  6th Edition | AR-DRG 6.0 | WIESNZ12, same as WIESNZ11 except for changes to C03W, F10B, J11W, and O01B. |
| 2013/14 | ICD-10-AM/ACHI  6th Edition | AR-DRG 6.0x, as modified for use in New Zealand. | WIESNZ13  NZ DRGs F03M and O66T created. |
| 2014/15 | ICD-10-AM/ACHI  8th Edition | AR-DRG 6.0x, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 6th Edition. | WIESNZ14 |
| 2015/16 | ICD-10-AM/ACHI  8th Edition | AR-DRG 6.0x, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 6th Edition. | WIESNZ15 |
| 2016/17 | ICD-10-AM/ACHI  8th Edition | AR-DRG 6.0x, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 6th Edition. | WIESNZ16  NZ DRG A39W created. |
| 2017/18 | ICD-10-AM/ACHI 8th Edition | AR-DRG v7.0, as modified for use in New Zealand. | WIESNZ17  NZ DRG R64W created and NZ DRG A39W revised. |
| 2018/19 | ICD-10-AM/ACHI 8th Edition | AR-DRG v7.0, as modified for use in New Zealand. | WIESNZ18 |
| 2019/20 | ICD-10-AM/ACHI 11th Edition | AR-DRG v7.0, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 8th Edition. | WIESNZ19  NZ DRG B02W created. |
| 2020/21 | ICD-10-AM/ACHI 11th Edition | AR-DRG v7.0, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 8th Edition. | WIESNZ20  NZ DRG B02W revised. |
| 2021/22 | ICD-10-AM/ACHI 11th Edition | AR-DRG v7.0, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 8th Edition. | WIESNZ21 |
| 2022/23 | ICD-10-AM/ACHI 11th Edition | AR-DRG v7.0, as modified for use in New Zealand. Coding is back-mapped to ICD-10-AM/ACHI 8th Edition. | WIESNZ22 |
| 2023/24 | ICD-10-AM/ACHI 12th Edition | AR-DRG v10.0, as modified for use in New Zealand.  Coding is back-mapped to ICD-10-AM/ACHI 11th Edition. | WIESNZ23  NZ DRG F03M removed. |

Note that the above table states the official Australian DRG set used as the basis for the Victorian implementation. New Zealand’s implementation preserved the Victorian adjustments to the DRG sets and these are identified in the casemix framework document for each year until 2008/09. Though there were some other splits in the first two years listed, the splits were limited to bone marrow transplants and dialysis until 2008/09, when new splits for carotid stenting, some ear procedures and obesity procedures were introduced. Since then New Zealand implementations of DRG mappings and co-payments are described in this document.

With implementation of AR-DRG v10.0 all previous NZ DRG conditions and co-payment definitions have been reviewed and adapted for use with AR-DRG v10.0. All are identified in this casemix framework document.

### Unit Prices used in Purchasing – FYs 1998/99 to 2021/22

In the following table, Neonatal refers to all events assigned a Purchase Unit of W06.03, and Medical & Surgical covers all other Casemix Purchase Units, including secondary and tertiary Maternity. Primary maternity events are partly funded by a separate RVU mechanism which was implemented from 1 July 2013.

From 2002/03, these were the inter-district flow (IDF) prices, thus in some cases there may be some variation for local provision. Also note that with effect from 2006/07 a common unit price has been set for medical-surgical and for neonatal casemix events.

From 1 July 2009 secondary maternity events became part of the casemix environment at the same unit price as for medical and surgical events.

| **Financial Year** | **Medical & Surgical** | **Neonatal** |
| --- | --- | --- |
| 1998/99 | 2,433.62 | None |
| 1999/00 | 2,399.22 | 2,761.48 |
| 2000/01 | 2,487.16 | 2,732.47 |
| 2001/02 | 2,479.01 | 2,677.23 |
| 2002/03 | 2,617.72 | 2,827.03 |
| 2003/04 | 2,728.55 | 2.946.72 |
| 2004/05 | 2,854.88 | 3,024.37 |
| 2005/06 | 2,949.09 | 3,124.17 |
| 2006/07 | 3,151.01 | 3,151.01 |
| 2007/08 | 3,740.38 | 3,740.38 |
| 2008/09 | 3,985.32 | 3,985.32 |
| 2009/10 | 4,315.48 | 4,315.48 |
| 2010/11 | 4,410.38 | 4,410.38 |
| 2011/12 | 4,567.49 | 4,567.49 |
| 2012/13 | 4,614.36 | 4,614.36 |
| 2013/14 | 4,655.43 | 4,655.43 |
| 2014/15 | 4,681.97 | 4,681.97 |
| 2015/16 | 4, 751.58 | 4,751.58 |
| 2016/17 | 4,824.67 | 4,824.67 |
| 2017/18 | 4,921.16 | 4,921.16 |
| 2018/19 | 5,068.12 | 5,068.12 |
| 2019/20 | 5,216.21 | 5,216.21 |
| 2020/21 | 5,545.26 | 5,545.26 |
| 2021/22 | 6,100.40 | 6,100.40 |

