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National Sepsis Program Extension  
Epidemiology Report

A national analysis of the sepsis patient journey in Australian public hospital admitted care national analysis of the sepsis patient journey in Australian public hospital admitted care

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# Executive Summary

The Australian Commission on Safety and Quality in Health Care (the Commission) leads and coordinates national improvement in the safety and quality of health care. Using the best available evidence and working closely with patients, carers, clinicians; the Australian state and territory health services; the private sector; managers and healthcare organisations; the Commission works to ensure that the health system can deliver safe, high-quality care.

Sepsis is a life-threatening and time critical condition that arises when the body’s response to an infection damages its own tissues and organs. It is a major cause of morbidity and mortality. In 2017, there were approximately 55,251 cases of sepsis in Australia and 8,702 sepsis related deaths.[[1]](#footnote-2) Sepsis is also very costly, in Australia the direct hospital cost of sepsis to the healthcare system is approximately $700 million per year, with indirect costs of more than $4 billion per year.[[2]](#footnote-3)

Improving early detection, recognition and treatment of sepsis is key to preventing illness and death. This has been the focus of the first National Sepsis Program (2020-2022) and the current National Sepsis Program Extension (2023-2025).

Epidemiological data is used by health services to plan and evaluate health care delivery and guide clinical practice. It is integral to any quality improvement process.

Collecting reliable and consistent sepsis data is challenging. In 2017, Stopping Sepsis: A National Action Plan[[3]](#footnote-4) called for the development of a National Minimum Data set, to address inconsistencies in documentation and coding. Work to develop a National Sepsis Data Plan to strengthen the overall quality of sepsis data is underway.

This long-term strategy is important, however current data can still deliver valuable insights to inform quality improvement and clinical care.

In 2024, the Commission conducted analysis on health outcomes for patients who received admitted care in public hospitals between 2013-14 and 2022-23, who were coded with at least one explicit sepsis diagnosis.

This report examines pre and post sepsis separations for patients with a sepsis diagnosis within a 30-day window, to better understand the sepsis patient journey in public admitted care. Due to the methodology and nature of the analysis, focusing on patient activity, the figures presented are not directly comparable to previous estimates. However, the increased prevalence of sepsis indicated is consistent with contemporary global estimates.[[4]](#footnote-5)

# Key Findings

### One in seven sepsis cases resulted in a hospital death in 2022-23

Between 2013-14 and 2022-23 there were over 0.9 million admitted care separations involving sepsis. Age and sex adjusted sepsis rates peaked at 38 per 10,000 population in 2013-14 before dropping to 27 per 10,000 in 2022-23.

The average time spent in hospital, and in-hospital mortality, were similar between 2013-14 and 2022-23.

Emergency admissions continue to account for three in every four sepsis separations, but their share of hospital sepsis deaths has decreased over time. This suggests that efforts to improve recognition and response in emergency settings through awareness and sepsis pathways may be having a positive effect.

### Patients with chronic and complex health conditions are at greater risk and are harder to treat

Almost one in three admissions for sepsis also had diabetes. Notable proportions of those treated for sepsis in hospital also had renal disease or cancer.

The average length of stay for patients with sepsis as a secondary diagnosis was almost twice that of patients with a primary diagnosis. This cohort was also more likely to be admitted to ICU and have longer ICU stays.

Over half of all post sepsis readmissions over a 12-month period occurred in the first 30 days after discharge. Of those who returned in the 30 days after sepsis, at least one in five were treated for sepsis again.

Analysis confirmed that older people or aged care residents were more likely to be admitted to hospital and treated for sepsis.

### Aboriginal and Torres Strait Islander people are more likely to be hospitalised for sepsis.

The latest analysis period of 2022-23 saw 5,753 sepsis separations for Aboriginal or Torres Strait Islander patients. The Australian Bureau of Statistics’ (ABS) medium series projection[[5]](#footnote-6) for Aboriginal or Torres Strait Islander population was over 1 million as at 30 June 2022. This translated to approximately 6 sepsis separations per 1,000 Aboriginal or Torres Strait Islander people, double that of the non-indigenous rate.

### Social determinants appear to affect readmission risk.

Hospital transfer data suggests that rural living and higher socio-economic disadvantage are important risk factors associated with 30-day readmission.

### The average cost of a sepsis separation has increased by 50% over a 10-year period

Managing comorbidities and sepsis in the context of complex social determinants and intersectionality may be driving increased resource utilisation.

## Future Directions

### Collaboration to reach priority groups

Partnerships with chronic disease associations such as Diabetes Australia, Kidney Health Australia and Cancer Australia may help to ensure that future sepsis awareness efforts reach those most at risk. Health services should also consider targeted quality improvement initiatives in chronic disease services/clinics.

### A National Sepsis Data Plan

The quality and utility of sepsis data will be enhanced by:

* consensus on the exact code combinations to define sepsis
* inclusion of recommended ‘Minimum Core Set of Cultural and Language Indicators’
* data linkage including mortality sources, private hospital data, emergency department presentations and post-hospital follow up care.

### Jurisdictional analysis

The Commission did not compare differences between Australian states and territories; however, the insights gained from this report suggest that jurisdictions may benefit from replicating the search parameters of this report.

Improving identification and management of complex infection cases, and the transfer of information across hospital systems may equip health services to evaluate the likelihood of a patient developing sepsis, and/or mitigate a subsequent sepsis hospitalisation.

Jurisdictions should also consider targeted subgroups, exploring local variation in hospital, geographic and patient level data to identify opportunities for local quality improvement including ways to strengthen health equity.

Tailored analysis of specific populations may also help health services better assess the prevalence and impact of sepsis on those groups. This includes paediatric and neonatal cohorts to ensure that the insights about risk factors are not masked by the weight of adult patient data

## Report Infographic

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alt= “snapshot of patient journey 2022-2023 including demographics, health outcomes and sepsis separations” time”.

**HAC**: **H**ospital **A**cquired **C**omplication is a medical complication that can happen to a patient while in hospital that was not present when they were admitted, for example a surgical site infection or pressure ulcer.

# Background and Introduction

Health services need robust data to understand prevalence, recognition, responses, and impact of sepsis on populations, health services or systems; and to inform day to day clinical management.

Using explicit sepsis codes from editions 8 to 12 of the ICD-10AM, this report developed as part of the National Sepsis Program Extension investigates trends in sepsis separations in Australian public hospitals. Understanding the sepsis patient journey by examining before and after sepsis admissions highlights parts of the public hospital system where targeted improvement in sepsis recognition and response may add the most value. This includes delivering better patient outcomes and in doing so decreasing the burden of sepsis on health systems.

The report also highlights current data limitations that should be considered in the development of a National Sepsis Data Plan.

# Data collection and methodology

The Australian Commission on Safety and Quality in Health Care (Commission) conducted analyses on health outcomes for patients who received admitted care in public hospitals between 2013-14 and 2022-23 and coded with at least one explicit sepsis diagnosis under [Appendix A](#_Appendix_A:_Explicit). This data was extracted from the Admitted Patient Care (APC) data collection collected by the Independent Health and Aged Care Pricing Authority (IHACPA).

Key reporting groups are described below and illustrated in Figure 1.1

* separations with sepsis recorded as the principal diagnosis
* separations with sepsis recorded as an additional diagnosis
* separations with either sepsis as principal or additional diagnoses
* pre-sepsis separations within a pre-defined window
* post-sepsis readmissions within a pre-defined window.

1. Reporting groups

alt= “Data collection definitions for pre-sepsis, sepsis and post-sepsis separations”.

Data was available for the entire population of admitted care patients in public hospitals, and subsequently no significance testing was performed. Therefore, differences observed in descriptive results reflect actual population differences, to the extent bound by how sepsis was identified in the data collection used.

Readmissions were reported based on the date readmissions occurred, while separations were reported based on date of hospital discharge (separation date).

Descriptive statistics for post-sepsis readmissions in 2022-23 were used to inform the appropriate window for the pre-sepsis and post-sepsis groups in all subsequent analyses.

Descriptive statistics were calculated for each reporting group, over the entire analysis period, and for selected years in more detail. Analysis period for the pre- and post- sepsis groups was limited to 2015-16 to 2022-23 due to data availability.

Selected factors were analysed for each reporting group by financial year. Rates of sepsis, post-sepsis readmissions and pre-sepsis separations were presented per 10,000 population. Rates were standardised by age and sex to a reference population to account for differences in age and sex structure of population across time. The reference population was the Australian Bureau of Statistics’ 30 June 2001 Estimated Resident Population (ERP). Denominator population for each reporting year was based on the 30 June ERP prior to the start of each reporting year.

Cost of admitted care for each reporting year was estimated using the gross weighted activity unit (NWAU) for an episode of care with the corresponding national efficient price (NEP) of that year. The NEP, and corresponding NWAU algorithm, is determined annually by the IHACPA.

1. General inclusion and exclusion criteria

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Criteria | General analysis | Readmissions |
| Inclusion | Reporting period | 2013-14 to 2022-23 | 2015-16 to 2022-23 |
| Exclusion | Care type | * Organ procurement-posthumous * Hospital boarder | * Subacute * Non-acute |
| Exclusion | AR-DRG | * Same day chemotherapy and dialysis * Invalid/error AR-DRG | * Same day chemotherapy and dialysis * Invalid /error AR-DRG |
| Exclusion | Patient Age | Negative or missing age | Negative or missing age |
| Exclusion | Principal diagnosis | Missing principal diagnosis | Missing principal diagnosis |

### Disaggregation

Results are disaggregated using factors relating to patient demographics, hospital characteristics and outcomes. Postcode to ASGS 2021 concordance was used to derive patient remoteness and socio-economic disadvantage i.e. Index of Relative Socio-economic Disadvantage (IRSD). Remote and very remote categories were combined under ‘remote’ due to smaller numbers.

1. Disaggregation factors

|  |  |  |
| --- | --- | --- |
| Demographics | Admitted care characteristics | Readmission specific (202-23 only) |
| * Age * Sex * First Nations * Remoteness * Comorbidities * Socio-economic disadvantage | * Urgency of admission * Transfers from another hospital * Length of stay (overall, ICU) * Admission to ICU * Remoteness (hospital) * Sepsis on admission vs hospital-acquired * Maternal sepsis * Principal diagnosis * Diagnosis Related Group * HACs * Discharge/transfer to residential aged care service * Top 3 ICD-10-AM codes for sepsis | Readmission intervals at   * 7 days * 30 days * 90 days * 120 days * 365 days |

### Sepsis definition

Sepsis was identified using 51 ICD-10-AM codes (8th to 12th edition) based on an ‘explicit’ definition, recorded as either principal or additional diagnoses. The complete list of explicit sepsis codes is provided in [Appendix A](#_Appendix_A:_Explicit). Implicit sepsis definition, for example the presence of at least one infection code together with organ dysfunction, was not considered in this analysis. Therefore ‘sepsis’ in this report refers to *only explicitly defined cases of sepsis*, and as such there is a likely undercount of sepsis cases that were not recorded with explicit codes.

Applying the same reasoning, designation of 'non-sepsis principal diagnoses' or ‘non-sepsis DRGs’ for those who received, would eventually receive, or returned to hospital after sepsis treatment does not imply said conditions were unrelated to sepsis. Instead, the intention was to identify possible prevalent conditions within each population cohort that may have contributed to or presented increased risk of requiring sepsis treatment.

### Maternal sepsis definition

Maternal sepsis required at least one explicit sepsis code ([Appendix A](#_Appendix_A:_Explicit)) recorded in the same episode of care with at least one maternal code in [Appendix B](#_Appendix_B:_Maternal). Maternal codes were selected to cover the period from pregnancy to postpartum. The denominator population for maternal sepsis calculation was restricted to that of the total corresponding female separations/readmissions over the same analysis period.

### Health outcomes

Outcomes were derived based on IHACPA’s APC data collection. In-hospital mortality was determined using the recorded separation mode, and surgical separations were defined based on the Australian Refined Diagnosis Related Groups[[6]](#footnote-7) (AR-DRG) classification system. An episode of admitted care is assigned to a Diagnosis Related Group (DRG), taking into account the diagnoses and interventions as well as other characteristics such as age and sex. The highest DRG complexity is assigned for the purpose of public hospital funding. One episode of admitted care can only be assigned one DRG. Therefore, a sepsis separation may not be classified under the Septicaemia DRG. A more general infection related DRG might be more suitable, despite treatment for sepsis.

Hospital-acquired complications[[7]](#footnote-8) (HACs) were determined using ICD-10-AM (8th to 12th editions) for 12 of the 16 HACs defined in version 3.1 of the HACs List. Hospital-acquired healthcare-associated infections (HAIs) were excluded from analysis due to overlap with the definition for sepsis. It was not feasible to identify unplanned ICU admission HACs from the dataset at the time of the report and these were therefore excluded from analysis.

Unless otherwise stated, results are presented as the number of separations or readmissions, not individual patients. Similarly, the denominator for descriptive statistics, unless stated otherwise, refers to the total separations or readmissions for the reporting year, not number of people in the population. A change in care type, such as statistical discharge from an initial care type record and statistical admission for a new care type, will result in a new separation record. Therefore, only records marked as acute care were considered for readmissions.

### Post sepsis readmissions

A readmission was associated with the patient’s last hospital stay (index separation), irrespective of whether the patient returned to the same treating hospital.

People for whom episodes of admitted care could not be linked due to invalid pins, a care type of *organ procurement – posthumou*s or *hospital boarder* or died in hospital according to the recorded separation mode, were excluded from the index separation definition. The readmission definition applied the same exclusion criteria for invalid pins, with the additional restriction to limit the scope to acute care episodes only.

A readmission interval refers to the difference (in days) between an index’ separation date and the admission date of the associated readmission.

Data was first examined for all readmissions which occurred in the 2022-23. These readmissions occurred within 365 days following an earlier index sepsis separation, and patients may have been readmitted for any reason. The percentage of readmissions was analysed by readmission interval, the associated top 3 principal diagnoses and DRGs as indications of reasons for readmission, from 7 days to up to 365 days following an index sepsis separation. This determined the appropriate readmission interval for subsequent readmission analyses. A 30-day readmission interval was selected as it covered a majority of readmissions over the shortest period.

### Pre-sepsis separations

Sepsis separations were traced back to each patients’ last episode of admitted care, allowing for up to a pre-defined window between date of the last discharge and subsequent episode of admitted care where sepsis was recorded. A period of 30 days was selected to maintain consistency with the interval used in the readmissions group.

A consequence of the definitions used for pre- and post-sepsis episodes is that the same sepsis episode can serve as both a readmission for a prior hospitalisation, as well as the index of a subsequent readmission, depending on when each event occurred relative to the reporting period. While there is no requirement for a pre-sepsis episode to involve sepsis treatment, sepsis could still have been diagnosed in that episode, documented as being present on admission or hospital acquired.

# Key Findings

## Sepsis in admitted care

Between 2013-14 to 2022-23, there were over 900,000 admitted care separations in public hospitals involving sepsis ([Table 1](#_Table_1._Overall)). The following characteristics were observed, as a percentage out of total sepsis separations:

### Demographic characteristics

* mostly male (54.7%)
* highest representation from older patients (59.0% aged 65 years and over, followed by 31.7% for other adults (18-64 years), 7.3% for children below 1 year, and 1.9% for those aged 1-17 years)
* mostly lived in major cities (64.0%)
* almost 1 in 3 had diabetes (28.7%), followed by renal disease (15.8%) and cancer (13.4%)
* majority were treated for sepsis recorded as present on admission (87.2%)
* 39.5% recorded sepsis as the principal diagnosis
* representation of maternal sepsis (6.9%) and Aboriginal or Torres Strait Islander patients (5.8%).

### Admitted care characteristics

2022-23 sepsis separations showed ([Table 7](#_Table_7._Admitted_1)):

* majority of sepsis treated at major city hospitals (67.5%)
* 3 in 4 were emergency admissions (77.9%)
* 1 in 10 were transfers from another hospital (12.2%)
* average length of stay was 13 days
* 1 in 4 were admitted to the ICU (27.8%), with an average ICU stay of 168 hours (7 days)
* most were for non-surgical reasons (81.9%)
* representation of maternal sepsis (7.7%)
* 12.0% developed a non-HAI HAC[[8]](#footnote-9). Respiratory complications were the most common (3.6%), followed by delirium (3.4%) and cardiac complications (3.3%)
* low representation from residential aged care patients (2.2%).

There were similar characteristics in the sepsis group before and after the COVID-19 pandemic (2017-18, vs 2022-23), including patient remoteness ([Table 4](#_Table_4._Demographic) , vs [Table 5](#_Table_5._Demographic)) and hospital transfers ([Table 6](#_Table_6._Admitted) , vs [Table 7](#_Table_7._Admitted_1)).

## Sepsis recorded as secondary diagnosis

In 2022-23, when compared to separations with sepsis as the principal diagnosis, separations where sepsis was present as a secondary diagnosis ([Table 5](#_Table_5._Demographic) , [Table 7](#_Table_7._Admitted_1)).

### Demographic characteristics

* were slightly younger (median age of 70, vs 72 years)
* slightly higher proportion living in major cities (63.0%, vs 57.3%)
* similar levels of socio-economic status (25.1% for patients from the most socio-economic disadvantaged areas, vs 26.3%).

### Admitted care characteristics

* lower rates of emergency admissions (77.1% vs 81.2%)
* almost twice the average length of stay (15 vs 8 days)
* 1.6 times as many admissions to ICU (35.2%, vs 21.8%), and longer ICU stays (average 176 hours, vs 104 hours)
* higher proportion of HACs (15.1% developed a non-HAI HAC, vs 6.2%). Common HAC groups were
  + respiratory complications (4.7%, vs 1.3%)
  + delirium (4.4%, vs 1.4%)
  + cardiac complications (4.2%, vs 1.8%).

## 30-day post-sepsis readmissions

From 2015-16 to 2022-23, there were 202,763 subsequent readmissions within 30 days following a sepsis separation ([Table 1](#_Table_1._Overall)).

In 2022-23, 54.6% of readmissions within a year of a sepsis separation occurred in the first 30 days ([Table 2](#_Table_2._All)). *Sepsis, unspecified (A419)* was the most common sepsis diagnosis for each readmission interval analysed ([Table 3](#_Table_3._Top)).

Compared to the sepsis group, 30-day post-sepsis readmissions in 2022-23 showed the below characteristics (([Table 5](#_Table_5._Demographic)), ([Table 7](#_Table_7._Admitted_1))).

### Demographic characteristics

* slightly younger (median age 68, vs 70)
* slightly more representation from Aboriginal and/or Torres Strait Islander patients (8.9%, vs 6.8%)[[9]](#footnote-10)
* higher proportions who lived outside of major cities (46.4%, vs 39.0%)
* similar proportions of those with diabetes (31.4%, vs 31.1%), followed by renal disease (13.2%, vs 16.5%) and cancer (14.1%, 13.0%)
* greater representation from patients in areas with the most socio-economic disadvantage (28.4%, vs 25.4%).

