Antimicrobial utilisation rates provided in this report are calculated using the number of defined daily doses (DDDs) of the antimicrobial agent or class consumed each month per 1,000 occupied bed days using aggregated data for contributing hospitals in the Principal Referral peer group. Rates for aggregated usage of all antibacterials by all contributors for both total hospital and intensive care unit (ICU) use are shown. Rates are also reported for total hospital use of 6 target antibacterial classes, as well as ICU use and aggregated usage in all other in-patient areas (non-ICU) for these classes. National ICU and non-ICU rates for individual agents within the 6 target classes are also included.

A change to the DDD for a number of high volume antimicrobials occurred in January 2019. This has been applied to all retrospective data. For more information refer to WHO WTC/DDD alterations 2019.

Comparator rates for this reporting period include data from 33 public principal referral and large private hospital(s). ICU rates include data from 32 ICUs. Some hospitals were unable to submit data for this reporting period and comparator rates may vary from previous reports.

Enquiries should be directed to the Senior Pharmacist, NAUSP (email: HealthAntibio@sa.gov.au)

1. TOTAL HOSPITAL ANTIBACTERIAL USE (INCLUDING ALL CLASSES)
2. TOTAL INTENSIVE CARE UNIT ANTIBACTERIAL USE (INCLUDING ALL CLASSES)

Chart 2: total ICU antimicrobial use by all contributors (all classes)

3. TOTAL HOSPITAL USE BY ANTIBACTERIAL CLASS (SELECTED CLASSES)

Total hospital antimicrobial utilisation rates for 3rd/4th generation cephalosporins, glycopeptides, carbapenems, fluoroquinolones, aminoglycosides and anti-pseudomonal penicillin/β-lactamase inhibitor combinations are displayed for the period July 2017 to June 2019 in charts 3 and 4.

In the following charts, 'C' denotes Principal Referral peer group.

Chart 3: Total hospital usage of 3rd/4th generation cephalosporins, glycopeptides and carbapenems

Chart 4: Total hospital usage of fluoroquinolones, aminoglycosides and anti-pseudomonal penicillins plus β-lactamase inhibitor
4. INTENSIVE CARE (ICU) COMPARED TO OTHER HOSPITAL USAGE (NON-ICU)

Usage rates for ICU compared to non-ICU for each antibacterial class are shown in charts 5 - 10. Higher usage rates in ICU compared to non-ICU are expected, based on the density of usage in these areas.

Chart 5: 3rd/4th generation cephalosporins

Chart 6: glycopeptides

Chart 7: carbapenems

Chart 8: fluoroquinolones

Chart 9: aminoglycosides

Chart 10: anti-pseudomonal penicillins plus ß-lactamase inhibitor
5. ICU ANTIBACTERIAL UTILISATION RATES FOR INDIVIDUAL AGENTS

ICU antibacterial utilisation rates for individual agents within reported classes are shown in the Charts 11 - 16 below.

Chart 11: 3rd/4th generation cephalosporins (ceftriaxone and cefotaxime grouped together)

Chart 12: glycopeptides

Chart 13: carbapenems

Chart 14: fluoroquinolones

Chart 15: aminoglycosides

Chart 16: parenteral penicillin / β-lactamase inhibitors
6. NON-ICU ANTIBACTERIAL UTILISATION RATES FOR INDIVIDUAL AGENTS

Non-ICU antibacterial utilisation rates for individual agents within reported classes are shown in Charts 17 - 22 below.

Chart 17: 3rd/4th generation cephalosporins (ceftriaxone and cefotaxime grouped together)

Chart 18: glycopeptides

Chart 19: carbapenems

Chart 20: fluoroquinolones

Chart 21: aminoglycosides

Chart 22: parenteral penicillin / β-lactamase inhibitors
This report includes data from the following hospitals:

**ACT:** CANBERRA HOSPITAL

**NSW:** CONCORD HOSPITAL, LIVERPOOL HOSPITAL, NEPEAN HOSPITAL, PRINCE OF WALES HOSPITAL, ROYAL NORTH SHORE HOSPITAL, ROYAL PRINCE ALFRED HOSPITAL, ST GEORGE HOSPITAL, ST VINCENT'S HOSPITAL SYDNEY, SYDNEY ADVENTIST HOSPITAL, WESTMEAD HOSPITAL

**NT:** ROYAL DARWIN HOSPITAL

**QLD:** GOLD COAST UNIVERSITY HOSPITAL, GREENSLOPES HOSPITAL, MATER PRIVATE HOSPITAL BRISBANE, PRINCESS ALEXANDRA HOSPITAL, ROYAL BRISBANE AND WOMEN'S HOSPITAL, SUNSHINE COAST UNIVERSITY HOSPITAL, TOWNSVILLE HOSPITAL

**SA:** FLINDERS MEDICAL CENTRE, ROYAL ADELAIDE HOSPITAL

**TAS:** ROYAL HOBART HOSPITAL

**VIC:** ALFRED HOSPITAL, AUSTIN HOSPITAL, CABRINI HOSPITAL MALVERN, GEELONG HOSPITAL, MONASH MEDICAL CENTRE CLAYTON, PETER MACCALLUM CANCER CENTRE, ROYAL MELBOURNE HOSPITAL

**WA:** FIONA STANLEY HOSPITAL, ROYAL PERTH HOSPITAL, SIR CHARLES GARDNER HOSPITAL, ST JOHN OF GOD SUBIACO