National Health Performance Authority: Hospital Performance: Average length of stay (ALOS) for multi-day stay patients in Australian public hospitals, 2013-2015

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Identifying and definitional attributes

Metadata item type:	Indicator
Indicator type:	Indicator
Short name:	Average length of stay for multi-day stay patients
Synonymous names:	ALOS
METEOR identifier:	584301
Registration status:	National Health Performance Authority (retired), Retired 01/07/2016
Description:	The average (mean) length of stay for multi-day stay patients within a given Australian Refined Diagnosis-Related Group (AR-DRG) in Australian public hospitals.
Indicator set:	National Health Performance Authority: Hospital performance: 2011-16 National Health Performance Authority (retired), Retired 01/07/2016

Collection and usage attributes

Computation description: To calculate the average length of stay the key unit that records information about a patient's stay in hospital is called an 'episode of admitted patient care'. This records information about the patient and the care they received in hospital, including:

- Sex
- Diagnosis
- Procedure type
- Date of admission and
- Date of separation/discharge.

Exclusions:

The average length of stay indicator relates only to acute patients with a multi-day, or overnight, stay. The following episodes of care are excluded from all reported measures:

- Same day episodes, i.e. patients admitted and discharged on the same day
- Episodes for non-acute care
- Episodes where the patient died
- Episodes where the patient transferred to another facility within 2 days.

Outlier removal:

Episodes determined to be extreme long stay outliers were removed. Outlier bounds are derived for each AR-DRG. The method selected for deriving national level outlier bounds uses the inter-quartile ranges as the guide for outlier exclusion. The method of detecting extreme outliers (mEO) is as follows:

$$mEO = Q_3 + k*(Q_3 - Q_1)$$

Where

Q_1 equals the 25th percentile value

Q_3 equals the 75th percentile value

k equals non-negative values of a constant.

Sensitivity analysis was conducted to identify k and resulted in k=10 being selected.

This method is complemented by a minimum for the outlier bound of 20.

Reporting of results:

Average length of stay is reported for the following AR-DRG (version 6.0x). The average length of stay is only reported for Australian public hospitals that have at least 10 multi-day stays within a given AR-DRG.

Selection of AR-DRG (version 6.0x) codes and meanings	
AR-DRG code	AR-DRG meaning
E65A	Chronic Obstructive Pulmonary Disease with complications
E65B	Chronic Obstructive Pulmonary Disease without complications
F62A	Heart Failure with complications
F62B	Heart Failure without complications
G07B	Appendix removal
H08B	Gallbladder removal
I03B	Hip replacement
I04B	Knee replacement
J64B	Cellulitis
L63A	Kidney and urinary tract infections with complications
L63B	Kidney and urinary tract infections without complications
M02B	Prostate removal
N04B	Hysterectomy
N06B	Gynaecological reconstructive procedures
O01C	Caesarean delivery
O60B	Vaginal delivery

Computation: Numerator ÷ denominator

Numerator: Number of overnight bed days attributable to a given AR-DRG for an Australian public hospital.

Numerator data elements:

> **Data Element / Data Set**
>
> Episode of admitted patient care—length of stay (excluding leave days), total N[NN]
>
> **Data Source**
>
> Admitted Patient Care National Minimum Data Set (APC NMDS)

> **Data Element / Data Set**
>
> Episode of admitted patient care—major diagnostic category, condition/procedure code AR-DRG (version 6.0x) ANNA
>
> **Data Source**
>
> Admitted Patient Care National Minimum Data Set (APC NMDS)

Denominator: Number of multi-day stays attributable to a given AR-DRG for an Australian public hospital.

Denominator data elements:

> **Data Element / Data Set**
>
> Episode of admitted patient care—major diagnostic category, condition/procedure code AR-DRG (version 6.0x) ANNA
>
> **Data Source**
>
> Admitted Patient Care National Minimum Data Set (APC NMDS)

Disaggregation: Disaggregation is by:

- Australian public hospital by AR-DRG
- Peer group by AR-DRG

**Disaggregation data
elements:**

┌─ **Data Element / Data Set** ──────────────────

[Establishment—organisation identifier (Australian), NNX[X]NNNNN](#)

Data Source

[Admitted Patient Care National Minimum Data Set (APC NMDS)](#)
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┌─ **Data Element / Data Set** ──────────────────

[Hospital—hospital peer group, modified code N](#)

Guide for use

Comparison of hospital results to a peer result for average length of stay is available for major, large and medium hospitals as these hospitals account for the vast majority of episodes of care and bed days for the selected AR-DRGs.

Specialist women's and children's hospitals are treated separately for this indicator. Women's hospitals are presented as part of the major metropolitan group for childbirth, hysterectomy, and gynaecological reconstructive procedures and contribute to the peer group average.

Children's hospitals were identified as having high numbers of stays for appendix removal, cellulitis, chronic obstructive pulmonary disease without complications, and kidney and urinary tract infections without complications. For these conditions, they form their own peer group (excluding women's hospitals) and comparisons are presented on the MyHospitals website.
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Representational attributes

Representation class:	Mean (average)
Data type:	Time period
Unit of measure:	Time (e.g. days, hours)
Format:	Days, rounded to 1 dp

Indicator conceptual framework

Framework and dimensions:	[PAF-Efficiency](#)

Data source attributes

Data sources:

┌─ **Data Source** ──────────────────────────────

[Admitted Patient Care National Minimum Data Set (APC NMDS)](#)

Frequency

Annual

Data custodian

Australian Institute of Health and Welfare
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Accountability attributes

Reporting requirements:	National Health Performance Authority
Organisation responsible for providing data:	Australian Institute of Health and Welfare