### Admitted care characteristics

* more transfers from other hospitals (30.5%, vs 12.2%)
* less ICU admissions (12.0%, vs 27.8%), and shorter average ICU stay (129hrs, vs 168hrs)
* fewer sepsis present on admission (23.3%, vs 90.0%)
* lower proportion of non-HAI HACs (5.5%, vs 12.0%)
* less maternal sepsis (1.5%, vs 7.7%)
* top 3 non-sepsis principal diagnoses were
  + *Urinary tract infection, site not specified (N390)* (3.1%)
  + *Pneumonia, unspecified (J189)* (2.4%)
  + *Cellulitis of lower limb (L0313)* (1.9%)
* top 2 non-sepsis DRGs were
  + *Respiratory Infections and Inflammations, Major Complexity (E62A)* (4.1%)
  + *Kidney and Urinary Tract Infections, Major Complexity (L63A)* (3.0%).

## 30-day pre-sepsis separations

In 2022-23, there were 24,498 instances where a patient was discharged from hospital up to 30 days before a subsequent sepsis admission.

Compared with the sepsis group, the 30-day pre-sepsis group showed the following characteristics ([Table 5](#_Table_5._Demographic), [Table 7](#_Table_7._Admitted_1) ):

* slightly younger (median age 68, vs 70)
* 1 in 5 had sepsis documented as present on admission (18.9%, vs 90.0%)
* higher proportion of patients who lived outside of major cities (43.4%, vs 39.0%)
* higher proportion of patients in the most socio-economic disadvantaged areas (27.7%, vs 25.4%)
* nearly 1 in 6 had cancer (16.0%, vs 13.0%), with similar profiles for diabetes (29.6% vs 31.1%) and renal disease (11.3%, 16.5%)
* lower emergency admissions (61.6%, vs 77.9%)
* shorter average hospital stays (7 days, vs 13 days)
* lower rates of admission to ICU (9.4%, vs 27.8%), and shorter ICU stays (average 103 hours, vs 168 hours)
* lower proportion of non-HAI HACs (4.7%, vs 12.0%)
* top 3 non-sepsis principal diagnoses were
  + *Urinary tract infection, site not specified (N390)* (2.4%)
  + *Single spontaneous delivery (O80)* (2.1%)
  + *Pneumonia, unspecified (J189)* (1.9%)
* Top 2 non-sepsis DRGs were
  + *Respiratory Infections and Inflammations, Major Complexity (E62A)* (2.8%)
  + *Kidney and Urinary Tract Infections, Major Complexity (L63A)* (2.3%).

## Trends over time

While the top 3 sepsis diagnosis codes remained the same, proportion of sepsis separations accounted for by the top 2 increased over time ([Table 8](#_Table_8._Health)):

* most common diagnosis was *Sepsis, unspecified (A419)*
  + increased for sepsis separations, from 43.6% in 2013-14 to 60.7% in 2022-23
* second most common was *Septic shock (R572)*
  + increased for sepsis separations, from 14.6% in 2013-14 to 21.9% in 2022-23
* in third place was *Sepsis due to Escherichia coli [E. Coli] (A4151)*
  + decreased from 11.4% in 2013-14 to 9.9% 2022-23 in the sepsis group.

The following showed minor changes between earliest to latest analysis periods ([Table 8](#_Table_8._Health)):

* age and sex adjusted rates (**Figure 2**)
  + from 26 to 27 per 10,000 population for sepsis separations, though middle years (2015-16 to 2019-20) were almost 50% higher
  + 8 to 7 per 10,000 population for 30-day post-sepsis readmissions

10 to 8 per 10,000 population for 30-day pre-sepsis separations.

1. Rate per 100,000 population, age and sex standardised

alt= “age and sex adjusted pre-sepsis, sepsis and post-sepsis separations between 2013-14 and 2022-2023”.

* in-hospital mortality (**Figure 3**):
  + 13.2% to 14.5% for sepsis separations
  + 4.5% to 4.7% for 30-day post-sepsis readmissions.

1. In-hospital mortality (%)

alt= “percentage of in-hospital mortality for sepsis and post-sepsis separations between 2013-14 and 2022-23”.

* average length of stay (**Figure 4**):
  + 13 days for sepsis separations
  + 9 to 8 days for 30-day post-sepsis readmissions
  + 7 days for 30-day pre-sepsis separations.

1. Average length of stay in hospital

alt= “Average length of stay (days) pre-sepsis, sepsis and post-sepsis separations between 2013-14 and 2022-23”.

* admission to ICU (**Figure 5**):
  + 10.6% to 12.0% for 30-day post-sepsis readmissions
  + 7.9% to 9.4% for 30-day [[10]](#endnote-1)pre-sepsis separations.

The following outcomes showed more notable changes over time ([Table 8](#_Table_8._Health)):

* estimated averaged cost increased:
  + by 50% for sepsis separations, from $20,934 in 2013-14 to $31,440 in 2022-23
  + by 22% for 30 day all cause readmissions following sepsis, from $14,748 in 2015-16 to $17,954 in 2022-23.
* admission to ICU for sepsis separations increased, from 24.0% in 2013-14 to 27.8% in 2022-23 (**Figure 5**).

1. Admission to ICU (%)

alt= “ICU admissions pre-sepsis, sepsis and post-sepsis between 2013-14 and 2022-23”.

* the average length of ICU stay fell:
  + from 191 hours in 2013-14 to 168 in 2022-23 for sepsis separations
  + from 141 hours in 2015-16 to 129 hours in 2022-23 in all cause 30-day post-sepsis readmissions.
* emergency admission as a proportion of in-hospital deaths decreased:
  + by 7 percentage points for sepsis separations from 74.4% in 2013-14 to 67.5% in 2022-23
  + by 6 percentage points for 30-day post-sepsis readmissions, from 72.5% to 66.1%.

# Discussion of key findings

## Improvement in sepsis recognition and response

There have been various resources, guidelines and awareness campaigns directed towards sepsis awareness, recognition and treatment in Australia over the last several years, including Australia’s first National Sepsis Awareness Campaign in 2018.

The Commission developed the National Safety and Quality Health Service (NSQHS) Standards, as a nationally consistent statement on the standard of care provided by health service organisations. Amongst these are actions under the [Recognising and Responding to Acute Deterioration Standard](https://www.safetyandquality.gov.au/standards/nsqhs-standards/recognising-and-responding-acute-deterioration-standard), which aim to ensure timely recognition and treatment of acute deterioration, including sepsis.

In addition to the Standards, the Commission published the national [Sepsis Clinical Care Standard](https://www.safetyandquality.gov.au/standards/clinical-care-standards/sepsis-clinical-care-standard) in 2022 outlining the care and supporting indicators to ensure ‘timely recognition of sepsis, early and appropriate antimicrobial therapy and continuity of care from the acute setting through to discharge and survivorship’.

Together with ongoing efforts and awareness campaigns by State and Territory health departments and organisations including Sepsis Australia, these efforts are expected to contribute to better recognition, and therefore more timely treatment of sepsis in the hospital.

This analysis showed:

* 2022-23 age and sex adjusted rate of sepsis per population returned to similar levels observed in 2013-14.
* emergency admissions accounted for every 3 in 4 sepsis separations, both before and after the COVID-19 pandemic (2017-18 versus 2022-23). However, emergency admissions which ended in a sepsis patient dying in hospital declined over time, from 3 in 4 deaths during 2013-14 to 2 in 3 deaths in 2022-23.
* the average time spent in hospital and in-hospital mortality for sepsis in admitted care experienced little change. While the proportion of sepsis cases requiring admission to ICU increased, the average time sepsis patients spent in the ICU became shorter.

These observations may reflect the changes in coding rules and improvement by health services in recognising deterioration, leading to more efficient response by transferring those cases to the ICU, which in turn may have contributed to a shorter ICU stay. Since most sepsis cases were emergency admissions, hospital deaths reflected a similar percentage of such admissions.

There was *no evidence to suggest sepsis patients admitted to the ICU had an increased likelihood of readmission within 30 days*. While ICU admission in the sepsis group increased over time, rate of 30-day post-sepsis readmissions remained stable. If ICU admission alone, irrespective of the appropriateness, timeliness and quality of care provided, was sufficient to influence the likelihood of a patient returning to the hospital, the readmission rate would also have increased over time.

A recent evaluation review of the NSQHS Standards accreditation results has shown signs of progress in timely implementation of rapid treatment protocols towards sepsis in hospitals. Internal analysis of the period leading up to August 2024 indicated the Health Service Organisations are more likely to be compliant with the Recognising and Responding to Acute Deterioration with 93% of initial assessments deemed compliant. The number of organisations with a ‘Not Met’ rating for *Actions 8.10* and *8.12* under *Responding to deterioration* and *Action 8.06 - Escalating care* decreased over time. There remains room for improvement, particularly with *Action 8.05 - Recognising acute deterioration*, which is one of the most frequently identified ‘Not Met’ actions for organisations at initial assessments.

## Sepsis in public admitted care

The majority of sepsis separations, as well as 30-day pre- and post- sepsis groups, were treated in hospitals located in major cities, reflecting the Australian population distribution. The proportion of sepsis separations for remote and outer regional area patients was similar to that of hospital transfers, both before (2017-18) and after the COVID-19 pandemic (2022-23). This analysis did not focus on transfer rates from small to large hospitals, more commonly located in major cities. However, observations fitted the assumption that patients with complex conditions such as sepsis who first present to local remote and outer-regional hospitals were more likely to be transferred to larger, facilities that can manage patients with higher complexity for treatment.

The following groups were more likely to be admitted to hospital and treated for sepsis:

* older people (65 years and over)
* aged care residents (likely frail and/or elderly)
* Aboriginal or Torres Strait Islander patients.

While proportion that involved discharge of patient back to a residential aged care facility (RACF) out of total sepsis separations was small, sepsis hospitalisations rate in the elderly population was higher than that of the overall Australian rate. Given the majority of sepsis patients were aged 65 and over, and elderly patients were more likely to reside in aged care, the small percentage out of total sepsis separations linked to RACF residents suggested most sepsis patients had alternative living arrangements outside a RACF.

From a population perspective, those in RACF were hospitalised more often with sepsis. In 2022-23, there were 1,875 out of 84,382 sepsis separations for patients normally reside in residential aged care. The GEN Aged Care data collection[[11]](#footnote-11) reported close to 181,000 people were in permanent residential aged care as at 30 June 2022, while the Australian Bureau of Statistics[[12]](#footnote-12) (ABS) estimated an overall Australian population of 26 million for the same period. This corresponded to approximately 10 sepsis separations per 1,000 RACF residents, or three times the national rate of 3 per 1,000 individuals.

Aboriginal or Torres Strait Islander patients made up a small proportion of total sepsis separations, likely due to their population size relative to the overall Australian population. However, when examining from a population perspective, Aboriginal or Torres Strait Islander patients were more likely to be hospitalised for sepsis. The latest analysis period of 2022-23 saw 5,753 sepsis separations for Aboriginal or Torres Strait Islander patients. The ABS’s medium series projection[[13]](#footnote-13) for Aboriginal or Torres Strait Islander population was over 1 million as at 30 June 2022. This translated to approximately 6 sepsis separations per 1,000 Aboriginal or Torres Strait Islander people, double that of the non-indigenous rate.

The average cost of a sepsis separation in admitted care increased by 50% over the 10 years to 2022-23. In addition to direct hospital costs, indirect costs such as premature deaths also place burden on the health system and the wider Australian community. Sepsis is more common in older patients, who likely have more complex health problems and underlying health conditions.

## Sepsis coding rules

Continued changes to clinical definitions, diagnosis and coding criteria affect how sepsis is recorded in administrative data collections (such as the APC NMDS). Sepsis can be coded to the principal diagnosis, an additional diagnosis, or both during an episode of admitted care. The Australian Coding Standards (ACS) is used in to determine the appropriate sequencing of sepsis codes in hospitals.

Key coding standards that impact how sepsis is recorded in the administrative data include (but is not limited to)

* ACS 0001 Principal diagnosis
* ACS 0110 Sepsis, severe sepsis and septic shock.

Broadly, a principal diagnosis refers to the condition ‘chiefly responsible for occasioning in the episode of care,’ established after evaluation of findings that may include (but is not limited to) medical history, physical and pathological examinations, diagnostic tests and/or procedures, and specialist consultations.

As the body’s extreme immune response to an infection, sepsis is always accompanied by infection, regardless of whether ACS guidelines permit the use of an explicit sepsis diagnosis code in an administrative hospital data collection such as the APC NMDS. Consequently, identified ‘top non-sepsis’ diagnoses or DRGs should be considered in the context of infection control. While such conditions do not mention ‘sepsis’ by name, they may point to broader implications for effective infection management as patients transition between different types of care within a hospital, across health services as well as between health services and the community environment. This may take the form of communication strategies and protocols established in recommended clinical care pathways as an opportunity to reflect on the patient journey in a more comprehensive manner, before, during and after sepsis treatment.

Prior to the ACS 9th edition (applicable for years prior to 2015-16), there was no requirement for clinical coders to verify sepsis with the treating clinician. For example, ACS 11th edition (applicable from July 2019) now states:

* ‘evidence of presence of pathogenic microorganisms alone does not determine the diagnosis of sepsis’
* coders are to ‘clarify with the treating clinical to determine whether it is a case of sepsis’ where vague diagnostic terms such as ‘chest sepsis’ are used.

Therefore, the rise in sepsis rate observed in 2015-16 should be interpreted in light of ACS 9th edition’s coding rules, rather than solely a sudden increase in community sepsis driving hospital admissions.

Analysis showed that most sepsis separations did not record sepsis as the principal diagnosis. However, *coding of sepsis as an additional diagnosis does not imply that the associated episode of care required fewer resources, or the patients were less unwell, or sepsis was not present on admission.* For example, if an infection was determined to be the chief reason for that episode of admitted care, sepsis would not be coded as the principal diagnosis even if the patient was also treated for sepsis.

While the proportion of emergency admissions was lower in the group with sepsis as an additional diagnosis, this group’s average stay in hospital was longer, with more admissions to ICU and longer time in ICU. Longer hospital stays can increase the risk of developing HACs (however on the inverse HACs can also attribute to a longer length of stay).

The most common sepsis diagnosis code *Sepsis, unspecified (A419)* continues to be used in a significant portion of sepsis separations. The increase in use of *A419* between 2013-14 and 2022-23 may indicate growing recognition of sepsis, facilitated though establishment of (or maturing) sepsis clinical pathways over time, at national and/or jurisdictional levels.

ACS 0110 requires *Septic shock (R57.2)* to be coded in conjunction with another sepsis or infection diagnosis, depending on the ACS edition used. Despite this rule, separations involving a diagnosis of septic shock (and no additional explicit sepsis diagnosis) would still be identified as sepsis patients in this report. Any instance of *Septic shock (R57.2)* used, as with all other sepsis codes listed under [Appendix A](#_Appendix_A:_Explicit), satisfies the definition for explicit sepsis for this report, regardless of what other diagnosis codes may also be present. By the same logic, the top 3 sepsis codes are not mutually exclusive. That is, patients with both *Sepsis, unspecified (A419)* and *Septic shock (R57.2)* would be counted once under each category. The extent of overlap between sepsis codes falls outside the scope of this analysis; however, future analyses of this nature would be beneficial for consideration in the development of a national sepsis data plan.

## 30-day post-sepsis readmissions

Over half of all readmissions following sepsis occurred in the first 30 days of discharge. Analysis showed these readmissions involved slightly younger patients, greater socioeconomic disadvantage and patients were more likely to live outside of major cities, compared to the sepsis group. Transfer from other hospitals was also more common i.e. three times that of the sepsis group.

Potentially contributing factors include:

* patients outside of major cities were more likely to require hospital transfers for complex conditions like sepsis.
* confidence bias from health services that younger patients will continue to recover after hospital discharge. However, when coupled with higher socio-economic disadvantage, these patients may be less able to recover outside of hospital, increasing risk of readmission.
* financial burden associated with longer hospital stays disproportionately affect those in greater socioeconomic disadvantage, leading to patient preference for earlier discharge, and consequently increased risk of readmission.

A patient’s ability to perform post discharge selfcare for their sepsis is complex. A multitude of factors impact the recovery trajectory, including:

* multi-disciplinary, patient centred care to assist with post-sepsis syndromes
* clear communication and planning including quality of discharge paperwork
* access to a general practitioner
* support to transition to primary care and availability of community resources
* post-sepsis care pathways
* social determinants such as income and secure housing
* health literacy.

While healthcare teams can help arrange support services a patient needs on discharge, the treating hospital may not be as adept to connect out-of-area patients to their own locally accessible general practice, transition care programs or home and community care programs. As a result, patients transferred to hospitals outside of their locality may fall through the gap. The road to recovery post-sepsis can be long and complex. Those who struggle and have no access to support networks have higher risk of readmission. Readmission can cause further emotional and financial pressure (e.g. loss of income) and the cycle of poor health outcomes with poorer social determinants of health compounds. Health services may also benefit from further consideration of post sepsis readmission risk for people who have cancer, renal disease, diabetes and chronic obstructive pulmonary disease (COPD).

More than one in five 30-day post-sepsis readmissions had sepsis documented as ‘present on admission’. In other words, *at least one in five sepsis cases readmitted within 30 days were treated for sepsis again*. With less emergency admissions, fewer ICU admissions and shorter hospital stays, analysis suggests patients readmitted within 30 days presented with less complex health conditions compared to their earlier sepsis episode. Maternal sepsis was also uncommon among women readmitted within 30 days after sepsis treatment.

## 30-day pre-sepsis separations

The 2022-23 results showed similarities between the 30-day all cause readmissions and 30-day pre-sepsis. Compared to the sepsis group, the pre- sepsis group was also slightly younger, with greater socioeconomic disadvantage and had higher representation from patients outside of major cities.

Although in small proportions, analysis identified two most common non-sepsis diagnoses across the sepsis, 30-day post-sepsis, and 30-day pre-sepsis groups:

* *pneumonia, unspecified*
* *urinary tract infection, site not specified.*

Median age differences compared to the sepsis group was not large, as the majority of patients in all groups were still in the 65 years and older cohort. Age may be a factor in the discharge timing by health services; however, there are additional factors that may also contribute to this decision.

Generally, younger patients may have fewer complications and are expected to recover faster, making them candidates for earlier discharge. Considering that sepsis is primarily treated in major city hospitals, patients from rural and remote areas, as well as those with greater socio-economic disadvantages, may prefer to recover closer to home, where more affordable support systems may be available.

Improving identification and management of complex infection cases (or an infection diagnosis more generally), and the transfer of such information in the case of patients presenting to different hospitals, would better equip a health service to evaluate the likelihood of a patient developing sepsis, and/or mitigate a subsequent sepsis hospitalisation through targeted sepsis risk management strategies.

## Analysis limitations

### Jurisdictional comparison

This analysis did not provide comparisons between Australian states and territories.

**Sepsis outside of public admitted care**

Analysis was limited to publicly funded admitted care. Therefore, this report did not examine:

* sepsis in private hospitals
* sepsis patients presenting to emergency departments (prior to public hospital admission)
* the role of primary care, including follow-up care by general practice and care transition programs in the sepsis recovery journey.

Data for non-public hospitals were outside the scope of the Commission’s data access arrangements at the time of analysis. Due to time constraints associated with this report, it was not feasible to obtain the necessary approvals from data custodians to enable the data transfer.

