Victoria – Public hospitals and mental health services

Policy and funding guidelines 2004–05

Technical information

Contents

1 Calculation of WIES

1.1 AR-DRG modifications

In 2004–05, hospitals will assign diagnoses and procedure codes using the 4th edition of the ICD-10-AM classification. For funding purposes, these codes will be mapped back to third edition codes and then grouped using AR-DRG Version 5.0.

As in previous years, some adjustments are to be made to the original AR-DRG5 (Version 5.0) grouping utilising the VIC-DRG5 field, prior to the calculation of WIES12. The AR-DRG Version 4.2 adjustments that applied in WIES11 will continue to apply in WIES12, except where changes have been routinely included within the AR-DRG5 structure.

New VIC-DRG5 changes will include:

- the extension of A40Z to contain a broader range of high cost life support procedures
- splitting of D06Z into D06A Mastoid Procedures and D06B Other Sinus and Complex Middle Ear Procedures.
- addition of new VIC-DRG5 of 964Z Gender Reassignment-Conflict

1.2 Peritoneal dialysis

In recognition of cost differences between peritoneal and haemodialysis, episodes with a principal diagnosis of peritoneal dialysis (ICD-10-AM code Z49.2) are to be assigned a VIC-DRG5 of L61Y *Admit for peritoneal dialysis*.

1.3 Radiotherapy

Victorian Coding Standard 0229 states that non-same day patients receiving radiotherapy should have the malignant condition sequenced first, followed by the radiotherapy code (ICD-10-AM code Z51.0). Same day radiotherapy admissions, which follow the Australian Coding Standard, have Z51.0 assigned as the principal diagnosis followed by the malignancy code.

To maintain funding equity, a VIC-DRG5 of R64Z *Radiotherapy* will be assigned for non-surgical episodes that include a radiotherapy diagnosis code, except for episodes with the following pre-MDC AR-DRG5.0s: A40Z, A41A, A41B, W60Z, W61Z, S65A, S65B, S65C, B60A, AND B60B.

1.4 Hysteroscopy sterilisation

Based upon clinical advice on emerging clinical practice, a new VIC-DRG5 (N11C) has been created to adequately cover the costs of hysteroscopy sterilization. Patients allocated an AR-DRG5.0 of N09Z, N10Z, N11B, N08Z, or O05Z with an ICD10-AM 3rd edition procedure code of 35688-01 are allocated to VIC-DRG5 N11C.

For 2004–05 the weights for DRG N11C have been set using costing information for N11B, but increased to cover the prosthesis costs associated with this procedure.

1.5 Mastoid procedures

Analysis of the Victorian cost data indicated that mastoid procedures allocated to D06Z were significantly more costly than other D06Z procedures. These procedures were largely performed at the Royal Victorian Eye and Ear Hospital resulting in a relative funding disadvantage within this DRG. Consequently for WIES12, D06Z will be split into:

- D06A Mastoid Procedures
- D06B Other Sinus and Complex Middle Ear Procedures.

Patients will be allocated to VIC-DRG5 of D06A where they are initially grouped to AR-DRG5.0 of D06Z and have one or more of the following procedure codes: 4154500, 4155100, 4155400, 4155700, 4155703, 4156000, 4156300, 4156400, 4156600, 4156601, 4156602. All other patients allocated to AR-DRG5.0 of D06Z will be allocated to VIC-DRG5 of D06B.

1.6 Admission weight

In AR-DRG Version 5.0, admission weight must be between 400 and 9999 grams otherwise the episode will be assigned to AR-DRG 960Z Ungroupable. The Department has been notified of live births where the baby weighs significantly less than 400 grams.

Episodes with an admission weight between 125 and 399 grams are assigned an admission weight of 400 grams for grouping to an appropriate VIC-DRG5.

1.7 Extra Corporeal Life Support (ECLS)

Episodes involving extra corporeal membrane oxygenation (ECMO) or a ventricular assist device (VAD) are allocated to a variety of DRGs. Analysis of the Victorian cost data indicates that costs for these episodes are significantly discounted by other episodes allocated to the same DRGs.

In recognition of these cost differences, episodes not allocated to an AR-DRG5.0 of A01Z, A03Z, or A05Z and with one or more of the ICD-10-AM 3rd edition procedure codes 90225-00, 38615-00, 38615-01, 38618-00 are to be allocated the VIC-DRG5 of A40Z.

1.8 Diagnosis or procedure codes incompatible with sex

In AR-DRG version 5.0 a patient's sex must be compatible with recorded diagnosis and procedure codes, else the episode will be assigned to AR-DRG5.0 960Z *Ungrouped*. However, episodes with incompatible codes can occur when gender reassignment or clarification is performed, or when patients who have retained their biological sex-specific organs require a form of treatment.

To resolve this potential grouping anomaly, episodes initially grouped to an AR-DRG5.0 of 960Z (i.e. diagnosis and procedure codes incompatible with sex) and with one or more additional diagnoses of E25.0, E25.8, E29.1, E34.5, F64.0, Q56.0, Q56.1, Q56.2, Q56.3, Q56.4, Q99.0, or Q99.1 (i.e. explanations of why the diagnosis or procedure is assigned against the sex) will be assigned to VIC-DRG5 of 964Z *Gender Reassignment – Conflict*. This VIC-DRG5 will be assigned an initial WIES value of 0 (zero), and payment will be applied by assessing all diagnosis and procedure codes in order to determine the most appropriate AR-DRG5.0. This is necessary because previous data standards and VAED edits have excluded these episodes from the Victorian cost data used to determine 2004–05 cost weights.

