



# Report on National Antimicrobial Targeted Point Prevalence Survey for Route of Administration in Acute Hospitals in Ireland 2025

02/03/2026

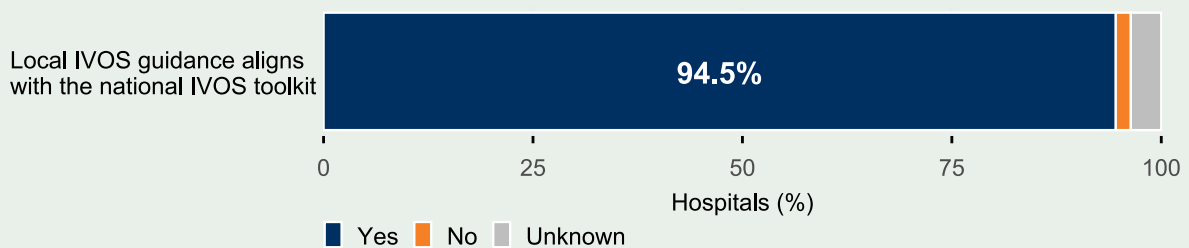
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## Summary of findings

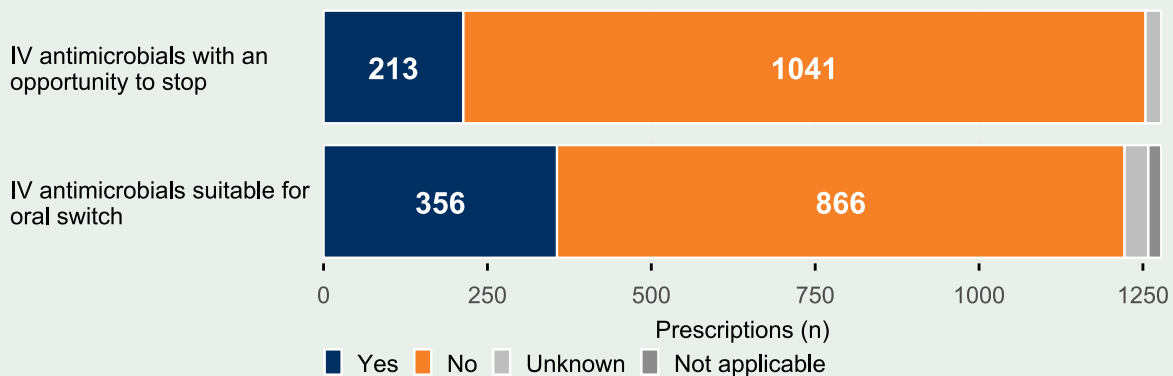
Hospitals participated <b>55</b>	Medical wards surveyed <b>224</b>	Antimicrobial prescriptions reviewed <b>2133</b>	IV antimicrobials <b>1278</b>
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### Areas of good practice identified in the Route tPPS sample

- High hospital participation and sustained commitment to intravenous-to-oral switch (IVOS) quality improvement across acute hospitals in Ireland.



### Areas for improvement identified in the Route tPPS sample



Wards have not been randomly selected. Antimicrobial statistics are not an accurate description of the national population.

## Key recommendations

- 1. Stop antimicrobial therapy if no longer clinically indicated.**  
Unnecessary antimicrobial treatment exposes patients to avoidable harm and contributes to antimicrobial resistance.
- 2. Promote oral use of antimicrobials in preference to IV where appropriate.**  
Oral administration improves patient management and outcomes, saves nurse administration time and lessens environmental impact.
- 3. Ensure local guidelines and pathways promote and enable stopping or switching to oral as appropriate.**  
Establish clear mechanisms to identify and prioritise patients receiving IV antimicrobials who require expert antimicrobial stewardship review.

## 1. Background

HSE AMRIC coordinated two national antimicrobial targeted point prevalence surveys (tPPS) in 2025. The primary objectives of the tPPS were to focus collective AMS efforts and to drive quality improvement in two key areas identified in the National Antimicrobial PPS 2024:

- National Antimicrobial SAP tPPS 2025
- National Antimicrobial Route tPPS 2025

The tPPS replaced the full National PPS in 2025 to reduce the burden of data collection and increase participation of acute hospitals by limiting the population sample size and number of collection criteria.

Data collection took place from 15<sup>th</sup> September 2025 – 10<sup>th</sup> October 2025.

In the 2025 Route tPPS sites selected a number of medical wards that would represent a minimum of 30% of medical wards for inclusion in the Route tPPS. The full protocol is available on National PPS webpage on [antibioticprescribing.ie](http://antibioticprescribing.ie).

The Route tPPS focussed on a sample of patients on medical wards, as this group represents a high-volume population across acute hospitals, with likely significant opportunity for stopping antimicrobials, or intravenous to oral switch (IVOS). The other arm of the 2025 tPPS in 2025 focussed on surgical antibiotic prophylaxis on surgical wards.