### Indicative Price – FYs from 2022/23

With the announcement of the Health Reforms in effect from 1 July 2022, the cessation of District Health Boards and the formation of Te Whatu Ora – Health New Zealand, the uses of pricing from the FY 2022/23 and future years is yet to be determined.

The main funding model used in past years was the population based funding formula (PBFF) and the main use for prices was inter-district flows (IDFs), neither PBFF nor IDFs feature in the Health New Zealand system from 1 July 2022.

Provided in the table is the technical reference price for Te Whatu Ora provided public hospital events.

|  |  |
| --- | --- |
| **Financial Year** | **Medical & Surgical & Neonatal** |
| 2022/23 | 6,530.20 |
| 2023/24 | TBC |

### Primary Maternity RVUs

In the table below are the Relative Value Units (RVUs) used in the calculation of RVU weights for events assigned XPU W02020 *Inpatient maternity care in a primary maternity facility.*

|  |  |
| --- | --- |
| **Component** | **Weight** |
| Labour and Delivery Fee | 0.970 |
| DHB-funded Lead Midwifery Care Fee (delivery) | 0.387 |
| DHB-funded Lead Midwifery Care Fee (postnatal stay only) | 0.087 |
| Per Diem - Baby | 0.407 |
| Per Diem - Mother | 0.744 |
| Same Day - Baby | 0.285 |
| Same Day - Mother | 0.521 |
| Social Day - Baby | 0.298 |

# Appendix 5: XPUs and PUs Identified in this Document

For the purposes of this document the XPUs used are defined in the following table.