2 Calculation of WIES12

The WIES12 weights table and specification follow the WIES11format.

2.1 Boundaries – Low outliers, inliers and high outliers

Payment for VIC-DRG5s is primarily based on length of stay. In most cases (there are exceptions) the average length of stay is divided by three to get the low boundary point and multiplied by three to get the high boundary point. Cases within this range (ALOS÷3,ALOS×3) are called inliers, cases below the low boundary point are called low outliers and cases above the high boundary point are called high outliers. For example, if the average length of stay was six days, the inlier range would be from two days to 18 days. Cases less than two days would be low outliers and those greater than 18 days high outliers. Boundary points have been recalculated using trends in average length of stay within the Victorian Admitted Episode data sets over the last three years.

2.2 Weights

The weights are based on costs derived from the Victorian Cost Weights Study. A series of modifications are made to adjust for technical difficulties in the costing process and to ensure WIES equivalence over time. These include:

- adjustments for under reporting of prosthesis costs
- adjustments for the proportions of private patients
- adjustments for the number of outliers where the boundary range is reduced to 2/3 and 3/2
- exclusion of costs associated with individual patients episodes with unreasonably low costs records with atypically high costs or other apparent inconsistencies are referred back to the hospital for verification
- exclusion of hospital data for specific DRGs where the hospital's average cost is less than 40 percent of the state average cost
- averaging over multiple years where there are large unexplained cost movements. Where there are relatively few cases this is done routinely. Where more than 120 cases occur in a given DRG, the department, industry and clinical groups review the situation.

2.3 Definition of variables

Definitions and descriptions of each variable within the WIES12 weights table are given below.

Variable (Column Heading)	Label	Description
Victorian DRG 5.0	VIC-DRG5	AR-DRG5.0 with Victorian modifications.
Med. Target DRG	sdmt	VIC-DRG5s marked with a "Y" are categorised as same day medical target VIC-DRG5s. VIC-DRG5s marked with "N" are not categorised as same day medical target VIC-DRG5s. WIES for same day patients allocated to same day medical target VIC-DRG5s are calculated normally but the total WIES associated with same day patients in these VIC-DRG5s cannot exceed specified levels (usually 6.5 percent of total WIES). Excess same day medical target WIES are not funded.
Mech. Vent. Co-payment	mv_elig	This describes the way mechanical ventilation severity co-payments are made for the VIC-DRG5. Options are: D: funded provided more than six hours of ventilation is provided. Patients attract a one off payment of 0.6980 WIES plus a daily rate of 0.7729 WIES for patients in hospitals with appropriate ICU facilities. 4: funded for each day of mechanical ventilation after 4 days. Patients attract a one off payment of 0.6980 WIES plus a daily rate of 0.7729 WIES for patients in hospitals with appropriate ICU facilities. I: ineligible for mechanical ventilation co-payments
Other co-payment	copay	Some groups of patients attract additional funds in recognition of their higher costs. Options are: Thal: a co-payment of 0.2648 WIES is made to patients with a reported ICD-10-AM thalassaemia diagnosis code of D56.x or D57.2 (Note: These do not have to be principal diagnoses) AAA: a co-payment of 3.1421 WIES for patients with the procedure code for the insertion of a stent for endovascular repair of aneurysm of the aorta (AAA stent). ASD: a co-payment of 2.4713 for patients with a procedure code for the use of an atrial septal defect (ASD) closure device.
Inlier boundary – Low	lb	The low length of stay boundary for inliers. Patients with a length of stay of less than the low boundary are classed as low outliers. For most VIC-DRG5s the low boundary has been set at a third of the estimated average length of stay for the VIC-DRG5. Boundaries are truncated to the nearest whole number.
Inlier boundary - Hight	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 VIC-DRG5s the high boundary has been set at three times the estimated average length of stay for the VIC-DRG5. Boundaries are rounded to the nearest whole number.
Average Stay		The average length of stay (days) for inliers.
Sameday/One-day DRG		Flag for designated sameday (S) or one day (O) VIC-DRG5s

Variable (Column Heading)	Label	Description
Same day weight	sd	The same day weight is used to allocate WIES to episodes where patients are admitted and separated on the same day. Depending upon the VIC-DRG5, same day patients may be either low outliers or inliers: Designated Same day VIC-DRG5s The same day weight is based on the costs of same day patients. Non-Same Day VIC-DRG5s with a low boundary of zero days The same day weight is set at the multiday inlier weight. Non-Same Day VIC-DRG5s with a low boundary of one day The same day weight is set based upon the average cost of inliers. For medical DRGs the weight is set at half of the inlier average cost and for procedural DRGs 100 percent of theatre and prosthesis costs and 50% of the average for other costs. Non-Same Day VIC-DRG5s with a low boundary of two days or more (low outliers) The same day weight is set at half of the multiday inlier costs based upon 100 percent of the theatre and prostheses costs plus half of the average for 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 separated on the same day as they were admitted. Depending upon the VIC-DRG5, one day patients may be either low outliers or inliers: Designated Same day VIC-DRG5s The one day weight is based on the costs of all inliers excluding same day 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 VIC-DRG5s The one day weight is based on the costs of patients with a length of stay of one day. Non-Same/One Day VIC-DRG5s with a low boundary of one day or less. The one day weight is set at the multiday inlier weight. Non-Same/One Day VIC-DRG5s with a low boundary of two day or more (low outliers). The one day weight is based upon 100 precent of the average theatre and prosthesis cost plus the average of other costs divided by the low boundary.

