| Uses of antibiotic resistance<br>surveillance system data   | Users of antibiotic resistance surveillance data |                                      |                        |                          |             |
|---|--|--------------------------------------|------------------------|--------------------------|-------------|
|   | Hospitals  | Community<br>healthcare<br>providers | University researchers | Pharmaceutical companies | Governments |
| Guide patient therapy   | X  | X                                    | -                      | -                        | -           |
| Identify trends in antibiotic resistance: assess the magnitude of new resistance threats; follow the dynamics of resistance trends    | X  | X                                    | X                      | X                        | X           |
| Detect new resistance mechanisms  | -  | -                                    | X                      | X                        | -           |
| Monitor impact of empirical prescribing   | X  | X                                    | -                      | -                        | X           |
| Monitor effects of infection control interventions  | X  | -                                    | -                      | -                        | -           |
| Identify outbreak of antibiotic-<br>resistant organisms   | X  | -                                    | -                      | -                        | -           |
| Detect bioterrorist events  | X  | X                                    | -                      | -                        | X           |
| Monitor antibiotic resistance during the product development cycle  | -  | -                                    | X                      | X                        | -           |
| Identify needs for new antibiotics:<br>monitor the needs for targeted-<br>spectrum antibiotics  | -  | -                                    | X                      | X                        | -           |
| Identify the need for new diagnostic tests and unmet medical needs  | -  | -                                    | X                      | X                        | -           |
| Education and continuing education on antibiotic resistance   | X  | X                                    | X                      | X                        | X           |
| Strategic information to support new antibiotic drug target development   | -  | -                                    | X                      | X                        | -           |
| Identify high-profile isolates for<br>antibiotic screens to guide structure—<br>activity-relationship strategies for<br>novel targets | -  | -                                    | X                      | X                        | -           |
| Antibiotic resistance modelling   | -  | -                                    | X                      | X                        |             |
| Benchmark the activity of new antibiotics; pre- and post-regulatory approval  | -  | -                                    | -                      | X                        | X           |
| Regulatory agency submissions such<br>as new drug applications (NDAs) or<br>other regulatory documents                                | -  | -                                    | -                      | X                        | X           |
| MIC interpretative criteria<br>submissions (breakpoint<br>determinations) to government or<br>regulatory agencies                     | -  | -                                    | -                      | X                        | X           |
| From Critchley et al., 2004 [27].   |  |                                      |                        |                          |             |