

Summary of National Antimicrobial PPS 2020 in Acute Hospitals

General

- Included 48 hospitals, the highest number of hospitals to date (2019: 45, 2018: 44), 8458 patients were reviewed (2019: 8916, 2018: 8814).
- Organised and coordinated by the Irish Antimicrobial Pharmacists Group. Data analysis by AMRIC, HPSC.

Prevalence of antimicrobial prescribing

- The median prevalence of antimicrobial use was 40% (2019: 40% 2018: 39%)
- Prevalence among specialties included: intensive care 59%, surgical 49%, medicine 36%, obstetrics/gynaecology 25%, other 11%.

Indication and diagnosis

- The majority of indications for antimicrobial use were community acquired infections. Fifty four per cent of antimicrobials were prescribed for community infection (2019 & 2018: 55%), 24% for healthcare associated infection (2019: 25%, 2018: 23%), 8% for medical prophylaxis (2019 & 2018: 9%) and 10% for surgical antimicrobial prophylaxis (SAP) (2019 & 2018: 8%), thus remaining broadly similar to 2018 and 2019.
- There was a reduction noted in the proportion of surgical antibiotic prophylaxis extended beyond 24 hours duration to 28% in 2020 (from 37% in 2018).
- Pneumonia, intra-abdominal and skin/soft tissue infections (SST) were the most common diagnosis groups for which antimicrobials were prescribed: 21%, 14%, 9%.

Antimicrobial agents prescribed

- Co-amoxiclav and piperacillin-tazobactam combined accounted for 38% of all prescriptions, unchanged from previous years (2019: 37% 2018: 36%).
- Metronidazole ranked third in the 3 years (6%).
- Clarithromycin decreased in ranking over the last 3 years from 5th to 9th place with ciprofloxacin decreasing from 9th place to 12th place.
- Increasing trends in prevalence of the broad-spectrum agents piperacillin-tazobactam, meropenem and ceftriaxone were observed. Meropenem increased in ranking from 13th to 10th place from 2018 to 2020 and ceftriaxone increased in ranking from 12th place to 8th place.

Parenteral and oral route

- The majority of antimicrobials (68%) were administered via the IV route, consistent with observed results for 2018 and 2019 (67%)
- The following are classified as agents of excellent oral bioavailability (i.e. >90%), however 68% of metronidazole, 61% of clindamycin, 44% of linezolid, 28% of ciprofloxacin and 21% of levofloxacin prescriptions were administered by the parenteral route.

Appropriateness of Antimicrobials

- Continued high compliance of antimicrobial prescriptions overall with local guidance was observed in 2020. The percentage of overall compliant therapies (compliant for agent, duration, dose, route or micro/ID approval) remained at 77% (2018: 74%).
 - Considering agent of choice alone for compliance a slight increase to 85% was observed (2019: 84%, 2018: 82%).
 - There was an increase in the proportion of prescriptions which had been discussed with an infection specialist to 29% (2019: 29%, 2018: 26%).

- Ninety one per cent of prescriptions had a documented indication, showing continued high compliance with this process measure (2019: 92%, 2018: 89%).
- In PPS 2020, a revised question about appropriateness of antimicrobial duration at time of PPS was included, with 89% of prescriptions deemed appropriate.
- An increase in the proportion of prescriptions with a documented stop or review date to 45% was observed (2019: 42%, 2018: 34%).
- Compliance with restricted agents and meropenem was 86% (2019: 80%, 2018: 82.4%) and 83% (2019: 82%, 2018: 87.8%) respectively, both improvements on the previous year.
- Ninety four per cent of patients had an allergy status documented.

Recommendations

An increase in compliance with local guidance, discussion with an infection specialist and documentation of indication and stop/review date are all positive findings. Key antimicrobial stewardship areas for improvement which the survey has highlighted include:

1. Further reduction in surgical antimicrobial prophylaxis (SAP) >24 hours duration
2. Reduction in duration of pneumonia treatment
3. Reduction in use of dual beta lactam therapy of community-associated cellulitis
4. Focus on prescribing to more narrow spectrum agents, considering the level of co-amoxiclav and piperacillin /tazobactam prescription.
5. A metronidazole educational intervention for prescribers (focusing on its excellent bioavailability and on the anti-anaerobic spectrum of other agents)