The results in this report do not represent national estimates, as the ward sampling methods were not randomised and the results have not been weighted. For these reasons, comparisons to previous years' national results and between hospital models have been omitted from this report.

## 2. General results

- 55 of the 65 invited hospitals participated in the 2025 Route tPPS (eight Model 4, seventeen Model 3, nine Model 2, eleven Private and ten Specialty; Table 1).
- 224 medical wards were selected locally across the participating hospitals for inclusion in the 2025 Route tPPS (Table 1).
- The total number of patients surveyed across the selected medical wards in the 2025 Route tPPS was 4,686. Of these, 1,667 patients were on a total of 2,133 antimicrobials (Table 1).

Table 1 – General tPPS details, by hospital model.

Hospital model	Participating hospitals (n)	Wards (n)	Patients surveyed across medical wards (n)	Patients on antimicrobials (n)	Antimicrobial prescriptions (n)
Model 2	9	24	444	138	158
Model 3	17	76	1,684	648	824
Model 4	8	50	1,312	529	694
Private	11	30	563	238	293
Specialist	10	44	683	114	164
<b>Total</b>	<b>55</b>	<b>224</b>	<b>4,686</b>	<b>1,667</b>	<b>2,133</b>

### 3. Route of administration

- Most antimicrobials included in the tPPS sample were administered via the intravenous (IV) route (Table 2).

Table 2 – Routes of antimicrobial administration, by hospital model.

Hospital model	IV (n)	Oral (n)	Inhalation (n)	Total (n)
Model 2	73	85	0	<b>158</b>
Model 3	506	317	1	<b>824</b>
Model 4	417	275	2	<b>694</b>
Private	192	101	0	<b>293</b>
Specialist	90	73	1	<b>164</b>
<b>Total</b>	<b>1,278</b>	<b>851</b>	<b>4</b>	<b>2,133</b>

The rectal route had no cases and has been omitted from the table.

- The breakdown of route of administration of all antimicrobials included in the tPPS is listed in Table A1.

### 4. Opportunity to stop IV antimicrobial prescriptions

- Of all IV antimicrobial prescriptions surveyed on the included medical wards, excluding non-applicable responses, 17.0% (n=213/1254) were identified as having an opportunity to stop.
- Figure 1 and Table A2 describe the number of prescriptions with an opportunity to be stopped, by site of diagnosis for antimicrobial treatment of infection.
- IV antimicrobial agents that were deemed to have an opportunity for stopping are listed in Table A3. Piperacillin/tazobactam (n=76), amoxicillin/clavulanic acid (n=51) and ceftriaxone (n=20) were the most common IV antimicrobials with an opportunity for stopping in this tPPS sample.

