Australian Atlas of Healthcare Variation 2018: Number of PBS/RPBS prescriptions dispensed for antimicrobials per 100,000 people, 2013-14, 2014-15, 2015-16 and 2016-17

Exported from METEOR (AIHW's Metadata Online Registry)

Australian Atlas of Healthcare Variation 2018: Number of PBS/RPBS prescriptions dispensed for antimicrobials per 100,000 people, 2013-14, 2014-15, 2015-16 and 2016-17

Identifying and definitional attributes

Metadata item type:	Indicator
Indicator type:	Indicator
Short name:	Antimicrobial dispensing, 2013-14, 2014-15, 2015-16 and 2016-17
METEOR identifier:	709488
Registration status:	Australian Commission on Safety and Quality in Health Care, Standard 13/12/2018
Description:	Number of PBS/RPBS prescriptions dispensed for antimicrobials per 100,000 people, age-sex standardised.
Indicator set:	Australian Atlas of Healthcare Variation 2018 Australian Commission on Safety and Quality in Health Care, Standard 13/12/2018

Collection and usage attributes

Population group age from:	All ages
Computation description:	**Inclusion codes, description and additional requirements**

Alimentary tract and metabolism			
Anatomical Therapeutic Chemical (ATC) Code	**Description (Drug Name)**	**PBS code (Item Code)**	**Comments**
A01AB	AMPHOTERICIN B	02931G, 03306B	03306B is a dental code
	CHLORHEXIDINE	04161B, 04204G	RPBS item. Not included in the specifications used for the Atlas 2015.
	NYSTATIN	03033P, 03343Y, 10854G	03033P, 03343Y (Listed 1 Aug 1991 – 31 Dec 2015) 10854G (Listed from 1 July 2016 onwards, RPBS)
A02BD	ESOMEPRAZOLE (&) CLARITHROMYCIN (&) AMOXICILLIN	08738X, 10759G	10759G (Listed from 1 May 2016 onwards)

	OMEPRAZOLE (&) CLARITHROMYCIN (&) AMOXICILLIN	08272J	Delisted after 31 Aug 2014
A07AA	NYSTATIN	01696G, 01699K, 03342X, 03345C	03342X, 03345C are dental codes
	RIFAXIMIN	10001J	Listed from 1 Dec 2013 onwards
	VANCOMYCIN	03113W, 03114X	

Dermatologicals			
Anatomical Therapeutic Chemical (ATC) Code	**Description (Drug Name)**	**PBS code (Item Code)**	**Comments**
D01	AMOROLFINE	04010C	RPBS
	CICLOPIROX	04106D	RPBS. Delisted after 1 Sep 2017.
	CLOTRIMAZOLE	04004R	RPBS
	GRISEOFULVIN	01460W, 02982Y	
	KETOCONAZOLE	01574W, 04007X, 04008Y, 09024Y, 09025B	04007Y, 04008Y (RPBS) 04008Y (Listed 1 Feb 1998 – 30 Nov 2016)
	MICONAZOLE	03400Y, 04341L, 04454K, 09027D, 09028E, 09029F, 09031H	04341L, 04454K (RPBS. Delisted after 30 Nov 2016)
	NYSTATIN	01698J, 04001N	04001N (RPBS)
	TERBINAFINE	02285G, 02804N, 04011D, 04463X, 04473K, 09160D	04011D, 04463X, 04473K (RPBS)
	TOLNAFTATE	04481W	RPBS
D06AX	MUPIROCIN	04348W, 04350Y	RPBS only

D06BA	SULFADIAZINE SILVER	09479X	
D11AX	DAPSONE	01272Y, 08801F	Include 01272Y, 08801F only

Genitourinary System and Sex Hormones			
Anatomical Therapeutic Chemical (ATC) Code	Description (Drug Name)	PBS code (Item Code)	Comments
G01AA	NYSTATIN	04013F	RPBS
G01AF	CLOTRIMAZOLE	04016J, 04017K	RPBS