Variable (Column Heading)	Label	Description
Multiday Low outlier per diem	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 VIC-DRG5s have low outliers. No weight is reported in these cases. For most VIC-DRG5s the weight is derived from the average cost of multiday inliers excluding prosthesis and theatre costs divided by the low boundary.: The WIES for low outliers is calculated by multiplying the low outlier per diem by the patients length of stay less one day and adding the one day weight ie Low Outlier WIES = od + (LOS –1) × lo_pd
Inlier weight	md_in	The inlier multiday weight is used to allocate WIES to inliers who have a length of stay of at least two days. For designated VIC-DRG5s, same day/one day patients are excluded when deriving the inlier multiday weight.
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 mechanical ventilation co-payment days and hospital in the home days. The high outlier multiday per diem rate is based upon the average cost of inliers excluding all prosthesis and theatre costs according to the following formula: high factor × (av. inlier cost excluding Theatre and prosthesis) ÷ i_alos where the high factor is set at 0.7 for surgical VIC- DRG5s and 0.8 for medical VIC-DRG5s to recognise that the days at the end of a patients stay are less resource intensive than days at the beginning of a patients stay. A number of variations exist on the general formula: 1) The high factor is set at one or greater for some high cost VIC-DRG5s. 2) Maximum and minimum criteria apply.
HITH outlier per diem	hith_pd	The high HITH multiday per diem weight is used to allocate additional WIES for all days of stay in excess of the high boundary that can be attributed to hospital in the home. These days can occur at any stage of the patient's treatment, including before the high boundary. For example, suppose a patient stayed seven days in hospital, followed by five days of hospital in the home, but a complication occur requiring another four days in hospital care and was subsequently allocated to a DRG with a high boundary of 10 days. The patient has a length of stay of 16 days resulting in 6 high days, five of which will be paid at the HITH multiday per diem rate and one of which will be paid at the High outlier per diem rate. The high HITH multiday per diem rate is based upon 80 percent of the high outlier per diem but subject to maximum and minimum conditions.

3 Calculating WIES12 for individual patients

To calculate the WIES funding allocated to a patient you need to:

- determine if the episode is eligible for WIES funding (see box 1)
- calculate any WIES co-payments (see box 2a, 2b, 2c, 2d)
- calculate the base WIES allocation using the VIC-DRG5 and the patient's length of stay adjusted for mechanical ventilation per diem. This can be done using the appropriate weights from the WIES weights table (see box 3a, 3b, 3c)
- apply the Aboriginal and Torres Strait Loading if applicable (see box 4)
- add the base WIES payment, any co-payments and ATSI loading (see box 5).

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

3.1. Scope

The majority of patients in hospital will be allocated a WIES12 score, however, as in previous years, WIES cannot be calculated for incomplete or uncoded episodes. Further, WIES is not necessarily an appropriate measure of resource use for many non-acute patients.

WIES12 scores may be allocated to some patient episodes that are ineligible for casemix funding. WIES12 from these episodes will need to be excluded when comparing hospital activity against targets during 2004–05.

Eligible patients might be entitled to different types of WIES payments including base WIES payments and WIES co-payments. Base WIES payments are made according to the formula which models the average costs for patients in each VIC-DRG5. WIES co-payments are made to cover the higher costs of care provided to some special types of patients.

Base WIES payments to long-stay patients can be affected by co-payments, so it is advisable to determine if a patient is eligible for WIES co-payments first.

Box 1: Episodes eligible for WIES funding

All episodes with a care type of:

- 4 Other Care (Acute) including qualified newborns
- U Unqualified Newborns

Except for:

- incomplete or uncoded episodes, or episodes coded to a problem VIC-DRG5 (zero weight) including VIC-DRG5s 960Z, 961Z and 963Z
- episodes with an account class on separation of Newborn (Unqualified, Not birth episode).
- episodes where the contract role is B and
- episodes in hospitals not eligible for WIES funding.

While contracted patients are allocated a WIES score they are not eligible for WIES funding.

3.2 Co-payments

For 2004–05 there are four types of co-payments.

Mechanical ventilation

Technical specifications for mechanical ventilation co-payments are given in box 2a.

To be eligible for a mechanical ventilation co-payment the patient must have had more than six hours of continuous mechanical ventilation and have been allocated to a VIC-DRG5 that is eligible for a mechanical ventilation co-payment. VIC-DRG5s are classed as either:

- eligible for daily co-payments of 0.7729 WIES (mv_elig ="D" in the WIES12 weights table)
- eligible for daily co-payments at 0.7729 WIES for ventilated days in excess of four days (96 hours) mechanical ventilation (mv_elig = "4" in the WIES12 weights table), or
- ineligible for co-payments (mv_elig = "I" in the WIES12 weights table).

All patients who are eligible for a mechanical ventilation co-payment receive an additional one off payment of 0.6980 WIES. This payment was first introduced in 2001–02 and shall continue in 2004–05. This additional WIES payment is to provide hospitals with the capacity to run at lower levels of ICU occupancy so that ICU beds will be available for periods of peak demand. However, the additional co-payment is subject to hospitals staffing appropriate numbers of ICU beds.

