

New Zealand Casemix Framework

For Publicly Funded Hospitals

 Including

WIESNZ21 Methodology

and

Casemix Purchase Unit Allocation

 for the

2021/22 Financial Year

Specification for Implementation on NMDS

Authors: The NCCP Casemix – Cost Weights Project Group

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

National Casemix and Classification Centre, Australian Health Services Research Institute, University of Wollongong (2013). *The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification,* (ICD-10-AM/ACHI/ACS) (Eighth Edition.). Independent Hospital Pricing Authority (IHPA), Darlinghurst, NSW.

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# Version Updates to Casemix Framework Document (WIESNZ21)

## Version 1.0 (21 March 2021)

* Updated exclusion rule ‘Same day pharmacotherapy for treatment of neoplasm’ to include procedure code 3531700 [741] in the IP chemo code set, see 5.2.27
* Added three new facilities to the casemix eligible facilities list, see 5.2.38

The facilities are: The Rutherford Clinic (9245), East Bay Specialist Centre (9283) and Cambridge Specialist Centre (9284)

* Cost weight schedule (Appendix 1) updated to include additional tabs (Legend and notes and Current co-payment values), see WIESNZ21 for use with AR-DRG v7.0 as adapted for New Zealand
* ICD-10-AM/ACHI Mapping Table document updated, see Appendix 8: ICD-10-AM/ACHI Mapping Table
* SAS document updated to include the above changes, see Appendix 2: SAS Code to Calculate WIESNZ21 and Assign PUs

## Version 1.1 (21 May 2021)

* Added DRGs P07Z and P08Z to the Neonatal Inpatient Casemix (W06.03) rule, see 5.2.11
* Added National unit price, see Unit Prices used in Purchasing
* SAS document updated to include the DRGs for the Neonatal inclusion rule, see Appendix 2: SAS Code to Calculate WIESNZ21 and Assign PUs

## Version 1.2 (1 June 2021)

* Updated exclusion rules Cystoscopies 5.2.31 and Bronchoscopies 5.2.35 so the second procedure did not include GA. Changed wording from ‘block [1910] codes’ to ‘sedation codes’ as per the third procedure.

## Version 1.3 (6 December 2021)

* Added one new facility to the casemix eligible facilities list, see 5.2.38

The facility is: Southern Cross Central Lakes Hospital (9297)

* ICD-10-AM/ACHI Mapping Table document updated, see Appendix 8: ICD-10-AM/ACHI Mapping Table.

## Version 1.4 (14 June 2022)

* Added four new facilities to the casemix eligible facilities list, see 5.2.38

The facilities are: South Island Plastic Surgery (9311), Mr Terrace Creagh (9312), Face Breast and Body (9313) and OneSixOne (9271).

* SAS document updated to include the above changes, see Appendix 2: SAS Code to Calculate WIESNZ21 and Assign PUs

# Purpose of this Document

This document provides the definitions for inclusion of hospital event records in casemix funding together with information related to the calculation of cost weights for these event records and the assignment of event records to purchase units. WIESNZ21 uses AR-DRG v7.0, which is based on ICD-10-AM/ACHI 8th Edition codes. A new set of cost weights is provided in the WIESNZ21 weights table.

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

See Appendices at the end of the document for:

* Appendix 1 Weights table and a description of the variable meanings
* Appendix 2 SAS program for the calculation of weights
* Appendix 3 Membership of the project group
* Appendix 4 History of the New Zealand casemix environment since 1998/99
* Appendix 5 Purchase units (PUs) referred to for non-casemix funded events
* Appendix 6 NZ DRGs and DRG mappings
* Appendix 7 Acronyms
* Appendix 8 ICD-10-AM/ACHI Mapping table

# Changes Effected in this Version

The 2020 NCCP work year involved a full review in which a new set of weights were developed for effect from 1 July 2021.

ICD-10-AM/ACHI 11th Edition was implemented 1 July 2019, however, not all DHBs upgraded 1 July 2019. Events coded in ICD-10-AM/ACHI 11th Edition will have their codes back-mapped to ICD-10-AM/ACHI 8th Edition which are then used to derive AR-DRG7.0. Exclusion rules are based on ICD-10-AM/ACHI 8th Edition coding and AR-DRG v7.0. This version includes the following changes from the previous year:

* New and revised same day/one day designations
* Revised co-payment definitions:
	+ Aortic Aneurysm (AAA) co-payment
	+ Scoliosis
	+ Electrophysiological Studies (EPS)
	+ Complex Traumatic Limb (TLC)
	+ Gender Affirming Surgery (GR)
* Reinstated co-payment for Isolated Limb Infusion (ILI)
* New co-payment for:
	+ Peritonectomy with HIPEC (PH)
	+ Pelvic Evisceration (PE) Surgery for Waitemata DHB
* Revised co-payment values for:
	+ Atrial Septal Defect (ASD)
	+ Ventricular Assist Devices (LVAD)
	+ Bilateral Mastectomy or Combined Mastectomy and Reconstruction
	+ Cardiac Lead Extraction (LE)
* Revised costweight values for NZ DRGs C03W and J11W
* Moved section ‘Note on anaesthesia coding’ to be sequenced before exclusion rules that have an anaesthesia criteria
* Revised exclusion rules:
	+ Same day pharmacotherapy for treatment of neoplasm
	+ ERCP
	+ Cystoscopies
	+ Gastroscopy procedures
	+ Bronchoscopy

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

# Introduction

This report specifies the final version of the 2021/22 FY[[1]](#footnote-1) WIESNZ21 methodology for casemix purchasing to be used by DHBs. It is the same format as the document used in earlier years, and WIESNZ21 is based on the DRG schedule AR-DRG v7.0 and clinical coding in ICD-10-AM/ACHI 8th Edition after it has been back-mapped from ICD-10-AM/ACHI 11th Edition.

The intent of this document is to specify the casemix methodology used by DHBs so that case weighted discharge values can be calculated for all National Minimum Dataset (NMDS) event records by the Ministry of Health (MoH). Further variables are also defined, as required, to identify casemix purchased 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 DHB casemix purchasing framework for use throughout the health sector. As such, additional information beyond that required by the Ministry of Health 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), *Eighth Edition,* The *Australian Classification of Health Interventions* (ACHI), *Australian Refined Diagnosis Related Groups* (AR-DRGs[[2]](#footnote-2)) 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 file (.ndw file) is distributed by the Ministry of Health for each batch 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 *DHB provider arm* may be used interchangeably throughout this document.

## Background

DHBs are responsible for funding their provider arms from their MoH funding packages, using the form of a service level agreement and price volume schedule agreed between a DHB and its provider arm. DHB purchasing intentions, including volume targets, are notified to the MoH in district annual plans. DHBs purchase 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 WIESNZ20 to WIESNZ21. The version for implementation from 1 July 2021 is known as WIESNZ21.

The casemix purchase units appearing in this schedule are those used in DHB price volume schedules and 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 WIESNZ20 to WIESNZ21

WIESNZ21 is based on ICD-10-AM/ACHI 8th Edition and AR-DRG v7.0.