Publicly available information which encompass both public and private hospitals, such as the Principal diagnosis and AR-DRG level [data cubes](https://www.aihw.gov.au/reports/hospitals/principal-diagnosis-data-cubes/contents/about) maintained by the Australian Institute of Health and Welfare, were assessed and determined unsuitable for this report’s objectives. This analysis found that in 2022-23 alone, less than 40% of explicitly defined sepsis separations in public hospitals recorded sepsis as the principal diagnosis. Similarly, the septicaemia DRG accounted for only about one third of all sepsis separations. Secondary diagnoses level data cubes were not readily available. Furthermore, publicly available sources did not offer the capability to link patients across multiple hospital admissions to identify those re-hospitalised following sepsis discharge, or those in hospital before sepsis.

Consequently, age and sex standardised sepsis rates in this report is an underestimation compared to the broader population-based incidence of sepsis across both public and private hospitals.

## Data source coverage

Mortality was restricted to deaths in public hospitals due to the scope of the Commission’s data access arrangements. Analysis reported in-hospital deaths for readmissions within 30 days following a sepsis separation, not broader 30-day mortality post sepsis, due to lack of linkage to other data collections such as the births and deaths registries from respective jurisdictions. Therefore, deaths outside of the public hospital system were not captured.

Readmission analysis period was limited to 2015-16 to 2022-23 due to data availability.

The ability to differentiate between discharge/transfer to residential aged care service between usual place of residence versus not usual place of residence was only possible from 2022-23 onwards. Modes of separation collected in earlier years did not allow for this level of detail.

Analysis was unable to identify patients based on culturally and linguistically diverse backgrounds, as the information is not available from this national dataset.

### Sepsis coding

This analysis identified sepsis separations based on explicit sepsis codes ([Appendix A](#_Appendix_A:_Explicit)), using ICD-10-AM. It is acknowledged more sepsis separations would be reported if sepsis was also defined using an implicit (coding combination) approach. While the explicit method provided high specificity and would capture patients who were more unwell, an implicit method may provide better sensitivity and identify sepsis patients with better health outcomes/lower mortality rates. Since code combinations for implicit sepsis varied across literature, this analysis considered only explicit sepsis coding as a conservative approach.

Diagnosis Related Group for separations prior to 2015-16 were based on version 7 of the AR-DRG, and version 8 was used for later years due to data availability.

### Covid-19

According to the [WHO](https://www.who.int/news-room/fact-sheets/detail/sepsis), ‘sepsis is usually caused by bacterial infections but may be the result of other infections such as viruses, parasites or fungi.’ The analysis period included the COVID-19 pandemic, when there were likely elevated cases of viral sepsis in hospitals and associated excess deaths.

Impacts of COVID-19 may be reflected in the data from the type of patients presenting to hospitals to the provision of care and clinical outcomes. Delay in sepsis patients seeking care during the pandemic due to elective surgery restrictions and challenges in accessing general practices, have downstream implications on mortality. Conversely, initiatives aimed at mitigating community infections during this period, such as isolation and mask wearing, may have applied downward pressure on sepsis hospitalisations.

## Future Directions

### Jurisdictional analysis

This analysis did not examine sepsis at the states and territories level. Permissions from jurisdictional data custodians could facilitate identification of jurisdictional specific outcomes. Such outcomes may enable tailoring of strategies to enhance safety and quality of sepsis care, and better support of the patient journey.

Other useful measures for comparison between national and jurisdictional results, such as hospital incidence of sepsis, can also be explored. Jurisdictional level comparisons could also provide a clearer understanding of any differences in DRG classification and/or coding practices among health services across various states and territories to identify best practice and improve patient outcomes.

### Sector analysis outside of public admitted care

To gain a comprehensive understanding of sepsis care in hospital, it is essential to consider the important roles played by private hospitals and emergency departments. Future analysis may focus on quantifying sepsis presentations via emergency departments, examine subsequent transfers to (and from) public and private hospitals, and explore the role of public-private hospital partnerships as part of broader sepsis management within Australian hospitals.

### National sepsis data collection

The administrative data collection used does not enable analyses by culturally and linguistically diverse (CALD) factors. The Australian Bureau of Statistics (ABS)’s national framework on ‘collection and dissemination of data on cultural and language diversity’ [recommends](https://www.abs.gov.au/statistics/standards/standards-statistics-cultural-and-language-diversity/latest-release) the below at a minimum:

* Country of Birth of Person
* Main Language Other Than English Spoken at Home
* Proficiency in Spoken English
* Indigenous Status.

Development of a national sepsis data collection, as recommended in [Stopping Sepsis: A National Action Plan](https://www.georgeinstitute.org.au/sites/default/files/documents/stopping-sepsis-national-action-plan.pdf), would benefit from including the 4 Minimum Core Set of Cultural and Language Indicators listed above.

### Implicit sepsis definition and code combinations

Further efforts are needed to investigate identifying sepsis through an implicit method, such as considering an organ dysfunction diagnosis together with a diagnosis for infection. This work will include finalising the exact organ dysfunction and infection combinations to look for, to strike a balance between better sensitivity with the expected increase in false positives. Other methods of deriving implicit sepsis cases from combinations of diagnoses codes in a single record could also be investigated.

Consensus on the exact code combinations to define sepsis, using both implicit and explicit methods, will enable more comparable and comprehensive future analyses of the sepsis patient journey within Australian hospitals.

### Targeted sub-group analysis

Analyses to explore local variation in sepsis, at the hospital or patient geographic level, and associated health outcomes such as mortality are also recommended. Analysis of sepsis at a regional level could identify areas with higher rates of sepsis and help inform local policy and responses. Exploring variation of health care use against patient preferences and underlying needs to identify potential areas of unwarranted variation, such as in the [*Australian Atlas of Healthcare Variation*](https://www.safetyandquality.gov.au/our-work/healthcare-variation/australian-atlas-healthcare-variation-series)series, represent opportunities for the health system to improve.

Potentially higher risk populations, such as maternal sepsis and sepsis in First Nations patients, would benefit from a more tailored analysis to better assess sepsis prevalence and impact. These groups have much lower sepsis numbers and therefore adjustments need to be made to ensure patient confidentiality. In the case of maternal sepsis, a more appropriate the denominator population could involve limiting base analysis population to delivery and postpartum related episodes of care in hospital and investigate the frequency in different types of complications such as spontaneous/induced abortions, caesarean sections, and prolonged/obstructed labour, all of which may lead to sepsis.

Since adults (18 years and over) accounted for an overwhelming majority of all sepsis cases in this report, insights specific to younger patients may have been masked. This report was also unable to confirm whether very young children (under 1 year) in Australia were more vulnerable to sepsis due to lack of age specific population data at the time of analysis. Therefore, it would be beneficial to conduct separate analyses for the paediatric population (under 18 years) as well as neonates. Not only are there specific sepsis codes for neonates, the DRGs for paediatric patients may also differ significantly from those observed in adults.

### Data linkage

This report focused on sepsis for admitted care patients in the Australian public hospital system. Future analyses could consider linkage with other data collections for a better understanding of sepsis. This may include:

* other mortality sources such as the births and deaths registries held by Australian States and Territories, to enable follow-up beyond the admitted hospital setting
* private hospitals admissions, to capture sepsis treatments in public-private hospital partnerships, as well as transfers to private facilities
* emergency department presentations with sepsis, to gain a clearer understanding of the outcomes associated with multiple emergency department visits and subsequent hospital admission
* follow-up care for sepsis patients after hospital discharge, such as longitudinal primary care quality improvement programs like [MedicineInsight,](https://www.safetyandquality.gov.au/our-work/indicators-measurement-and-reporting/medicineinsight) or the [Lumos](https://www.health.nsw.gov.au/lumos) program run by NSW Health to evaluate role of General Practices in preventing sepsis readmissions.

|  |
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| Supplementary Tables |

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### Table 1. Overall characteristics summary for separations with explicit sepsis codes, public hospitals, 2013-14 to 2022-23

|  |  | **Pre-sepsis separations (30 days) 2015-16 to 2022-23** | **Sepsis separations (principal diagnosis)** | **Sepsis separations (secondary diagnosis)** | **Sepsis separations** | **Post-sepsis readmissions  (30 days) 2015-16 to 2022-23** |
| --- | --- | --- | --- | --- | --- | --- |
| N |  | 244,163 | 370,362 | 634,479 | 936,879 | 202,763 |
| Sex, n(%) |  |  |  |  |  |  |
|  | Male | 134,962 (55.3%) | 198,095 (53.5%) | 351,409 (55.4%) | 512,410 (54.7%) | 115,756 (57.1%) |
|  | Female | 109,194 (44.7%) | 172,258 (46.5%) | 283,051 (44.6%) | 424,443 (45.3%) | 87,001 (42.9%) |
| Broad age group (years), n(%) | |  |  |  |  |  |
|  | < 1 | 5,185 (2.1%) | 26,235 (7.1%) | 43,282 (6.8%) | 68,748 (7.3%) | 5,337 (2.6%) |
|  | 1-5 | 2,282 (0.9%) | 3,543 (1.0%) | 5,139 (0.8%) | 8,308 (0.9%) | 2,500 (1.2%) |
|  | 6-17 | 3,087 (1.3%) | 3,654 (1.0%) | 6,441 (1.0%) | 9,521 (1.0%) | 2,913 (1.4%) |
|  | 18-64 | 93,956 (38.5%) | 107,937 (29.1%) | 212,594 (33.5%) | 297,445 (31.7%) | 77,116 (38.0%) |
|  | >= 65 | 139,653 (57.2%) | 228,993 (61.8%) | 367,023 (57.8%) | 552,857 (59.0%) | 114,897 (56.7%) |
| Aboriginal or Torres Strait Islander, n(%) | | 17,393 (7.1%) | 21,665 (5.8%) | 37,449 (5.9%) | 54,784 (5.8%) | 16,056 (7.9%) |
| Remoteness of patient residence, n(%) | |  |  |  |  |  |
|  | Major cities | 144,718 (59.3%) | 230,210 (62.2%) | 412,345 (65.0%) | 599,785 (64.0%) | 114,777 (56.6%) |
|  | Inner regional | 56,641 (23.2%) | 84,733 (22.9%) | 133,657 (21.1%) | 202,920 (21.7%) | 49,442 (24.4%) |
|  | Outer regional | 31,894 (13.1%) | 40,274 (10.9%) | 63,814 (10.1%) | 97,367 (10.4%) | 28,535 (14.1%) |
|  | Remote | 10,175 (4.2%) | 12,935 (3.5%) | 19,754 (3.1%) | 30,204 (3.2%) | 9,387 ( 4.6%) |
| Comorbidities, n(%) | |  |  |  |  |  |
|  | Cancer | 40,993 (16.8%) | 44,120 (11.9%) | 91,175 (14.4%) | 125,628 (13.4%) | 30,790 (15.2%) |
|  | Chronic obstructive pulmonary disease | 13,116 (5.4%) | 23,028 (6.2%) | 60,687 (9.6%) | 77,454 (8.3%) | 12,075 (6.0%) |
|  | Diabetes | 70,327 (28.8%) | 107,332 (29.0%) | 184,262 (29.0%) | 269,329 (28.7%) | 62,461 (30.8%) |
|  | HIV/AIDS | 222 (0.1%) | 323 (0.1%) | 789 (0.1%) | 1,016 (0.1%) | 226 (0.1%) |
|  | Liver disease | 3,271 (1.3%) | 6,757 (1.8%) | 18,992 (3.0%) | 22,403 (2.4%) | 3,284 (1.6%) |
|  | Renal disease | 27,851 (11.4%) | 58,452 (15.8%) | 105,482 (16.6%) | 148,465 (15.8%) | 26,426 (13.0%) |
| Sepsis onset, n(%) | |  |  |  |  |  |
|  | present on admission | 51,597 (21.1%) | 361,577 (97.6%) | 522,648 (82.4%) | 816,738 (87.2%) | 54,947 (27.1%) |
|  | hospital acquired | 5,368 (2.2%) | 7,876 (2.1%) | 111,402 (17.6%) | 118,033 (12.6%) | 2,090 (1.0%) |
|  | both | 279 (0.1%) | 1,185 (0.3%) | 4,160 (0.7%) | 4,160 (0.4%) | 352 (0.2%) |
| Maternal sepsis, n(%) | | 1,152 (1.1%) | 13,786 (8.0%) | 16,965 (6.0%) | 29,289 (6.9%) | 1,181 (1.4%) |

Denominator for maternal sepsis is the total number of female separations.

Information recorded in gender for Tasmanian facilities in 2022-23 was used to impute sex (as sex was no longer available for Tasmanian data).

Sex categories shown do not add to 100%. Categories other than male and female are affected by small numbers and therefore subjected to data suppression for privacy purposes.

Sepsis separations (principal diagnosis) and Sepsis separations (secondary diagnosis) groups do not add to Sepsis separations because the first two groups are not mutually exclusive. An episode of care can record explicit sepsis codes in both its principal and secondary diagnosis.

### Table 2. All cause readmissions following sepsis, public hospitals, 2022-23

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | **Post-sepsis readmissions** |
| N |  |  | 39,225 |
| Readmission interval, n(%) |  |  |  |
|  | 7 days |  | 14,146 (36.1%) |
|  | 30 days |  | 21,434 (54.6%) |
|  | 90 days |  | 28,818 (73.5%) |
|  | 120 days |  | 30,884 (78.7%) |
|  | 365 days |  | 39,225 (100%) |
|  |  |  |  |

### Table 3. Top 3 reasons for all-cause readmissions following sepsis, public hospitals, 2022-23

| **Readmission interval** |  |  | **Post-sepsis readmissions** |
| --- | --- | --- | --- |
| 7 days | N |  | 14,146 |
|  | Principal diagnosis, n(%) |  |  |
|  |  | Sepsis, unspecified (A419) | 898 (6.3%) |
|  |  | Pneumonia, unspecified (J189) | 410 (2.9%) |
|  |  | Urinary tract infection, site not specified (N390) | 410 (2.9%) |
|  | Diagnosis Related Group, n(%) |  |  |
|  |  | Respiratory Infections and Inflammations, Major Complexity (E62A) | 643 (4.5%) |
|  |  | Septicaemia, Major Complexity (T60A) | 640 (4.5%) |
|  |  | Septicaemia, Intermediate Complexity (T60B) | 536 (3.8%) |
| 30 days | N |  | 21,434 |
|  | Principal diagnosis, n(%) |  |  |
|  |  | Sepsis, unspecified (A419) | 1,159 (5.4%) |
|  |  | Urinary tract infection, site not specified (N390) | 659 (3.1%) |
|  |  | Pneumonia, unspecified (J189) | 525 (2.4%) |
|  | Diagnosis Related Group, n(%) |  |  |
|  |  | Respiratory Infections and Inflammations, Major Complexity (E62A) | 873 (4.1%) |
|  |  | Septicaemia, Major Complexity (T60A) | 768 (3.6%) |
|  |  | Septicaemia, Intermediate Complexity (T60B) | 682 (3.2%) |
| 90 days | N |  | 28,818 |
|  | Principal diagnosis, n(%) |  |  |
|  |  | Sepsis, unspecified (A419) | 1,368 (4.7%) |
|  |  | Urinary tract infection, site not specified (N390) | 951 (3.3%) |
|  |  | Pneumonia, unspecified (J189) | 674 (2.3%) |
|  | Diagnosis Related Group, n(%) |  |  |
|  |  | Respiratory Infections and Inflammations, Major Complexity (E62A) | 1,107 (3.8%) |
|  |  | Kidney and Urinary Tract Infections, Major Complexity (L63A) | 881 (3.1%) |
|  |  | Septicaemia, Major Complexity (T60A) | 861 (3.0%) |
| 120 days | N |  | 30,884 |
|  | Principal diagnosis, n(%) |  |  |
|  |  | Sepsis, unspecified (A419) | 1,410 (4.6%) |
|  |  | Urinary tract infection, site not specified (N390) | 1,030 (3.3%) |
|  |  | Pneumonia, unspecified (J189) | 724 (2.3%) |
|  | Diagnosis Related Group, n(%) |  |  |
|  |  | Respiratory Infections and Inflammations, Major Complexity (E62A) | 1,180 (3.8%) |
|  |  | Kidney and Urinary Tract Infections, Major Complexity (L63A) | 943 (3.1%) |
|  |  | Septicaemia, Major Complexity (T60A) | 883 (2.9%) |
| 365 days | N |  | 39,225 |
|  | Principal diagnosis, n(%) |  |  |
|  |  | Sepsis, unspecified (A419) | 1,578 (4.0%) |
|  |  | Urinary tract infection, site not specified (N390) | 1,372 (3.5%) |
|  |  | Pneumonia, unspecified (J189) | 929 (2.4%) |
|  | Diagnosis Related Group, n(%) |  |  |
|  |  | Respiratory Infections and Inflammations, Major Complexity (E62A) | 1,472 (3.8%) |
|  |  | Kidney and Urinary Tract Infections, Major Complexity (L63A) | 1,201 (3.1%) |
|  |  | Septicaemia, Major Complexity (T60A) | 953 (2.4%) |
|  |  |  |  |

DRG descriptions based on AR-DRG v8.