| XPU | Description |
| --- | --- |
| BOARDER | Boarders – 5.2.4 |
| CANC\_OP | Cancelled Operations – 5.2.4 |
| DSS214 | Disability Support Services – Young Physically Disabled AT&R – 5.2.7 |
| DSSR130 | AT&R (Assessment, Treatment & Rehabilitation) – Hospital at Home – 5.2.7 |
| EXCLU | Excluded – Mental Health Events – 5.2.5 and events where an XPU has not been identified – 5.2.1, 5.2.3, and some AT&R 5.2.7 |
| HOP214 | Health of Older People – Age Related AT&R – 5.2.7 |
| HOP235 | Health of Older People – Psychogeriatric AT&R – 5.2.7 |
| HOP1006 | Health of Older People – Aged Residential Care (Hospital) – 5.2.7 |
| HOP1013 | Health of Older People – Carer Support Respite Day – 5.2.7 |
| HOP1032 | Health of Older People – Aged Residential Care (Dementia) – 5.2.7 |
| HOP1033 | Health of Older People – Aged Residential Care (Rest Home) – 5.2.7 |
| HOP1035 | Health of Older People – Aged Residential Care (Specialist) – 5.2.7 |
| HOP1043 | Health of Older People – Aged Residential Respite (Rest Home) – 5.2.7 |
| HOP1044 | Health of Older People – Aged Residential Respite (Hospital) – 5.2.7 |
| HOP1045 | Health of Older People – Aged Residential Respite (Dementia) – 5.2.7 |
| HOP1046 | Health of Older People – Aged Residential Respite (Psychogeriatric) – 5.2.7 |
| HOPR130 | AT&R (Assessment, Treatment & Rehabilitation) - Hospital at Home – 5.2.7 |
| M25008 | Capsule Endoscopy – 5.2.34 |
| M30020 | Same Day Pharmacotherapy for Cancer (Haematology) – 5.2.27 |
| M50009 | Same Day Blood Transfusions (Oncology) – 5.2.36 |
| M50031 | Oncology Radiotherapy – Fractions – 5.2.28 |
| M54004 | Same Day Pharmacotherapy for Cancer (Specialist Paediatric Oncology) – 5.2.27 |
| M60004 | Renal Medicine (Peritoneal Dialysis) – 5.2.24 |
| M60008 | Renal Medicine (Haemodialysis) – 5.2.25 |
| M86004 | Nuclear Medicine – PRRT Treatment – 5.2.28 |
| MS02001 | Same Day Blood Transfusions (Any Specialty) – 5.2.36 |
| MS02003 | Bronchoscopies – 5.2.35 |
| MS02004 | Cystoscopies – 5.2.31 |
| MS02005 | Gastroscopy – 5.2.34 |
| MS02006 | ERCP – 5.2.34 |
| MS02007 | Colonoscopy – 5.2.34 |
| MS02009 | Same Day Pharmacotherapy for Cancer (Any Specialty) – 5.2.27 |
| MS02014 | Colonoscopy/Gastroscopy – 5.2.34 |
| MS02016 | Skin Lesion Removal – 5.2.40 |
| MS02023 | Non-Weight Bearing Convalescence Programme – 5.2.6 |
| NCSP-10 | Colposcopy – 5.2.30 |
| NCSP-20 | Colposcopy Directed Treatment – 5.2.30 |
| S30006 | Surgical Terminations of Pregnancy 1st Trimester – 5.2.22 |
| S30009 | Surgical Terminations of Pregnancy 2nd Trimester – 5.2.21 |
| S30010 | Medical Termination of Pregnancy Treatment – 5.2.23 |
| S30012 | Hysteroscopy – 5.2.32 |
| S40007 | Intraocular Injections – 5.2.39 |
| S50001 | Spinal Services (Acute) – 5.2.20 |
| S50002 | Spinal Services (Non-acute) – 5.2.20 |
| S70006 | Lithotripsy – 5.2.29 |
| S70008 | Prostate Biopsy – 5.2.37 |
| T0103 | Transplants (Heart) – 5.2.19 |
| T0106 | Transplants (Lung) – 5.2.19 |
| T0111 | Transplants (Liver – Adults) – 5.2.19 |
| T0113 | Transplants (Liver – Children) – 5.2.19 |
| W03005 | Amniocentesis – 5.2.12 |
| W03006 | Chorionic Villus Sampling – 5.2.13 |
| W03007 | Rhesus Isoimmunisation and Other Isoimmunisation – 5.2.14 |
| W03010 | Lactation Disorders Associated with Childbirth – 5.2.15 |
| W03013 | Postnatal Early Intervention – 5.2.10 |
| W02020 | Primary Maternity – 5.2.17 |

Other Purchase Units (PUs) identified in this document are:

| PU | Description |
| --- | --- |
| W06.03 | Neonatal Inpatient Casemix (W06003 PUDD) – 5.2.11 |
| W10.01 | Maternity Casemix (W10001 PUDD) – 5.2.16 |

# Appendix 6: List of NZ DRGs and DRG Mappings

Sometimes adjustments are made to the initial grouping of events to an AR-DRG v10.0 for the purposes of greater clarity of casemix event flows and weighted volumes. These generally arise in relation to new technology, to central monitoring regimes, or where there is evidence of a significantly different cost profile for a cohesive subset of events grouped to a DRG.

## Current NZ DRGs

WIESNZ23 has six NZ DRGs, these are: A39W, B02W, C03W, J11W, O66W and R64W. While C03W and J11W are assigned only to events excluded from casemix, a DRG assignment was still needed for identification within the outpatient event sets.

1. **A39W Pelvic Evisceration**

The NZ specific DRG A39W was created in WIESNZ16 however, it was revised in WIESNZ17 to include pelvic exenteration events only, with an expanded definition to include male patient events, and is still current in WIESNZ23. Refer to 4.2.2

1. **B02W Stroke Clot Retrieval**

The NZ specific DRG B02W was created as a result of the rapid development of clot retrieval services. This service is subject to readiness and time dependency constraints. Analysis of cost and activity data was undertaken to improve the weights for this service, allowing for more accurate costing and declining length of stay. B02W was created in WIESNZ19, revised in WIESNZ20 and is still current in WIESNZ23. Refer to 4.2.2

1. **C03W Same Day Ophthalmology Injections of Therapeutic Agents**

Sameday ophthalmology injection event records are excluded from casemix. This rule is for injections of a therapeutic agent (e.g. Avastin) into the posterior chamber of eye. These event records are assigned to a NZ DRG with its own cost weight reflecting the outpatient price for such events. C03W was created in WIESNZ11 and is still current for WIESNZ23. Refer to 5.2.39