ICD-10-AM/ACHI 11th Edition was implemented 1 July 2019, however, not all DHBs upgraded 1 July 2019. Events coded in ICD-10-AM/ACHI 11th Edition will have their codes back-mapped to ICD-10-AM/ACHI 8th Edition which are then used to derive AR-DRG7.0. Exclusion rules were based on ICD-10-AM/ACHI 8th Edition coding and AR-DRG v7.0. The framework associated with WIESNZ21 is the same as WIESNZ20 except for the following:

* New and revised same day/one day designations, see 3.3
* Revised Abdominal Aortic Aneurysm (AAA) co-payment to now include separate values for F08A (AAAA) 4.9466 and F08B (AAAB) 3.4141, see 4.4.3
* Revised Scoliosis co-payment definition by removing DRG I06Z and age criteria. Co-payment value revised from 5.2673 to 5.6074, see 4.4.4
* Revised Electrophysiological Studies (EPS) co-payment definition to include DRGs F42x and deleted two procedure codes 38518-00 [609], 38748-01 [616]. Co-payment value revised from 1.7266 to 1.2278, see 4.4.4
* Revised Complex Traumatic Limb (TLC) definition by removing facilities Waikato (5311) and Canterbury (4011). Co-payment value revised from 2.9934 to 3.1934, see 4.4.7
* Revised Gender Affirming Surgery (GR) definition to include the procedure ‘radical vaginal hysterectomy’. Co-payment value revised from 1.5143 to 1.4871, see 4.4.9
* Reinstated co-payment from WIESNZ19 for Isolated Limb Infusion (ILI), see 4.4.11
* New co-payment for Peritonectomy with HIPEC (PH), see 4.4.12
* New co-payment for Pelvic Evisceration (PE) Surgery for Waitemata DHB, see 4.4.13
* Revised co-payment values for:
	+ Atrial Septal Defect (ASD) co-payment value from 1.1613 to 1.2803, see 4.4.3
	+ Ventricular Assist Devices (LVAD) for adults co-payment value from 22.5183 to 21.0526, see 4.4.6
	+ Bilateral Mastectomy or Combined Mastectomy and Reconstruction co-payment values (MRA) from 1.0134 to 0.9438, (MRB) from 0.5507 to 0.7790 and (MRZ) from 1.1630 to 1.0177, see 4.4.8
	+ Cardiac Lead Extraction (LE) co-payment value from 3.2179 to 2.4694, see 4.4.10
* Revised costweight values for NZ DRGs C03W from 0.06370 to 0.0812 and J11W from 0.23160 to 0.2252, see 5.2.39 and 5.2.40 respectively
* Moved section ‘Note on anaesthesia coding’ to be sequenced before exclusion rules that have an anaesthesia criteria. Anaesthesia block [1910] *Cerebral anaesthesia* split to specify ‘general anaesthesia’ and ‘sedation, see 5.2.26
* Revised exclusion rule for ‘Same day pharmacotherapy for treatment of neoplasm’, see 5.2.27
* Revised ERCP exclusion rule definition by removing two stent procedures 3049100 and 3045102, see 5.2.33
* Revised the anaesthesia criteria for three scope (cystoscopies, gastroscopy procedures, bronchoscopy) exclusion rule definitions to only include sedation, see 5.2.31, 5.2.34 and 5.2.35 respectively.

### Changes from WIESNZ19 to WIESNZ20

WIESNZ20 was based on ICD-10-AM/ACHI 8th Edition and AR-DRG v7.0.

ICD-10-AM/ACHI 11th Edition was implemented 1 July 2019, however, not all DHBs upgraded 1 July 2019. Events coded in ICD-10-AM/ACHI 11th Edition had their codes back-mapped to ICD-10-AM/ACHI 8th Edition which were then used to derive AR-DRG7.0. Exclusion rules were based on ICD-10-AM/ACHI 8th Edition coding and AR-DRG v7.0. The framework associated with WIESNZ20 was the same as WIESNZ19 except for the following:

* Revised definition for the NZ DRG B02W for Stroke Clot Retrieval
* New co-payment for Gender Affirming Surgery
* New co-payment for Cardiac Lead Extraction
* Retired co-payment for Isolated Limb Infusion
* Revised co-payment values for
	+ Abdominal Aortic Aneurysm (AAA) co-payment value from 3.8185 to 3.9052
	+ Atrial Septal Defect (ASD) co-payment value from 1.1882 to 1.1613
	+ Scoliosis co-payment value from 5.4629 to 5.2673
	+ Live Donor Nephrectomy (LDN) co-payment value from 1.4601 to 1.5817
	+ Ventricular Assist Devices (VADs) for adults co-payment value from 23.8461 to 22.5183
	+ Complex Traumatic Limb co-payment value from 3.5934 to 2.9934
	+ Bilateral Mastectomy or Combined Mastectomy and Reconstruction co-payment values from 0.9697 and 0.9085 to 1.0134 and 0.5507
* Revised Bilateral Mastectomy or Combined Mastectomy and Reconstruction co-payment to include DRG J14Z
* New exclusion rule for Transrectal Ultrasound (TRUS) Guided Biopsy of Prostate and Transperineal (TPA) Biopsy of Prostate
* Revised Exclusion rules:
	+ Rhesus Isoimmunisation and Other Isoimmunisation
	+ Renal Haemodialysis
	+ Same day Radiotherapy
* New health specialty code S44 *Orthopaedic spinal surgery* maps to health specialty code S45 *Orthopaedic surgery*
* Health specialty code P39 *Maternal Fetal Medicine* (MFM) *Services* added to NMDS. Previously valid for NNPAC reporting only. P39 *Maternal Fetal Medicine* (MFM) *Services* maps to PUC W10.01 Maternity Casemix
* Added Appendix 8: ICD-10-AM/ACHI Mapping Table
* Updated wording for DRG, cost weight and XPU allocation for Ophthalmology Injections and Skin Lesion Procedures
* Added one new facility to the casemix eligible facilities list. The facility is Hamilton Radiology (9225)
* Added a note under primary maternity flags.

## 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. These designations remain unchanged in WIESNZ21.

There are new designations for:

* A08B *Autologous Bone Marrow Transplant W/O Catastrophic CC* has been given a OD designation to accommodate two different models of care for events grouped to this DRG.
* R63Z *Chemotherapy* has been given a SD designation to recognise the large number of new same day events that will be funded by this DRG following the amendment to the exclusion rule for Pharmacotherapy for Neoplasms
* J06B *Major Procedures for Non-Malignant Breast Disorders* has had its SD designation removed.

## Elements of the 2020 Casemix Work Programme

Listed below are some of the specific issues raised and considered that have not already been outlined:

* **Stroke Thrombolysis Treatment**

Analysis of drug costs for thrombolysis treatment was carried out and adjustments have been made to the cost data that reflect the 12% health target for thrombolysis for 2020/21 and the distribution of thrombolysis rates across DHBs; these have been used to set the weights for the four DRGs describing the throughput for *Stroke and Other Cerebrovascular Disorders:* B70A, B70B, B70C, B70D.

* **Implant Cost Adjustments for Orthopaedic Surgical DRGs (I01A-I32B)**

The implant cost adjustment methodology has been updated from WIESNZ21. The implant cost adjustment methodology has only been used where there should always be an implant in the surgical DRGs from MDC 08 *Diseases and Disorders of the musculoskeletal System and Connective Tissues* (I01A-I82Z). Only minor adjustments were required in the 2020 work program due to improved implant costs reported.

* **Adjustments for High Cost Drugs**

For DRGs where events involve a same day drug infusion, a drug cost adjustment has been made based on a sample of the DHBs with the most accurate drug costs reported. The drug cost adjustment average has been made where the 8th Edition procedure code 9619909 [1920] *Intravenous administration of pharmacological agent, other and unspecified pharmacological agent* occurs in the first 30 procedure codes for DRGs:

* + C63A *Other Disorders of the Eye W CC*
	+ C63B *Other Disorders of the Eye W/O CC*
	+ E74C *Interstitial Lung Disease W/O CC*
	+ G64A *Inflammatory Bowel Disease W CC*
	+ G64B *Inflammatory Bowel Disease W/O CC*
	+ I40Z *Infusions for Musculoskeletal Disorders, Sameday*
	+ J68C *Major Skin Disorders, Sameday.*
* **Transcatheter Aortic Valve Implantation (TAVI) costs**

TAVI implant costs have been closely monitored over the last five years, and the cost of the implants required have decreased. TAVI events almost exclusively group to one of the following four DRGs:

* F03A *Cardiac Valve Procs W CPB Pump W Invasive Cardiac Inves W Cat CC*
* F03B *Cardiac Valve Procs W CPB Pump W Invasive Cardiac Inves W/O Cat CC*
* F04A *Cardiac Valve Procs W CPB Pump W/O Invasive Cardiac Inves W Cat CC*
* F04B *Cardiac Valve Procs W CPB Pump W/O Invasive Cardiac Inves W/O Cat CC*

Implant cost analysis confirms advice from DHBs over the last two years that TAVI does not cost more than other procedures in the listed DRGs, though is marginally more expensive for the least at-risk patients. TAVI implant cost adjustments were needed for thirty events in developing WIESNZ21. However, as per last year due to a higher number of low outlier events than in previous years adjustments to low boundaries have been made to DRGs F03A, F03B and F04A.