Mechanical ventilation co-payments are only made to patients admitted to specific hospitals, see Section 4.

Box 2a: Calculating Mechanical Ventilation Co-payments

```
Select mv_elig
    case "D" then
        if (hours on mechanical ventilation > 6) and ICU hospital then
            adjmvday = round((hours mechanical ventilation +12)/24)
        else
            adjmvday = 0
        mv_copay = adjmvday × 0.7729 + 0.6980
        go to box 2b

    case "4" then
        if (hours on mechanical ventilation > 96) and (ICU hospital) then
            adjmvday = round((hours mechanical ventilation +12)/24) - 4
        else
            adjmvday = 0
        mv_copay = adjmvday × 0.7729 + 0.6980
        go to box 2b
     otherwise do
        adjmvday = 0
        mv_copay = 0
        go to box 2b
```

Base WIES payments for high outliers are reduced when a patient receives daily mechanical ventilation co-payments. To make this reduction you will need to remember the number of days receiving mechanical ventilation co-payments ("adjmvday" in the technical specifications).

Thalassaemia

Technical specifications for thalassaemia co-payments are given in box 2b.

Thalassaemia co-payments are made to patients with any ICD-10-AM diagnosis code of D56.x or D57.2 who are allocated to an eligible VIC-DRG5 (indicated with a "Thal." in the "Other Co-payments" column in the WIES12 weights table). For 2004–05 the thalassaemia co-payment is set at 0.2648 WIES per episode. Technical specifications are provided in box 2b.

Box 2b: Calculate Thalassaemia Co-payment

```
If (copay = "Thal") and record has an ICD-10-AM diagnosis of D56.x or D57.2 then
        th_copay = 0.2648
else
        th_copay = 0;
go to box 2c
```

AAA Stent

AAA stent co-payments are made to patients undergoing an endoluminal repair of an aortic aneurysm as indicated by any ICD-10-AM procedure code of 33116-00 and who are allocated to an eligible VIC-DRG5 (indicated with a "AAA" in the "Other Co-payments" column in the WIES12 weights table). For 2004–05 the AAA stent co-payment is set at 3.1421 WIES per episode. Technical specifications are provided in box 2c.

Box 2c: Calculate AAA stent Co-payment

```
If (copay = "AAA") and record has an ICD-10-AM procedure of 33116-00 then
        AAA_copay = 3.1421
else
    AAA_copay = 0;
go to box 2d
```

ASD

ASD co-payments are made to patients receiving an atrial septal defect closure device as indicated by the presence of any ICD-10-AM procedure code of 38742-00 and who are allocated to an eligible VIC-DRG5 (indicated with a "ASD" in the "Other Co-payments" column in the WIES12 weights table). For 2004-05 the ASD co-payment is set at 2.4713 WIES per episode. Technical specifications are provided in box 2d.

Box 2d: Calculate ASD Co-payment

```
If (copay = "ASD") and record has an ICD-10-AM procedure code of 38742-00 then
        ASD_copay = 2.4713
else
        ASD_copay = 0;
go to box 2e
```

3.3 Base WIES

To calculate a patient's base WIES you need to determine:

- the patient's VIC-DRG5
- the patient's length of stay (LOS)
- the patient's length of stay category (LOS_cat: "S" or same day, "O" or one day, "M" or multiday)
- the number of mechanical ventilation co-payment days ("adjmvday" see box 2a)
- the patient's inlier equivalence ("I" or inlier, "L" or low outlier, "H" or high outlier).

The patient's length of stay and length of stay category are derived from the admission date, separation date and leave days. For payment purposes a maximum length of stay of five years (1,825 days) is used. This ensures that WIES are not allocated to extreme stays that are likely to represent non-acute care. Technical specifications are given in Box 3a.

Box 3a: Determining Length of Stay Category and Maximum Length of Stay

```
Sameday='Y' if admission date = separation date
Else sameday='N'

If (sameday = 'Y') then
        LOS_cat = "S"
         go to step 3b
else if   (sameday = 'N') and (LOS =1) then
        LOS_cat = "O"
        go to  step 3b
else
    LOS = min(LOS,1825)
    LOS_cat = "M"
         go to box 3b
```

The patient's inlier funding equivalence is determined by comparing the patient's length of stay with the inlier boundaries for the VIC-DRG5 to which the patient is allocated. The low inlier and the high inlier boundaries are given in the WIES12 weights table. For purposes of reporting, a patient is classified as an inlier based only upon length of stay. However, the high outlier per diems are adjusted for any mechanical ventilation co-payments. Consequently, some high outliers are paid at the inlier rate (where: LOS – HB < adjmvday).

A patient is funded as an inlier when their length of stay is greater than or equal to the low inlier boundary and less than or equal to the sum of the high inlier boundary plus any mechanical ventilation co-payment days.

Patients with a length of stay less than the low inlier boundary are funded 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 funded as high outliers. Technical specifications are given in Box 3b.

Box 3b: Calculate Inlier Funding Equivalence

```
If LOS < lb then
        Inlier = "L"
        go to box 3c
else if LOS > (hb + adjmvday) then
        Inlier = "H"
       go to  box 3c
else
         Inlier = "I"

go to box 3c
```

Separate columns occur in the WIES12 weights table for:

- same day weights
- one day weights
- multiday low outliers per diem weight
- multiday inliers weights
- high outliers per diem weights
- high HITH per diem weights.