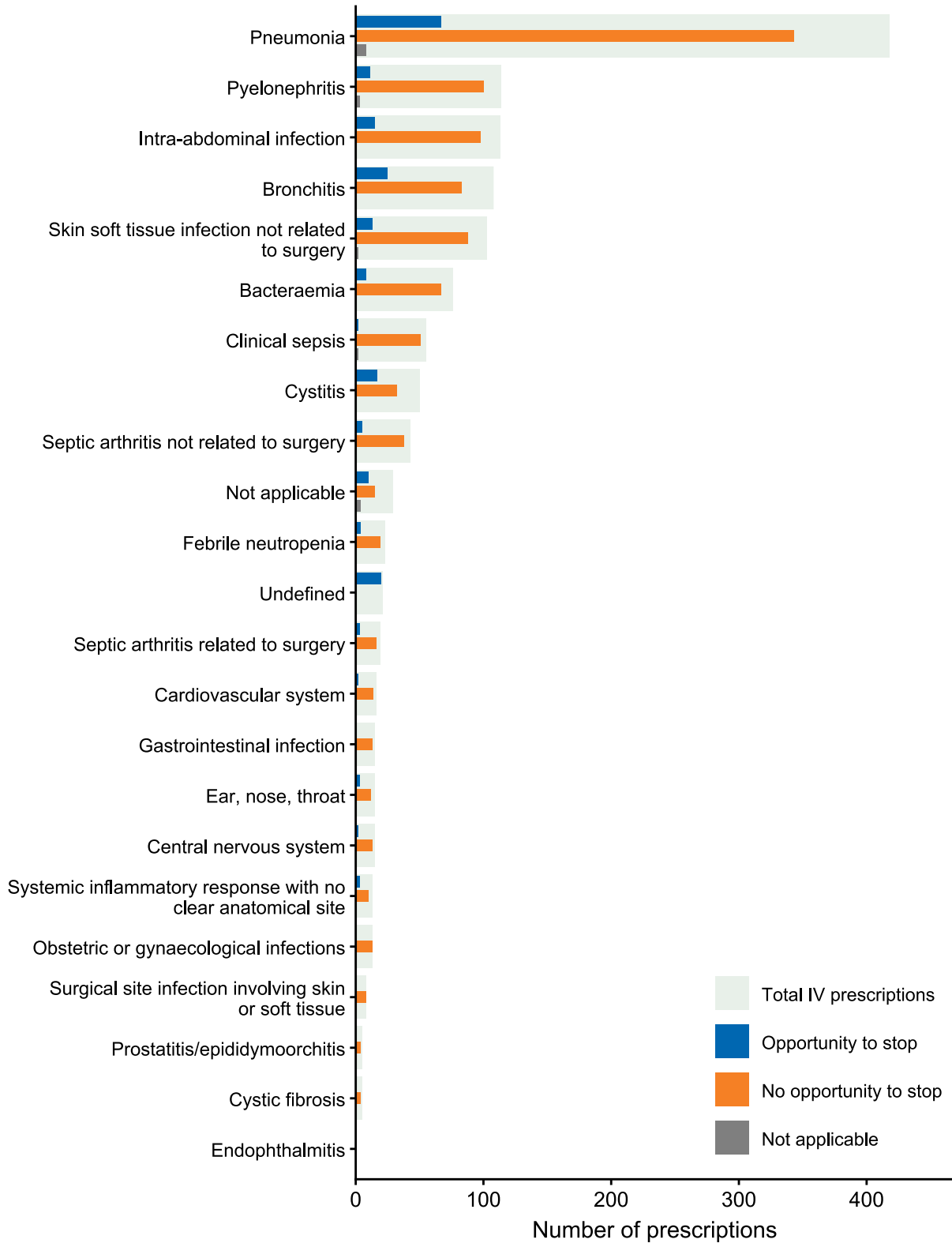


Figure 1 – IV antimicrobials with an opportunity to stop, by site of diagnosis for antimicrobial treatment of infection. Thick bars represent total number of prescriptions per site of diagnosis. Thin bars represent number of prescriptions by whether they have an opportunity to stop.

## 5. Suitability for oral switch

- The proportion of IV therapies suitable for oral switch as per local guidelines in the tPPS sample, excluding non-applicable responses, was 28.3% (356/1258). See Table A4 more details.
- The proportion of IV agents of excellent oral bioavailability (ciprofloxacin, clindamycin, fluconazole, fusidic acid, isavuconazole, levofloxacin, linezolid, metronidazole, rifampicin, sulfamethoxazole/trimethoprim, voriconazole) included in this tPPS that were deemed suitable for oral switch, excluding non-applicable responses, was 42.9% (39/91). Agents of excellent oral bioavailability (i.e. <90%) are marked in Table A1.
- The only agent of excellent oral bioavailability in the top 10 IV antimicrobials used in this tPPS sample was metronidazole, while amoxicillin/ clavulanic acid and flucloxacillin were the only listed agents with direct oral alternatives available (Table 3).
- The remaining agents in the top 10 list of IV antimicrobial agents do not have direct oral alternatives (piperacillin/ tazobactam, ceftriaxone, vancomycin, meropenem, gentamicin, aztreonam) or the oral option has poor oral bioavailability (cefuroxime).

Table 3 – Top 10 of IV antimicrobials in this tPPS sample, by route of administration.

Antimicrobial	IV (n)	Oral (n)	Inhalation (n)	Total (n)
Piperacillin/tazobactam	410	0	0	410
Amoxicillin/clavulanic acid**	219	184	0	403
Ceftriaxone	107	0	0	107
Vancomycin	73	16	0	89
Meropenem	64	0	0	64
Flucloxacillin**	63	29	0	92
Cefuroxime	59	0	0	59
Metronidazole*	47	36	0	83
Aztreonam	34	0	0	34
Gentamicin	27	0	0	27

\*Antimicrobials with excellent oral bioavailability.

\*\*Antimicrobials with direct oral switch options available.

The rectal route had no cases and has been omitted from the table.

- Figure 2 and Table A5 describe the number of IV antimicrobial prescriptions that were suitable for oral switch, by site of diagnosis for antimicrobial treatment of infection.
- Table A6 shows the IV antimicrobials that were suitable for oral switch. Piperacillin/ tazobactam (n=105) and amoxicillin/ clavulanic acid (n=94) were

the most prescribed IV antimicrobials that were suitable for oral switch in the tPPS sample.