* **Implant Cost Adjustments for Selected Circulatory Surgical DRGs (F DRGs)**

Implant costs were reviewed for the following circulatory DRGs:

 F01A, F01B, F02Z, F10A, F10B, F12A, F12B, F15A, F15B, F17Z, F18A, and F18B

The implant costs for events that should always have an implant cost have been reviewed and where inadequately reported have been replaced by an implant cost estimated from the best reported costs for the respective DRGs.

* **Adjustments for some Blood Product Costs**

Gamma Globulin costs were noted to be poorly captured for a small number of events in 2018/19. Adjustments were made in the following DRGs to ensure a better overall reflection of the costs involved:

 B67C, B71C, I82Z, Q60C, Q62B, and R61C.

## 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.

## Special Funding Arrangement for Temporomandibular Joint Replacement (TMJ)

Through the costing mechanism described in Section 4, all casemix funded events should be covered. However, temporomandibular joint replacement (TMJ) events occur only a few times per year and the prosthesis is expensive as it is custom made for each patient.

The prosthesis cost in individual cases can vary markedly, and because of the infrequency of TMJ events, the cost of the prosthesis is not adequately reflected in the DRG cost weight. Therefore, for IDF TMJ cases the DHB of service may invoice the DHB of domicile for the cost of the prosthesis in addition to the cost weight received for the DRG.

## 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 DHB (agency 4021) and Counties Manukau DHB (agency 1023).

The health specialty code S44 maps to health specialty code S45 *Orthopaedic surgery,* which maps to purchase unit code S45.01 *Orthopaedics – Inpatient Services,* see 5.3.

# WIESNZ21 Calculation

The following section describes the derived variables required, the DRG reallocation tests applied (AR-DRG => NZdrg70), the Mechanical Ventilation calculation, other co-payments, the matching of event records with appropriate cost weights and the WIESNZ21 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 WIESNZ21 file attached in Appendix 1: Table of 2021/22 FY DRG Cost Weights and Associated Variables for Calculating WIESNZ21, the file is also available from Ministry of Health website: <http://www.health.govt.nz/nz-health-statistics/data-references/weighted-inlier-equivalent-separations>.

## Derived Variables Required in Calculation

The following derived variables are used in the WIESNZ21 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 now provided to the NMDS in date:time format. LOS is intended to represent the integer number of days between the event end date and the event start date and so we use only the date part of this format in calculating the LOS for an event.

### Extreme LOS Events

In the extremely rare cases where the length of stay of casemix-funded events exceeds 365 days by a significant number of days, it is recommended that the service DHB should statistically discharge the patient at 364 days, as this will then allow the funding to flow using the normal channels.

## 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, NZdrg70, to hold the reassigned DRG appropriate for the case weight calculation. This WIES DRG set, or NZdrg70, 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 NZdrg70 field.

The following subsections detail the tests for the allocation of AR-DRGs to NZdrg70 DRGs for the purposes of the WIESNZ21 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 8th 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*. 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). This NZ DRG R64W was created in WIESNZ17 and is still current for WIESNZ21.

### NZ DRG Allocation

Four NZ specific DRGs (A39W, B02W, F03M, O66T) were developed in previous WIESNZ versions due to new technology and treatment regimens and are still current for WIESNZ21 .

**A39W *Pelvic Evisceration Procedures***

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 WIESNZ21.

**Pelvic Evisceration Surgery – Female and Male**

Pelvic exenteration surgery event records are identified by having one of the three ACHI 8th 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*

**Note:**

In ACHI 11th Edition the three pelvic exenteration procedure codes have been revised to include both female and male. Therefore, any one of the three exenteration procedure codes can be assigned on a male event record where there is clinical documentation of pelvic exenteration/evisceration.

**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 has been added for Waitemata DHB, see section 4.4.13 Co-payment for Pelvic Evisceration (PE) Surgery.

**B02W *Stroke Clot Retrieval***

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

The New Zealand Stroke Network has promoted a service configuration and the service is 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 of 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 WIESN21.

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:
* A06A, A06B, A06C, B42A, B42B, E40A, E40B, F40A, F40B, W01A, W01B, W01C, X40Z, Y01Z

AND

1. Event has a principal diagnosis of I63[[3]](#footnote-3)\* *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 8th Edition procedure codes 9023500 [702] *Embolectomy or thrombectomy of intracranial artery* or 9023501 [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 8th 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 8th Edition procedure codes 3380000 [702] *Embolectomy or thrombectomy of carotid artery* or 3530700 [754] *Percutaneous transluminal balloon 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)

**Note:**

ACHI 11th Edition procedure codes 3541400 [702] *Embolectomy or thrombectomy of intracranial artery* and 3541401 [729] *Thrombectomy of intracranial vein* back map to ACHI 8th Edition procedure codes 9023500 [702] and 9023501 [729] respectively, see Appendix 8: ICD-10-AM/ACHI Mapping Table

**F03M *Transcatheter Pulmonary Valve Implant***

Analysis of melody valve implant cases showed the implant costs were both inadequately reported and the event records for these cases formed only a small proportion of the current throughput for the DRGs they appeared in, namely F04A, F04B, F03A, and F03B.

However, the use of this new technology was expected to increase. To adequately recompense for this, it was decided to develop an NZ specific DRG F03M and set weights by adjusting the event level cost data to show the current actual cost of the implant.

This NZ DRG F03M was created in WIESNZ13 and remains current for WIESNZ21.

These event records are identified as those having the ACHI 8th Edition procedure code 3848811 [637] *Percutaneous replacement of pulmonary valve with bioprosthesis* occurring in the first 30 procedure codes reported.

**O66T *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 w Catastrophic or Severe CC,* O66B *Antenatal and Other Obstetric Admissions W/O Catastrophic or Severe CC and* O66C *Antenatal and Other Obstetric Admissions, Sameday*. The costs of the new treatment method were swamped by the costs of these other event records. It was decided to develop a NZ specific DRG O66T for this new treatment regime, with weights based on the reported costs without adjustment.

This NZ DRG O66T was created in WIESNZ13 and remains current for WIESNZ21.

These event records are identified as those which have a principal diagnosis of O430 *Placental transfusion syndromes* and one of the first 30 ACHI 8th 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 v7.0 not reallocated in the above tests are given the same DRG code, i.e. the NZdrg70 DRG is set to the same value as the AR-DRG 7.0.

## Adjusted Mechanical Ventilation Days

The WIESNZ21 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 NZDRGs 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, P62Z, P63A, P63B, P64A, P64B, P65A, P65B, P65C, P65D, P66A, P66B, P66C, P66D, P67A, P67B, P67C, P67D, P68A, P68B, P68C, P68D, T40Z, X40Z, 960Z, 961Z.  These DRGs are flagged as ‘I’ (ineligible) in the field mvelig in the WIESNZ21 weights table.

For DRGs A03Z, A05Z, A06A, A06B, A06C, A07A, A07B, A08A, A08B, A10Z, A40A, A40B, 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 WIESNZ21 weights table.

The DRGs P06A and P06B are flagged as ‘E’ (eligible for a co-payment) in the field mvelig in the WIESNZ21 weights table.

The DRGs A01Z, B02W, P02Z and all other DRGs not listed are flagged as ‘D’ (eligible for daily co-payments) in the field mvelig in the WIESNZ21 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 WIESNZ21 calculation, each NMDS event record is initially allocated its NZdrg70 and this DRG is then matched to the file containing the NZdrg70 cost weights and other associated variables.