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 WIES12 weights table using the appropriate column and row (VIC-DRG5). The base WIES score for multiday low outliers can be calculated by multiplying the low outlier per diem weight given in the WIES12 weights table by the patient's length of stay less one day and adding the one day weight.

The base WIES score for high outliers is obtained by:

- calculating the number of high outlier days (high_days) by subtracting the high (HB) boundary and any mechanical ventilation co-payment days (adjmvday - see box 2a) from the length of stay (LOS)
- calculating the number of high outlier days (high_days) that are paid at the discounted HITH rate (hith_days). This is the minimum of either the number of hospital in the home days (hithLOS) and high outlier days
- adding the multiday inlier weight (md_in), the number of high outlier hospital in the home days (hith_days) by the high hith per diem weight (hith_pd) and the number of remaining high outlier days (high_days – hith_days) by the high outlier per diem weight (ho_pd).

Technical details are provided in box 3c.

Box 3c: Calculate Base WIES

```
Select Inlier
    case "L" do
            select LOS_cat
                case "S" do
                    base_WIES = sd
                    go to box 4
                case "O" do
                    base_WIES = od
                    go to box 4
                case "M" do
                    base_WIES = od + (LOS – 1) × lo_pd
                    go to box 4
    case "I" do
            select LOS_cat
                case "S" do
                    base_WIES = sd
                    go to box 4
                case "O" do
                    base_WIES = od
                    go to box 4
                case "M" do
                    base_WIES = md_in
                    go to box 4
    case "H" do
            if hithLOS = missing then hithLOS = 0
            high_days = max(0, LOS - hb - adjmvday)
            hith_days = min(high_days, hithLOS)
            base_WIES = md_in_ + (high_days – hith_days) × ho_pd + (hith_days × hith_pd)
            go to box 4
```

Inlier Equivalent Separations (IES) can be calculated by dividing the base WIES by the multiday inlier weight.

Aboriginal and Torres Strait Islander loading

A 30 percent WIES premium is paid to hospitals for treating Aboriginal and Torres Strait Islanders in recognition of their poorer health status and associated higher costs of care. Technical details are given in box 4.

Box 4: Applying the Aboriginal and Torres Strait Islander Loading

```
If indigenous status in (5,6,7) then do
    ATSI_WIES = 0.3 × (base_WIES + mv_copay + th_copay + AAA_copay + ASD_copay)
else
    ATSI_WIES = 0
go to box 5
```

The WIES score is calculated by adding base WIES, co-payment WIES and ATSI WIES. Details are provided in box 5.

Box 5: Calculating WIES Score

```
WIES12 = base_WIES + mv_copay + th_copay + AAA_copay + ASD_copay +
         ATSI_WIES
```

4 Mechanical ventilation severity co-payment eligibility

Hospitals eligible for mechanical ventilation co-payments for ventilated patients in non-neonate eligible DRGs ('D', '4').

Only episodes with the following campus codes may be eligible:

1010	The Alfred
1031, 1032	Austin & Repatriation Medical Centre
1050	Box Hill
2111	Dandenong Hospital
1210	Maroondah
1170	Monash Medical Centre [Clayton]
2220	Frankston Hospital
1280	Northern
1191	Royal Children's Hospital
1331	Royal Melbourne Hospital
1450	St Vincent's
1180	Western
2010	Ballarat Health Service
1020	Bendigo
2060	Central Gippsland Health Service
2050	Barwon Health [Geelong]
1121	Goulburn Valley [Shepparton]
2440	Latrobe Regional
2320	New Mildura
1150	Wangaratta
2160	South West Healthcare [Warrnambool]
1071	Western District Health Service [Hamilton]
2170	Wimmera Health Care Group [Horsham]
1390	Sunshine Hospital

5 Calculation of rehabilitation weighted units (CRAFT)

5.1 VicRehab: weighted units specification

Calculation of rehabilitation weighted units

The following describes the steps involved in calculating the rehabilitation weight score for patients:

1) Allocate the patient to a CRAFT category
2) Determine the patient's length of stay (LOS)
3) Determine whether the patient is a low outlier, inlier or high outlier and look up the appropriate weights in the *VicRehab Units: 2004–05 Rehabilitation Weights*. It may be necessary to multiply a daily weight by the number of days.

1. Allocating the patient to a CRAFT Category

CRAFT categories are based upon the patient's clinical program and in some cases admission Barthel score. Technical instructions are given in Box 1.

Box 1

Clinical Sub Program
- 10, 31 to 39
  - Admission Barthel <60
    - CRAFT category = Stroke/Neuro Low Barthel
  - Admission Barthel ≥ 60
    - CRAFT category = Stroke/Neuro High Barthel
- 81 to 84
  - Admission Barthel <60
    - CRAFT category = Ortho Fracture Low Barthel
  - Admission Barthel ≥ 60
    - CRAFT category = Ortho Fracture High Barthel
- 85, 86
  - Admission Barthel <60
    - CRAFT category = Ortho Replace Hip/Knee Low Barthel
  - Admission Barthel >59 and <80
    - CRAFT category = Ortho Replace Hip/Knee Medium Barthel
  - Admission Barthel ≥ 80
    - CRAFT category = Ortho Replace Hip/Knee High Barthel
- 89
  - Admission Barthel <60
    - CRAFT category = Other Ortho Low Barthel
  - Admission Barthel ≥ 60
    - CRAFT category = Other Ortho High Barthel
- 90, 101, 109
  - CRAFT category = Cardio/Pulmonary
- 61 to 69, 71 to 79, 120, 132-133, 140, 150
  - Admission Barthel <60
    - CRAFT category = Other Rehabilitation Low Barthel
  - Admission Barthel ≥ 60
    - CRAFT category = Other Rehabilitation High Barthel

2. Determining length of stay

Use the LOS field as reported to the VAED.