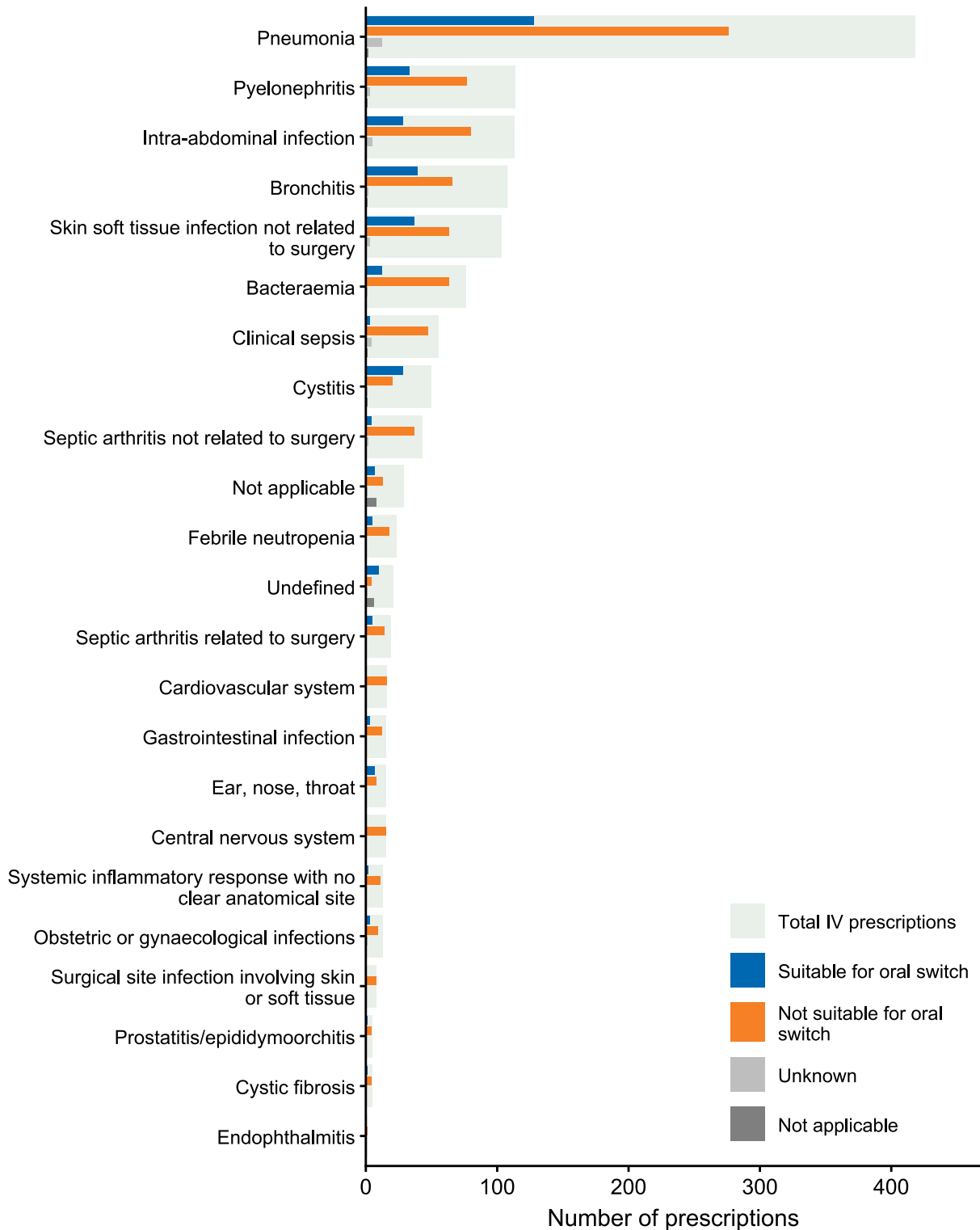


Figure 2 – IV antimicrobials that are suitable for oral switch as per local guidelines, by site of diagnosis for antimicrobial treatment of infection. Thick bars represent total number of prescriptions per site of diagnosis. Thin bars represent number of prescriptions by whether they are suitable for oral switch.

- In the tPPS three patient signals for intravenous to oral switch (IVOS) were included, based on the [HSE AMRIC intravenous to oral switch toolkit](#). The aim of including these was to assess for suitability of oral switch and then prompt local quality improvement. The three patient signals for IVOS questions, with “Yes” response as an indicator of suitability for IVOS were:
  - Is the patient currently taking any oral medication?
  - Is the patient haemodynamically stable (heart rate and blood pressure are stable) or INEWS score decreasing?
  - Are patient’s signs and symptoms improving?
- 42.7% (370/866) of IV antimicrobial prescriptions in the tPPS sample deemed not suitable for oral switch as per local guidelines had all three patient signals for IVOS. Figure 3 describes how prescriptions from patients with none to three patient signals for IVOS are distributed by their suitability for oral switch. Table A7 contains these results for all permutations.