NZdrg70 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 WIESNZ21 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 WIESNZ21 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 NZdrg70 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-DRG7* is synonymous with AR-DRG v7.0, while DRG\_NZ, WIES DRG and NZdrg70 are synonymous for this classification when adapted to New Zealand.

| **Variable****(Column Heading)** | **Label** | **Description** |
| --- | --- | --- |
| New Zealand DRG | NZDRG70 | AR-DRG v7.0 as adapted for New Zealand |
| Mechanical ventilation  | mvelig | This describes the way mechanical ventilation severity co-payments are calculated for the NZDRG70. Options are:D: funded provided at least 6 hours of ventilation is provided. Patients attract a daily rate of 0.7729 WIES.E: patients are funded an additional 3.1323 WIES.4: funded for each day of mechanical ventilation after 4 days. Patients 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, atrial septal defect, electrophysiological studies, scoliosis implants, live donor nephrectomy, ventricular assist devices, complex traumatic limbs, bilateral mastectomy or combined mastectomy and reconstructions, gender affirming surgery and cardiac lead extraction. See Box 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, and 1l.  |
| 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. |
| NZDRG70 designation | SDOD | Flag for designated sameday (SD) or one day (OD) NZDRG70s |
| 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-DRG7s, sameday/one day patients are excluded when deriving the inlier multiday weight. |
| 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 NZDRG70, sameday patients may be either low outliers or inliers:Designated Sameday/Oneday NZDRG70sThe sameday weight is based on the costs of sameday patients.Non-Same Day/One Day NZDRG70s with a low boundary of zero daysThe sameday weight is set at the multiday inlier weight.Non-Same Day/One Day NZDRG70s with a low boundary of 1 dayThe 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 NZDRG70s 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 NZDRG70, one day patients may be either low outliers or inliers:Designated Sameday NZDRG70sThe 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 NZDRG70sThe one day weight is based on the costs of patients with a length of stay of one day.Non-Same/One Day NZDRG70s with a low boundary of 1 day or lessThe one day weight is set at the multiday inlier weight.Non-Same/One Day NZDRG70s 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. |
| 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 NZDRG70s have low outliers. No weight is reported in these cases.For most NZDRG70s 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 |
| 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) / alosWhere the high factor is set at 0.7 for surgical NZDRG70s, 0.8 for medical NZDRG70s 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-DRG7s. 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 WIESNZ21

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, atrial septal defect, electrophysiological studies, scoliosis, live donor nephrectomy, ventricular assist device, complex traumatic limb, bilateral mastectomy or combined mastectomy and reconstruction, gender affirming 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 and 1l);

* Calculate the base WIES allocation using the NZdrg70 DRG and the patient’s length of stay adjusted for mechanical ventilation per diem. This can be done using the appropriate weights from the WIESNZ21 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

Technical specifications for mechanical ventilation co-payments are given in Box 1.

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 NZdrg70 DRG that is eligible for a mechanical ventilation co-payment. NZdrg70 DRGs are classed as either:

* Eligible for daily co-payments of 0.7729 WIES (column mvelig = “D” in the WIESNZ21 weights table);
* Eligible for a co-payment of 3.1323 (column mvelig = “E” in the WIESNZ21 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 WIESNZ21 weights table); or
* Ineligible for co-payments (column mvelig = “I” in the WIESNZ21 weights table).

**Box 1: Calculating Mechanical Ventilation 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 payments for high outliers do not start until the LOS exceeds high boundary outlier days (column hb in WIESNZ21 weights table) plus adjusted mechanical ventilation days (“adjmvday” in the technical specifications Box 1).

### Co-payment for AAA and ASD

Technical specifications for abdominal aortic aneurysm (AAA) and atrial septal defect (ASD) stent co-payments are given in Box 1b in this section. Note that changes to the list of valid agencies will be made by the Costweights Group following advice from the providing DHB.

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 8th Edition procedure code must be 3311600 [762] *Endovascular repair of aneurysm*, and the event must fall into one of the following DRGs F08A *Major Reconstruct Vascular Procedures W/O CPB Pump W Catastrophic CC* or F08B *Major Reconstruct Vascular Procedures W/O CPB Pump W/O Catastrophic CC*. The co-payment values are:

* 4.9466 for F08A *Major Reconstructive Vascular Procedures W/O CPB Pump W Catastrophic CC* (AAAA)
* 3.4141 for F08B *Major Reconstructive Vascular Procedures W/O CPB Pump W/O Catastrophic CC* (AAAB).

To be eligible for an ASD co-payment of 1.2803 WIES the facility recorded for the event record must be one of the facilities listed and one of the first 30 ACHI 8th Edition procedure codes must be 3874200 [617] *Percutaneous closure of atrial septal defect,* and the event must fall into either the DRG F19A *Trans-Vascular Percutaneous Cardiac Intervention, Age >=80 or W CC* or the DRG F19B *Trans-Vascular Percutaneous Cardiac Intervention, Age <80 W/O CC*.

**Box 1b: Calculating AAA and ASD Co-payments**

**When event record falls into DRG F08A** AND

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

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

then aaaa\_pay = 4.9466

else aaaa\_pay = 0;

**When event record falls into DRG F08B** AND

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

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

then aaab\_pay = 3.4141

else aaab\_pay = 0;

**When event record falls into DRG F19A or F19B** AND

when facility is in ('3260','5311','5811','4011','4211')

AND any of the first 30 recorded procedures = '3874200'

then asd\_pay = 1.2803

else asd\_pay = 0;

go to box 1c

### Co-payments for Scoliosis Implants and Electrophysiological Studies

**Scoliosis Implants (Scol)**

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 5.6074 WIES.

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

the NZdrg70 must be 'I09A' 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]

OR for any other NZdrg70 both the diagnosis and procedure criteria shown above must apply.

**Electrophysiological Studies (EPS)**

To be eligible for an EPS co-payment of 1.2278 WIES 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 F42A *Circulatory Disorders, Not Admitted for AMI W Invasive Cardiac Investigations W Catastrophic/Severe CC,* F42B *Circulatory Disorders, Not Admitted for AMI W Invasive Cardiac Investigations W/O Catastrophic/Severe CC* or F42C *Circulatory Disorders, Not Admitted for AMI W Invasive Cardiac Investigations, Sameday,* and one of the first 30 ACHI 8th 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*

**Box 1c: Calculating Scoliosis (Scol) and Electrophysiological Studies (EPS) Co-payments**

**When** DHB funding agency is in ('1022','1023','2031','3091','4160') AND event falls into DRG I09A 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')

OR any of the first 2 recorded diagnoses in ('M41','Q763','Q675','M962','M963','M965') AND any of the first 3 recorded procedures in ('4031600','4867800','4868100','4868400', '4868700','4869000')

then scol\_pay = 5.6074

else scol\_pay = 0;

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

event falls into one of the DRGs F42A, F42B or F42C

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

then eps\_pay = 1.2278

else eps\_pay = 0

go to box 1d

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

To be eligible for a live donor nephrectomy co-payment (LDNB) of 1.5817 WIES the DRG must be L04B *Kidney, Ureter and Major Bladder Procedures for Non-Neoplasm W/O Cat CC* and one of the first 30 ACHI 8th Edition procedure codes must be:

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

OR

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

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

**When event record falls into DRG L04B** AND one of the procedures

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

then dnb\_pay = 1.5817

else ldnb\_pay = 0;

go to box 1e

### Co-payment for Ventricular Assist Devices (VADs) for Adults

To be eligible for a ventricular assist device co-payment the DRG must be A10Z *Insertion of ventricular assist device* and age at admission must be greater than 15 years.

The co-payment value is 21.0526 WIES.

**Box 1e: Calculating Ventricular Assist Devices for Adults (LVAD) Co-payment**

**When event record falls into DRG A10Z** AND

the age at admission > 15 years of age

then lvad\_pay = 21.0526

else lvad\_pay = 0;

go to box 1f

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

To be eligible for a complex traumatic limb co-payment (TLC) of 3.1934 WIES the DRG must be I02A *Microvascular Tissue Transfers or (Skin Grafts W Cat or Sev CC), Excl Hand* and the facility recorded for the event record must be 5812 (Hutt) or 3214 (Middlemore).