Antiinfectives for systemic use (antibacterials)			
Anatomical Therapeutic Chemical (ATC) Code	Description (Drug Name)	PBS code (Item Code)	Comments
J01	AMOXICILLIN	01884E, 01886G, 01887H, 01888J, 01889K, 03300Q, 03301R, 03302T, 03310F, 03393N, 05225B, 08581P, 08705E, 09714G	
	AMOXICILLIN + CLAVULANIC ACID	01891M, 01892N, 05006L, 05008N, 05009P, 05011R, 08254K, 08319W	
	AMPICILLIN	02390T, 02977Q, 03313J, 03314K	03313J, 03314K are dental codes
	AZITHROMYCIN	04115N, 05616N, 06221K, 08200N, 08201P, 08336R	

BENZATHINE BENZYLPENICILLIN	02267H, 05027N	05027N is a dental code
BENZYLPENICILLIN	01775K, 02647H, 03398W, 03399X, 03486L, 03487M	03399X is a dental code
CEFACLOR	01169M, 02460L, 02461M, 05045M, 05046N, 05047P	
CEFEPIME	08315P, 08316Q	
CEFOTAXIME	01085D, 01086E, 01758M, 01759N, 01768C, 01769D, 05049R, 05048Q, 05049R	01768C, 01769D are dental codes. 01086E (Listed 1 Aug 1991 to 31 Dec 2015) 05049R (Listed 1 Dec 1994 to 31 Dec 2015)
CEFTRIAXONE	01783W, 01784X, 01785Y, 01788D, 09058R	11169W (Listed from 1 Sep 2017 onwards)
CEFUROXIME	02002J, 05052X, 05499K, 08292K, 11192C	11191B, 11192C (Listed from 1 Nov 2017 onwards)
CEPHALEXIN	02655R, 03058Y, 03094W, 03095X, 03119E, 03317N, 03318P, 03319Q, 03320R, 10778G	10778G (Listed from 1 Jun 2016 onwards)
CEPHALOTHIN	02964B, 03376Q	03376Q is a dental code
CEPHAZOLIN	01256D, 01257E, 01797N, 01799Q, 05477G, 05478H, 05479J, 09326W	

CIPROFLOXACIN	01208N, 01209P, 01210Q	
CLARITHROMYCIN	05624B, 05625C, 06151R, 06152T, 08318T, 09192T	05625C, 06151R (Listed until 31 Dec 2015)
CLINDAMYCIN	03138E, 05057E	05057E is a dental code
DICLOXACILLIN	05096F, 05097G, 08121K, 08122L, 10790X	10790X (Listed from 1 Jun 2016 onwards)
DOXYCYCLINE	01800R, 02702F, 02703G, 02707L, 02708M, 02709N, 02711Q, 02714W, 02715X, 03321T, 03322W, 05082L, 09105F, 09106G, 09107H, 09108J, 10176N, 10777F, 10779H, 10781K	10176N (Listed from 1 Dec 2014 onwards) 10777F, 10779H, 10781K (Listed from 1 Jun 2016 onwards)
ERYTHROMYCIN	01397M, 01404X, 03325B 10780J	01397M (Listed until 30 Nov 2016) 03325B is a dental code. 10780J (Listed from 1 Jun 2016 onwards)
ERYTHROMYCIN ETHYLSUCCINATE	02424N, 02428T, 02750R, 03334L, 03336N, 03337P, 10789W	10789W (Listed from 1 Jun 2016 onwards)