Principal diagnosis description based on ICD-10-AM 12th edition

### Table 4. Demographic characteristics for separations with explicit sepsis codes, public hospitals, 2017-18

|  | **Pre-sepsis separations (30 days)** | **Sepsis separations (principal diagnosis)** | **Sepsis separations (secondary diagnosis)** | **Sepsis separations** | **Post-sepsis readmissions  (30 days)** |
| --- | --- | --- | --- | --- | --- |
| N | 32,926 | 42,926 | 71,626 | 107,181 | 27,130 |
| Sex, n(%) |  |  |  |  |  |
| Male | 18,236 (55.4%) | 22,978 (53.5%) | 39,745 (55.5%) | 58,733 (54.8%) | 15,461 (57.0%) |
| Female | 14,689 (44.6%) | 19,945 (46.5%) | 31,880 (44.5%) | 48,445 (45.2%) | 11,668 (43.0%) |
| Age (years) |  |  |  |  |  |
| mean (SD) | 62 (22.1) | 62 (27.2) | 60 (26.5) | 60 (27.2) | 62 (22.2) |
| median (IQR) | 68 (51-79) | 70 (51-82) | 68 (49-80) | 69 (48-81) | 67 (52-78) |
| Broad age group (years), n(%) |  |  |  |  |  |
| < 1 | 790 (2.4%) | 3,899 (9.1%) | 6,392 (8.9%) | 10,220 (9.5%) | 837 (3.1%) |
| 1-5 | 365 (1.1%) | 433 (1.0%) | 586 (0.8%) | 965 (0.9%) | 381 (1.4%) |
| 6-17 | 467 (1.4%) | 448 (1.0%) | 652 (0.9%) | 1,029 (1.0%) | 418 (1.5%) |
| 18-64 | 12,755 (38.7%) | 12,309 (28.7%) | 23,574 (32.9%) | 33,249 (31.0%) | 10,384 (38.3%) |
| >= 65 | 18,549 (56.3%) | 25,837 (60.2%) | 40,422 (56.4%) | 61,718 (57.6%) | 15,110 (55.7%) |
| Aboriginal or Torres Strait Islander, n(%) | 2,234 (6.8%) | 2,513 (5.9%) | 4,171 (5.8%) | 6,211 (5.8%) | 2,063 (7.6%) |
| Remoteness of patient residence, n(%) |  |  |  |  |  |
| Major cities | 19,916 (60.5%) | 27,226 (63.4%) | 46,718 (65.2%) | 69,269 (64.6%) | 15,768 (58.1%) |
| Inner regional | 7,581 (23.0%) | 9,401 (21.9%) | 15,226 (21.3%) | 22,956 (21.4%) | 6,543 (24.1%) |
| Outer regional | 3,935 (12.0%) | 4,497 (10.5%) | 6,924 (9.7%) | 10,730 (10.0%) | 3,465 (12.8%) |
| Remote | 1,403 (4.3%) | 1,534 (3.6%) | 2,211 (3.1%) | 3,478 (3.2%) | 1,277 (4.7%) |
| Socio-economic (SES) disadvantage, n(%) |  |  |  |  |  |
| Most disadvantaged (1) | 8,753 (26.6%) | 10,502 (24.5%) | 17,488 (24.4%) | 26,026 (24.3%) | 7,369 (27.2%) |
| 2 | 6,903 (21.0%) | 8,948 (20.8%) | 14,326 (20.0%) | 21,744 (20.3%) | 5,819 (21.4%) |
| 3 | 7,251 (22.0%) | 9,646 (22.5%) | 16,053 (22.4%) | 24,041 (22.4%) | 5,920 (21.8%) |
| 4 | 5,540 (16.8%) | 7,457 (17.4%) | 12,636 (17.6%) | 18,899 (17.6%) | 4,453 (16.4%) |
| Least disadvantaged (5) | 4,387 (13.3%) | 6,103 (14.2%) | 10,574 (14.8%) | 15,719 (14.7%) | 3,490 (12.9%) |
| Comorbidities, n(%) |  |  |  |  |  |
| Cancer | 5,322 (16.2%) | 4,744 (11.1%) | 9,779 (13.7%) | 13,486 (12.6%) | 4,008 (14.8%) |
| Chronic obstructive pulmonary disease | 1,875 (5.7%) | 2,646 (6.2%) | 7,294 (10.2%) | 9,228 (8.6%) | 1,662 (6.1%) |
| Diabetes | 9,260 (28.1%) | 12,154 (28.3%) | 20,270 (28.3%) | 30,048 (28.0%) | 8,144 (30.0%) |
| HIV/AIDS | 31 (0.1%) | 35 (0.1%) | 95 (0.1%) | 117 (0.1%) | 40 (0.1%) |
| Liver disease | 434 (1.3%) | 748 (1.7%) | 1,968 (2.7%) | 2,353 (2.2%) | 413 (1.5%) |
| Renal disease | 3,608 (11.0%) | 6,226 (14.5%) | 10,963 (15.3%) | 15,616 (14.6%) | 3,434 (12.7%) |
|  |  |  |  |  |  |

### Table 5. Demographic characteristics for separations with explicit sepsis codes, public hospitals, 2022-23

|  | **Pre-sepsis separations (30 days)** | **Sepsis separations (principal diagnosis)** | **Sepsis separations (secondary diagnosis)** | **Sepsis separations** | **Post-sepsis readmissions  (30 days)** |
| --- | --- | --- | --- | --- | --- |
| N | 24,498 | 32,608 | 60,258 | 84,382 | 21,434 |
| Sex, n(%) |  |  |  |  |  |
| Male | 13,396 (54.7%) | 17,413 (53.4%) | 33,436 (55.5%) | 46,194 (54.7%) | 12,343 (57.6%) |
| Female | 11,100 (45.3%) | 15,195 (46.6%) | 26,816 (44.5%) | 38,182 (45.2%) | 9,091 (42.4%) |
| Age (years) |  |  |  |  |  |
| mean (SD) | 63 (21.8) | 65 (24.7) | 63 (23.7) | 64 (24.4) | 63 (21.5) |
| median (IQR) | 68 (52-79) | 72 (55-82) | 70 (53-80) | 70 (53-81) | 68 (53-78) |
| Broad age group (years), n(%) |  |  |  |  |  |
| < 1 | 562 (2.3%) | 1,740 (5.3%) | 2,949 (4.9%) | 4,429 (5.2%) | 557 (2.6%) |
| 1-5 | 199 (0.8%) | 340 (1.0%) | 494 (0.8%) | 775 (0.9%) | 263 (1.2%) |
| 6-17 | 274 (1.1%) | 344 (1.1%) | 580 (1.0%) | 854 (1.0%) | 293 (1.4%) |
| 18-64 | 9,395 (38.4%) | 9,208 (28.2%) | 20,053 (33.3%) | 26,566 (31.5%) | 8,173 (38.1%) |
| >= 65 | 14,068 (57.4%) | 20,976 (64.3%) | 36,182 (60.0%) | 51,758 (61.3%) | 12,148 (56.7%) |
| Aboriginal or Torres Strait Islander, n(%) | 1,937 (7.9%) | 2,269 (7.0%) | 4,082 (6.8%) | 5,753 (6.8%) | 1,911 (8.9%) |
| Remoteness of patient residence, n(%) |  |  |  |  |  |
| Major cities | 13,870 (56.6%) | 18,686 (57.3%) | 37,968 (63.0%) | 51,479 (61.0%) | 11,483 (53.6%) |
| Inner regional | 5,951 (24.3%) | 8,281 (25.4%) | 13,249 (22.0%) | 19,554 (23.2%) | 5,439 (25.4%) |
| Outer regional | 3,483 (14.2%) | 4,031 (12.4%) | 6,538 (10.9%) | 9,656 (11.4%) | 3,325 (15.5%) |
| Remote | 1,111 (4.5%) | 1,367 (4.2%) | 1,961 (3.3%) | 2,977 (3.5%) | 1,107 (5.2%) |
| Socio-economic (SES) disadvantage, n(%) |  |  |  |  |  |
| Most disadvantaged (1) | 6,784 (27.7%) | 8,576 (26.3%) | 15,131 (25.1%) | 21,420 (25.4%) | 6,087 (28.4%) |
| 2 | 5,434 (22.2%) | 7,067 (21.7%) | 12,783 (21.2%) | 18,015 (21.3%) | 4,891 (22.8%) |
| 3 | 5,391 (22.0%) | 7,239 (22.2%) | 13,741 (22.8%) | 19,043 (22.6%) | 4,695 (21.9%) |
| 4 | 3,926 (16.0%) | 5,283 (16.2%) | 10,074 (16.7%) | 14,056 (16.7%) | 3,286 (15.3%) |
| Least disadvantaged (5) | 2,879 (11.8%) | 4,199 (12.9%) | 7,985 (13.3%) | 11,129 (13.2%) | 2,395 (11.2%) |
| Comorbidities, n(%) |  |  |  |  |  |
| Cancer | 3,918 (16.0%) | 3,890 (11.9%) | 8,188 (13.6%) | 10,969 (13.0%) | 3,021 (14.1%) |
| Chronic obstructive pulmonary disease | 1,310 (5.3%) | 2,205 (6.8%) | 6,113 (10.1%) | 7,524 (8.9%) | 1,332 (6.2%) |
| Diabetes | 7,241 (29.6%) | 10,144 (31.1%) | 18,945 (31.4%) | 26,219 (31.1%) | 6,731 (31.4%) |
| HIV/AIDS | 11 (0.0%) | 17 (0.1%) | 46 (0.1%) | 54 (0.1%) | 19 (0.1%) |
| Liver disease | 359 (1.5%) | 691 (2.1%) | 1,934 (3.2%) | 2,213 (2.6%) | 351 (1.6%) |
| Renal disease | 2,763 (11.3%) | 5,417 (16.6%) | 10,445 (17.3%) | 13,953 (16.5%) | 2,829 (13.2%) |
|  |  |  |  |  |  |

### Table 6. Admitted care characteristics for separations with explicit sepsis codes, public hospitals, 2017-18

|  | **Pre-sepsis separations (30 days)** | **Sepsis separations (principal diagnosis)** | **Sepsis separations (secondary diagnosis)** | **Sepsis separations** | **Post-sepsis readmissions  (30 days)** |
| --- | --- | --- | --- | --- | --- |
| N | 32,926 | 42,926 | 71,626 | 107,181 | 27,130 |
| Urgency of admission, n(%) |  |  |  |  |  |
| Emergency | 20,786 (63.1%) | 34,247 (79.8%) | 52,282 (73.0%) | 80,193 (74.8%) | 17,039 (62.8%) |
| Elective | 7,006 (21.3%) | 2,322 (5.4%) | 6,969 (9.7%) | 8,949 (8.3%) | 6,349 (23.4%) |
| Not assigned | 5,132 (15.6%) | 6,354 (14.8%) | 12,373 (17.3%) | 18,034 (16.8%) | 3,741 (13.8%) |
| Transferred from another hospital, n(%) | 3,807 (11.6%) | 4,627 (10.8%) | 10,892 (15.2%) | 14,380 (13.4%) | 7,772 (28.6%) |
| Length of stay (days) |  |  |  |  |  |
| mean (SD) | 6 (12.3) | 8 (10.7) | 14 (21.4) | 12 (18.5) | 8 (12.5) |
| median (IQR) | 3 (1-7) | 5 (3-9) | 8 (4-16) | 6 (3-13) | 4 (1-9) |
| Admission to ICU, n(%) | 2,693 (8.2%) | 6,722 (15.7%) | 20,707 (28.9%) | 23,689 (22.1%) | 2,729 (10.1%) |
| ICU length of stay (hrs) |  |  |  |  |  |
| mean (SD) | 96 (161.0) | 92 (123.6) | 182 (330.4) | 168 (312.5) | 127 (225.7) |
| median (IQR) | 48 (20-104) | 58 (28-108) | 83 (40-189) | 76 (37-172) | 66 (32-141) |
| Hospital remoteness, n(%) |  |  |  |  |  |
| Major cities | 22,201 (67.4%) | 29,494 (68.7%) | 52,977 (74.0%) | 77,182 (72.0%) | 18,762 (69.2%) |
| Inner regional | 6,696 (20.3%) | 8,664 (20.2%) | 12,567 (17.5%) | 19,736 (18.4%) | 5,280 (19.5%) |
| Outer regional | 3,011 (9.1%) | 3,623 (8.4%) | 4,865 (6.8%) | 8,057 (7.5%) | 2,389 (8.8%) |
| Remote | 1,018 (3.1%) | 1,145 (2.7%) | 1,217 (1.7%) | 2,206 (2.1%) | 699 (2.6%) |
| Sepsis onset, n(%) |  |  |  |  |  |
| present on admission | 6,945 (21.1%) | 41,667 (97.1%) | 57,538 (80.3%) | 91,840 (85.7%) | 7,482 (27.6%) |
| hospital acquired | 877 (2.7%) | 1,404 (3.3%) | 14,591 (20.4%) | 15,844 (14.8%) | 362 (1.3%) |
| both | 43 (0.1%) | 145 (0.3%) | 504 (0.7%) | 504 (0.5%) | 56 (0.2%) |
| Maternal sepsis, n(%) | 155 (1.1%) | 1,407 (7.1%) | 1,792 (5.6%) | 3,026 (6.2%) | 167 (1.4%) |
| Sepsis as principal diagnosis, n(%) | 3,798 (11.5%) | 42,926 (100%) | 7,371 (10.3%) | 42,926 (40.1%) | 3,724 (13.7%) |
| Top 3 non-sepsis principal diagnoses, n(%) |  |  |  |  |  |
| Cellulitis of lower limb (L0313) | N/A | N/A | N/A | N/A | 437 (1.6%) |
| Congestive heart failure (I500) | 512 (1.6%) | N/A | N/A | N/A | N/A |
| Pneumonia, unspecified (J189) | 736 (2.2%) | N/A | 4,015 (5.6%) | 4,015 (3.7%) | 772 (2.8%) |
| Preterm infant, 32 or more completed weeks but less than 37 completed weeks (P0732) | N/A | N/A | 1,525 (2.1%) | 1,525 (1.4%) | N/A |
| Urinary tract infection, site not specified (N390) | 941 (2.9%) | N/A | 4,056 (5.7%) | 4,056 (3.8%) | 756 (2.8%) |
| Diagnostic Related Group type, n(%) |  |  |  |  |  |
| surgical | 4,589 (13.9%) | 2,645 (6.2%) | 16,806 (23.5%) | 18,334 (17.1%) | 3,902 (14.4%) |
| non-surgical | 28,337 (86.1%) | 40,281 (93.8%) | 54,820 (76.5%) | 88,847 (82.9%) | 23,228 (85.6%) |
| Sepsis Diagnosis Related Group, n(%) |  |  |  |  |  |
| T60A Septicaemia, Major Complexity | 843 (2.6%) | 8,291 (19.3%) | 2,176 (3.0%) | 8,302 (7.7%) | 948 (3.5%) |
| T60B Septicaemia, Intermediate Complexity | 1,174 (3.6%) | 12,978 (30.2%) | 2,058 (2.9%) | 12,988 (12.1%) | 1,080 (4.0%) |
| T60C Septicaemia, Minor Complexity | 1,366 (4.1%) | 13,759 (32.1%) | 1,523 (2.1%) | 13,768 (12.8%) | 1,114 (4.1%) |
| Top 3 non-sepsis Diagnosis Related Group, n(%) |  |  |  |  |  |
| Cellulitis, Major Complexity (J64A) | N/A | N/A | 1,901 (2.7%) | N/A | N/A |
| Infectious and Parasitic Diseases W OR Procedures, Major Complexity (T01A) | N/A | 1,182 (2.8%) | N/A | N/A | N/A |
| Kidney and Urinary Tract Infections, Major Complexity (L63A) | 755 (2.3%) | N/A | 4,613 (6.4%) | 4,613 (4.3%) | 690 (2.5%) |
| Neonate, AdmWt >=2500g W/O Sig OR Proc/Vent>=96hrs, >=37 Comp Wks Gest, Int Comp (P68C) | N/A | 1,073 (2.5%) | N/A | N/A | N/A |
| Neonate, AdmWt >=2500g W/O Sig OR Proc/Vent>=96hrs, >=37 Comp Wks Gest, Maj Comp (P68B) | N/A | 1,307 (3.0%) | N/A | 2,453 (2.3%) | N/A |
| Other Digestive System Disorders, Major Complexity (G70A) | 506 (1.5%) | N/A | N/A | N/A | N/A |
| Other Follow Up After Surgery or Medical Care, Major Complexity (Z63A) | N/A | N/A | N/A | N/A | 538 (2.0%) |
| Respiratory Infections and Inflammations, Major Complexity (E62A) | 810 (2.5%) | N/A | 5,721 (8.0%) | 5,721 (5.3%) | 1,024 (3.8%) |
| Hospital-Acquired Complications (HACs), n(%) \* |  |  |  |  |  |
| At least one HAC | 2,101 (6.4%) | 3,519 (8.2%) | 13,273 (18.5%) | 15,519 (14.5%) | 1,915 (7.1%) |
| Pressure Injury | 100 (0.3%) | 218 (0.5%) | 863 (1.2%) | 979 (0.9%) | 119 (0.4%) |
| Falls resulting in fracture or intracranial injury | 35 (0.1%) | 37 (0.1%) | 148 (0.2%) | 176 (0.2%) | 29 (0.1%) |
| Surgical complications | 357 (1.1%) | 291 (0.7%) | 2,392 (3.3%) | 2,552 (2.4%) | 290 (1.1%) |
| Respiratory complications | 306 (0.9%) | 535 (1.2%) | 3,500 (4.9%) | 3,768 (3.5%) | 273 (1.0%) |
| Venous thromboembolism | 103 (0.3%) | 165 (0.4%) | 816 (1.1%) | 923 (0.9%) | 116 (0.4%) |
| Renal failure | 29 (0.1%) | 46 (0.1%) | 599 (0.8%) | 612 (0.6%) | 40 (0.1%) |
| Gastrointestinal bleeding | 177 (0.5%) | 279 (0.6%) | 1,038 (1.4%) | 1,219 (1.1%) | 144 (0.5%) |
| Medication complications | 125 (0.4%) | 158 (0.4%) | 716 (1.0%) | 813 (0.8%) | 93 (0.3%) |
| Delirium | 539 (1.6%) | 954 (2.2%) | 4,115 (5.7%) | 4,704 (4.4%) | 516 (1.9%) |
| Incontinence | 52 (0.2%) | 90 (0.2%) | 371 (0.5%) | 438 (0.4%) | 60 (0.2%) |
| Endocrine complications | 339 (1.0%) | 597 (1.4%) | 2,138 (3.0%) | 2,511 (2.3%) | 365 (1.3%) |
| Cardiac complications | 588 (1.8%) | 1,178 (2.7%) | 4,402 (6.1%) | 5,127 (4.8%) | 551 (2.0%) |
| Discharge/transfer to residential aged care service, n(%) |  |  |  |  |  |
| usual place of residence | N/A | N/A | N/A | N/A | N/A |
| not the usual place of residence | 918 (2.8%) | 1,566 (3.6%) | 2,176 (3.0%) | 3,564 (3.3%) | 810 (3.0%) |
|  |  |  |  |  |  |