3. Calculating the Stay Status and appropriate weights score

A patient is a sameday if admitted and separated on the sameday. Samedays patients are identified within the VAED by 'Y' in the sameday field.

A patient is a short stay if the stay is overnight and one to three days. Low outlier patients are those where the length of stay is four days or more and less than the low boundary. A patient is an inlier if their stay is equal to or more than the inlier low boundary and less than or equal to the inlier high boundary. A high outlier patient is one whose stay is longer than the inlier high boundary.

Refer to *VicRehab Units: 2004–05 Rehabilitation Weights* for appropriate weight. Details for calculating the stay status and calculating the rehabilitation score for each status are given in Box 2. These scores can then be added to give the total number of Rehabilitation Weighted Units for the Hospital. Refer to *Rehabilitation Weighted Units Specification* for descriptions of the variables in Box 2. Use Box 2 to calculate the rehabilitation score.

Box 2

Calculating stay status and appropriate Rehabilitation Weighted Unit score

LOS = 1 and Sameday = 'Y'
Stay Status = **Sameday**
Rehabilitation score = **SD**
LOS = 1 and Sameday = 'N'
Stay Status = **Short Stay**
Rehabilitation score = **SS**
LOS = 2 or LOS = 3
Stay Status = **Short Stay**
Rehabilitation score = **SS**
LOS = ≥ 4 and LOS < LIB
Stay Status = **LOW OUTLIER**
Rehabilitation score = **LO_PD x LOS**
LOS ≥ LIB and LOS ≤ HIB
Stay Status = **INLIER**
Rehabilitation score = **MD_IN**
LOS > HIB
Stay Status = **HIGH OUTLIER**
Rehabilitation score = MD_IN + ((LOS - HIB) x HO_PD)

5.2 Rehabilitation Weighted Units specification and technical definitions

Variables in columns shown within the table *VicRehab Units: 2004–05 Rehabilitation Weights* are outlined and described below. Each column in the weights table has been given a label below to assist in calculating the Rehabilitation Score, for example SD = Sameday Weight.
Definition of CRAFT Categories

CRAFT	Short Stay /Overnight (one - three days) Stroke/Neurological LB < 60 Stroke/Neurological HB ≥ 60 Orthopaedic Fracture LB < 60 Orthopaedic Fracture HB ≥ 60 Orthopaedic Replace Hip/Knee LB < 60 Orthopaedic Replace Hip/Knee MB 60 - 79 Orthopaedic Replace Hip/Knee HB ≥ 80 Other Orthopaedic LB < 60 Other Orthopaedic HB ≥ 60 Cardio/Pulmonary Other Rehabilitation LB < 60 Other Rehabilitation HB ≥ 60	For 2004–05, twelve of the sixteen CRAFT categories will continue to be used to fund Level 2 rehabilitation units with twenty beds or more. A separate category is provided for short stay patients (overnight stays of one to three days). Separate weights are provided for these thirteen funding categories. See *VicRehab Units: 2004–05 Rehabilitation Weights* LB means a low admission Barthel score of up to 59. HB means a high admission Barthel score of 60 or over (or for Orthopaedic Replace Hip/Knee, 80 or more). MB means a medium admission Barthel score of 60 to 79.

Technical Definition of Variables (See *VicRehab Units: 2004–05 Rehabilitation Weights*). Weights (referred to in Box 2) are derived from the average cost of episodes in the 2004 Victorian Cost Weights Study.

Low Inlier Boundary	Inlier Boundaries Low LIB	The low length of stay boundary for inliers. Patients with a length of stay of more than three days and less than the low boundary are classed as low outliers. The low boundary point is set at the Average Length Of Stay for the category less 4 days. Boundaries are truncated to the nearest whole number. The estimated average length of stay is calculated from the calendar year 2002 VAED data.
High Inlier Boundary	Inlier Boundaries High HIB	The high length of stay boundary for inliers. Patients with a length of stay greater than the high boundary are classed as high outliers. The high boundary point is set at the Average Length Of Stay for the category plus 4 days. Boundaries are rounded to the nearest whole number. The estimated average length of stay is calculated from the calendar year 2002 VAED data.
Same day	Same Day Weight SD	The Rehabilitation Weighted Unit allocated to patients who are admitted and separated on the same day. The weight is derived as: 0.7 * Inlier Weight ÷ Low Inlier Boundary The factor of 0.7 is in recognition that sameday stays do not incur overnight resource costs.
Short Stay	Short Stay Weight SS	The Rehabilitation Weighted Unit allocated to patient overnight stays from one to three days.
Multi-day per diem low outlier weight	Low Outlier Per Diem LO_PD	The per diem Rehabilitation Weighted Unit value allocated to patients who have a length of stay of at least four days and less than the low boundary. The weight is derived as: Inlier Weight ÷ Low Boundary The total Rehabilitation Weighted Unit value is calculated by multiplying the low outlier multi-day weight by the patient's length of stay.

