

Information Sheet

National Alert System for Critical Antimicrobial Resistances (CARAlert)

The National Alert System for Critical Antimicrobial Resistances (CARAlert) collects surveillance data on priority organisms that are resistant to last-line antimicrobial agents. The priority organisms with critical antimicrobial resistances (CARs) included in CARAlert are:

Species	Critical resistance
Enterobacteriaceae	Carbapenemase-producing, and/or ribosomal methyltransferase-producing
<i>Enterococcus</i> species	Linezolid non-susceptible
<i>Mycobacterium tuberculosis</i>	Multidrug resistant – resistant to at least rifampicin and isoniazid
<i>Neisseria gonorrhoeae</i>	Ceftriaxone or azithromycin non-susceptible
<i>Salmonella</i> species	Ceftriaxone non-susceptible
<i>Shigella</i> species	Multidrug-resistant
<i>Staphylococcus aureus</i>	Vancomycin, linezolid or daptomycin non-susceptible
<i>Streptococcus pyogenes</i>	Penicillin reduced susceptibility

From 17 March 2016 to 31 March 2017, 73 originating laboratories across Australia reported 1,064 results to CARAlert. The results of analyses of these data are published on the Commission's website.

Key findings for the first year of operation of CARAlert are:

- From April 2016 to March 2017, there was an average of 86 entries per month (range 61–161)
- Carbapenemase-producing Enterobacteriaceae (CPE) were the most frequently recorded CAR until November 2016, either alone or in combination with ribosomal methyltransferases (RMT)
- Since December 2016, azithromycin non-susceptible *Neisseria gonorrhoeae* have been the most frequently reported CARs, and in March 2017 contributed to 62% of all CARs reported nationally
- Daptomycin non-susceptible *S. aureus* were reported from Victoria (41%), Queensland (21%) and Western Australia (20%)
- Multidrug-resistant *Mycobacterium tuberculosis* were reported from patients from all states and territories except Queensland



- The median age of patients from whom a CAR was isolated was 40–49 years; 68 per cent (300/440) of CPE were from people aged 60 years and older
- Sixty per cent (266/440) of CPE isolates were from clinical specimens; 61% (163/266) of these were from urine, and 7% (23/266) from blood cultures
- At least 37% (393/1,064) of CARs were detected in community patients and aged care home residents
- The IMP-type carbapenemase is now endemic on the eastern seaboard of Australia in several species of Enterobacteriaceae, particularly *E. cloacae*; there is no evidence that other carbapenemases have become established in Australia to date
- The frequency of reporting of CPE highlights the importance of the implementation of the Commission's [Recommendations for the control of carbapenemase-producing Enterobacteriaceae \(CPE\). A guide for acute care health facilities](#)
- Azithromycin non-susceptible *N. gonorrhoeae* are common in Australia, and there were fluctuations in numbers between and within states and territories during the reporting period
- The timely data on ceftriaxone or azithromycin non-susceptible *N. gonorrhoeae* reported to CARAlert complement state and territory systems that monitor antimicrobial resistance as part of their sexually transmitted infection prevention and control strategies
- The Commission will work with the states and territories by providing regular updates on the reporting of ceftriaxone or azithromycin non-susceptible *N. gonorrhoeae* through CARAlert, and promote use of the data to inform national and local treatment guidelines.

Further information

AURA Project:

www.safetyandquality.gov.au/antimicrobial-use-and-resistance-in-australia/

AURA Resources:

www.safetyandquality.gov.au/antimicrobial-use-and-resistance-in-australia/resources-page

CARAlert:

www.safetyandquality.gov.au/antimicrobial-use-and-resistance-in-australia/what-is-aura/national-alert-system-for-critical-antimicrobial-resistances-caralert

www.safetyandquality.gov.au/wp-content/uploads/2017/07/CARAlert-Report-March-2016-to-March-2017.pdf

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