### Table 7. Admitted care characteristics for separations with explicit sepsis codes, public hospitals, 2022-23

|  | **Pre-sepsis separations (30 days)** | **Sepsis separations (principal diagnosis)** | **Sepsis separations (secondary diagnosis)** | **Sepsis separations** | **Post-sepsis readmissions  (30 days)** |
| --- | --- | --- | --- | --- | --- |
| N | 24,498 | 32,608 | 60,258 | 84,382 | 21,434 |
| Urgency of admission, n(%) |  |  |  |  |  |
| Emergency | 15,083 (61.6%) | 26,491 (81.2%) | 46,448 (77.1%) | 65,742 (77.9%) | 13,168 (61.4%) |
| Elective | 5,124 (20.9%) | 1,805 (5.5%) | 5,192 (8.6%) | 6,560 (7.8%) | 5,429 (25.3%) |
| Not assigned | 4,270 (17.4%) | 4,282 (13.1%) | 8,541 (14.2%) | 11,980 (14.2%) | 2,820 (13.2%) |
| Transferred from another hospital, n(%) | 2,853 (11.6%) | 3,327 (10.2%) | 8,109 (13.5%) | 10,260 (12.2%) | 6,534 (30.5%) |
| Length of stay (days) |  |  |  |  |  |
| mean (SD) | 7 (15.0) | 8 (11.5) | 15 (25.3) | 13 (22.2) | 8 (12.0) |
| median (IQR) | 3 (1-7) | 5 (2-10) | 8 (4-17) | 7 (3-14) | 4 (1-10) |
| Admission to ICU, n(%) | 2,314 (9.4%) | 7,096 (21.8%) | 21,223 (35.2%) | 23,422 (27.8%) | 2,572 (12.0%) |
| ICU length of stay (hrs) |  |  |  |  |  |
| mean (SD) | 103 (157.4) | 104 (125.2) | 176 (306.4) | 168 (294.5) | 129 (168.6) |
| median (IQR) | 60 (24-115) | 70 (38-122) | 89 (45-184) | 85 (44-174) | 73 (37-151) |
| Hospital remoteness, n(%) |  |  |  |  |  |
| Major cities | 15,209 (62.1%) | 20,242 (62.1%) | 42,514 (70.6%) | 56,969 (67.5%) | 13,837 (64.6%) |
| Inner regional | 5,360 (21.9%) | 7,765 (23.8%) | 11,264 (18.7%) | 17,254 (20.4%) | 4,648 (21.7%) |
| Outer regional | 2,759 (11.3%) | 3,274 (10.0%) | 4,654 (7.7%) | 7,291 (8.6%) | 2,250 (10.5%) |
| Remote | 798 (3.3%) | 950 (2.9%) | 985 (1.6%) | 1,759 (2.1%) | 476 (2.2%) |
| Sepsis onset, n(%) |  |  |  |  |  |
| present on admission | 4,620 (18.9%) | 32,145 (98.6%) | 52,242 (86.7%) | 75,935 (90.0%) | 4,985 (23.3%) |
| hospital acquired | 433 (1.8%) | 550 (1.7%) | 8,369 (13.9%) | 8,800 (10.4%) | 142 (0.7%) |
| both | 14 (0.1%) | 87 (0.3%) | 353 (0.6%) | 353 (0.4%) | 28 (0.1%) |
| Maternal sepsis, n(%) | 133 (1.2%) | 1,342 (8.8%) | 1,720 (6.4%) | 2,952 (7.7%) | 134 (1.5%) |
| Sepsis as principal diagnosis, n(%) | 2,430 (9.9%) | 32,608 (100%) | 8,484 (14.1%) | 32,608 (38.6%) | 2,349 (11.0%) |
| Top 3 non-sepsis principal diagnoses, n(%) |  |  |  |  |  |
| Cellulitis of lower limb (L0313) | N/A | N/A | 1,426 (2.4%) | 1,426 (1.7%) | 400 (1.9%) |
| Pneumonia, unspecified (J189) | 471 (1.9%) | N/A | 2,623 (4.4%) | 2,623 (3.1%) | 525 (2.4%) |
| Single spontaneous delivery (O80) | 515 (2.1%) | N/A | N/A | N/A | N/A |
| Urinary tract infection, site not specified (N390) | 588 (2.4%) | N/A | 2,631 (4.4%) | 2,631 (3.1%) | 659 (3.1%) |
| Diagnostic Related Group type, n(%) |  |  |  |  |  |
| surgical | 3,397 (13.9%) | 2,267 (7.0%) | 14,197 (23.6%) | 15,308 (18.1%) | 3,246 (15.1%) |
| non-surgical | 21,101 (86.1%) | 30,341 (93.0%) | 46,061 (76.4%) | 69,074 (81.9%) | 18,188 (84.9%) |
| Sepsis Diagnosis Related Group, n(%) |  |  |  |  |  |
| T60A Septicaemia, Major Complexity | 601 (2.5%) | 7,857 (24.1%) | 2,753 (4.6%) | 7,879 (9.3%) | 768 (3.6%) |
| T60B Septicaemia, Intermediate Complexity | 728 (3.0%) | 10,102 (31.0%) | 2,385 (4.0%) | 10,116 (12.0%) | 682 (3.2%) |
| T60C Septicaemia, Minor Complexity | 839 (3.4%) | 9,428 (28.9%) | 1,656 (2.7%) | 9,438 (11.2%) | 525 (2.4%) |
| Top 3 non-sepsis Diagnosis Related Group, n(%) |  |  |  |  |  |
| Cellulitis, Major Complexity (J64A) | N/A | N/A | 1,775 (2.9%) | 1,775 (2.1%) | N/A |
| Infectious and Parasitic Diseases W OR Procedures, Major Complexity (T01A) | N/A | 1,100 (3.4%) | N/A | N/A | N/A |
| Kidney and Urinary Tract Infections, Major Complexity (L63A) | 571 (2.3%) | N/A | 3,826 (6.3%) | 3,826 (4.5%) | 642 (3.0%) |
| Other Factors Influencing Health Status, Major Complexity (Z64A) | 474 (1.9%) | N/A | N/A | N/A | N/A |
| Other Follow Up After Surgery or Medical Care, Major Complexity (Z63A) | N/A | N/A | N/A | N/A | 418 (2.0%) |
| Postpartum and Post Abortion W/O OR Procedures, Major Complexity (O61A) | N/A | 481 (1.5%) | N/A | N/A | N/A |
| Postpartum and Post Abortion W/O OR Procedures, Minor Complexity (O61B) | N/A | 734 (2.3%) | N/A | N/A | N/A |
| Respiratory Infections and Inflammations, Major Complexity (E62A) | 696 (2.8%) | N/A | 4,288 (7.1%) | 4,288 (5.1%) | 873 (4.1%) |
| Hospital-Acquired Complications (HACs), n(%) \* |  |  |  |  |  |
| At least one HAC | 1,178 (4.8%) | 2,036 (6.2%) | 9,074 (15.1%) | 10,124 (12.0%) | 1,178 (5.5%) |
| Pressure Injury | 61 (0.2%) | 112 (0.3%) | 533 (0.9%) | 581 (0.7%) | 63 (0.3%) |
| Falls resulting in fracture or intracranial injury | 42 (0.2%) | 44 (0.1%) | 147 (0.2%) | 182 (0.2%) | 31 (0.1%) |
| Surgical complications | 158 (0.6%) | 213 (0.7%) | 1,669 (2.8%) | 1,757 (2.1%) | 209 (1.0%) |
| Respiratory complications | 210 (0.9%) | 412 (1.3%) | 2,841 (4.7%) | 3,039 (3.6%) | 249 (1.2%) |
| Venous thromboembolism | 60 (0.2%) | 112 (0.3%) | 619 (1.0%) | 672 (0.8%) | 80 (0.4%) |
| Renal failure | 5 (0.0%) | 28 (0.1%) | 321 (0.5%) | 331 (0.4%) | 17 (0.1%) |
| Gastrointestinal bleeding | 74 (0.3%) | 177 (0.5%) | 631 (1.0%) | 726 (0.9%) | 85 (0.4%) |
| Medication complications | 50 (0.2%) | 94 (0.3%) | 385 (0.6%) | 436 (0.5%) | 41 (0.2%) |
| Delirium | 282 (1.2%) | 460 (1.4%) | 2,656 (4.4%) | 2,870 (3.4%) | 286 (1.3%) |
| Incontinence | 13 (0.1%) | 13 (0.0%) | 70 (0.1%) | 78 (0.1%) | 10 (0.0%) |
| Endocrine complications | 248 (1.0%) | 373 (1.1%) | 1,547 (2.6%) | 1,748 (2.1%) | 240 (1.1%) |
| Cardiac complications | 247 (1.0%) | 595 (1.8%) | 2,512 (4.2%) | 2,791 (3.3%) | 241 (1.1%) |
| Discharge/transfer to residential aged care service, n(%) |  |  |  |  |  |
| usual place of residence | 490 (2.0%) | 855 (2.6%) | 1,178 (2.0%) | 1,875 (2.2%) | 414 (1.9%) |
| not the usual place of residence | 313 (1.3%) | 333 (1.0%) | 608 (1.0%) | 879 (1.0%) | 210 (1.0%) |
|  |  |  |  |  |  |

### Table 8. Health outcomes for separations with explicit sepsis codes, public hospitals, 2013-24 to 2022-23

| **Year** |  | **Pre-sepsis separations (30 days)** | **Sepsis separations  (principal diagnosis)** | **Sepsis separations  (secondary diagnosis)** | **Sepsis separations** | **Post-sepsis readmissions  (30 days)** |
| --- | --- | --- | --- | --- | --- | --- |
| 2013-14 | N | N/A | 24,594 | 44,242 | 65,021 | N/A |
|  | Rate per 10,000 population, age and sex standardised | N/A | 10 | 17 | 26 | N/A |
|  | Average length of stay (days) | N/A | 8 (9.6) | 16 (23.5) | 13 (20.4) | N/A |
|  | Admission to ICU, n(%) | N/A | 3,527 (14.3%) | 13,768 (31.1%) | 15,576 (24.0%) | N/A |
|  | Average ICU length of stay (hrs) | N/A | 93 (133.2) | 207 (369.3) | 191 (351.4) | N/A |
|  | Estimated cost per separation/readmission | N/A | $13,276 | $25,273 | $20,934 | N/A |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | N/A | 3,923 (16.0%) | 4,201 (9.5%) | 7,381 (11.4%) | N/A |
|  | Sepsis, unspecified (A419) | N/A | 10,671 (43.4%) | 19,337 (43.7%) | 28,373 (43.6%) | N/A |
|  | Septic shock (R572) | N/A | 2,758 (11.2%) | 9,512 (21.5%) | 9,514 (14.6%) | N/A |
|  | In-hospital mortality, n(%) | N/A | 2,882 (11.7%) | 6,626 (15.0%) | 8,595 (13.2%) | N/A |
|  | Emergency admission\* | N/A | 2,260 (78.4%) | 4,897 (73.9%) | 6,391 (74.4%) | N/A |
|  | Non-Emergency admission\* | N/A | 622 (21.6%) | 1,729 (26.1%) | 2,204 (25.6%) | N/A |
| 2014-15 | N | N/A | 26,834 | 47,435 | 69,930 | N/A |
|  | Rate per 10,000 population, age and sex standardised | N/A | 10 | 18 | 27 | N/A |
|  | Average length of stay (days) | N/A | 8 (9.9) | 16 (26.2) | 13 (22.5) | N/A |
|  | Admission to ICU, n(%) | N/A | 3,818 (14.2%) | 14,340 (30.2%) | 16,176 (23.1%) | N/A |
|  | Average ICU length of stay (hrs) | N/A | 93 (130.5) | 203 (364.6) | 189 (347.3) | N/A |
|  | Estimated cost per separation/readmission | N/A | $14,061 | $29,178 | $23,737 | N/A |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | N/A | 4,385 (16.3%) | 4,460 (9.4%) | 7,974 (11.4%) | N/A |
|  | Sepsis, unspecified (A419) | N/A | 11,892 (44.3%) | 21,253 (44.8%) | 31,258 (44.7%) | N/A |
|  | Septic shock (R572) | N/A | 3,282 (12.2%) | 10,867 (22.9%) | 10,869 (15.5%) | N/A |
|  | In-hospital mortality, n(%) | N/A | 3,246 (12.1%) | 7,209 (15.2%) | 9,363 (13.4%) | N/A |
|  | Emergency admission\* | N/A | 2,555 (78.7%) | 5,463 (75.8%) | 7,102 (75.9%) | N/A |
|  | Non-Emergency admission\* | N/A | 691 (21.3%) | 1,746 (24.2%) | 2,261 (24.1%) | N/A |
| 2015-16 | N | 26,389 | 35,822 | 65,361 | 95,214 | 20,854 |
|  | Rate per 10,000 population, age and sex standardised | 10 | 13 | 24 | 36 | 8 |
|  | Average length of stay (days) | 7 (12.8) | 8 (10.2) | 14 (22.9) | 12 (19.9) | 9 (21.6) |
|  | Admission to ICU, n(%) | 2,077 (7.9%) | 5,078 (14.2%) | 17,748 (27.2%) | 20,122 (21.1%) | 2,217 (10.6%) |
|  | Average ICU length of stay (hrs) | 102 (182.2) | 99 (162.4) | 194 (372.3) | 180 (354.0) | 141 (263.7) |
|  | Estimated cost per separation/readmission | N/A | $10,210 | $29,208 | $22,428 | $14,748 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 689 (2.6%) | 5,053 (14.1%) | 5,759 (8.8%) | 9,810 (10.3%) | 667 (3.2%) |
|  | Sepsis, unspecified (A419) | 3,221 (12.2%) | 18,478 (51.6%) | 39,224 (60.0%) | 54,618 (57.4%) | 3,022 (14.5%) |
|  | Septic shock (R572) | 992 (3.8%) | 4,840 (13.5%) | 12,233 (18.7%) | 12,239 (12.9%) | 1,042 (5.0%) |
|  | In-hospital mortality, n(%) | N/A | 4,027 (11.2%) | 8,394 (12.8%) | 11,028 (11.6%) | 936 (4.5%) |
|  | Emergency admission\* | N/A | 3,096 (76.9%) | 6,244 (74.4%) | 8,155 (73.9%) | 679 (72.5%) |
|  | Non-Emergency admission\* | N/A | 931 (23.1%) | 2,150 (25.6%) | 2,873 (26.1%) | 257 (27.5%) |
| 2016-17 | N | 31,316 | 44,316 | 67,520 | 104,823 | 25,720 |
|  | Rate per 10,000 population, age and sex standardised | 11 | 16 | 25 | 38 | 9 |
|  | Average length of stay (days) | 6 (12.5) | 8 (10.1) | 15 (31.1) | 12 (25.8) | 8 (12.8) |
|  | Admission to ICU, n(%) | 2,573 (8.2%) | 6,205 (14.0%) | 19,114 (28.3%) | 22,046 (21.0%) | 2,649 (10.3%) |
|  | Average ICU length of stay (hrs) | 98 (165.5) | 98 (138.5) | 189 (337.0) | 174 (318.3) | 138 (215.4) |
|  | Estimated cost per separation/readmission | $11,289 | $14,592 | $31,157 | $24,308 | $14,883 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 843 (2.7%) | 6,295 (14.2%) | 5,696 (8.4%) | 10,829 (10.3%) | 907 (3.5%) |
|  | Sepsis, unspecified (A419) | 4,075 (13.0%) | 23,298 (52.6%) | 40,299 (59.7%) | 59,982 (57.2%) | 3,835 (14.9%) |
|  | Septic shock (R572) | 1,200 (3.8%) | 5,763 (13.0%) | 13,180 (19.5%) | 13,180 (12.6%) | 1,238 (4.8%) |
|  | In-hospital mortality, n(%) | N/A | 4,471 (10.1%) | 8,777 (13.0%) | 11,746 (11.2%) | 1,123 (4.4%) |
|  | Emergency admission\* | N/A | 3,386 (75.7%) | 6,342 (72.3%) | 8,477 (72.2%) | 823 (73.3%) |
|  | Non-Emergency admission\* | N/A | 1,085 (24.3%) | 2,435 (27.7%) | 3,269 (27.8%) | 300 (26.7%) |
| 2017-18 | N | 32,926 | 42,926 | 71,626 | 107,181 | 27,130 |
|  | Rate per 10,000 population, age and sex standardised | 12 | 15 | 26 | 38 | 10 |
|  | Average length of stay (days) | 6 (12.3) | 8 (10.7) | 14 (21.4) | 12 (18.5) | 8 (12.5) |
|  | Admission to ICU, n(%) | 2,693 (8.2%) | 6,722 (15.7%) | 20,707 (28.9%) | 23,689 (22.1%) | 2,729 (10.1%) |
|  | Average ICU length of stay (hrs) | 96 (161.0) | 92 (123.6) | 182 (330.4) | 168 (312.5) | 127 (225.7) |
|  | Estimated cost per separation/readmission | $11,377 | $14,986 | $30,514 | $24,395 | $14,763 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 912 (2.8%) | 6,184 (14.4%) | 5,957 (8.3%) | 10,996 (10.3%) | 924 (3.4%) |
|  | Sepsis, unspecified (A419) | 4,234 (12.9%) | 22,024 (51.3%) | 43,268 (60.4%) | 61,510 (57.4%) | 3,967 (14.6%) |
|  | Septic shock (R572) | 1,274 (3.9%) | 6,122 (14.3%) | 13,955 (19.5%) | 13,955 (13.0%) | 1,290 (4.8%) |
|  | In-hospital mortality, n(%) | N/A | 4,484 (10.4%) | 9,338 (13.0%) | 12,205 (11.4%) | 1,158 (4.3%) |
|  | Emergency admission\* | N/A | 3,363 (75.0%) | 6,761 (72.4%) | 8,770 (71.9%) | 838 (72.4%) |
|  | Non-Emergency admission\* | N/A | 1,121 (25.0%) | 2,577 (27.6%) | 3,435 (28.1%) | 320 (27.6%) |
| 2018-19 | N | 33,787 | 43,595 | 72,991 | 109,008 | 28,292 |
|  | Rate per 10,000 population, age and sex standardised | 12 | 15 | 25 | 38 | 10 |
|  | Average length of stay (days) | 6 (12.3) | 8 (9.9) | 14 (20.7) | 11 (17.9) | 8 (13.3) |
|  | Admission to ICU, n(%) | 2,780 (8.2%) | 6,945 (15.9%) | 20,910 (28.6%) | 23,984 (22.0%) | 3,072 (10.9%) |
|  | Average ICU length of stay (hrs) | 92 (143.2) | 95 (133.7) | 173 (315.9) | 161 (299.2) | 134 (221.5) |
|  | Estimated cost per separation/readmission | $11,823 | $15,863 | $30,749 | $24,871 | $15,577 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 977 (2.9%) | 6,338 (14.5%) | 6,390 (8.8%) | 11,488 (10.5%) | 983 (3.5%) |
|  | Sepsis, unspecified (A419) | 4,606 (13.6%) | 22,917 (52.6%) | 45,923 (62.9%) | 64,891 (59.5%) | 4,290 (15.2%) |
|  | Septic shock (R572) | 1,306 (3.9%) | 6,326 (14.5%) | 14,202 (19.5%) | 14,202 (13.0%) | 1,343 (4.7%) |
|  | In-hospital mortality, n(%) | N/A | 4,648 (10.7%) | 8,975 (12.3%) | 12,067 (11.1%) | 1,179 (4.2%) |
|  | Emergency admission\* | N/A | 3,385 (72.8%) | 6,303 (70.2%) | 8,445 (70.0%) | 837 (71.0%) |
|  | Non-Emergency admission\* | N/A | 1,263 (27.2%) | 2,672 (29.8%) | 3,622 (30.0%) | 342 (29.0%) |
| 2019-20 | N | 32,064 | 40,954 | 68,286 | 101,725 | 26,556 |
|  | Rate per 10,000 population, age and sex standardised | 11 | 14 | 23 | 34 | 9 |
|  | Average length of stay (days) | 6 (22.3) | 8 (10.2) | 14 (25.1) | 12 (21.4) | 8 (13.3) |
|  | Admission to ICU, n(%) | 2,910 (9.1%) | 7,500 (18.3%) | 21,409 (31.4%) | 24,665 (24.2%) | 3,008 (11.3%) |
|  | Average ICU length of stay (hrs) | 106 (228.8) | 99 (142.3) | 178 (347.8) | 165 (328.5) | 127 (245.8) |
|  | Estimated cost per separation/readmission | $12,100 | $15,587 | $31,658 | $25,338 | $15,168 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 965 (3.0%) | 6,303 (15.4%) | 6,579 (9.6%) | 11,602 (11.4%) | 1,042 (3.9%) |
|  | Sepsis, unspecified (A419) | 4,165 (13.0%) | 21,897 (53.5%) | 43,562 (63.8%) | 61,605 (60.6%) | 3,940 (14.8%) |
|  | Septic shock (R572) | 1,287 (4.0%) | 6,419 (15.7%) | 14,471 (21.2%) | 14,471 (14.2%) | 1,304 (4.9%) |
|  | In-hospital mortality, n(%) | N/A | 4,731 (11.6%) | 8,642 (12.7%) | 11,831 (11.6%) | 1,039 (3.9%) |
|  | Emergency admission\* | N/A | 3,348 (70.8%) | 6,185 (71.6%) | 8,293 (70.1%) | 714 (68.7%) |
|  | Non-Emergency admission\* | N/A | 1,383 (29.2%) | 2,457 (28.4%) | 3,538 (29.9%) | 325 (31.3%) |
| 2020-21 | N | 32,238 | 39,918 | 67,725 | 99,856 | 26,710 |
|  | Rate per 10,000 population, age and sex standardised | 11 | 13 | 22 | 33 | 9 |
|  | Average length of stay (days) | 6 (11.3) | 8 (9.6) | 13 (21.1) | 11 (18.2) | 8 (13.4) |
|  | Admission to ICU, n(%) | 2,982 (9.2%) | 7,372 (18.5%) | 21,061 (31.1%) | 24,081 (24.1%) | 3,066 (11.5%) |
|  | Average ICU length of stay (hrs) | 95 (168.9) | 94 (119.3) | 174 (306.8) | 162 (291.0) | 130 (217.3) |
|  | Estimated cost per separation/readmission | $12,399 | $16,199 | $32,535 | $26,229 | $16,099 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 1,004 (3.1%) | 6,375 (16.0%) | 6,815 (10.1%) | 11,802 (11.8%) | 1,007 (3.8%) |
|  | Sepsis, unspecified (A419) | 4,380 (13.6%) | 21,253 (53.2%) | 43,212 (63.8%) | 60,382 (60.5%) | 4,122 (15.4%) |
|  | Septic shock (R572) | 1,449 (4.5%) | 6,701 (16.8%) | 15,158 (22.4%) | 15,158 (15.2%) | 1,463 (5.5%) |
|  | In-hospital mortality, n(%) | N/A | 4,616 (11.6%) | 8,441 (12.5%) | 11,520 (11.5%) | 997 (3.7%) |
|  | Emergency admission\* | N/A | 3,085 (66.8%) | 5,805 (68.8%) | 7,702 (66.9%) | 708 (71.0%) |
|  | Non-Emergency admission\* | N/A | 1,531 (33.2%) | 2,636 (31.2%) | 3,818 (33.1%) | 289 (29.0%) |
| 2021-22 | N | 30,945 | 38,795 | 69,035 | 99,739 | 26,067 |
|  | Rate per 10,000 population, age and sex standardised | 10 | 12 | 22 | 32 | 8 |
|  | Average length of stay (days) | 7 (18.5) | 8 (10.3) | 14 (23.1) | 12 (20.1) | 8 (13.3) |
|  | Admission to ICU, n(%) | 2,820 (9.1%) | 6,712 (17.3%) | 20,713 (30.0%) | 23,249 (23.3%) | 2,924 (11.2%) |
|  | Average ICU length of stay (hrs) | 105 (194.8) | 98 (123.3) | 186 (336.6) | 175 (321.0) | 139 (207.1) |
|  | Estimated cost per separation/readmission | $13,754 | $17,048 | $35,002 | $28,442 | $17,581 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 979 (3.2%) | 5,893 (15.2%) | 6,648 (9.6%) | 11,165 (11.2%) | 1,030 (4.0%) |
|  | Sepsis, unspecified (A419) | 4,175 (13.5%) | 20,809 (53.6%) | 44,622 (64.6%) | 61,214 (61.4%) | 3,990 (15.3%) |
|  | Septic shock (R572) | 1,514 (4.9%) | 7,034 (18.1%) | 16,257 (23.5%) | 16,257 (16.3%) | 1,492 (5.7%) |
|  | In-hospital mortality, n(%) | N/A | 5,226 (13.5%) | 9,856 (14.3%) | 13,252 (13.3%) | 1,121 (4.3%) |
|  | Emergency admission\* | N/A | 3,506 (67.1%) | 6,818 (69.2%) | 8,933 (67.4%) | 775 (69.1%) |
|  | Non-Emergency admission\* | N/A | 1,720 (32.9%) | 3,038 (30.8%) | 4,319 (32.6%) | 346 (30.9%) |
| 2022-23 | N | 24,498 | 32,608 | 60,258 | 84,382 | 21,434 |
|  | Rate per 10,000 population, age and sex standardised | 8 | 10 | 19 | 27 | 7 |
|  | Average length of stay (days) | 7 (15.0) | 8 (11.5) | 15 (25.3) | 13 (22.2) | 8 (12.0) |
|  | Admission to ICU, n(%) | 2,314 (9.4%) | 7,096 (21.8%) | 21,223 (35.2%) | 23,422 (27.8%) | 2,572 (12.0%) |
|  | Average ICU length of stay (hrs) | 103 (157.4) | 104 (125.2) | 176 (306.4) | 168 (294.5) | 129 (168.6) |
|  | Estimated cost per separation/readmission | $14,038 | $19,722 | $38,220 | $31,440 | $17,954 |
|  | Top 3 sepsis codes, n(%) |  |  |  |  |  |
|  | Sepsis due to Escherichia coli [E. Coli] (A4151) | 463 (1.9%) | 3,928 (12.0%) | 5,610 (9.3%) | 8,314 (9.9%) | 518 (2.4%) |
|  | Sepsis, unspecified (A419) | 2,899 (11.8%) | 17,621 (54.0%) | 38,057 (63.2%) | 51,260 (60.7%) | 2,701 (12.6%) |
|  | Septic shock (R572) | 1,392 (5.7%) | 7,696 (23.6%) | 18,467 (30.6%) | 18,467 (21.9%) | 1,431 (6.7%) |
|  | In-hospital mortality, n(%) | N/A | 4,925 (15.1%) | 9,199 (15.3%) | 12,273 (14.5%) | 1,018 (4.7%) |
|  | Emergency admission\* | N/A | 3,287 (66.7%) | 6,423 (69.8%) | 8,286 (67.5%) | 673 (66.1%) |
|  | Non-Emergency admission\* | N/A | 1,638 (33.3%) | 2,776 (30.2%) | 3,987 (32.5%) | 345 (33.9%) |
|  |  |  |  |  |  |  |