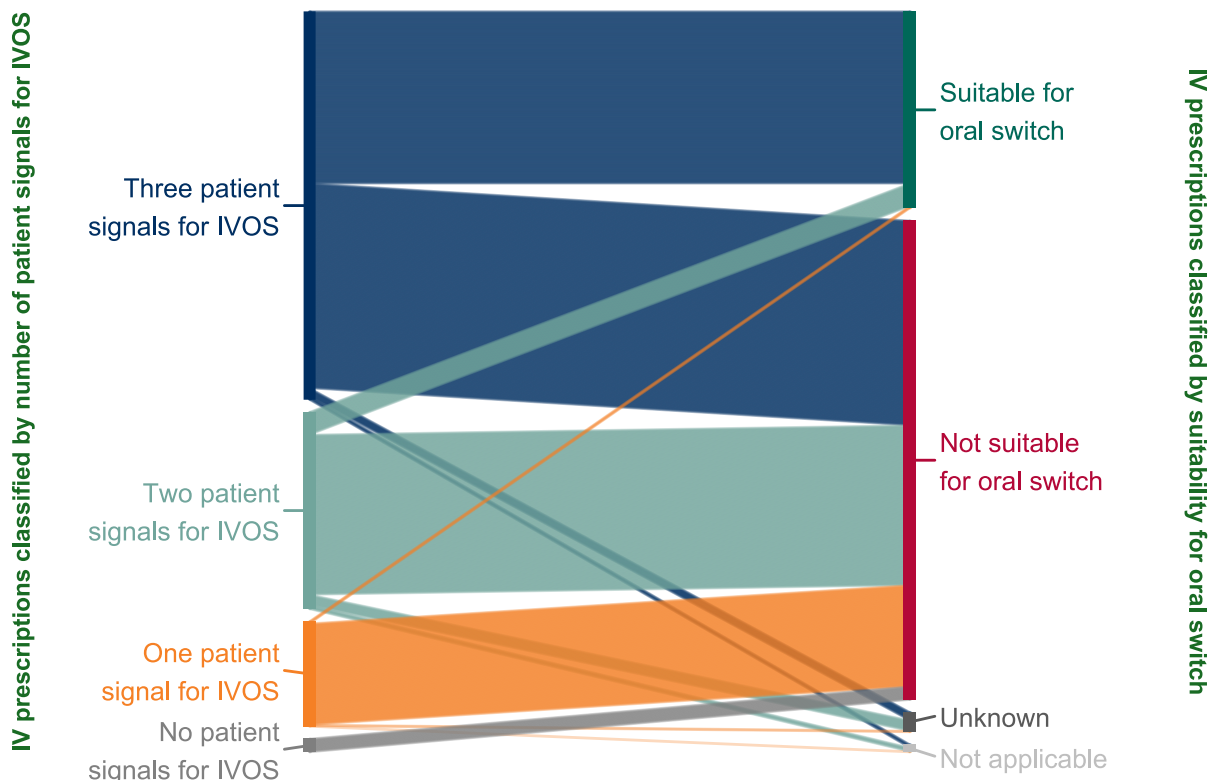


Figure 3 – Distribution of IV antimicrobials proportionally joined on the number of patient signals for IVOS and on the prescriptions’ suitability for oral switch. A patient signal for IVOS is a “Yes” response to one of the following questions: Is the patient currently taking any oral medication? Is the patient haemodynamically stable (heart rate and blood pressure are stable) or INEWS score decreasing? Are patient’s signs and symptoms improving?

- Table A8 shows the site of diagnosis for IV antimicrobials prescribed to patients with all three patient signals for IVOS, by their suitability for oral switch.
- Figure 4 and Table A9 describe how suitability of IV antimicrobial prescriptions for oral switch are distributed by opportunity to stop.

