Surveillance provides evidence for action: it supports clinicians, policy-makers and researchers to prioritise and target investment. A nationally coordinated surveillance system for antimicrobial use (AU) and resistance (AMR) has long been needed to better understand the drivers of AMR in Australia, to review the impact of antimicrobial stewardship, and to minimise the impact that AMR has on health care delivery.

OBJECTIVE

To establish a comprehensive, coordinated surveillance system for AU and AMR in Australia in collaboration with existing surveillance programs. The results of surveillance will enable high-quality information and data for practice improvement, health program and policy development, and to support research priorities.

METHODS

The Australian Commission on Safety and Quality in Health Care (the Commission) undertook wide-ranging consultations, planning and development activities to review current AU and AMR surveillance systems, identify the requirements of the national system, and negotiate with a range of stakeholders to build and improve surveillance infrastructure. The planning phase for the Antimicrobial Use and Resistance Australia (AURA) Surveillance System confirmed the key elements required for a comprehensive approach to surveillance in Australia. The AURA model is predominantly one of supporting the enhancement and refinement of existing programs through a partnership approach, and to develop new systems where that is required.

RESULTS

The establishment of the AURA Surveillance System focused on identifying and sourcing data which covered eight information streams. These streams extend across AU and AMR in the community and acute sectors, through the use of passive and targeted data collections. These component streams are illustrated in Figure 1.

Figure 1. AURA Surveillance System

As these programs have developed and been enhanced, AURA has published reports and information bulletins describing the key results of each of the collections. For example, Antimicrobial Use in Australian Hospitals: 2014 Report of the National Antimicrobial Utilisation Surveillance Program, and the Antimicrobial Prescribing Practice in Australian Hospitals: Results of the 2014 National Antimicrobial Prescribing Survey.

Development of the first national report on antimicrobial use and resistance in Australia

For the first time in Australia a comprehensive picture of surveillance of AU and AMR will be available through AURA 2016: First Australian Report on AU and AMR in Human Health. This report will describe rates and patterns for AU in hospitals and the community, as well as provide data on appropriateness of use. The report also provides resistance rates for 13 priority organisms and discusses key emerging issues for AU and AMR.

AURA 2016: First Australian Report on Antimicrobial Use and Resistance in Human Health is due to be published in mid 2016, and is the culmination of the first phase of reporting from the AURA Surveillance System. It will be a demonstration of the value of coordinating and consolidating AU and AMR information at a national level.

Preliminary comparison with similar countries confirms Australia’s high AU in the community (Figure 2). It also highlights some unique results for Australia such as the comparatively low rate of resistance to fluoroquinolones, reflecting the restricted use of this antimicrobial class in Australia (Figure 3).

The report also highlights variation in the types of resistance emerging in Australia compared with other countries, and a notably higher rate of vancomycin resistance in Enterococcus faecium in Australia.

CONCLUSIONS

The foundation of a comprehensive national surveillance system for AU and AMR has been established as part of the AURA Surveillance System. AURA will continue to partner with existing programs and experts to coordinate analysis and use of data from a range of collections to produce integrated surveillance information and reports about the current state of play, trends over time and, where feasible, the interrelationships between AMR and AU.