\*Percentage based on total in-hospital deaths within each reporting group, not the total number of separations/readmissions represented by N.

|  |
| --- |
| Appendices, Glossary and References |

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AI-generated content may be incorrect.

## Appendix A: Explicit sepsis codes

|  |  |  |
| --- | --- | --- |
| ICD-10-AM | Description | ICD-10-AM editions  (8th to 12th) |
| A021 | Sepsis due to Salmonella |  |
| A037 | Sepsis due to Shigella | 12th only |
| A207 | Sepsis due to plague |  |
| A217 | Sepsis due to tularaemia |  |
| A227 | Sepsis due to anthrax |  |
| A237 | Sepsis due to Brucella | 12th only |
| A247 | Sepsis due to glanders and melioidosis | 12th only |
| A267 | Sepsis due to Erysipelothrix [erysipeloid] [rhusiopathiae] |  |
| A2801 | Sepsis due to Pasteurella, not elsewhere classified | 12th only |
| A2821 | Sepsis due to extraintestinal yersiniosis | 12th only |
| A327 | Sepsis due to Listeria [monocytogenes] |  |
| A394 | Meningococcaemia, unspecified |  |
| A397 | Sepsis due to Meningococcus | 12th only |
| A400 | Sepsis due to Streptococcus, group A |  |
| A401 | Sepsis due to Streptococcus, group B |  |
| A402 | Sepsis due to Streptococcus, group D and Enterococcus |  |
| A4021 | Sepsis due to Streptococcus, group D | 12th only |
| A4022 | Sepsis due to Enterococcus | 12th only |
| A403 | Sepsis due to Streptococcus pneumoniae |  |
| A408 | Other streptococcal sepsis |  |
| A409 | Streptococcal sepsis, unspecified |  |
| A410 | Sepsis due to Staphylococcus aureus |  |
| A411 | Sepsis due to other specified Staphylococcus |  |
| A412 | Sepsis due to unspecified Staphylococcus |  |
| A413 | Sepsis due to Haemophilus influenzae |  |
| A414 | Sepsis due to anaerobes |  |
| A415 | Sepsis due to other and unspecified Gram-negative organisms |  |
| A4150 | Sepsis due to unspecified Gram-negative organisms |  |
| A4151 | Sepsis due to Escherichia coli [E. Coli] |  |
| A4152 | Sepsis due to Pseudomonas |  |
| A4158 | Sepsis due to other Gram-negative organisms |  |
| A418 | Sepsis due to other specified organism |  |
| A419 | Sepsis, unspecified |  |
| A427 | Sepsis due to actinomycosis |  |
| A547 | Sepsis due to Gonococcus | 12th only |
| B007 | Disseminated herpesviral disease |  |
| B0071 | Sepsis due to herpesviral [herpes simplex] infection | 12th only |
| B377 | Sepsis due to Candida |  |
| O85 | Puerperal sepsis |  |
| P36 | Sepsis of newborn | 12th only |
| P360 | Sepsis of newborn due to streptococcus, group B | 8th to 11th only |
| P361 | Sepsis of newborn due to other and unspecified streptococci | 8th to 11th only |
| P362 | Sepsis of newborn due to Staphylococcus aureus | 8th to 11th only |
| P363 | Sepsis of newborn due to other and unspecified staphylococci | 8th to 11th only |
| P364 | Sepsis of newborn due to Escherichia coli | 8th to 11th only |
| P365 | Sepsis of newborn due to anaerobes | 8th to 11th only |
| P368 | Other bacterial sepsis of newborn | 8th to 11th only |
| P369 | Bacterial sepsis of newborn, unspecified | 8th to 11th only |
| R572 | Septic shock |  |
| R651 | Severe sepsis |  |
| T8142 | Sepsis following a procedure | 8th only |

