AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Antimicrobial Use and Resistance in Australia

The *Antimicrobial Use and Resistance in Australia (AURA) Report 2016: First Australian report on antimicrobial use and resistance in human health* highlights antimicrobial use and resistance as a critical and immediate challenge to health systems in Australia and around the world. AURA 2016 is a landmark report outlining the most comprehensive picture of antimicrobial resistance, antimicrobial use and appropriateness of prescribing in Australia to date, containing data on organisms that are considered a priority for Australia in terms of their impact on health.

Key findings from the report include:

- 10.7 million people in Australia (46% of the population) were prescribed antimicrobials in 2014.
- More than 40% of prescriptions for antimicrobials to prevent infection after surgery were inappropriate, due to incorrect duration, incorrect dose or dosing frequency.
- Antimicrobial use in hospitals in Australia has gradually declined since its peak in 2010. On any given day, 38.4% of hospital patients are prescribed antimicrobials.
- In residential aged care facilities, 11.3% of residents were on antimicrobial therapy, but only 4.5% had a suspected or confirmed infection.
- Australia has one of the highest rates of vancomycin resistance in *Enterococcus faecium* compared to European countries. Rates of resistance to key antimicrobial agents are very low (<1%) in *E. faecalis*, but high (45-94.5%) in *E. faecium*.
- Australia has a comparatively low rate of resistance to fluoroquinolones, reflecting the restricted use of this antimicrobial class in Australia compared with that of many similar countries. Combined resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides in *E. coli* was less than 2.5% in Australia.
- In the community, antimicrobials were most often dispensed for very young people and older people.
- In 2014, 57% of those aged 0–4 years, 60% of those aged 65 years or over, and 74% of people aged 85 years or over were prescribed at least one antimicrobial.
- The 2014 Hospital National Antimicrobial Prescribing Survey found that 24.3% of prescriptions were non-compliant with guidelines, and 23.0% were inappropriate.

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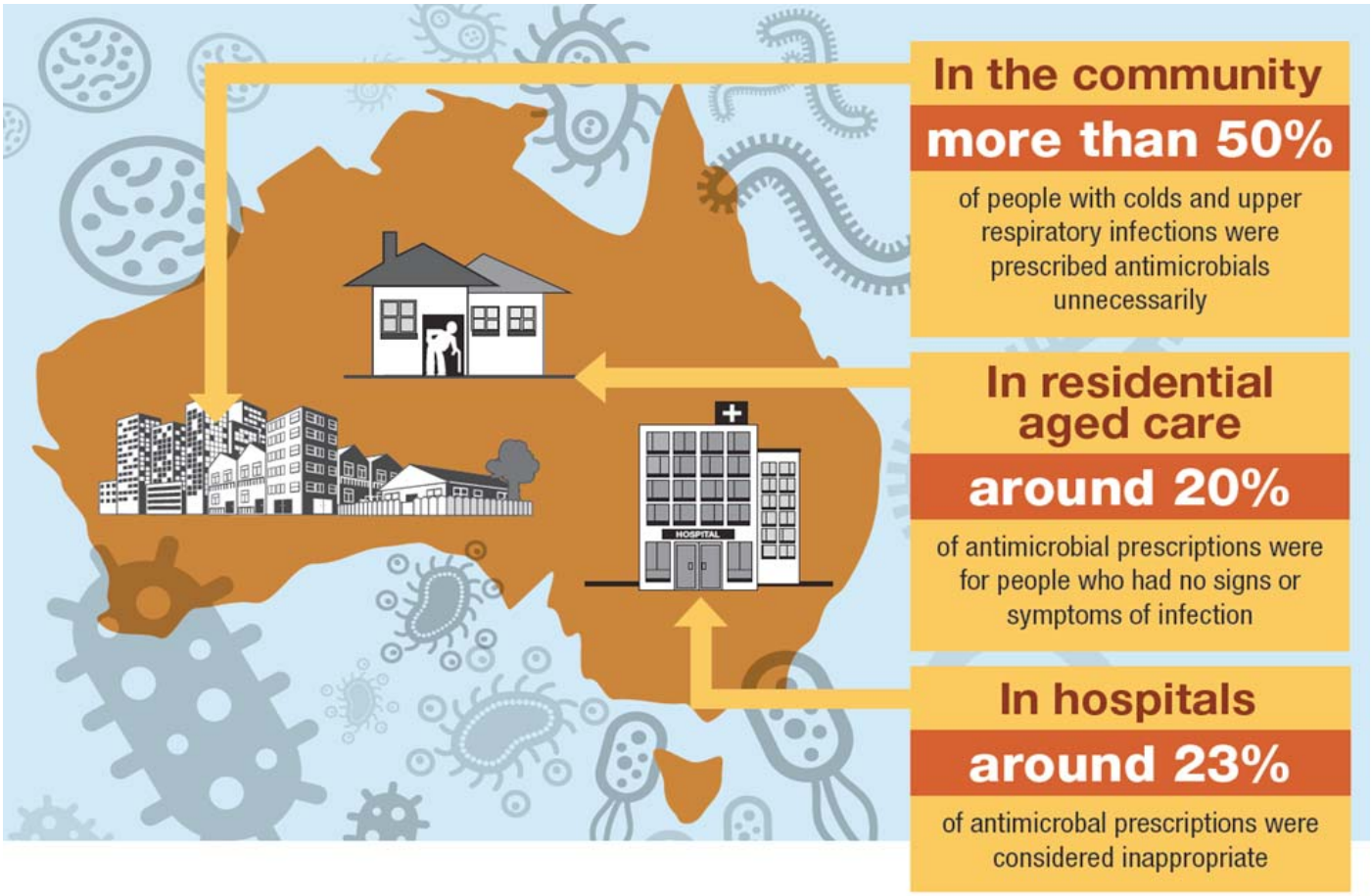
AURA Surveillance System data sources:

Existing data collections partnering with AURA:

- Australian Group on Antimicrobial Resistance
- National Antimicrobial Prescribing Survey (NAPS) and the pilot of Aged Care NAPS
- National Antimicrobial Utilisation Surveillance Program
- Queensland Health OrgTRx System

Additional data sources used for AURA 2016 Report:

- The National Neisseria Network
- Office of Health Protection, National Notifiable Disease Surveillance Branch
- Australian Mycobacterium Reference Laboratory Network
- Pharmaceutical Benefit Scheme and the Repatriation Pharmaceutical Benefit Scheme
- NPS MedicineWise MedicineInsight Program
- Sullivan Nicolaides Pathology



CARAlert System

Organism	Critical resistance
Enterobacteriaceae	Carbapenemase-producing strains, or Ribosomal methylase-producing strains
Enterococcus species	Linezolid non-susceptible
Mycobacterium tuberculosis	MDR (at least rifampicin and isoniazid resistant) strains
Neisseria gonorrhoeae	Ceftriaxone non-susceptible, or azithromycin resistant strains
Salmonella species	Ceftriaxone non-susceptible strains
Shigella species	MDR strains
Staphylococcus aureus	Vancomycin, linezolid, or daptomycin non-susceptible
Streptococcus pyogenes	Penicillin reduced susceptibility

For more information about AURA and for copies of AURA publications visit:
www.safetyandquality.gov.au/antimicrobial-use-and-resistance-in-australia/

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