1. **J11W Same Day Skin Lesion Procedures**

Sameday skin lesion excision event records are excluded from casemix. These event records are assigned to a NZ DRG with its own cost weight reflecting the outpatient price for such events. J11W was created in WIESNZ11, revised in WIESNZ12 and WIESNZ14 and is still current in WIESNZ23. Refer to 5.2.40

1. **O66W SFLP for Twin to Twin Transfusion Syndrome**

The NZ specific DRG O66W (O66T) was developed for this treatment regime, with weights based on the reported costs without adjustment. The NZ DRG O66T was created in WIESNZ13 and allocation is still current in WIESNZ23 but the DRG code has been updated from O66T to O66W. Refer to 4.2.2

1. **R64W Radiotherapy from Medical DRGs**

Events that have grouped to a medical AR-DRG and included an external beam radiotherapy procedure code are mapped to NZ specific DRG R64W *Radiotherapy from Medical DRGs*. R64W was created in WIESNZ17 and is still current for WIESNZ23. Refer to 4.2.1

# Appendix 7: List of Acronyms and Definitions

For the purposes of this document the acronyms used are defined in the following table.

| Acronym | Definition |
| --- | --- |
| AA | Arranged Admission |
| AAA | Abdominal Aortic Aneurysm |
| AC | Acute Admission |
| ACHI | Australian Classification of Health Interventions |
| ADJMVDAYS | Adjusted Mechanical Ventilation Days |
| ADM | Admitted |
| ADMWT | Admission Weight |
| ADRG | Adjacent Diagnosis Related Group |
| ALOS | Average Length of Stay |
| AMI | Acute Myocardial Infraction |
| AN-DRG | Australian National Diagnosis Related Group |
| AR-DRG | Australian Refined Diagnosis Related Group |
| AT&R | Assessment, Treatment and Rehabilitation |
| BI | Bilateral |
| BiVAD | Bilateral Ventricular Assist Device |
| BRACHY | Brachytherapy |
| BT | Blood Transfusion |
| CANC\_OP | Cancelled Operation |
| CAPD | Continuous Ambulatory Peritoneal Dialysis |
| CHEMO | Chemotherapy |
| COELIG | Co-Payment Eligible |
| COMP | Complexity |
| COPAY | Co-Payment |
| CPB | Cardiopulmonary Bypass |
| CWD | Cost Weighted Discharge |
| DHB | District Health Board (cessation 1July 2022) |
| DRG | Diagnosis Related Groups |
| DSRDS | Disorders |
| DSS | Disability Support Service |
| ECC | Episode Clinical Complexity |
| ECCS | Episode Clinical Complexity Score |
| EPS | Electrophysiological Studies |
| ERC | Endoscopic Retrograde Cholangiography |
| ERCP | Endoscopic Retrograde Cholangiopancreatography |
| ERP | Endoscopic Retrograde Pancreatography |
| EXCLU | Excluded |
| FY | Financial Year |
| GA | General Anaesthesia |
| GEST | Gestation |
| GI | General Intervention |
| GR | Gender Reaffirming Surgery |
| HB | High Boundary |
| HFA | Health Funding Authority |
| HHS | Hospital and Health Service |
| HIALOSDRG | High Average Length of Stay Diagnosis Related Group |
| HIPEC | Hyperthermic Intraperitoneal Chemotherapy |
| HNZ | Health New Zealand |
| HO\_PD | High Outlier Per Diem |
| HOP | Health of Older People |
| HSC | Health Speciality Code |
| ICD | International Statistical Classification of Diseases and Related Health Problems |
| ICD-9-CMA | International Statistical Classification of Diseases and Related Health Problems, 9th Revision, Clinical Modification, Australian |
| ICD-10-AM | International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification |
| IDF | Inter-District Flow |
| IGG | Infusion Gamma Globulin |
| IHPA | Independent Hospital Pricing Authority (as of 12 August 2022 changed to IHACPA) |
| IHACPA | Independent Health and Aged Care Pricing Authority |
| INT | Intervention/Interventions |
| INVES | Investigative/Investigations |
| IP | Inpatient |
| LA | Local Anaesthesia |
| LB | Low Boundary |
| LDN | Live Donor Nephrectomy |
| LE | Lead Extraction |
| LO\_PD | Low Outlier Per Diem |
| LOS | Length of Stay |
| MDC | Major Diagnostic Category |
| MD\_IN | Multiday Inlier (inlier weight) |
| MoH | Ministry of Health |
| MRB | Mastectomy and Reconstruction – Co-payment on DRG J06B |
| MRZ | Mastectomy and Reconstruction – Co-payment on DRG J14Z |
| MV | Mechanical Ventilation |
| MVELIG | Mechanical Ventilation Eligibility |
| NCCP/NCCPP | National Costing Collection and Pricing Programme |
| NCSP | National Cervical Screening Programme |
| NMDS | National Minimum Dataset |
| NNPAC | National Non-Admitted Patient Collection |
| NSF | Nationwide Service Framework |
| NSU | National Screening Unit |
| NZ | New Zealand |
| NZDRG | New Zealand Diagnosis Related Group |
| OD | One Day |
| OP | Outpatient |
| PCCL | Patient Clinical Complexity Level |
| PE | Pelvic Evisceration |
| PH | Peritonectomy with HIPEC |
| PROC | Procedure |
| PRRT | Peptide Receptor Radionuclide Therapy |
| PU | Purchase Unit |
| PUC | Purchase Unit Code |
| PUDD | Purchase Unit Data Dictionary  website link: [Purchase Unit Data Dictionary - Information](https://www.tewhatuora.govt.nz/our-health-system/nationwide-service-framework-library/purchase-units/) |
| PV | Price Volume |
| RVU | Relative Value Unit |
| SCR | Stroke Clot Retrieval |
| SD | Same Day |
| SDOD | Same Day One Day |
| SF | Spinal Fusion |
| SFLP | Selective Fetoscopic Laser Photocoagulation |
| SIG | Significant |
| SLA | Service Level Agreement |
| START | Supported Transfer and Accelerated Rehabilitation Team |
| TLC | Complex Traumatic Limb |
| ToP | Termination of Pregnancy |
| TPA | Transperineal Biopsy of Prostate |
| TRUS | Transrectal Ultrasound Biopsy of Prostate |
| UNI | Unilateral |
| VAD | Ventricular Assist Device |
| W | With |
| WIES | Weighted Inlier Equivalent Separation |
| WKS | Weeks |
| WN | Waiting List – admitted from DHB booking system |
| W/O | Without |
| XPU | Excluded Purchase Unit |