## Appendix B: Maternal codes

|  |  |
| --- | --- |
| ICD-10-AM | Description |
| O00 | Ectopic pregnancy |
| O000 | Abdominal pregnancy |
| O001 | Tubal pregnancy |
| O002 | Ovarian pregnancy |
| O008 | Other ectopic pregnancy |
| O009 | Ectopic pregnancy, unspecified |
| O01 | Hydatidiform mole |
| O010 | Classical hydatidiform mole |
| O011 | Incomplete and partial hydatidiform mole |
| O019 | Hydatidiform mole, unspecified |
| O02 | Other abnormal products of conception |
| O020 | Blighted ovum and nonhydatidiform mole |
| O021 | Missed abortion |
| O028 | Other specified abnormal products of conception |
| O029 | Abnormal product of conception, unspecified |
| O03 | Spontaneous abortion |
| O030 | Spontaneous abortion, incomplete, complicated by genital tract and pelvic infection and sepsis |
| O031 | Spontaneous abortion, incomplete, complicated by delayed or excessive haemorrhage |
| O032 | Spontaneous abortion, incomplete, complicated by embolism |
| O033 | Spontaneous abortion, incomplete, with other and unspecified complications |
| O034 | Spontaneous abortion, incomplete, without complication |
| O035 | Spontaneous abortion, complete or unspecified, complicated by genital tract and pelvic infection and sepsis |
| O036 | Spontaneous abortion, complete or unspecified, complicated by delayed or excessive haemorrhage |
| O037 | Spontaneous abortion, complete or unspecified, complicated by embolism |
| O038 | Spontaneous abortion, complete or unspecified, with other and unspecified complications |
| O039 | Spontaneous abortion, complete or unspecified, without complication |
| O04 | Medical abortion |
| O040 | Medical abortion, incomplete, complicated by genital tract and pelvic infection and sepsis |
| O041 | Medical abortion, incomplete, complicated by delayed or excessive haemorrhage |
| O042 | Medical abortion, incomplete, complicated by embolism |
| O043 | Medical abortion, incomplete, with other and unspecified complications |
| O044 | Medical abortion, incomplete, without complication |
| O045 | Medical abortion, complete or unspecified, complicated by genital tract and pelvic infection and sepsis |
| O046 | Medical abortion, complete or unspecified, complicated by delayed or excessive haemorrhage |
| O047 | Medical abortion, complete or unspecified, complicated by embolism |
| O048 | Medical abortion, complete or unspecified, with other and unspecified complications |
| O049 | Medical abortion, complete or unspecified, without complication |
| O05 | Other abortion |
| O050 | Other abortion, incomplete, complicated by genital tract and pelvic infection and sepsis |
| O051 | Other abortion, incomplete, complicated by delayed or excessive haemorrhage |
| O052 | Other abortion, incomplete, complicated by embolism |
| O053 | Other abortion, incomplete, with other and unspecified complications |
| O054 | Other abortion, incomplete, without complication |
| O055 | Other abortion, complete or unspecified, complicated by genital tract and pelvic infection and sepsis |
| O056 | Other abortion, complete or unspecified, complicated by delayed or excessive haemorrhage |
| O057 | Other abortion, complete or unspecified, complicated by embolism |
| O058 | Other abortion, complete or unspecified, with other and unspecified complications |
| O059 | Other abortion, complete or unspecified, without complication |
| O06 | Unspecified abortion |
| O060 | Unspecified abortion, incomplete, complicated by genital tract and pelvic infection and sepsis |
| O061 | Unspecified abortion, incomplete, complicated by delayed or excessive haemorrhage |
| O062 | Unspecified abortion, incomplete, complicated by embolism |
| O063 | Unspecified abortion, incomplete, with other and unspecified complications |
| O064 | Unspecified abortion, incomplete, without complication |
| O065 | Unspecified abortion, complete or unspecified, complicated by genital tract and pelvic infection and sepsis |
| O066 | Unspecified abortion, complete or unspecified, complicated by delayed or excessive haemorrhage |
| O067 | Unspecified abortion, complete or unspecified, complicated by embolism |
| O068 | Unspecified abortion, complete or unspecified, with other and unspecified complications |
| O069 | Unspecified abortion, complete or unspecified, without complication |
| O07 | Failed attempted abortion |
| O070 | Failed medical abortion, complicated by genital tract and pelvic infection and sepsis |
| O071 | Failed medical abortion, complicated by delayed or excessive haemorrhage |
| O072 | Failed medical abortion, complicated by embolism |
| O073 | Failed medical abortion, with other and unspecified complications |
| O074 | Failed medical abortion, without complication |
| O075 | Other and unspecified failed attempted abortion, complicated by genital tract and pelvic infection and sepsis |
| O076 | Other and unspecified failed attempted abortion, complicated by delayed or excessive haemorrhage |
| O077 | Other and unspecified failed attempted abortion, complicated by embolism |
| O078 | Other and unspecified failed attempted abortion, with other and unspecified complications |
| O079 | Other and unspecified failed attempted abortion, without complication |
| O08 | Complications following abortion and ectopic and molar pregnancy |
| O080 | Genital tract and pelvic infection and sepsis following abortion and ectopic and molar pregnancy |
| O081 | Delayed or excessive haemorrhage following abortion and ectopic and molar pregnancy |
| O082 | Embolism following abortion and ectopic and molar pregnancy |
| O083 | Shock following abortion and ectopic and molar pregnancy |
| O084 | Kidney failure following abortion and ectopic and molar pregnancy |
| O085 | Metabolic disorders following abortion and ectopic and molar pregnancy |
| O086 | Damage to pelvic organs and tissues following abortion and ectopic and molar pregnancy |
| O087 | Other venous complications following abortion and ectopic and molar pregnancy |
| O088 | Other complications following abortion and ectopic and molar pregnancy |
| O089 | Complication following abortion and ectopic and molar pregnancy, unspecified |
| O09 | Duration of pregnancy |
| O090 | Duration of pregnancy less than 5 completed weeks |
| O091 | Duration of pregnancy 5-13 completed weeks |
| O092 | Duration of pregnancy 14-19 completed weeks |
| O093 | Duration of pregnancy 20-25 completed weeks |
| O094 | Duration of pregnancy 26-33 completed weeks |
| O095 | Duration of pregnancy 34-36 completed weeks |
| O099 | Unspecified duration of pregnancy |
| O10 | Pre-existing hypertension in pregnancy, childbirth and the puerperium |
| O100 | Pre-existing essential hypertension complicating pregnancy, childbirth and the puerperium |
| O101 | Pre-existing hypertensive heart disease complicating pregnancy, childbirth and the puerperium |
| O102 | Pre-existing hypertensive kidney disease complicating pregnancy, childbirth and the puerperium |
| O103 | Pre-existing hypertensive heart and kidney disease complicating pregnancy, childbirth and the puerperium |
| O104 | Pre-existing secondary hypertension complicating pregnancy, childbirth and the puerperium |
| O109 | Unspecified pre-existing hypertension complicating pregnancy, childbirth and the puerperium |
| O11 | Pre-eclampsia superimposed on chronic hypertension |
| O12 | Gestational [pregnancy-induced] oedema and proteinuria without hypertension |
| O120 | Gestational oedema |
| O121 | Gestational proteinuria |
| O122 | Gestational oedema with proteinuria |
| O13 | Gestational [pregnancy-induced] hypertension |
| O14 | Pre-eclampsia |
| O140 | Mild to moderate pre-eclampsia |
| O141 | Severe pre-eclampsia |
| O142 | HELLP syndrome |
| O149 | Pre-eclampsia, unspecified |
| O15 | Eclampsia |
| O150 | Eclampsia in pregnancy |
| O151 | Eclampsia in labour |
| O152 | Eclampsia in the puerperium |
| O159 | Eclampsia, unspecified as to time period |
| O16 | Unspecified maternal hypertension |
| O20 | Haemorrhage in early pregnancy |
| O200 | Threatened abortion |
| O208 | Other haemorrhage in early pregnancy |
| O209 | Haemorrhage in early pregnancy, unspecified |
| O21 | Excessive vomiting in pregnancy |
| O210 | Hyperemesis gravidarum |
| O211 | Hyperemesis gravidarum with metabolic disturbance |
| O212 | Vomiting in late pregnancy |
| O218 | Other vomiting complicating pregnancy |
| O219 | Vomiting in pregnancy, not elsewhere classified |
| O22 | Venous conditions and haemorrhoids in pregnancy |
| O220 | Varicose veins of lower extremity in pregnancy |
| O221 | Genital varices in pregnancy |
| O222 | Superficial thrombophlebitis in pregnancy |
| O223 | Deep phlebothrombosis in pregnancy |
| O224 | Haemorrhoids in pregnancy |
| O225 | Cerebral venous thrombosis in pregnancy |
| O228 | Other venous complications in pregnancy |
| O229 | Venous condition in pregnancy |
| O23 | Infections of genitourinary tract in pregnancy |
| O230 | Infections of kidney in pregnancy |
| O231 | Infections of bladder in pregnancy |
| O232 | Infections of urethra in pregnancy |
| O233 | Infections of other parts of urinary tract in pregnancy |
| O234 | Unspecified infection of urinary tract in pregnancy |
| O235 | Infections of the genital tract in pregnancy |
| O239 | Other and unspecified genitourinary tract infection in pregnancy |
| O24 | Diabetes mellitus and intermediate hyperglycaemia in pregnancy, childbirth and the puerperium |
| O240 | Pre-existing Type 1 diabetes mellitus in pregnancy, childbirth and the puerperium |
| O241 | Pre-existing Type 2 diabetes mellitus in pregnancy, childbirth and the puerperium |
| O2411 | Pre-existing diabetes mellitus, Type 2, in pregnancy, non-insulin treated |
| O2412 | Pre-existing Type 2 diabetes mellitus in pregnancy, childbirth and the puerperium, insulin treated |
| O2413 | Pre-existing Type 2 diabetes mellitus in pregnancy, childbirth and the puerperium, oral hypoglycaemic therapy |
| O2414 | Pre-existing Type 2 diabetes mellitus in pregnancy, childbirth and the puerperium, other |
| O2419 | Pre-existing Type 2 diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified |
| O242 | Pre-existing other specified diabetes mellitus in pregnancy, childbirth and the puerperium |
| O2421 | Pre-existing diabetes mellitus, other specified type, in pregnancy, non-insulin treated |
| O2422 | Pre-existing other specified diabetes mellitus in pregnancy, childbirth and the puerperium, insulin treated |
| O2423 | Pre-existing other specified diabetes mellitus in pregnancy, childbirth and the puerperium, oral hypoglycaemic therapy |
| O2424 | Pre-existing other specified diabetes mellitus in pregnancy, childbirth and the puerperium, other |
| O2429 | Pre-existing other specified diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified |
| O243 | Pre-existing unspecified diabetes mellitus, in pregnancy, childbirth and the puerperium |
| O2431 | Pre-existing diabetes mellitus, unspecified, in pregnancy, non-insulin treated |
| O2432 | Pre-existing unspecified diabetes mellitus in pregnancy, childbirth and the puerperium, insulin treated |
| O2433 | Pre-existing unspecified diabetes mellitus in pregnancy, childbirth and the puerperium, oral hypoglycaemic therapy |
| O2434 | Pre-existing unspecified diabetes mellitus in pregnancy, childbirth and the puerperium, other |
| O2439 | Pre-existing unspecified diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified |
| O244 | Diabetes mellitus arising during pregnancy |
| O2441 | Diabetes mellitus arising at or after 24 weeks gestation, non-insulin treated |
| O2442 | Diabetes mellitus arising during pregnancy, insulin treated |
| O2443 | Diabetes mellitus arising during pregnancy, oral hypoglycaemic therapy |
| O2444 | Diabetes mellitus arising during pregnancy, other |
| O2449 | Diabetes mellitus arising during pregnancy, unspecified |
| O245 | Pre-existing intermediate hyperglycaemia in pregnancy, childbirth and the puerperium |
| O2451 | Pre-existing impaired glucose regulation, in pregnancy, non-insulin treated |
| O2452 | Pre-existing intermediate hyperglycaemia in pregnancy, childbirth and the puerperium, insulin treated |
| O2453 | Pre-existing intermediate hyperglycaemia in pregnancy, childbirth and the puerperium, oral hypoglycaemic therapy |
| O2454 | Pre-existing intermediate hyperglycaemia in pregnancy, childbirth and the puerperium, other |
| O2459 | Pre-existing intermediate hyperglycaemia in pregnancy, childbirth and the puerperium, unspecified |
| O249 | Diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified onset |
| O2491 | Diabetes mellitus in pregnancy, unspecified onset, non-insulin treated |
| O2492 | Diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified onset, insulin treated |
| O2493 | Diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified onset, oral hypoglycaemic therapy |
| O2494 | Diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified onset, other |
| O2499 | Diabetes mellitus in pregnancy, childbirth and the puerperium, unspecified onset, unspecified |
| O25 | Malnutrition in pregnancy, childbirth and the puerperium |
| O26 | Maternal care for other conditions predominantly related to pregnancy |
| O260 | Excessive weight gain in pregnancy |
| O261 | Low weight gain in pregnancy |
| O262 | Pregnancy care of habitual aborter |
| O263 | Retained intrauterine contraceptive device in pregnancy |
| O264 | Pemphigoid gestationis [herpes gestationis] |
| O265 | Maternal hypotension syndrome |
| O266 | Liver disorders in pregnancy, childbirth and the puerperium |
| O267 | Subluxation of symphysis (pubis) in pregnancy, childbirth and the puerperium |
| O268 | Other specified pregnancy-related conditions |
| O2681 | Kidney disorders in pregnancy, childbirth and the puerperium |
| O2682 | Carpal tunnel syndrome in pregnancy |
| O2683 | Neuralgia in pregnancy |
| O2688 | Other specified pregnancy-related conditions |
| O269 | Pregnancy-related condition, unspecified |
| O28 | Abnormal findings on antenatal screening of mother |
| O280 | Abnormal haematological finding on antenatal screening of mother |
| O281 | Abnormal biochemical finding on antenatal screening of mother |
| O282 | Abnormal cytological finding on antenatal screening of mother |
| O283 | Abnormal ultrasonic finding on antenatal screening of mother |
| O284 | Abnormal radiological finding on antenatal screening of mother |
| O285 | Abnormal chromosomal and genetic finding on antenatal screening of mother |
| O288 | Other abnormal findings on antenatal screening of mother |
| O289 | Abnormal finding on antenatal screening of mother, unspecified |
| O29 | Complications of anaesthesia during pregnancy |
| O290 | Pulmonary complications of anaesthesia during pregnancy |
| O291 | Cardiac complications of anaesthesia during pregnancy |
| O292 | Central nervous system complications of anaesthesia during pregnancy |
| O293 | Toxic reaction to local anaesthesia during pregnancy |
| O294 | Spinal and epidural anaesthesia-induced headache during pregnancy |
| O295 | Other complications of spinal and epidural anaesthesia during pregnancy |
| O296 | Failed or difficult intubation during pregnancy |
| O2961 | Failed intubation during pregnancy |
| O2962 | Difficult intubation during pregnancy |
| O298 | Other complications of anaesthesia during pregnancy |
| O299 | Complication of anaesthesia during pregnancy, unspecified |
| O30 | Multiple gestation |
| O300 | Twin pregnancy |
| O301 | Triplet pregnancy |
| O302 | Quadruplet pregnancy |
| O308 | Other multiple gestation |
| O309 | Multiple gestation, unspecified |
| O31 | Complications specific to multiple gestation |
| O310 | Papyraceous fetus |
| O311 | Continuing pregnancy after abortion of one fetus or more |
| O312 | Continuing pregnancy after intrauterine death of one fetus or more |
| O318 | Other complications specific to multiple gestation |
| O32 | Maternal care for known or suspected malpresentation of fetus |
| O320 | Maternal care for unstable lie |
| O321 | Maternal care for breech presentation |
| O322 | Maternal care for transverse and oblique lie |
| O323 | Maternal care for face, brow and chin presentation |
| O324 | Maternal care for high head at term |
| O325 | Maternal care for multiple gestation with malpresentation of one fetus or more |
| O326 | Maternal care for compound presentation |
| O328 | Maternal care for other malpresentation of fetus |
| O329 | Maternal care for malpresentation of fetus, unspecified |
| O33 | Maternal care for known or suspected disproportion |
| O330 | Maternal care for disproportion due to deformity of maternal pelvic bones |
| O331 | Maternal care for disproportion due to generally contracted pelvis |
| O332 | Maternal care for disproportion due to inlet contraction of pelvis |
| O333 | Maternal care for disproportion due to outlet contraction of pelvis |
| O334 | Maternal care for disproportion of mixed maternal and fetal origin |
| O335 | Maternal care for disproportion due to unusually large fetus |
| O336 | Maternal care for disproportion due to hydrocephalic fetus |
| O337 | Maternal care for disproportion due to other fetal deformities |
| O338 | Maternal care for disproportion of other origin |
| O339 | Maternal care for disproportion, unspecified |
| O34 | Maternal care for known or suspected abnormality of pelvic organs |
| O340 | Maternal care for congenital malformation of uterus |
| O341 | Maternal care for tumour of corpus uteri |
| O342 | Maternal care due to uterine scar from previous surgery |
| O343 | Maternal care for cervical incompetence |
| O344 | Maternal care for other abnormalities of cervix |
| O345 | Maternal care for other abnormalities of gravid uterus |
| O346 | Maternal care for abnormality of vagina |
| O347 | Maternal care for abnormality of vulva and perineum |
| O348 | Maternal care for other abnormalities of pelvic organs |
| O349 | Maternal care for abnormality of pelvic organ, unspecified |
| O35 | Maternal care for known or suspected fetal abnormality and damage |
| O350 | Maternal care for (suspected) central nervous system malformation in fetus |
| O351 | Maternal care for (suspected) chromosomal abnormality in fetus |
| O352 | Maternal care for (suspected) hereditary disease in fetus |
| O353 | Maternal care for (suspected) damage to fetus from viral disease in mother |
| O354 | Maternal care for (suspected) damage to fetus from alcohol |
| O355 | Maternal care for (suspected) damage to fetus by drugs |
| O356 | Maternal care for (suspected) damage to fetus by radiation |
| O357 | Maternal care for (suspected) damage to fetus by other medical procedures |
| O358 | Maternal care for other (suspected) fetal abnormality and damage |
| O359 | Maternal care for (suspected) fetal abnormality and damage, unspecified |
| O36 | Maternal care for other known or suspected fetal problems |
| O360 | Maternal care for rhesus isoimmunisation |
| O361 | Maternal care for other isoimmunisation |
| O362 | Maternal care for hydrops fetalis |
| O363 | Maternal care for signs of fetal hypoxia |
| O364 | Maternal care for intrauterine death |
| O365 | Maternal care for poor fetal growth |
| O366 | Maternal care for excessive fetal growth |
| O367 | Maternal care for viable fetus in abdominal pregnancy |
| O368 | Maternal care for other specified fetal problems |
| O369 | Maternal care for fetal problem, unspecified |
| O40 | Polyhydramnios |
| O41 | Other disorders of amniotic fluid and membranes |
| O410 | Oligohydramnios |
| O411 | Infection of amniotic sac and membranes |
| O418 | Other specified disorders of amniotic fluid and membranes |
| O419 | Disorder of amniotic fluid and membranes, unspecified |
| O42 | Premature rupture of membranes |
| O420 | Premature rupture of membranes, onset of labour within 24 hours |
| O421 | Premature rupture of membranes, onset of labour after 24 hours |
| O4211 | Premature rupture of membranes, onset of labour between 1-7 days later |
| O4212 | Premature rupture of membranes, onset of labour more than 7 days later |
| O422 | Premature rupture of membranes, labour delayed by therapy |
| O429 | Premature rupture of membranes, unspecified |
| O43 | Placental disorders |
| O430 | Placental transfusion syndromes |
| O431 | Malformation of placenta |
| O432 | Morbidly adherent placenta |
| O438 | Other placental disorders |
| O439 | Placental disorder, unspecified |
| O44 | Placenta praevia |
| O440 | Placenta praevia specified as without haemorrhage |
| O441 | Placenta praevia with haemorrhage |
| O45 | Premature separation of placenta [abruptio placentae] |
| O450 | Premature separation of placenta with coagulation defect |
| O458 | Other premature separation of placenta |
| O459 | Premature separation of placenta, unspecified |
| O46 | Antepartum haemorrhage, not elsewhere classified |
| O460 | Antepartum haemorrhage with coagulation defect |
| O468 | Other antepartum haemorrhage |
| O469 | Antepartum haemorrhage, unspecified |
| O47 | False labour or labour without delivery |
| O470 | False labour before 37 completed weeks of gestation |
| O471 | False labour at or after 37 completed weeks of gestation |
| O472 | Labour without delivery |
| O479 | False labour, unspecified |
| O48 | Prolonged pregnancy |
| O60 | Preterm labour and delivery |
| O600 | Preterm labour without delivery |
| O601 | Preterm spontaneous labour with preterm delivery |
| O602 | Preterm spontaneous labour with term delivery |
| O603 | Preterm delivery without spontaneous labour |
| O61 | Failed induction of labour |
| O610 | Failed medical induction of labour |
| O611 | Failed surgical induction of labour |
| O612 | Failed medical with surgical induction of labour |
| O618 | Other failed induction of labour |
| O619 | Failed induction of labour, unspecified |
| O62 | Abnormalities of forces of labour |
| O620 | Primary inadequate contractions |
| O621 | Secondary uterine inertia |
| O622 | Other uterine inertia |
| O623 | Precipitate labour |
| O624 | Hypertonic, incoordinate, and prolonged uterine contractions |
| O628 | Other abnormalities of forces of labour |
| O629 | Abnormality of forces of labour, unspecified |
| O63 | Long labour |
| O630 | Prolonged first stage (of labour) |
| O631 | Prolonged second stage (of labour) |
| O632 | Delayed delivery of second or subsequent fetus in multiple delivery |
| O633 | Prolonged third stage (of labour) |
| O639 | Long labour, unspecified |
| O64 | Labour and delivery affected by malposition and malpresentation of fetus |
| O640 | Labour and delivery affected by incomplete rotation of fetal head |
| O641 | Labour and delivery affected by breech presentation |
| O642 | Labour and delivery affected by face presentation |
| O643 | Labour and delivery affected by brow presentation |
| O644 | Labour and delivery affected by shoulder presentation |
| O645 | Labour and delivery affected by compound presentation |
| O648 | Labour and delivery affected by other malposition and malpresentation |
| O649 | Labour and delivery affected by malposition and malpresentation, unspecified |
| O65 | Labour and delivery affected by maternal pelvic abnormality |
| O650 | Labour and delivery affected by deformed pelvis |
| O651 | Labour and delivery affected by generally contracted pelvis |
| O652 | Labour and delivery affected by pelvic inlet contraction |
| O653 | Labour and delivery affected by pelvic outlet and mid-cavity contraction |
| O654 | Labour and delivery affected by fetopelvic disproportion, unspecified |
| O655 | Labour and delivery affected by abnormality of maternal pelvic organs |
| O658 | Labour and delivery affected by other maternal pelvic abnormalities |
| O659 | Labour and delivery affected by maternal pelvic abnormality, unspecified |
| O66 | Other factors affecting labour and delivery |
| O660 | Labour and delivery affected by shoulder dystocia |
| O661 | Labour and delivery affected by locked twins |
| O662 | Labour and delivery affected by unusually large fetus |
| O663 | Labour and delivery affected by other abnormalities of fetus |
| O664 | Failed trial of labour, unspecified |
| O665 | Failed application of vacuum extractor and forceps, unspecified |
| O668 | Labour and delivery affected by other dystocia |
| O669 | Labour and delivery affected by dystocia, unspecified |
| O67 | Labour and delivery complicated by intrapartum haemorrhage, not elsewhere classified |
| O670 | Intrapartum haemorrhage with coagulation defect |
| O678 | Other intrapartum haemorrhage |
| O679 | Intrapartum haemorrhage, unspecified |
| O68 | Labour and delivery complicated by fetal stress [distress] |
| O680 | Labour and delivery complicated by fetal heart rate anomaly |
| O681 | Labour and delivery complicated by meconium in amniotic fluid |
| O682 | Labour and delivery complicated by fetal heart rate anomaly with meconium in amniotic fluid |
| O683 | Labour and delivery complicated by biochemical evidence of fetal stress |
| O688 | Labour and delivery complicated by other evidence of fetal stress |
| O689 | Labour and delivery complicated by fetal stress, unspecified |
| O69 | Labour and delivery complicated by umbilical cord complications |
| O690 | Labour and delivery complicated by prolapse of cord |
| O691 | Labour and delivery complicated by cord around neck, with compression |
| O692 | Labour and delivery complicated by other cord entanglement, with compression |
| O693 | Labour and delivery complicated by short cord |
| O694 | Labour and delivery complicated by vasa praevia |
| O695 | Labour and delivery complicated by vascular lesion of cord |
| O698 | Labour and delivery complicated by other cord complications |
| O699 | Labour and delivery complicated by cord complication, unspecified |
| O70 | Perineal laceration during delivery |
| O700 | First degree perineal laceration during delivery |
| O701 | Second degree perineal laceration during delivery |
| O702 | Third degree perineal laceration during delivery |
| O703 | Fourth degree perineal laceration during delivery |
| O709 | Perineal laceration during delivery, unspecified |
| O71 | Other obstetric trauma |
| O710 | Rupture of uterus before onset of labour |
| O7100 | Rupture of uterus before onset of labour, unspecified |
| O7101 | Spontaneous rupture of uterus before onset of labour |
| O7102 | Traumatic rupture of uterus before onset of labour |
| O711 | Rupture of uterus during labour |
| O7110 | Rupture of uterus during labour, unspecified |
| O7111 | Spontaneous rupture of uterus during labour |
| O7112 | Traumatic rupture of uterus during labour |
| O712 | Postpartum inversion of uterus |
| O713 | Obstetric laceration of cervix |
| O714 | Obstetric high vaginal laceration (alone) |
| O715 | Other obstetric injury to pelvic organs |
| O716 | Obstetric damage to pelvic joints and ligaments |
| O717 | Obstetric haematoma of pelvis |
| O718 | Other specified obstetric trauma |
| O7181 | Obstetric uterine laceration or tear |
| O7182 | Diastasis of recti abdominal muscle in pregnancy or delivery |
| O7188 | Other specified obstetric trauma |
| O719 | Obstetric trauma, unspecified |
| O72 | Third-stage and postpartum haemorrhage |
| O720 | Third-stage haemorrhage |
| O721 | Other immediate postpartum haemorrhage |
| O722 | Delayed and secondary postpartum haemorrhage |
| O723 | Postpartum coagulation defects |
| O73 | Retained placenta and membranes |
| O730 | Retained placenta |
| O731 | Retained portions of placenta and membranes |
| O74 | Complications of anaesthesia during labour and delivery |
| O740 | Aspiration pneumonitis due to anaesthesia during labour and delivery |
| O741 | Other pulmonary complications of anaesthesia during labour and delivery |
| O742 | Cardiac complications of anaesthesia during labour and delivery |
| O743 | Central nervous system complications of anaesthesia during labour and delivery |
| O744 | Toxic reaction to local anaesthesia during labour and delivery |
| O745 | Spinal and epidural anaesthesia-induced headache during labour and delivery |
| O746 | Other complications of spinal and epidural anaesthesia during labour and delivery |
| O747 | Failed or difficult intubation during labour and delivery |
| O7471 | Failed intubation during labour and delivery |
| O7472 | Difficult intubation during labour and delivery |
| O748 | Other complications of anaesthesia during labour and delivery |
| O749 | Complication of anaesthesia during labour and delivery, unspecified |
| O75 | Other complications of labour and delivery, not elsewhere classified |
| O750 | Maternal distress during labour and delivery |
| O751 | Shock during or following labour and delivery |
| O752 | Pyrexia during labour, not elsewhere classified |
| O753 | Other infection during labour |
| O754 | Other complications of obstetric surgery and procedures |
| O755 | Delayed delivery after artificial rupture of membranes |
| O756 | Delayed delivery after spontaneous or unspecified rupture of membranes |
| O757 | Vaginal delivery following previous caesarean section |
| O758 | Other specified complications of labour and delivery |
| O759 | Complication of labour and delivery, unspecified |
| O80 | Single spontaneous delivery |
| O81 | Single delivery by forceps and vacuum extractor |
| O82 | Single delivery by caesarean section |
| O83 | Other assisted single delivery |
| O84 | Multiple delivery |
| O840 | Multiple delivery, all spontaneous |
| O841 | Multiple delivery, all by forceps and vacuum extractor |
| O842 | Multiple delivery, all by caesarean section |
| O848 | Other multiple delivery |
| O8481 | Multiple delivery, all assisted, not elsewhere classified |
| O8482 | Multiple delivery by combination of methods |
| O849 | Multiple delivery, unspecified |
| O85 | Puerperal sepsis |
| O86 | Other and unspecified puerperal infections |
| O860 | Infection of obstetric surgical wound |
| O861 | Other infection of genital tract following delivery |
| O862 | Urinary tract infection following delivery |
| O863 | Other genitourinary tract infections following delivery |
| O864 | Pyrexia of unknown origin following delivery |
| O868 | Other and unspecified puerperal infections |
| O87 | Venous conditions and haemorrhoids in the puerperium |
| O870 | Superficial thrombophlebitis in the puerperium |
| O871 | Deep phlebothrombosis in the puerperium |
| O872 | Haemorrhoids in the puerperium |
| O873 | Cerebral venous thrombosis in the puerperium |
| O878 | Other venous complications in the puerperium |
| O879 | Venous condition in the puerperium |
| O88 | Obstetric embolism |
| O880 | Obstetric air embolism |
| O881 | Amniotic fluid embolism |
| O882 | Obstetric blood clot embolism |
| O883 | Obstetric pyaemic and septic embolism |
| O888 | Other obstetric embolism |
| O89 | Complications of anaesthesia during the puerperium |
| O890 | Pulmonary complications of anaesthesia during the puerperium |
| O891 | Cardiac complications of anaesthesia during the puerperium |
| O892 | Central nervous system complications of anaesthesia during the puerperium |
| O893 | Toxic reaction to local anaesthesia during the puerperium |
| O894 | Spinal and epidural anaesthesia-induced headache during the puerperium |
| O895 | Other complications of spinal and epidural anaesthesia during the puerperium |
| O896 | Failed or difficult intubation during the puerperium |
| O8961 | Failed intubation during the puerperium |
| O8962 | Difficult intubation during the puerperium |
| O898 | Other complications of anaesthesia during the puerperium |
| O899 | Complication of anaesthesia during the puerperium, unspecified |
| O90 | Complications of the puerperium, not elsewhere classified |
| O900 | Disruption of caesarean section wound |
| O901 | Disruption of perineal obstetric wound |
| O902 | Haematoma of obstetric wound |
| O903 | Cardiomyopathy in the puerperium |
| O904 | Postpartum acute kidney failure |
| O905 | Postpartum thyroiditis |
| O908 | Other complications of the puerperium, not elsewhere classified |
| O909 | Complication of the puerperium, unspecified |
| O91 | Infections of breast associated with childbirth |
| O910 | Infection of nipple associated with childbirth |
| O9100 | Infection of nipple associated with childbirth, without mention of attachment difficulty |
| O9101 | Infection of nipple associated with childbirth, with mention of attachment difficulty |
| O911 | Abscess of breast associated with childbirth |
| O9110 | Abscess of breast associated with childbirth, without mention of attachment difficulty |
| O9111 | Abscess of breast associated with childbirth, with mention of attachment difficulty |
| O912 | Nonpurulent mastitis associated with childbirth |
| O9120 | Nonpurulent mastitis associated with childbirth, without mention of attachment difficulty |
| O9121 | Nonpurulent mastitis associated with childbirth, with mention of attachment difficulty |
| O92 | Other disorders of breast and lactation associated with childbirth |
| O920 | Retracted nipple associated with childbirth |
| O9200 | Retracted nipple associated with childbirth, without mention of attachment difficulty |
| O9201 | Retracted nipple associated with childbirth, with mention of attachment difficulty |
| O921 | Cracked nipple associated with childbirth |
| O9210 | Cracked nipple associated with childbirth, without mention of attachment difficulty |
| O9211 | Cracked nipple associated with childbirth, with mention of attachment difficulty |
| O922 | Other and unspecified disorders of breast associated with childbirth |
| O9220 | Other and unspecified disorders of breast associated with childbirth, without mention of attachment difficulty |
| O9221 | Other and unspecified disorders of breast associated with childbirth, with mention of attachment difficulty |
| O923 | Agalactia |
| O9230 | Agalactia, without mention of attachment difficulty |
| O9231 | Agalactia, with mention of attachment difficulty |
| O924 | Hypogalactia |
| O9240 | Hypogalactia, without mention of attachment difficulty |
| O9241 | Hypogalactia, with mention of attachment difficulty |
| O925 | Suppressed lactation |
| O9250 | Suppressed lactation, without mention of attachment difficulty |
| O9251 | Suppressed lactation, with mention of attachment difficulty |
| O926 | Galactorrhoea |
| O9260 | Galactorrhoea, without mention of attachment difficulty |
| O9261 | Galactorrhoea, with mention of attachment difficulty |
| O927 | Other and unspecified disorders of lactation |
| O9270 | Other and unspecified disorders of lactation, without mention of attachment difficulty |
| O9271 | Other and unspecified disorders of lactation, with mention of attachment difficulty |
| O94 | Sequelae of complication of pregnancy, childbirth and the puerperium |
| O95 | Obstetric death of unspecified cause |
| O96 | Death from any obstetric cause occurring more than 42 days but less than one year after delivery |
| O960 | Death from direct obstetric cause occurring more than 42 days but less than one year after delivery |
| O961 | Death from indirect obstetric cause occurring more than 42 days but less than one year after delivery |
| O969 | Death from unspecified obstetric cause occurring more than 42 days but less than one year after delivery |
| O97 | Death from obstetric causes, one year or more after delivery |
| O970 | Death from direct obstetric cause, one year or more after delivery |
| O971 | Death from indirect obstetric cause, one year or more after delivery |
| O979 | Death from unspecified obstetric cause, one year or more after delivery |
| O98 | Maternal infectious and parasitic diseases classifiable elsewhere in pregnancy, childbirth and the puerperium |
| O980 | Tuberculosis in pregnancy, childbirth and the puerperium |
| O981 | Syphilis in pregnancy, childbirth and the puerperium |
| O982 | Gonorrhoea in pregnancy, childbirth and the puerperium |
| O983 | Other infections with a predominantly sexual mode of transmission in pregnancy, childbirth and the puerperium |
| O984 | Viral hepatitis in pregnancy, childbirth and the puerperium |
| O985 | Other viral diseases in pregnancy, childbirth and the puerperium |
| O986 | Protozoal diseases in pregnancy, childbirth and the puerperium |
| O987 | Human immunodeficiency virus [HIV] disease in pregnancy, childbirth and the puerperium |
| O988 | Other maternal infectious and parasitic diseases in pregnancy, childbirth and the puerperium |
| O989 | Unspecified maternal infectious or parasitic disease in pregnancy, childbirth and the puerperium |
| O99 | Other maternal diseases classifiable elsewhere in pregnancy, childbirth and the puerperium |
| O990 | Anaemia in pregnancy, childbirth and the puerperium |
| O9900 | Anaemia in pregnancy, childbirth and the puerperium, unspecified |
| O9901 | Anaemia in pregnancy |
| O9902 | Anaemia in pregnancy, with mention of pre-existing anaemia |
| O9903 | Anaemia in childbirth and the puerperium |
| O9904 | Anaemia in childbirth and the puerperium, with mention of pre-existing anaemia |
| O991 | Other diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism in pregnancy, childbirth and the puerperium |
| O992 | Endocrine, nutritional and metabolic diseases in pregnancy, childbirth and the puerperium |
| O993 | Mental disorders and diseases of the nervous system in pregnancy, childbirth and the puerperium |
| O9931 | Mental disorders in pregnancy, childbirth and the puerperium |
| O9932 | Diseases of the nervous system in pregnancy, childbirth and the puerperium |
| O994 | Diseases of the circulatory system in pregnancy, childbirth and the puerperium |
| O995 | Diseases of the respiratory system in pregnancy, childbirth and the puerperium |
| O996 | Diseases of the digestive system in pregnancy, childbirth and the puerperium |
| O997 | Diseases of the skin and subcutaneous tissue in pregnancy, childbirth and the puerperium |
| O998 | Other specified diseases and conditions in pregnancy, childbirth and the puerperium |
| Z32 | Pregnancy supervision, examination and test, not elsewhere classified |
| Z320 | Pregnancy, not (yet) confirmed |
| Z321 | Pregnancy confirmed |
| Z322 | Initiation of medical abortion |
| Z33 | Pregnant state, incidental |
| Z34 | Supervision of normal pregnancy |
| Z340 | Supervision of normal first pregnancy |
| Z348 | Supervision of other normal pregnancy |
| Z349 | Supervision of normal pregnancy, unspecified |
| Z35 | Supervision of high-risk pregnancy |
| Z350 | Supervision of pregnancy with history of infertility |
| Z351 | Supervision of pregnancy with history of abortive outcome |
| Z352 | Supervision of pregnancy with other poor reproductive or obstetric history |
| Z353 | Supervision of pregnancy with history of insufficient antenatal care |
| Z354 | Supervision of pregnancy with grand multiparity |
| Z355 | Supervision of pregnancy with advanced maternal age |
| Z3551 | Supervision of primigravida with advanced maternal age |
| Z3552 | Supervision of multigravida with advanced maternal age |
| Z356 | Supervision of (very) young primigravida |
| Z357 | Supervision of high-risk pregnancy due to social problems |
| Z358 | Supervision of other high-risk pregnancies |
| Z359 | Supervision of high-risk pregnancy, unspecified |
| Z36 | Antenatal screening |
| Z360 | Antenatal screening for chromosomal anomalies |
| Z361 | Antenatal screening for raised alpha-fetoprotein level |
| Z362 | Other antenatal screening based on amniocentesis |
| Z363 | Antenatal screening for malformations using ultrasound and other physical methods |
| Z364 | Antenatal screening for fetal growth retardation using ultrasound and other physical methods |
| Z365 | Antenatal screening for isoimmunisation |
| Z368 | Other antenatal screening |
| Z369 | Antenatal screening, unspecified |
| Z37 | Outcome of delivery |
| Z370 | Single live birth |
| Z371 | Single stillbirth |
| Z372 | Twins, both liveborn |
| Z373 | Twins, one liveborn and one stillborn |
| Z374 | Twins, both stillborn |
| Z375 | Other multiple births, all liveborn |
| Z376 | Other multiple births, some liveborn |
| Z377 | Other multiple births, all stillborn |
| Z379 | Outcome of delivery, unspecified |
| Z39 | Postpartum care and examination |
| Z390 | Postpartum care and examination immediately after delivery |
| Z3900 | Postpartum care and examination after delivery, unspecified |
| Z3901 | Postpartum care after hospital delivery |
| Z3902 | Postpartum care after planned, out of hospital delivery |
| Z3903 | Postpartum care after unplanned, out of hospital delivery |
| Z391 | Care and examination of lactating mother |
| Z392 | Routine postpartum follow-up |