		ERYTHROMYCIN LACTOBIONATE	01397M, 05088T	Both delisted after 30 Nov 2016
		FLUCLOXACILLIN	01524F, 01525G, 01526H, 01527J, 05090X, 05091Y, 05094D, 05095E, 05257Q, 05258R, 09149M, 09150N, 10605E, 10609J, 10788T	01524F (Delisted after 31 Dec 2016) 05094D (Listed 1 Dec 1994 – 31 Dec 2016) 05095E is a dental code. 09149M, 09150N (Listed 1 May 2008 – 31 Mar 2016) 10605E, 10609J, (Listed from 1 Feb 2016 onwards) 10788T (Listed from 1 Jun 2016 onwards)
		FUSIDATE	02312Q, 10782L	10782L (Listed from 1 Jun 2016 onwards)
		GENTAMICIN	02824P	
		HEXAMINE HIPPURATE	03124K	
		LINCOMYCIN	02530E, 05144R	05144R is a dental code
		METRONIDAZOLE	01621H, 01630T, 01636D, 01638F, 01642K, 01821W, 01832K, 02277W, 02298Y, 03339R, 03341W, 05155H, 05157K	01638F (Listed 1 Aug 1991 – 31 Jul 2014) 02277W, 02298Y (Listed 1 Feb 2013 – 31 Dec 2016)
		MINOCYCLINE	01616C	
		NITROFURANTOIN	01692C, 01693D	
		NORFLOXACIN	03010K	

	PHENOXYMETHYLPENICILLIN	01703P, 01705R, 01787C, 01789E, 02965C, 03028J, 03360W, 03361X, 03363B, 03364C, 05012T, 05024K, 05029Q, 08976K, 08977L, 09143F	
	PROCAINE PENICILLIN	01794K, 03371K, 03485K	
	ROXITHROMYCIN	01760P, 05259T, 05260W, 05261X, 08016X, 08129W	
	TICARCILLIN + CLAVULANIC ACID	02179Q, 05230G, 10113G, 10125X	02179Q, 05230G (Listed 1 Aug 1991 – 31 Jul 2014) 10113G, 10125X (Listed from 1 Aug 2014 onwards)
	TINIDAZOLE	01465D	
	TOBRAMYCIN	01356J, 05442K, 08872Y, 09480Y, 10066T, 10074F	
	TRIMETHOPRIM	02666H, 02922T, 10785P	10785P (Listed from 1 Jun 2016 onwards)
	TRIMETHOPRIM + SULFAMETHOXAZOLE	02951H, 03103H, 03390K, 03391L, 10784N	10784N (Listed from 1 Jun 2016 onwards)

Anatomical Therapeutic Chemical (ATC) Code	Description (Drug Name)	PBS code (Item Code)	Comments
	VANCOMYCIN	02269K, 02270L, 03130R, 03131T, 03323X, 05083M	
J02AC	FLUCONAZOLE	01471K, 01472L, 01473M, 01474N, 01475P, 01757L, 05446P	11139G (Out of scope, listed from 1 Jul 2017 onwards)
	ITRACONAZOLE	08196J, 10732W	10732W (Listed from 1 Apr 2016 onwards)
	POSACONAZOLE	09360P, 10460M	10460M (Listed from 1 Sep 2015 onwards)
	VORICONAZOLE	09363T, 09364W, 09452L, 10168E, 10173K, 10198R	10168E, 10173K, 10198R (Listed from 1 Dec 2014 onwards)
J04AB	RIFABUTIN	06195C, 09541E	
J04AC	ISONIAZID	01554T	Not included in the specifications used for the Atlas 2015
J04BA	DAPSONE	01272Y	
	RIFAMPICIN	01981G, 01982H, 01983J, 01984K, 08025J	

Respiratory			
Anatomical Therapeutic Chemical (ATC) Code	Description (Drug Name)	PBS code (Item Code)	Comments
R01AX06	MUPIROCIN	09440W	