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

**When event record falls into DRG I02A** AND

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

then tlc\_pay = 3.1934

else tlc\_pay = 0;

go to box 1g

### 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 J06A *Major Procedures for Malignant Breast Disorders*, J06B *Major Procedures for Non-Malignant Breast Disorders* 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 8th 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:

* 0.9438 for J06A *Major Procedures for Malignant Breast Disorders* (MRA)
* 0.7790 for J06B *Major Procedures for Non-Malignant Breast Disorders* (MRB)
* 1.0177 for J14Z *Major Breast Reconstructions* (MRZ)

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

**When event record falls into DRG J06A** 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 mra\_pay = 0.9438

else mra\_pay = 0;

**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 = 0.7790

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 =1.0177

else mrz\_pay = 0;

go to box 1h

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

To be eligible for a gender affirming surgery co-payment (GR) of 1.4871 WIES the DRG must be U67Z *Personality Disorders and Acute Reactions* and the principal diagnosis must be F64\*, and one or more of the first five ACHI 8th Edition procedure codes must be:

* 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*
* 3575000 [1269] *Laparoscopically assisted vaginal hysterectomy*
* 9044801 [1268] *Total laparoscopic abdominal hysterectomy*

**Note:**

ACHI 11th Edition procedure code 3565307 [1268] *Laparoscopic total abdominal hysterectomy* back maps to ACHI 8th Edition procedure code 9044801 [1268] *Total laparoscopic abdominal hysterectomy,* seeAppendix 8: ICD-10-AM/ACHI Mapping Table*.*

**Box 1h: Calculating Gender Affirming Surgery (GR) Co-payment**

**When event record falls into DRG U67Z** AND

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

('3151801','3152401','3563812','3565301','3566701','3575000','9044801')

then gr\_pay = 1.4871

else gr\_pay = 0;

go to box 1i

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

To be eligible for a cardiac lead extraction co-payment (LE) of 2.4694 WIES the DRG must be from the circulatory system MDC, i.e. start with F, and among the first 30 ACHI 8th 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 1i: 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 = 2.4694

else le\_pay = 0;

go to box 1j

### 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 W/O Catastrophic CC* and one of the first 30 ACHI 8th Edition procedure codes must be 3453300 [1886] *Isolated limb perfusion.*

**Box 1j: 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 1k

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

To be eligible for a peritonectomy with heated intraperitoneal chemotherapy (HIPEC) co-payment (PH) of 0.8967 WIES the event must group to one of the DRGs G01A *Rectal Resection W Catastrophic CC,* G02A *Major Small and Large Bowel Procedures W Catastrophic CC,* G02B *Major Small and Large Bowel Procedures W/O Catastrophic CC*

G04A *Peritoneal Adhesiolysis W Catastrophic CC,* G12A *Other Digestive System OR Procedures W Catastrophic CC* or G12B *Other Digestive System OR Procedures W Severe or Moderate CC*

AND

at least one of the cytoreduction procedures is (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*) are among the first 30 ACHI 8th Edition procedure codes

AND

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

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

**When event record falls into one of the DRGs (**'**G01A**'**,**'**G02A**'**,**'**G02B**'**,**'**G04A**'**,**'**G12A**'**,**'**G12B**'**)**

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 = 0.8967

else ph\_pay = 0;

go to box 1l

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

To be eligible for a pelvic evisceration surgery co-payment (PE) of 4.9686 WIES the NZ DRG must be A39W *Pelvic Evisceration Procedures* and the agency code is ‘1021’ Waitemata DHB.

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

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

AND the agency code is '1021' Waitemata DHB

then pe\_pay = 4.9686

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 NZdrg70
* 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 step/box 2b

The patient’s inlier status is determined by comparing the patient’s length of stay with the inlier boundaries for the NZdrg70 to which the patient is allocated. The low inlier (lb) and the high inlier (hb) boundaries are given in the WIESNZ21 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 below.

**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 WIESNZ21 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 WIESNZ21 weights table using the appropriate column and row (NZdrg70).

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 WIESNZ21 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**

WIESNZ21 = base\_WIES + mv\_copay + aaa\_pay + asd\_pay + scol\_pay + eps\_pay + ldn\_pay + lvad\_pay + tlc\_pay + mr\_pay + gr\_pay + le\_pay + ili\_pay + ph\_pay + pe\_pay

This formula applies in all cases, except as follows:

Event records assigned a NZdrg70 of C03W will have a cost weight equal to 0.0812 and be assigned excluded purchase unit S40007.

Event records assigned a NZdrg70 of J11W will have a cost weight equal to 0.2252 and be assigned excluded purchase unit MS02016.

# Purchase Unit Allocation

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

## 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 discharge, unless otherwise specified.

### 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 Purchasing

This section lists the tests that identify whether or not a particular event record will be allocated to an inpatient casemix purchase unit. It should be noted that some event records which are included in the casemix purchase unit allocation methodology will be excluded, by the final rule, from the publicly funded casemix extract used for inter DHB inpatient CWD wash-up. These event records are excluded on the basis of Health Purchaser code and Health Agency code where these are not valid for the inter DHB funding wash-up. Note that from 1 July 2012 Funding Agency was a new field in the NMDS. Wherever the term agency is used in this document, it refers to the new funding agency field. The exclusion rules below indicate the Nationwide Service Framework (NSF) equivalent purchase unit for NMDS event records, which will be generated by the Ministry of Health and stored in a separate field. The tests are hierarchical and must be applied in the supplied sequence.

Note that the Ministry of Health 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, procedure and external cause codes for each event record. However, the grouper software (AR-DRG v7.0) 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.

DHBs that are concerned about the sufficiency of 30 diagnosis and 30 procedure codes should ensure their 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 2021/22. Publicly funded purchaser codes are 34 *MoH funded*, 35 *DHB funded* or 20 *Overseas resident eligible* for DHB 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 MoH and DHBs will monitor publicly funded agreements. Only NMDS 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 casemix funding 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 DHB |
| 1021 | Waitemata DHB |
| 1022 | Auckland DHB |
| 1023 | Counties Manukau DHB |
| 1236 | Ministry of Health |
| 2031 | Waikato DHB |
| 2042 | Lakes DHB |
| 2047 | Bay of Plenty DHB |
| 2051 | Tairawhiti DHB |
| 2071 | Taranaki DHB |
| 3061 | Hawke’s Bay DHB |
| 3081 | Mid Central DHB |
| 3082 | Whanganui DHB |
| 3091 | Capital & Coast DHB |
| 3092 | Hutt Valley DHB |
| 3093 | Wairarapa DHB |
| 3101 | Nelson-Marlborough DHB |
| 4111 | West Coast DHB |
| 4121 | Canterbury DHB |
| 4123 | South Canterbury DHB |
| 4137 | Otago Dental School |
| 4160 | Southern DHB |
| 8559 | Venturo |
| 8630 | Queen Elizabeth Hospital |
| 8656 | Mobile Surgical Bus |

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

### Error DRGs and Unrelated OR 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-DRG7.0.

These are:

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

There are three Unrelated OR 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 *OR Procedures Unrelated to Principal Diagnosis With Catastrophic CC*
2. 801B *OR Procedures Unrelated to Principal Diagnosis With Severe or Moderate CC*
3. 801C *OR Procedures Unrelated to Principal Diagnosis Without CC*

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

Event records where no treatment is provided are excluded from casemix funding. 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 event records are spread across other casemix-funded event records and so are funded indirectly.

Boarders are tested for by checking that the principal diagnosis code is: (Z763 *Healthy person accompanying sick person* or Z764 *Other boarder in health-care 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 8th Edition code for *Persons encountering health services for specific procedures, not carried out*, i.e. one (or more) of the diagnosis 1-6 is in the range Z530 – Z539:

 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 funding and are allocated the excluded purchase unit code MS02023 Non-Weight Bearing Convalescence Programme.

If HSC = D55 then PU = MS02023

Health speciality code D55 is a convalescence service provided by step down facilities such as aged care facilities, private hospitals 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 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 DHBs 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 funding. These services have a Health Speciality Code commencing with ‘D’ and are purchased under other funding arrangements. 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 2021/22 but the mapping is indicative only and DHBs 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-4).

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

| **Document Facility Name** | **NMDS Facility Name** | **NMDS Facility Code** | **Secondary** | **Tertiary** |
| --- | --- | --- | --- | --- |
| Whangarei | Whangarei Hospital | 4111 | ✓ |  |
| Northshore | Northshore | 3215 | ✓ |  |
| Waitakere | Waitakere | 3216 | ✓ |  |
| National Women’s | National Women’s | 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 | Wanganui | 5711 | ✓ |  |
| Hastings | Hastings Memorial | 3612 | ✓ |  |
| Masterton | Masterton | 5511 | ✓ |  |
| Palmerston North | Palmerston North | 4311 | ✓ |  |
| Wellington | Wellington | 5811 | ✓ | ✓ |
| Hutt | Hutt | 5812 | ✓ |  |
| Blenheim (Wairau) | Wairau | 3811 | ✓ |  |
| Nelson | Nelson | 3911 | ✓ |  |
| Christchurch Women’s | Christchurch Women’s | 4014 | ✓ | ✓ |
| Christchurch Hospital | Christchurch Hospital | 4011 | ✓ | ✓ |
| Greymouth | Grey Base Hospital | 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 funding; 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 fall into AR-DRG P68D *Neonate, AdmWt>=2500g W/O Sig OR Proc >=37 Comp Wks Gest W/O Problem* and be counted under the maternity inpatient casemix purchase unit W10.01.