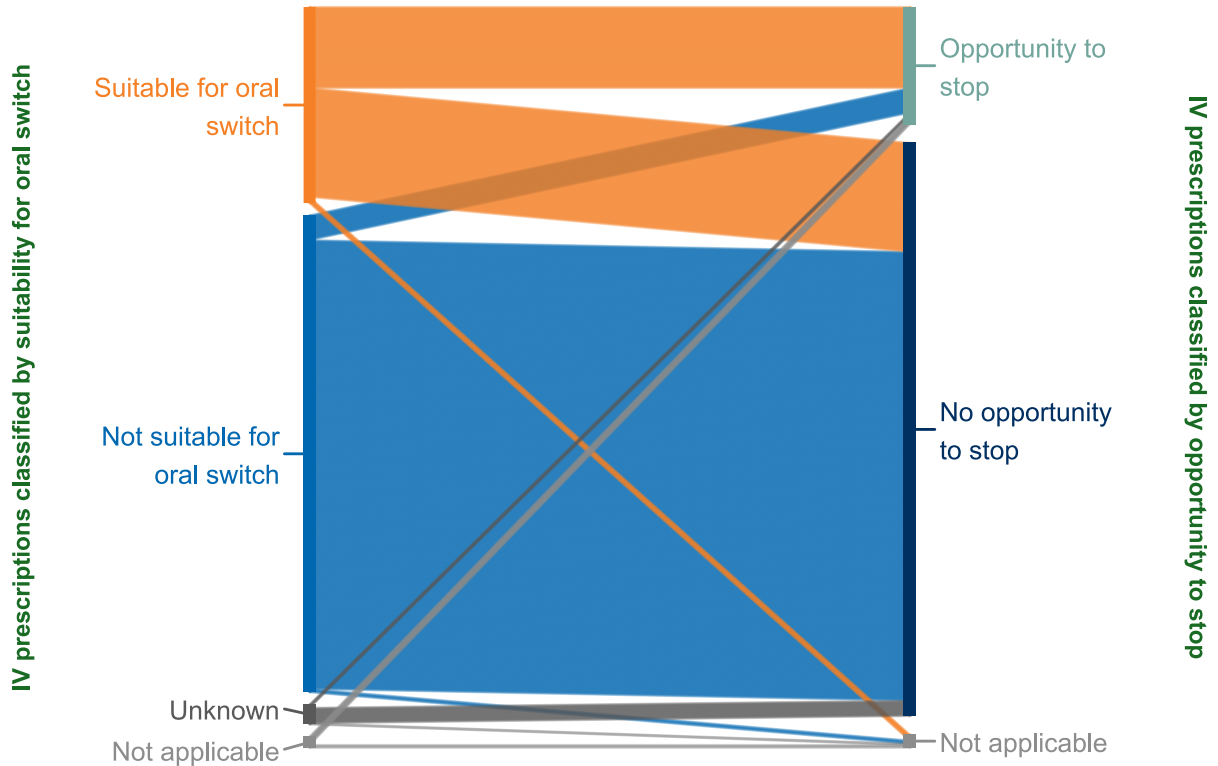


Figure 4 – Distribution of IV prescriptions proportionally joined on their suitability for oral switch and their opportunity to stop. Left side: prescriptions suitable for oral switch. Right side: prescriptions with an opportunity to stop.

## 6. Local IVOS quality improvement and guidance

- Figure 5 contains the results for the site-specific questions about IVOS guidance and quality improvement.
- A selection of examples provided by sites of local quality improvement projects/initiatives focussed on improving appropriateness of route of antimicrobial administration is in Table A10.

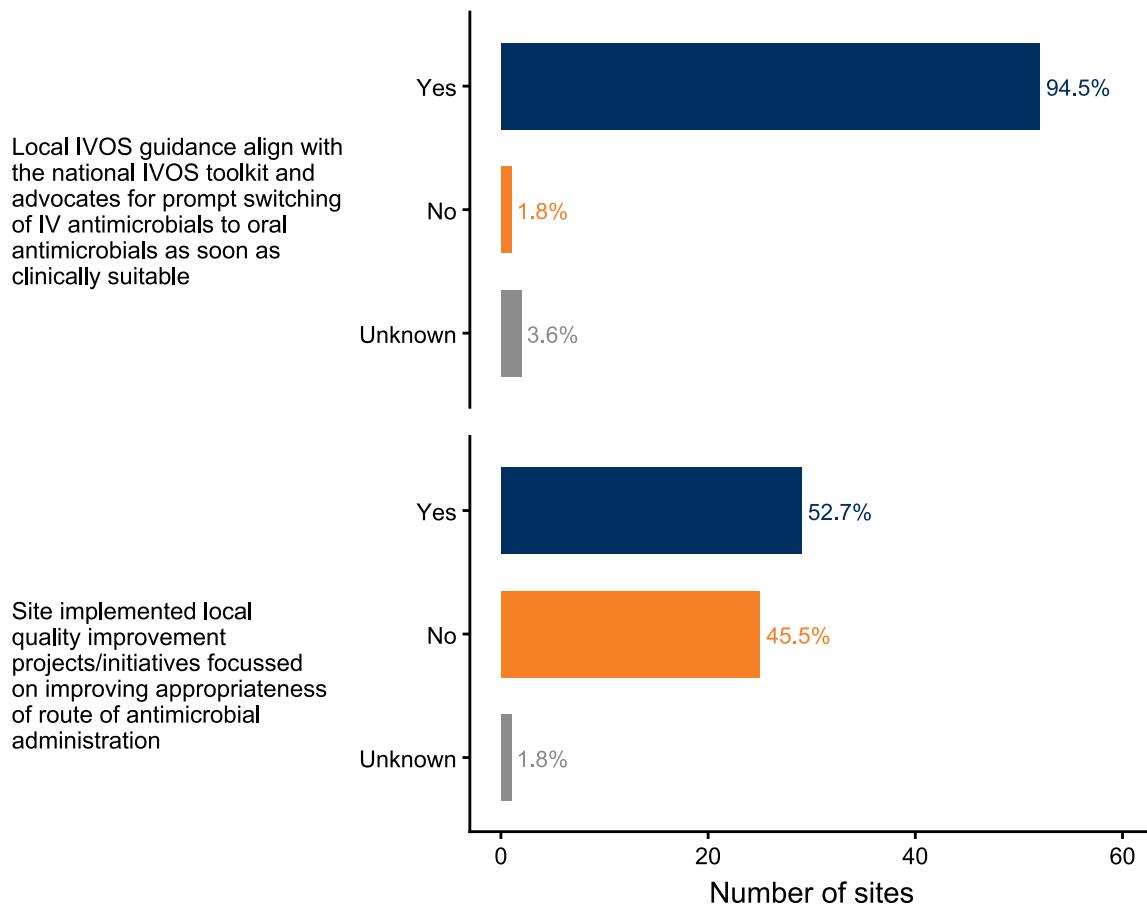


Figure 5 – Implementation of local IVOS quality improvement and guidance.