Sensory (Ophthalmologicals & Otologicals)			
Anatomical Therapeutic Chemical (ATC) Code	Description (Drug Name)	PBS code (Item Code)	Comments
S01AA	CHLORAMPHENICOL	01171P, 02360F, 05055C, 05511C, 05512D, 11112W	01171P, 02360F, 05055C, 05511C, 05512D (Delisted after 31 Dec 2015) 11112W (Listed from 1 May 2017 onwards)
	GENTAMICIN	01441W, 05566Y	
	TOBRAMYCIN	02328M, 02329N, 05569D, 05570E	
S01AE	CIPROFLOXACIN	01217C, 02480M, 05564W	
	OFLOXACIN	05567B, 08383F	
S02AA01	CHLORAMPHENICOL	01172Q	Include 01172Q only (Listed 1 Aug 1991 – 31 May 2015)
S02AA15	CIPROFLOXACIN	02480M	
S02CA	TRIAMCINOLONE + NEOMYCIN SULFATE + GRAMICIDIN + NYSTATIN	02971J, 02974M	
	DEXAMETHASONE + FRAMYCETIN SULFATE + GRAMICIDIN	02781J	
S03AA	FRAMYCETIN SULFATE	01440T, 05557L	

Presented as the following rates:

1. number of prescriptions per 100,000 people

2. number of patients per 100,000 people

3. number of definded daily doses (DDD) per 1,000 people per day

Rates are directly age-sex standardised, to the 2001 Australian population, using 5-year age groups: 0-4, 5-9, … , 80-84, 85 and over.

For more information about age-standardisation in general see
/content/index.phtml/itemId/327276

A patient's age is calculated in years as the difference between the patient's date of birth and date of supply for the prescription. Date of birth and sex are as reported on a patient's last prescription for any drug, extracted on 18/04/2018.

Prescriptions are allocated to a financial year based on the date the medicine was supplied to the patient. For example for 2016–17, the date of supply is between 1 July 2016 and 30 June 2017.

Analysis by Statistical Area Level 3 (SA3) 2016 is based on the patient's enrolment postcode as last reported by the patient to Medicare, valid at date of supply.

Suppress data (number and rate) if at least one of the following conditions are met:

- the total denominator is less than 1,000

- the total numerator is less than 20.

Age-sex standardised rates are also suppressed where the denominator for at least one of the age-sex groups used to calculate the rate is below 30 and results of sensitivity analysis indicate that the rates are volatile. However, for SA3 data, if the volatility of the rate is not found to have a material impact on its decile, the rate is published with caution. For more information about the sensitivity analysis, see the Technical supplement of the Third Atlas.

Computation: (a), (b) [Numerator ÷ Denominator] x 100,000

(c) ([Numerator x 1,000] ÷ [Denominator x 365])

Numerator: For 2013-14, 2014-15, 2015-16 and 2016-17:

1. Number of antimicrobial prescriptions dispensed

2. Number of patients dispensed at least one antimicrobial prescription

3. Number of DDD of antimicrobial medicines dispensed [mass amount x quantity dispensed ÷ DDD amount]

Numerator data elements:

> **Data Element / Data Set**
>
> Pharmaceutical Benefits Scheme (PBS) prescription—mass amount, N(14.5)
>
> PBS and RPBS data 2013-14, 2014-15, 2015-16 and 2016-17 extracted on 30/04/2018

> **Data Element / Data Set**
>
> Pharmaceutical Benefits Scheme (PBS) prescription—Anatomical Therapeutic Chemical (ATC) code, ANN(AANN)
>
> PBS and RPBS data 2013-14, 2014-15, 2015-16 and 2016-17 extracted on 30/04/2018

> **Data Element / Data Set**
>
> **Data Element / Data Set**
> Defined daily dose amount, N(3.3)
> **Data Source**
> WHO Collaborating Centre for Drug Statistics Methodology

Data Element / Data Set

[Person—date of birth, DDMMYYYY](#)

Data Element / Data Set

[Pharmaceutical Benefits Scheme (PBS) prescription—PBS item prescribed, code NN[NNN]A](#)

Data Element / Data Set

[Pharmaceutical Benefits Scheme (PBS) prescription—patient identifier, identifier N(9)](#)

Data Element / Data Set

[Pharmaceutical Benefits Scheme (PBS) prescription—quantity of PBS item supplied, total number N[NNN]](#)

Guide for use

Data source type: Administrative by-product data

Data Element / Data Set

[Person—sex, code A](#)