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

### Postnatal Early Intervention (W03012)

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-5))

 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, P62Z, 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 are 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 purchasing.

These event records are tested for by checking that:

The admission and discharge dates are the same

 AND

The first procedure code is in the range:

(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 are 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 purchasing.

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 are 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 purchasing 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 the range:

(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 are 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 purchasing.

These event records are tested for by checking that:

The admission and discharge dates are the same

AND

The principal diagnosis code is in the range:

(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 are not P50, and the event occurs in a facility listed in table 5.2.8 and are not neonatal (5.2.11) are allocated to 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 the calculation of their funding.

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 = Z762  | Y |

**Note:** xflag diagnosis code Z762 *Health supervision and care of other healthy infant and child* has been deleted in ICD-10-AM 11th Edition and two new codes created, these are:

* Z7621 *Health supervision and care of infant and child awaiting adoption or foster placement*
* Z7622 *Health supervision and care of other infant and child, not elsewhere classified.*

Both these diagnosis codes (Z7621,Z7622) back map to the 8th Edition code Z762, see Appendix 8: ICD-10-AM/ACHI Mapping Table

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. In what follows, age means age at admission.

The AR-DRGs A01Z *Liver Transplant*, A03Z *Lung or Heart/Lung Transplant*, and A05Z *Heart Transplant* are excluded from casemix funding and non-casemix purchase units allocated as follows:

* A01Z at Starship (facility code 3260 and patient’s age <16) has Excluded Purchase Unit (XPU) T0113 *Liver Transplant Children*
* A01Z not at Starship (facility code not 3260 OR patient’s age >15) has XPU T0111 *Liver Transplant Adult*
* A05Z has XPU T0103 *Heart Transplant*
* A03Z 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) event records are excluded.

These are tested for by checking that:

The AR-DRG is equal to O05Z *Abortion W OR Procedure*

AND

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

AND

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

 AND

The principal diagnosis is in the range (O040-O049 {O04[[6]](#footnote-6)\*}) 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) event records are excluded.

These are tested for by checking that:

The AR-DRG is equal to O05Z *Abortion W OR Procedure*

AND

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

AND

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

 AND

The principal diagnosis is in the range (O040-O049 {O04[[7]](#footnote-7)\*}) 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) events are excluded.

These are tested for by checking that:

The AR-DRG is equal to O63Z Abortion W/O OR Procedure

AND

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

AND

The principal diagnosis is O049 *Medical abortion complete or unspecified without complication*

AND

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

 AND

The first procedure code is in the range:

(9046200 [1330] *Insertion of prostaglandin suppository for induction of abortion,*

9620309 [1920] *Oral administration of pharmacological agent,* 9046100 [1330] *Intra-amniotic injection)* OR blank

 AND

The second procedure is blank

**Note:**

In ACHI 11th Edition a new procedure code has been created 9046201 [1330] *Termination of pregnancy [abortion procedure], not elsewhere classified.* This 11th Edition procedure code (9046201 [1330]) back maps to ACHI 8th Edition procedure code 9046100 [1330] *Intra-amniotic injection.* Therefore, the ACHI 8th Edition procedure code 9046100 [1330] has been added to the exclusion rule to accommodate the back mapping, see Appendix 8: ICD-10-AM/ACHI Mapping Table

### Peritoneal Dialysis (M60005)

AR-DRG L68Z *Peritoneal Dialysis* (principal diagnosis of Z492 *Other dialysis*) is excluded from casemix purchasing. Peritoneal dialysis event records are matched to the PU M60005 *Renal Medicine – CAPD Training* because generally patients are admitted for training/education purposes only.

### Renal Haemodialysis (M60008)

Haemodialysis event records for adults are excluded from casemix purchasing.

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 8th 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 all [1910].

Sedation codes:

9251510, 9251519, 9251520, 9251529, 9251530, 9251539, 9251540, 9251549, 9251550, 9251559, 9251569, 9251590, 9251599, all [1910].

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 92513-xx *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 excluded.

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

Sameday event records for Pharmacotherapy for treatment of neoplasm are excluded from casemix purchasing 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 funding 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 = 35317-00 [741] *Percutaneous peripheral arterial or venous catheterisation with administration of thrombolytic or chemotherapeutic agents by continuous infusion* or

9619600 [1920] *Intra-arterial administration of pharmacological agent,* *antineoplastic agent* or 9619800 [1920] *Intrathecal administration of pharmacological agent, antineoplastic agent*

GA = 92514-xx [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).

* 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*

All other specialties = MS02009 *Chemotherapy any Health Specialty*.

### Same Day Radiotherapy (M50024, M50025)

Sameday event records for radiotherapy are excluded from casemix purchasing.

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 in the list (1522400, 1523900, 1525400, 1526900 [1788], 1560000, 1560001, 1560002, 1560003, 1560004 [1789]) the XPU is M50025 *Oncology-Radiotherapy, External Beam Megavoltage (linac)*
* Else the event is assigned XPU M50024 *Oncology-Radiotherapy, External Beam Orthovoltage.*

### Lithotripsy (S70006)

Some sameday Lithotripsy event records are excluded from casemix purchasing.

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 the range:

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

AND

That the second procedure code is in the range:

(9095600, 9095700 [962], 3654600 [1126], 9219900 [1880], block [1910] codes, blank)

AND

That the third procedure code is in the range:

(9095600, 9095700 [962], 3654600 [1126], 9219900 [1880], block [1910] codes, blank).

### Colposcopies (NCSP-10, NCSP-20)[[8]](#footnote-8)

Some sameday Colposcopy event records are excluded from casemix purchasing 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 the range:

(3562000 [1264], 3553902, 3560800, 3560801, 3564600, 3564700 [1275], 3560802, 3561100, 3561800, 3561801 [1276], 3561803 [1278], 3553904, 3561400 [1279], 3553903 [1282], 3561500 [1291])

AND

That the second procedure code is in the range:

(3562000 [1264], 3553902, 3560800, 3560801, 3564600, 3564700 [1275], 3560802, 3561100, 3561800, 3561801 [1276], 3561803 [1278], 3553904, 3561400 [1279], 3553903 [1282], 3561500 [1291], block [1910] codes, blank)

AND

That the third procedure code is in the range: (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 the range:

(3561800, 3561801 [1276], 3553902, 3560800, 3560801, 3564600, 3564700 [1275] and 3561100 [1276], assign to NCSP-20.

The remaining event records are assigned to NCSP-10.

**Note:**

In ACHI 11th Edition procedure codes 3561101 [1276] *Partial excision of cervix* and 3562001 [1364] *Biopsy of uterus,* back map to ACHI 8th Edition procedure codes 3561100 [1276] *Cervical polypectomy* and 3562000 [1264] *Biopsy of endometrium* respectively, see Appendix 8: ICD-10-AM/ACHI Mapping Table.

### Cystoscopies (MS02004)

Some sameday Cystoscopy event records are excluded from casemix purchasing.

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 the range:

(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 the range:

(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 the range: (sedation codes, blank).

### Hysteroscopy (S30012)

Some sameday Hysteroscopy event records are excluded from casemix purchasing.

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 block [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 [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], 9029500, 9029501, 9029502 [906], 3047902, 9030800 [908], 3207501, 3207800, 3208100 [910], 3208401, 3208700, 3209001, 3209300 [911], 9029702 [914], 3209400 [917], 9029503, 9029504, 9029505 [929], 3047901 [931], 3209900, 3210300, 9031500 [933]

and is referred to as the *Colon block*.

**Note:**

In ACHI 11th Edition procedure code 3210300 [933] *Per anal excision of lesion or tissue of rectum via stereoscopic rectoscopy* has been deleted and the clinical concept moved to procedure code 3209900 [933] *Per anal excision of lesion or tissue of rectum.* This code 3209900 [933] is a valid code in both 8th and 11th Edition, therefore, has been added to the colonoscopy block, see Appendix 8: ICD-10-AM/ACHI Mapping Table.