## 7. Discussion

### 7.1 Collective focus on route of administration at 55 acute hospitals across Ireland.

The use of oral antimicrobial therapy in preference to IV antimicrobial therapy, where appropriate, is a key AMS intervention that can improve patient management and outcomes, save nurse administration time and reduce the environmental impact of administering the antimicrobial.

Optimising the timely review of IV antimicrobials with a view to stopping or switching to oral antimicrobials was identified as a key area for quality improvement in the National Antimicrobial PPS 2024.<sup>1</sup>

The 2025 Route tPPS aimed to focus collective efforts on route of administration quality improvement across acute hospitals in Ireland. In comparison to the national antimicrobial PPS 2024, an increased number of hospitals participated. The dedication and commitment of staff in the 55 hospitals participating in this national work is acknowledged.

Hospitals participating in the 2025 Route tPPS had autonomy to select locally the medical wards for inclusion in the Route tPPS. By allowing for this within the study design, sites could focus their quality improvement efforts based on their local needs and resourcing.<sup>2</sup> For instance, certain sites may have decided to focus on wards where quality improvement was most needed, while others may have focussed on wards where quality improvement work is already ongoing to sustain and build on that work. As such there is variation in how the sample was selected across different hospitals.

The results presented in this report do not represent national estimates but rather describe the aggregated results for the sample of medical wards selected by sites following their own criteria. The key objective of the Route tPPS was to drive change and optimise the route of administration of antimicrobials. The effect of this collective quality improvement effort will be assessed in the National Antimicrobial PPS 2026.

### 7.2 Opportunity to focus local quality improvement on stopping of antimicrobials no longer indicated

On the day of the Route tPPS on included medical wards, 17.0% (n=213/1254) IV antimicrobial prescriptions surveyed were suitable to be stopped. Some of the most commonly reported IV antimicrobials where there was an opportunity to stop identified were AMRIC Amber antimicrobials. These antimicrobials have a higher antimicrobial resistance potential and are only recommended for specific, limited indications.

Many IV antimicrobial prescriptions deemed suitable for oral switch were also suitable for stopping (n=147/356). As stipulated in HSE AMRIC intravenous to oral switch

toolkit, when reviewing a patient's antimicrobial for IVOS, it should be considered if antimicrobial therapy is still indicated.<sup>3</sup> If it is no longer indicated, i.e. an infection has been ruled out, antimicrobial therapy should be stopped. Administration of unnecessary antimicrobial treatment can lead to patient harm. It is vital that this messaging is included in all local IVOS campaigns and education.

Analysis of the national Route tPPS sample indicated that patients with respiratory tract infections (RTI) may represent a cohort for focussed quality improvement. The pneumonia diagnosis site code had a high volume of IV prescriptions suitable to stop on the day of the tPPS, representing the highest total number of IV antimicrobial prescriptions per diagnosis site code with 16% of prescriptions deemed suitable to stop. Bronchitis also stands out as having the fourth highest volume of IV antimicrobial prescriptions with almost a quarter of those deemed suitable to stop in this tPPS sample. RTI were a recommended target for quality improvement in National Antimicrobial PPS 2024 (with reference to choice and duration of therapy) and based on the 2025 Route tPPS sample there may also be opportunity to optimise antimicrobial review and stopping in this patient cohort. Monitoring local trends in site of diagnosis where there is opportunity to stop antimicrobials may assist in targeting local quality improvement efforts.

### **7.3 Promote oral use of antimicrobials, in particular agents of excellent oral bioavailability, such as metronidazole.**

Analysis of this tPPS sample showed that 42.9% (39/91) of IV antimicrobials with excellent oral bioavailability were deemed to be suitable for oral switch. For antimicrobials with excellent oral bioavailability, the oral route should be used from the outset, once the oral route is considered reliable. Antimicrobials with excellent bioavailability by the oral route are outlined in the HSE AMRIC intravenous to oral switch toolkit.<sup>3</sup> All healthcare professionals should receive education on the agents of excellent oral bioavailability and be supported to prescribe or recommend oral where appropriate and promote early IV to oral switch whenever possible.

### **7.4 Opportunity to enable timely IVOS by implementing local systems and guidelines**

As per HSE AMRIC Guideline for Monitoring and Measurement for Antimicrobial Stewardship Programmes in Acute Hospitals, the local target for percentage of IV antimicrobials eligible for oral switch is less than 10%.<sup>4</sup> In the tPPS sample, the proportion of IV therapies suitable for oral switch in accordance with local guideline was well above this target at 28.3%. There is significant scope to increase prescribing of oral antimicrobials at the point of antimicrobial review, 24-48 hours after starting an IV antimicrobial.