Data Element / Data Set

[Pharmaceutical Benefits Scheme (PBS) prescription—date of supply, DDMMYYYY](#)

Denominator: As at 30 June 2013, 2014, 2015 and 2016:

(a), (b), (c) Total population

Denominator data elements:

Data Element / Data Set

[Person—estimated resident population of Australia, total people N[N(7)]](#)

Data Source

[ABS Australian Demographic Statistics](#)

Guide for use

Data source type: Census based plus administrative by-product data

Disaggregation:	Data are disaggregated by individual year.
	(a) SA3 2016 by:
	• remoteness (ASGS Remoteness structure 2016) and Socio-Economic Indexes for Areas (SEIFA 2016) Index of Relative Socioeconomic Disadvantage (IRSD 2016)
	Primary Health Network (PHN) 2017
	State and territory
	(b) State and territory
	(c) State and territory

Disaggregation data elements:

Data Element / Data Set

Address—statistical area, level 3 (SA3) code (ASGS 2016) NNNNN

Guide for use

Data Element / Data Set

[Address—Australian postcode, code (Postcode datafile) NNNN](#)

Guide for use

GPO postcodes 2001, 2124, 3001, 4001, 5001, 6843 excluded from the SA3 analysis but included in state/territory and national level analysis.

Data source type: Administrative by-product data

Used for disaggregation by Statistical Area Level 3.

Representational attributes

Representation class:	Rate
Data type:	Integer
Unit of measure:	Service event
Format:	NN[NNNN]

Data source attributes

Data sources:

Data Source

[ABS Australian Demographic Statistics](#)

Frequency

Quarterly

Data custodian

Australian Bureau of Statistics

Accountability attributes

Methodology:	Statistical Area Level 3 (SA3s) are geographic areas defined in the ABS Australian Statistical Geography Standard (ASGS). The aim of SA3s is to create a standard framework for the analysis of ABS data at the regional level through clustering groups of SA2s that have similar regional characteristics. There are 340 spatial SA3s covering the whole of Australia without gaps or overlaps. They are designed to provide a regional breakdown of Australia. SA3s generally have a population of between 30,000 and 130,000 people. There are approximately 78 with fewer than 30,000 people and 46 with more than 130,000 as at 30 June 2016. The Other Territories of Jervis Bay, Cocos (Keeling) Islands, Christmas Island and Norfolk Island are each represented by a SA3 in the 2016 ASGS. For further information see the ABS publication, Population by Age and Sex, Regions of Australia, 2016. ABS. cat. no. 3235.0.
	The Anatomical Therapeutic Chemical (ATC) code is recommended by the World Health Organization (WHO) as an internationally accepted classification for presenting and comparing drug usage data. Since 1982, the WHO Collaborating Centre for Drug Statistics Methodology (WHOCC), located in Norway, has been the central body responsible for coordinating ATC use. Note that the ATC codes used in this specification are from the Australian Department of Health's version of the WHO ATC classifications, which have some minor differences from the WHO version, based upon a particular drug's usage in Australia. The Department of Health's ATC version is available at http://www.pbs.gov.au/browse/body-system
	Further information on DDD/1,000/day is available at http://www.who.int/medicines/regulation/medicines-safety/toolkit_indicators/en/index1.html.
	DDD amounts are available at https://www.whocc.no/atc_ddd_index/
Reporting requirements:	Australian Commission on Safety and Quality in Health Care
	The Third Australian Atlas of Healthcare Variation 2018
Organisation responsible for providing data:	Australian Institute of Health and Welfare
Accountability:	Australian Commission on Safety and Quality in Health Care
Release date:	11/12/2018

Source and reference attributes

Submitting organisation:	Australian Commission on Safety and Quality in Health Care

Relational attributes

Related metadata references:	See also Number of PBS/RPBS prescriptions dispensed for antimicrobials per 100,000 people, 2017-18 Australian Commission on Safety and Quality in Health Care, Standard 22/09/2020