The national annual antimicrobial PPS was carried out in September and October 2015 over a specific time period. Data collection was organised by pharmacy staff via an agreed protocol and data entry form, inputted into excel and analysed by the Health Protection Surveillance Centre (HPSC). One hospital piloted a data entry app. Feedback was then provided to participating hospitals.

**Methods**

The median number of days taken to conduct the PPS was one day (0.5 – 19 days) and the median number of auditors involved in data collection was three (1 – 18 staff members).

The pilot app used in one hospital greatly facilitated data entry into excel. 10 hours of additional work via eliminating manual inputted into excel.

Almost half of the hospitals that participated had an antimicrobial guideline app available locally (49%). The median number of days taken to conduct the PPS was one day (0.5 – 19 days) and the median number of auditors involved in data collection was three (1 – 18 staff members). The pilot app used in one hospital greatly facilitated accuracy of data collection and reduced approximately 10 hours of additional work via eliminating manual data entry into excel.

**Results**

1. **General**
   Overall, 39 hospitals participated: 20 public general; 7 public regional/tertiary; and 12 other hospital types. This is an increase of 46% in the number of participating hospitals since the national annual PPS first commenced in 2009. Almost half of the hospitals that participated had an antimicrobial guideline app available locally (49%). The median number of days taken to conduct the PPS was one day (0.5 – 19 days) and the median number of auditors involved in data collection was three (1 – 18 staff members). The pilot app used in one hospital greatly facilitated accuracy of data collection and reduced approximately 10 hours of additional work via eliminating manual data entry into excel.

2. **Prevalence of antimicrobial prescribing**
   As illustrated in Figure 1, 8052 patients were reviewed and 2988 were prescribed antimicrobials, a median prevalence of 37.8%. The median prevalence of antimicrobial use in medicine was 35.2%, surgery 48.7% and Intensive Care 38.8%. The median prevalence of antimicrobial use from 2009 – 2015 ranged from 34% to 40.6%.

3. **Antimicrobial agents prescribed**
   Co-amoxiclav and piperacillin/tazobactam constituted 33.8% of all antimicrobial agents prescribed in Irish hospitals. Fifteen of the most frequently prescribed antimicrobial agents are illustrated in Figure 2.

4. **Parenteral and Oral Therapy**
   The median percentage of parenteral therapies over all therapies was 63.3% (Figure 3). Overall, 30.7% of parenteral therapies were switched to oral antimicrobials and 10.1% could have been switched to oral equivalents. Antimicrobials with good bioavailability prescribed parenterally equalled 40.1% (clirpofoxacin, clarithromycin, clindamycin, erythromycin, fusidic acid, levofloxacin, linezolid, metronidazole and moxifloxacin).

5. **Indication & diagnosis**
   The majority of indications for antimicrobial use were community-acquired (Figure 4).

6. **Appropriateness of antimicrobials prescribed**
   Overall, 77.9% of antimicrobials were compliant with the local antimicrobial guidelines or microbiologist/ID physician advice specific to: antimicrobial choice; duration; dose; and formulation.

7. **Allergy status**
   The allergy status was documented for 90.3% of patients of which 12.9% had a known antimicrobial allergy.

**Discussion & Conclusion**

The increase in the number of participating hospitals in the 2015 PPS reflects its value in monitoring antimicrobial prescribing patterns and identifying targets for ASPs. Such initiatives warranting further studies may include a review of the extended duration of surgical prophylaxis; methods for reducing health-care associated infections; and interventions for reducing the widespread use of broad-spectrum penicillins. The level of compliance with antimicrobial guidelines/expert advice at a local level is also a parameter that may benefit from more regular audits. With the addition of several new consultant microbiologists and antimicrobial pharmacist posts, implementing and sustaining further ASPs should be achievable.

**References**