Multi day Inlier weight	Inlier weight MD_IN	Inliers are patients whose length of stay falls on or between the low and high boundary. This weight is calculated based on the weights derived from the average cost of inliers in the CRAFT category as reported in the 2004 Victorian Cost Weights Study.
Multi-day per diem high outlier weight	High Outlier Per Diem HO_PD	The per diem Rehabilitation Weighted Unit value allocated to patients whose length of stay is in excess of the high boundary. This is derived from: 0.9*Inlier Weight ÷ average length of stay The factor of 0.9 is in recognition that the days at the end of a patients stay are less resource intensive than days at the beginning of a patients stay. The total Rehabilitation Weighted Unit value for high outliers is calculated by multiplying the high outlier multi-day weight by the number of days the patient stays beyond the high boundary and adding to the inlier weight: Inlier weight + (LOS - high boundary)*high outlier per diem

6 Hospital Activity and WIES Report

6.1 Purpose, content, and frequency

The Hospital Activity and WIES report has been amended for 2004-2005 to reflect changes to the WIES formula and VAED revisions.

The report provides all public hospitals with a financial year-to-date summary by month of their admitted patient activity including separations, patient days, and WIES.
This report will be provided electronically to nominated hospital contacts by the Department shortly after the VAED consolidation on the 17th of each month. For hospitals with more than one campus, reports will be made available at both the 'site' and 'hospital' level. Requests for addition(s) or changes to the report distribution list should be emailed to *VHIRS.helpdesk@dhs.vic.gov.au*.

6.2 Hospital activity & WIES report line item definitions

Separation details

1.1 Separations with Care Type (care) = '0'.
1.2 Separations with Care Type (care) = '1'.
1.3 Separations with Care Type (care) = '2'.
1.4 Separations with Care Type (care) = '3'.
1.5 Separations with Care Type (care) = '4'.
1.6 Separations with Care Type (care) = '5A, 5E, 5G, 5K, 5S & 5T'.
1.7 Separations with Care Type (care) = '6'.
1.8 Separations with Care Type (care) = '7'.
1.9 Separations with Care Type (care) = '8'.
1.10 Separations with Care Type (care) = '9'.
1.11 Separations with Care Type (care) = 'E'.
1.12 Separations with Care Type (care) = 'F'.
1.13 Separations with Care Type (care) = 'J'.
1.14 Separations with Care Type (care) = 'K'.
1.15 Separations with Care Type (care) = 'U'.
1.16 Total separations (= sum of items 1.1 to 1.15).

Patient day (LOS) details

2.1 Patient Days (LOS) of Separations with Care Type (care) = '0'.
2.2 Patient Days (LOS) of Separations with Care Type (care) = '1'.
2.3 Patient Days (LOS) of Separations with Care Type (care) = '2'.
2.4 Patient Days (LOS) of Separations with Care Type (care) = '3'.
2.5 Patient Days (LOS) of Separations with Care Type (care) = '4'.
2.6 Patient Days (LOS) of Separations with Care Type (care) = '5A, 5E, 5G, 5K, 5S & 5T''.
2.7 Patient Days (LOS) of Separations with Care Type (care) = '6'.
2.8 Patient Days (LOS) of Separations with Care Type (care) = '7'.
2.9 Patient Days (LOS) of Separations with Care Type (care) = '8'.
2.10 Patient Days (LOS) of Separations with Care Type (care) = '9'.
2.11 Patient Days (LOS) of Separations with Care Type (care) = 'E'.
2.12 Patient Days (LOS) of Separations with Care Type (care) = 'F'.
2.13 Patient Days (LOS) of Separations with Care Type (care) = ‘J'.
2.14 Patient Days (LOS) of Separations with Care Type (care) = ‘K'.
2.15 Patient Days (LOS) of Separations with Care Type (care) = 'U'.
2.16 Total Patient Days (LOS) (= sum of items 2.1 to 2.15).

The following Sections 3, 4, 5, 6, 7, 8, 9, and 10 are based on separations eligible for WIES12 funding as described in Box 1. That is, separations with {Care Type (care) in ('4', 'U'} and with {VIC-DRG5 assigned} and not {VIC-DRG5 960Z, VIC-DRG5 961Z, or VIC-DRG5 963Z} and not {Contract Role='B'} and not {Account class on separation = 'NT'}.

All co-payments/loadings (Mechanical ventilation, thalessaemia, AAA, ASD, and ATSI) are included in the WIES12 calculations wherever WIES12 is reported. That is, WIES12 is the WIES score as defined in Box 5 of the WIES12 specification.

WIES fundable separations

3.1 Total Separations.
3.2 Total WIES12.

WIES Co-payments/loadings

3.3 ATSI loading component only (as defined in Box 4).
3.4 Mechanical Ventilation Severity co-payment component only (as defined in Box 2a).
3.5 Thalessaemia co-payment component only (as defined in Box 2b).
3.6 AAA co-payment component only (as defined in Box 2c).
3.7 ASD co-payment component only (as defined in Box 2d).
3.8 Total co-payments (= sum of items 3.3 to 3.7).