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

3047303, 4181600 [850], 3047600, 3047601, 3047806, 3047809 [851], 3047810, 4182500 [852], 3049000, 3049001, 3049002 [853], 3047602, 3047811, 3047812, 3047819, 3047900 [856], 3047304, 3047813, 4182200, 9029700 [861], 4183100, 4183200, 4181900 [862], 3047807 [870], 3047603 [874], 9029701 [880], 3047500, 3047501 [882], 3209500 [891], 9206800, 9206801, 9206802 [892], 1182000, 3047300, 3047302, 3047305, 3047307, 3047308 [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*.

**Note:**

See Appendix 8: ICD-10-AM/ACHI Mapping Table for ACHI 8th Edition procedure codes that have been deleted in ACHI 11th Edition and the impacts of the back mapping.

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], 3047600, 3047601, 3047806, 3047809 [851], 3047810, 4182500 [852], 3049000, 3049001, 3049002 [853], 3047602, 3047811, 3047812, 3047819, 3047900 [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], 9029500, 9029501, 9029502 [906], 3047902, 9030800 [908], 3207501, 3207800, 3208100 [910], 3208401, 3208700, 3209001, 3209300 [911], 9029702 [914], 3209400 [917]

Rectum and Anus: 9029503, 9029504, 9029505 [929], 3047901 [931], 3209900, 3210300, 9031500 [933]

Gallbladder and Biliary Tract: 3044200, 3048400, 3048401 [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 [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 purchasing.

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 the range: (*Agg\_Gastro block*, sedation codes)

AND

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

AND

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

Event records excluded from casemix funding 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 purchasing.

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 the range: (4176403, 4184900, 4185500 [520], 4176404 [532], 4188900, 4188901, 4189800 [543], 4189200, 4189500, 4189801, 4189802, 4189803 [544], 4189201, 4190100, 9016300 [545], 4190400 [546])

AND

That the second procedure code is in the range:

(4176403, 4184900, 4185500 [520], 4176404 [532], 4188900, 4188901, 4189800 [543], 4189200, 4189500, 4189801, 4189802, 4189803 [544], 4189201, 4190100, 9016300 [545], 4190400 [546], sedation codes, blank)

AND

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

**Note:**

See Appendix 8: ICD-10-AM/ACHI Mapping Table for ACHI 8th Edition procedure codes that have been deleted in ACHI 11th Edition and the impacts of the back mapping.

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

Some sameday Blood Transfusion event records are excluded from casemix purchasing.

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 the range: (1370601, 1370602, 1370603, 9206000 [1893])

AND

The second procedure code is in the range: (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 purchasing.

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 from the range:

(3721800 [1163] *Percutaneous [needle] biopsy of prostate)*

 AND

That the second procedure code is in the range:

(3721800 [1163] *Percutaneous [needle] biopsy of prostate,* block [1910] codes, blank)

 AND

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

### Designated Hospital for Casemix Revenue[[9]](#footnote-9)

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

Note that with DHB 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-funded purchase unit. If an event record includes a facility code which is not listed below 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 2021/22 then they will be documented in this section and at the start of this document.

DHBs 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 |
| 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 |
| 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 |
| 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 | The Rutherford Clinic |
| 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 |
| 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 |
| 9311 | South Island Plastic Surgery |
| 9312 | Mr Terrance Creagh |
| 9313 | Face Breast and Body |

### 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 purchasing.

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 C03Z *Retinal Procedures*

 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 NZdrg70 C03W *Same Day Ophthalmology Injections of Therapeutic Agents* with the cost weight 0.0812 and then 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 purchasing. 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 NZdrg70 J11W *Same Day Skin Lesion Procedures* with the cost weight 0.2252 and then assigned to excluded purchase unit MS02016.

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

DHB casemix Purchase Units are derived from a mapping of Health Speciality Codes. This mapping only applies for included event records, i.e. any event record excluded from casemix purchasing should not be given a casemix PU code. Note that the Ministry of Health 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 new 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 DHB Casemix-Funded Events for Inter-DHB Inpatient Flow Calculations

The first casemix funding exclusion rules were intended to identify casemix events funded by DHB funding only. This concept has been expanded to include similar events funded directly by the Ministry of Health. As a result, not all casemix-funded events purchased or provided by the MoH and DHBs identified in this document should be included in extracts intended to calculate inter DHB casemix-funded flows. To identify these flows for wash-up of 2020/21 actual volumes:

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 DHB funded health care.

# Appendix 1: Table of 2021/22 FY DRG Cost Weights and Associated Variables for Calculating WIESNZ21

This appendix contains some notes on the cost weight schedule for use with AR-DRG v7.0 as adjusted for use in New Zealand, and then known as nzdrg70.

### 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 WIESNZ21 cost weight schedule

The development of these cost weights is based on casemix-funded 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 funding, 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.

As in earlier years some DRGs have had their weights set to be the same as those in the previous year either because there was no activity or there were no costed events. In WIESNZ21 these DRGs are: A10Z, A11A, A11B, B66A, B82A, D01Z, F03M, I80Z, K10B, K12Z, V63Z and U40Z. B66A has all its events mapped to R64W.

Users of this weight schedule should note that the following DRGs are not included in casemix funding and are included only for completeness: 960Z, 961Z, 963Z, A01Z, A03Z, A05Z, C03W, J11W, L68Z. The weights shown have not been developed in the same way as for casemix-funded event records and should not be viewed as a valid estimate of relative resource use in New Zealand. The final two DRGs listed are price-weighted with the non-casemix purchase units that will fund these events.

### WIESNZ21 for use with AR-DRG v7.0 as adapted for New Zealand



# Appendix 2: SAS Code to Calculate WIESNZ21 and Assign PUs

\*\* SAS program to calculate WIESNZ21 costweight values \*\*;

\*\* Input drg is AR-DRG v7 and clinical codes are ICD10 V8 \*\*;

\*\* LC 14/01/21 - Update the code adding two eligible facilities (’9283’,’9284’) advised by Angela and Tracy \*\*;

\*\* LC 22/03/21 - Update the code adding one eligible facility (’9245’) advised by Angela and Tracy \*\*;

\*\* LC 22/03/21 - Added code 3531700 to chemo rule (ipchemo)to %let ipchemo \*\*;

\*\* LC 21/05/21 - Update the Neonatal inclusion rule – DRGs P07Z and P08Z are added to the criteria \*\*;

\*\* LC 09/06/22 – Update the code adding three eligible facilities (’9311’, ’9312’,’9313’) advised by Tracy \*\*;

\*\* LC 14/06/22 – Update the code adding one eligible facility (’9271’) advised by Tracy \*\*;



# Appendix 3: Cost Weights Project Group Membership

Members of the project team during 2020 were:

|  |  |
| --- | --- |
| **Name** | **Affiliation** |
| Michael Rains | TAS |
| Karin Noresten | TAS |
| Ange Bissielo | TAS |
| Angela Pidd |  Ministry of Health  |
| Annabel Montgomery | Ministry of Health |
| Tracy Thompson | Ministry of Health |
| Linda Cha | Ministry of Health |
| Mei-Fen Sundgren | Ministry of Health |
| Pirom Tawngdee | Capital & Coast DHB |
| Rosie Whittington | Counties Manukau DHB |
| Justine Tringham | Auckland DHB |
| Nikki Hill | Auckland DHB |
| Lucia Moosa | Waikato DHB  |
| Sandra English | Canterbury DHB |
| Simon Berry | Canterbury DHB |
| Julie Harris | Waitemata DHB  |

# Appendix 4: New Zealand Casemix History

The following table summarises the New Zealand casemix funding 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** | **Coding System** | **DRG List** | **Cost Weights** |
| --- | --- | --- | --- |
| 1998/99 | ICD-9-CMA-IIAustralian 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-E1st Edition | AN-DRG 3.1Coding back-mapped to ICD-9-CMA and grouped to this DRG set. | As for 1998/99 |
| 2000/01 | ICD-10-AM/MBS-E1st Edition | AN-DRG 3.1Coding back-mapped to ICD-9-CMA 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 4.2Coding back-mapped to ICD 10-AM 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** | **Coding System** | **DRG List** | **Cost Weights** |
| --- | --- | --- | --- |
| 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/ACHI6th Edition | AR-DRG 6.0x, as modified for use in New Zealand. | WIESNZ13 – NZ DRGs F03M and O66T created. |
| 2014/15 | ICD-10-AM/ACHI8th 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/ACHI8th 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/ACHI8th 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. | WIESNZ20NZ 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 |

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.