# Appendix 8: ICD-10-AM/ACHI Mapping Table

ICD-10-AM/ACHI Twelfth Edition will be implemented 1 July 2023.

Events coded in ICD-10-AM/ACHI Twelfth Edition will have their codes back mapped to ICD-10-AM/ACHI Eleventh Edition, which are then used to derive AR-DRG v10.0.

In the attached Excel document is a table listing the ICD-10-AM/ACHI code changes between Twelfth Edition and Eleventh Edition and the backward mapping of codes that are applicable to this document only.



# Appendix 9: AR-DRG v7.0 vs AR-DRG v10.0 and NZ DRGs

Outlined in the attached Excel document are the changes between AR-DRG v7.0 and v10.0 and the NZ DRGs for WIESNZ23.



1. Financial Years run from 1 July through to 30 June of the following calendar year and are abbreviated by stringing together the last two digits of the portions of calendar years in question, ie, 2019/20, 2020/21, and 2021/22 represent the three consecutive financial years from 1 July 2019 through 30 June 2022. [↑](#footnote-ref-2)
2. Two slightly different DRG versions are in use within the methodology. The DRG version currently in use within the NZ health sector is AR-DRG version 10.0 and all DRG tests on NMDS events refer to this version. However, for the purposes of applying cost weights, some AR-DRGs are not clinically homogeneous and in these cases an AR-DRG may be reallocated to a different ‘WIES’ or ‘NZ’ DRG referred to in this document as NZdrg100. The NZdrg100 DRGs contain all the AR-DRGs as well as six additional NZ DRG codes (not used in AR-DRG) for the purpose of applying the appropriate cost weights to NMDS events. [↑](#footnote-ref-3)
3. \*Additional character is required to complete the diagnosis code [↑](#footnote-ref-4)
4. <http://www.moh.govt.nz/notebook/nbbooks.nsf/0/33BDA6510EF068D7CC2570890077C393/$file/maternityservices.pdf> [↑](#footnote-ref-5)
5. Prior to 1 July 2008 this exclusion rule also included health specialty codes P00, P10, P11, P20, P30, P35. These codes were retired 1 July 2008. [↑](#footnote-ref-6)
6. This is a list of the WIES eligible facility codes as at November 2022. Facility codes that are added during the year (and are valid for the whole year) will be listed at the start of this document [↑](#footnote-ref-7)