Inlier funding equivalence

3.9 Low outlier separations (Inlier ='L' as defined in Box 3b).
3.10 WIES12 of low outliers.
3.11 Inlier Separations (Inlier ='I' as defined in Box 3b).
3.12 WIES12 of inliers.
3.13 High outlier separations (Inlier ='H' as defined in Box 3b).
3.14 WIES12 of high outliers.

Other

3.15 Sum of Hospital in the Home (HITH) Separations = separations with Accommodation Type = '4' in any status segment (Acctype1 - Acctype7).
3.16 HITH Patient Days (LOS) of HITH separations = sum of LOS in HITH segments (ie segments with accommodation type = '4', LOS in non-HITH segments excluded).
3.17 Same day Medical Target Separations = WIES Fundable separations that are same day episodes (admission date = separation date) identified as contributing to the Same day Medical Target.
3.18 WIES12 of Same day Medical Target Separations.
3.19 Number of ATSI separations (Indigenous status in '5','6',or '7').

Public WIES fundable separations

4.1 = 3.1 for public separations (Account class on separation (sepaccnt) starts with 'M').
4.2 = 3.2 for public separations (Account class on separation (sepaccnt) starts with 'M').
4.3 = 3.15 for public separations (Account class on separations (sepaccnt) starts with 'M').
4.4 = 3.16 for public separations (Account class on separations (sepaccnt) starts with 'M').
4.5 = 3.17 for public separations (Account class on separation (sepaccnt) starts with 'M').

4.6 = 3.18 for public separations (Account class on separations (sepaccnt) starts with 'M').

Private WIES fundable separations

5.1 = 3.1 for private separations (Account class on separation (sepaccnt) starts with 'P').
5.2 = 3.2 for private separations (Account class on separation (sepaccnt) starts with 'P').
5.3 = 3.15 for private separations (Account class on separations (sepaccnt) starts with 'P').
5.4 = 3.16 for private separations (Account class on separations (sepaccnt) starts with 'P').
5.5 = 3.17 for private separations (Account class on separation (sepaccnt) starts with 'P').
5.6 = 3.18 for private separations (Account class on separations (sepaccnt) starts with 'P').

DVA WIES fundable separations

6.1 = 3.1 for DVA separations (Account class on separation (sepaccnt) starts with 'V').
6.2 = 3.2 for DVA separations (Account class on separation (sepaccnt) starts with 'V').

TAC WIES fundable separations

7.1 = 3.1 for TAC separations (Account class on separation (sepaccnt) starts with 'T').
7.2 = 3.2 for TAC separations (Account class on separation (sepaccnt) starts with 'T').

Other WIES fundable separations

8.1 = 3.1 for remaining separations (Account class on separation (sepaccnt) does not start with 'M', 'P', 'V' or 'T').
8.2 = 3.2 for remaining separations (Account class on separation (sepaccnt) does not start with 'M', 'P', 'V' or 'T').

Sameday WIES fundable separations

9.1 Same day (admission date equals separation date) Emergency Separations {Admission Type (admtype) equals 'C' or 'O'}.
9.2 WIES12 of Same day Emergency Separations.
9.3 Same day (admission date equals separation date) Elective Separations {Admission Type (admtype) equals 'L' or 'X'}.
9.4 WIES12 of Same day Elective Separations.
9.5 Same day (admission date equals separation date) Other Separations {Admission Type (admtype) equals 'Y', 'M' or 'S'}.
9.6 WIES12 of Same day Other Separations.
9.7 Total Same day Separations.
9.8 Total WIES12 of Same day Separations.

Non-sameday WIES fundable separations

10.1 Non-Same day (admission date does not equal separation date) Emergency Separations {Admission Type (admtype) equals 'C' or 'O'}.
10.2 WIES12 of Non-Same day Emergency Separations.
10.3 Non-Same day (admission date does not equal separation date) Elective Separations {Admission Type (admtype) equals 'L' or 'X'}.
10.4 WIES12 of Non-Same day Elective Separations.

10.5 Non-Same day (admission date does not equal separation date) Other Separations {Admission Type (admtype) equals 'Y', 'M' or 'S'}.
10.6 WIES12 of Non-Same day Other Separations.
10.7 Total Non-Same day Separations.
10.8 Total WIES12 of Non-Same day Separations.

Non-WIES fundable (excluded) separations

11.1 Separations with {no VIC-DRG5} and {Care Type (care) in ('4', 'U')}.
11.2 Separations with {VIC-DRG5 960Z, VIC-DRG5 961Z, or VIC-DRG5 963Z} and {Care Type (care) in ('4', 'U')}.
11.3 Separations with {contract type='1' and contract role='B'} and {Care Type (care) in ('4', 'U')}.
11.4 Separations with {contract type not ='1' and contract role='B'} and {Care Type (care) in ('4', 'U')}.
11.5 Separations with Account Class on Separation (sepaccnt) equal to 'NT' and {Care Type (care) in ('4', 'U')}
11.6 Non-WIES Fundable (Excluded) Separations - Total (= sum of items 11.1 to 11.5).

Notes on precision

Data is presented rounded to the number of decimal places indicated in the total column of the sample Hospital Activity & WIES report.
Full precision is maintained during processing; eg item 3.8, which is defined as the sum of 3.3, 3.4, 3.5, 3,6, and 3.7, is calculated by summing components at full precision, not by summing components that have been rounded.