## Glossary

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| Term | Description |
| **Admitted care** | When patients are formally admitted to public or private hospital to receive treatment or care. |
| **Admitted Patient Care- National Minimum Data Set (APC-NMDS)** | The admitted patient care national minimum data set (APC-NMDS) is the mandatory core data collected and reported nationally about episodes of admitted patient care. |
| **Australian Refined Diagnosis Related Groups (AR-DRG)** | Australian Refined Diagnosis Related Groups (AR-DRG) is a classification system used to group diagnosis and intervention data with other types of routinely collected data to help classify admitted patient episodes of care. They are used to calculate public hospital funding based on activity. |
| **Australian Statistical Geographic Classification (ASGC)** | Australian Statistical Geographic Classification (ASGC) is a geographical data set that defines five levels of remoteness. |
| **Data Cube** | A data cube is a large collection of data that can be organized and modelled so that analysis can be completed in multiple ways. |
| **Diagnosis Related Group (DRG)** | See AR-DRG. |
| **Estimated Resident Population (ERP)** | Estimated resident population (ERP) data is an Australian Bureau of Statistics (ABS) data set that contains information about national, state and territory populations. |
| **GEN Aged Care** | Gen Aged Care Data is an Australian Institute of Health and Welfare data collection that provides data and information about aged care services in Australia. |
| **Hospital Acquired Complication (HAC)** | A hospital acquired complication (HACs) is a medical complication that can happen to patients while they are in hospital that were not present when they were admitted. |
| **Hospital Acquired Infection (HAI)** | A hospital acquired infection (HAI) is an infection that develops while a person is in hospital. It is a type of HAC. |
| **ICD-10AM** | International Statistical Classification of Diseases and related Health Problems (ICD-10AM**)** is an alphabetic index used to classify diseases, injuries and health related problems. |
| **Intensive Care Unit (ICU)** | An intensive care unit (ICU) provides critical care and life support to people who are acutely ill or serious injured. |
| **Index of Relative Socio-economic Disadvantage (ISRD)** | The Index of relative socio-economic disadvantage (ISRD) is an Australian Bureau of Statistics data collection about the economic and social conditions of people and households in Australia. A low score indicated relatively greater disadvantage. |
| **Median** | The median is the middle number in a sorted list of numbers. |
| **National Minimum Data Set** | A National Minimum Data Set (NMDS) is a core set of data elements agreed by the National Health Information Management Group for mandatory collection and reporting at a national level. |
| **National Safety and Quality Health Service (NSQHS) Standards** | The National Safety and Quality Health Service Standards (NSQHS Standards) are statements developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC) that describe the standard of care that should be delivered across Australian health services.  There are currently eight standards. |
| **National Weighted Activity Unit** | The national weighted activity unit (NWAU) is a unit cost set for episodes of specific health service activity. |
| **National Efficient Price** | The National Efficient Price (NEP) is a price signal or benchmark about the efficient cost of public hospital service delivery. It is published annually by the Independent Health and Aged Care Pricing Authority (IHAPCA). |
| **Organ decompensation** | Organ decompensation is the term used when organs begin to fail or breakdown due to stress, fatigue or illness. |
| **Principal diagnosis** | The principal diagnosis is the main illness/concern documented following assessment of a patient in an emergency department. |
| **Secondary diagnosis** | A secondary diagnosis is any condition that a patient has in addition to the principal diagnosis. |
| **Separation** | A separation is the term used to describe an episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death), or a portion of a hospital stay beginning or ending in a change in type of care (for example, from acute care to rehabilitation). |

## References

The George Institute for Global Health (2021*) Cost of sepsis in Australia*, <http://www.georgeinstitute.org/sites/default/files/cost-of-sepsis-in-australian-report.pdf>

2 The George Institute for Global Health (2017), Stopping Sepsis: A National Actions Plan, <https://www.georgeinstitute.org.au/sites/default/files/documents/stopping-sepsis-national-action-plan.pdf>

3 <https://www.ihacpa.gov.au/health-care/classification/admitted-acute-care/ar-drgs> , accessed Oct 2024.

4 <https://www.safetyandquality.gov.au/our-work/indicators-measurement-and-reporting/hospital-acquired-complications-hacs> , accessed Oct 2024.

5 <https://www.safetyandquality.gov.au/our-work/indicators-measurement-and-reporting/hospital-acquired-complications-hacs> , accessed Oct 2024.

6 <https://www.gen-agedcaredata.gov.au/resources/access-data/2024/april/gen-data-people-using-aged-care>, accessed 30 Oct 2024.

7 [https://explore.data.abs.gov.au/vis?tm=quarterly%20population&pg=0&df[ds]=ABS\_ABS\_TOPICS&df[id]=ERP\_Q&df[ag]=ABS&df[vs]=1.0.0&hc[Frequency]=Quarterly&pd=2022-Q2%2C2022-Q2&dq=1.3.TOT.AUS.Q](https://explore.data.abs.gov.au/vis?tm=quarterly%20population&pg=0&df%5bds%5d=ABS_ABS_TOPICS&df%5bid%5d=ERP_Q&df%5bag%5d=ABS&df%5bvs%5d=1.0.0&hc%5bFrequency%5d=Quarterly&pd=2022-Q2%2C2022-Q2&dq=1.3.TOT.AUS.Q) , accessed 30 Oct 2024.

8 <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/estimates-and-projections-aboriginal-and-torres-strait-islander-australians/latest-release> , accessed 30 Oct 2024.





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1. Rudd KE, Johnson SC, Agesa KM, Shckelford KA, Tsoi D, Kievlan DR, et al. Global, regional, and national sepsis incidence and mortality, 1990-2017: analysis for the Global Burden of Disease Study. Lancet 202;395(10219):200-11 [↑](#footnote-ref-2)
2. The George Institute for Global Health (2021*) Cost of sepsis in Australia*, <http://www.georgeinstitute.org/sites/default/files/cost-of-sepsis-in-australian-report.pdf> [↑](#footnote-ref-3)
3. The George Institute for Global Health (2017), Stopping Sepsis: A National Actions Plan, <https://www.georgeinstitute.org.au/sites/default/files/documents/stopping-sepsis-national-action-plan.pdf> [↑](#footnote-ref-4)
4. Institute for Health Metrics and Evaluation (IHME), University of Oxford. **MICROBE**. Seattle, WA: IHME, University of Washington, 2024. Available from <https://vizhub.healthdata.org/microbe>. (Accessed14 May 2025). [↑](#footnote-ref-5)
5. <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/estimates-and-projections-aboriginal-and-torres-strait-islander-australians/latest-release> , accessed 30 Oct 2024 [↑](#footnote-ref-6)
6. <https://www.ihacpa.gov.au/health-care/classification/admitted-acute-care/ar-drgs> , accessed Oct 2024 [↑](#footnote-ref-7)
7. <https://www.safetyandquality.gov.au/our-work/indicators-measurement-and-reporting/hospital-acquired-complications-hacs> , accessed Oct 2024 [↑](#footnote-ref-8)
8. <https://www.safetyandquality.gov.au/our-work/indicators-measurement-and-reporting/hospital-acquired-complications-hacs> , accessed Oct 2024 [↑](#footnote-ref-9)
9. This is based on separations not population. Analysis based on population is addressed on pages 6 and 21. [↑](#footnote-ref-10)
10. [↑](#endnote-ref-1)
11. <https://www.gen-agedcaredata.gov.au/resources/access-data/2024/april/gen-data-people-using-aged-care>, accessed 30 Oct 2024 [↑](#footnote-ref-11)
12. [https://explore.data.abs.gov.au/vis?tm=quarterly%20population&pg=0&df[ds]=ABS\_ABS\_TOPICS&df[id]=ERP\_Q&df[ag]=ABS&df[vs]=1.0.0&hc[Frequency]=Quarterly&pd=2022-Q2%2C2022-Q2&dq=1.3.TOT.AUS.Q](https://explore.data.abs.gov.au/vis?tm=quarterly%20population&pg=0&df%5bds%5d=ABS_ABS_TOPICS&df%5bid%5d=ERP_Q&df%5bag%5d=ABS&df%5bvs%5d=1.0.0&hc%5bFrequency%5d=Quarterly&pd=2022-Q2%2C2022-Q2&dq=1.3.TOT.AUS.Q) , accessed 30 Oct 2024 [↑](#footnote-ref-12)
13. <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/estimates-and-projections-aboriginal-and-torres-strait-islander-australians/latest-release> , accessed 30 Oct 2024 [↑](#footnote-ref-13)