Note that peritoneal dialysis and adult (> 15 years) renal haemodialysis is not funded by casemix, but the split provided a way to directly identify the peritoneal provision if such events were lodged in the NMDS.

With AR-DRG v7.0 all splits implemented for the previous DRG set have been incorporated, though new DRG mappings for the current year are identified in this casemix framework document.

### Unit Prices used in Purchasing

In the following table, Neonatal refers to all events assigned a Purchase Unit of W06.03, and Medical & Surgical covers all other Purchase Units for events included in casemix funding, 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 have been the inter-district flow (IDF) prices, thus in some cases there may be some variation for local provision. Note also 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 casemix funded 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 |

### Primary Maternity RVUs

In the table below are the 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: 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 |
| 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  |
| 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 |
| M50024 | Same Day Radiotherapy (Orthovoltage) – 5.2.28  |
| M50025 | Same Day Radiotherapy (Megavoltage) – 5.2.28  |
| M54004 | Same Day Pharmacotherapy for Cancer (Specialist Paediatric Oncology) – 5.2.27 |
| M60005 | Renal Medicine (Peritoneal Dialysis) – 5.2.24 |
| M60008 | Renal Medicine (Haemodialysis) – 5.2.25 |
| 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 |
| W03012 | 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 v7.0 for the purposes of greater clarity of funding. 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

WIESNZ21 has seven NZ DRGs, these are: A39W, B02W, C03W, F03M, J11W, O66T and R64W. While C03W and J11W are assigned only to events excluded from casemix funding a DRG assignment was still needed for identification within the outpatient event sets.

1. **A39W Pelvic Evisceration Procedures**

Refer to 4.2.2

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 WIESNZ21.

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

Refer to 5.2.39

Sameday ophthalmology injection event records are excluded from casemix purchasing. 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 WIESNZ21.

1. **F03M Transcatheter Pulmonary Valve Implant**

Refer to 4.2.2

The use of this technology was expected to increase, therefore to adequately recompense for this, it was decided to develop an NZ specific DRG F03M and set weights by adjusting the event level cost data to show the current actual cost of the implant.

F03M was created in WIESNZ13 and is still current for WIESNZ21.

1. **B02W Stroke Clot Retrieval**

Refer to 4.2.2

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 remains still current in WIESNZ21.

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

Refer to 5.2.40

Sameday skin lesion excision event records are excluded from casemix purchasing. 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 WIESNZ21.

1. **O66T SFLP for Twin to Twin Transfusion Syndrome**

Refer to 4.2.2

A NZ specific DRG O66T was developed for this treatment regime, with weights based on the reported costs without adjustment.

O66T was created in WIESNZ13 and is still current for WIESNZ21.

1. **R64W Radiotherapy for Medical DRGs**

Refer to 4.2.1

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*.

R64W was created in WIESNZ17 and is still current for WIESNZ21.

# 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 |
| ACHI | Australian Classification of Health Interventions |
| AICD | Automatic Implantable Cardioverter Defibrillator |
| ADJMVDAYS | Adjusted Mechanical Ventilation Days |
| ALOS | Average Length of Stay |
| AMI | Acute Myocardial Infraction |
| AN-DRG | Australian National Diagnosis Related Group |
| AR-DRG | Australian Refined Diagnosis Related Group |
| ASD | Atrial Septal Defect |
| AT&R | Assessment, Treatment and Rehabilitation |
| BRACHY | Brachytherapy |
| BT | Blood Transfusion |
| CANC\_OP | Cancelled Operation |
| CAPD | Continuous Ambulatory Peritoneal Dialysis |
| CC | Complication and/or Comorbidity |
| CHEMO | Chemotherapy |
| COELIG | Co-Payment Eligible |
| COPAY | Co-Payment |
| CPB | Cardiopulmonary Bypass |
| CWD | Cost Weighted Discharge |
| DHB | District Health Board |
| DRG | Diagnosis Related Groups |
| DSS | Disability Support Service |
| EPS | Electrophysiological Studies |
| ERC | Endoscopic Retrograde Cholangiography |
| ERCP | Endoscopic Retrograde Cholangiopancreatography |
| ERP | Endoscopic Retrograde Pancreatography |
| EXCLU | Excluded |
| GA | General Anaesthesia |
| GR | Gender Affirming (re-assignment) Surgery |
| HB | High Inlier Boundary  |
| HCU | Health Care User |
| HFA | Health Funding Authority |
| HHS | Hospital and Health Service |
| HIALOSDRG | High Average Length of Stay Diagnosis Related Group |
| HIPEC | Heated Intraperitoneal Chemotherapy |
| 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 |
| IP | Inpatient |
| LA | Local Anaesthesia |
| LB | Low Inlier Boundary  |
| LDNB | Live Donor Nephrectomy – Co-payment on DRG L04B |
| LE | Lead Extraction |
| LO\_PD | Low Outlier Per Diem |
| LOS | Length of Stay |
| LVAD | Left Ventricular Assist Device |
| MDC | Major Diagnostic Category |
| MD\_IN | Multiday Inlier (inlier weight) |
| MFM | Maternal Fetal Medicine |
| MoH | Ministry of Health |
| MRA | Mastectomy and Reconstruction – Co-payment on DRG J06A |
| 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 |
| NZDRG | New Zealand Diagnosis Related Group |
| OD | One Day |
| OP | Outpatient  |
| OR | Operating Room |
| PE | Pelvic Evisceration |
| PH | Peritonectomy with HIPEC |
| PSI | Percutaneous Stroke Intervention |
| PU | Purchase Unit |
| PUDD | Purchase Unit Data Dictionarywebsite link: [Purchase Unit Data Dictionary - Information](http://www.nsfl.health.govt.nz/apps/nsfl.nsf/pagesmh/463?Open) |
| RVU | Relative Value Unit |
| SCR | Stroke Clot Retrieval |
| SD | Same Day |
| SDOD | Same Day One Day |
| SFLP | Selective Fetoscopic Laser Photocoagulation |
| TAVI | Transcatheter Aortic Valve Implantation |
| TLC | Complex Traumatic Limb |
| TMJ | Temporomandibular Joint |
| ToP | Termination of Pregnancy |
| TPA | Transperineal Biopsy of Prostate |
| TRUS | Transrectal Ultrasound Biopsy of Prostate |
| VAD | Ventricular Assist Device |
| W | With |
| WIES | Weighted Inlier Equivalent Separation |
| 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 11th Edition was implemented 1 July 2019, however not all DHBs upgraded. Events coded in ICD-10-AM/ACHI 11th Edition have their codes back mapped to ICD-10-AM/ACHI 8th Edition which are then used to derive AR-DRG v7.0.

In the attached Excel document is a table listing the ICD-10-AM/ACHI code changes between 11th and 8th Edition and the backward mapping that are applicable to this document only.



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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, i.e. 00/01, 01/02, and 02/03 represent the 3 consecutive financial years from 1 July 2000 through 30 June 2003. [↑](#footnote-ref-1)
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 7.0 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 NZdrg70. The NZdrg70 DRGs contain all the AR-DRGs as well as seven additional NZ DRG codes (not used in AR-DRG) for the purpose of applying the appropriate cost weights to NMDS events. [↑](#footnote-ref-2)
3. \*Additional character is required to complete the diagnosis code [↑](#footnote-ref-3)
4. [http://www.moh.govt.nz/notebook/nbbooks.nsf/0/33BDA6510EF068D7CC2570890077C393/$file/maternityservices.pdf](http://www.moh.govt.nz/notebook/nbbooks.nsf/0/33BDA6510EF068D7CC2570890077C393/%24file/maternityservices.pdf) [↑](#footnote-ref-4)
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-5)
6. \*Additional character is required to complete the diagnosis code [↑](#footnote-ref-6)
7. [↑](#footnote-ref-7)
8. NCSP-20 is used interchangeably with NCSP20. This formatting difference will be fixed in the NMDS and NNPAC as soon as practical. [↑](#footnote-ref-8)
9. This is a list of the WIES eligible facility codes as at September 2015. 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-9)