In line with National Antimicrobial PPS 2024, analysis of the top 10 IV antimicrobials in this tPPS sample showed that metronidazole was the only agent of excellent oral bioavailability in that grouping.<sup>1</sup> This grouping also included flucloxacillin and amoxicillin/ clavulanic acid. All healthcare professionals should be aware of and empowered to promote conversion of IV amoxicillin/ clavulanic acid and flucloxacillin to the oral route where clinically appropriate and in line with local guidelines.

It was noted that seven of the top 10 IV antimicrobials in this tPPS sample (piperacillin/ tazobactam, ceftriaxone, vancomycin, gentamicin, meropenem, aztreonam, cefuroxime) may not have a clear oral alternative and therefore require antimicrobial stewardship review and input to support IV to oral switch. Piperacillin/ tazobactam accounted for the highest number of IV prescriptions that were deemed suitable for oral switch (105/356) in the tPPS sample, highlighting the need for clear guidelines and mechanisms to enable oral switch for this antimicrobial in particular. Structures and systems to identify and prioritise expert antimicrobial stewardship review of IV antimicrobial agents as well as clear local guidelines to enable IVOS of commonly prescribed IV antimicrobials are essential to optimise IVOS.

### **7.5 Patient focused assessment to guide IVOS implementation**

To prompt local quality improvement the 2025 Route tPPS gathered information on three patient signals for IVOS (based on the HSE AMRIC IVOS guidance):

- Is the patient currently taking any oral medication?
- Is the patient haemodynamically stable (heart rate and blood pressure are stable) or INEWS score decreasing?
- Are patient's signs and symptoms improving?

“Yes” responses to all three questions was considered to be a meaningful marker of suitability for IVOS. Analysis of patient signals for IVOS provided some useful insights into practice that may help direct quality improvement efforts in the future.

It was noted that 42.7% (370/866) of the IV antimicrobial prescriptions deemed not suitable for oral switch had a positive response for all three patient signals for IVOS. To understand more fully what factors may be affecting suitability for oral switch in this grouping, diagnosis site codes were reviewed. Analysis of the diagnosis site codes of IV antimicrobial prescriptions not suitable for oral switch with three patient signals for IVOS showed that many prescriptions were for bacteraemia, pyelonephritis and intra-abdominal infections. As noted in HSE AMRIC intravenous to oral switch toolkit, there is evidence that oral therapy can be considered for part or all of the course of treatment for some infections traditionally managed with IV treatment for the entire duration of therapy for example endocarditis, osteomyelitis, bacteraemia, intra-abdominal infection and complicated urinary tract infection.<sup>3</sup>

This may highlight a need to update and review local guidance to inform IVOS in line with HSE AMRIC IVOS toolkit, with a move away from strict focus on parameters to overall assessment of patient's clinical status.<sup>3</sup> Development of clear local guidance and pathways, including systems for timely referral to AMS team when required, guidance for antimicrobials where no direct oral alternatives exist and guidance for oral prescribing for infections traditionally managed with IV, has the potential to optimise IVOS.

### **7.6 Evidence of widespread up-to-date local IVOS guidance that aligns with National IVOS toolkit**

The majority of sites (94.5%) reported having local IVOS guidance that aligned with the national IVOS toolkit (published Feb 2025) that advocates for prompt switching of IV antimicrobials to oral antimicrobials as soon as clinically stable.<sup>3</sup> This is indicative of widespread local adaptation of recently published national guidance across all acute hospitals. There is opportunity now to shift focus to ensuring implementation of IVOS guidance occurs in practice. Local actions such as audit and feedback, adjustment of and refinement of local IVOS guidance in response to local needs and development of local mechanisms to prioritise AMS review for IVOS when needed, will support further optimisation of IVOS.

### **7.7 Scope to continue to build on quality improvement efforts and increase appropriate oral prescribing**

About half of the participating hospitals reported having implemented local quality improvement projects/ initiatives focussed on improving appropriateness of route of antimicrobial administration. Overall, the findings of the 2025 tPPS highlighted the need for ongoing promotion of oral prescribing and IVOS where clinically appropriate. As recommended in HSE AMRIC IVOS toolkit and HSE AMRIC Antimicrobial Stewardship Guidance for all Healthcare Settings, oral prescribing should be used wherever possible.<sup>3,5</sup> There is a need for continued and ongoing AMS resourcing to support sustained engagement in IVOS.

### **7.8 Key recommendations**

Key antimicrobial stewardship areas for local improvement identified in the 2025 Route tPPS:

- Stop antimicrobial therapy as soon as no longer indicated. Administration of unnecessary antimicrobial treatment can lead to patient harm.
- Use oral antimicrobials in preference to IV antimicrobial therapy where appropriate. Oral prescribing can improve patient management and outcomes, save nurse administration time and reduce the environmental impact of administering the antimicrobial

- Review IV therapy daily; stop or switch to oral as soon as appropriate as per AMRIC IV to oral switch toolkit
- Educate all healthcare professionals on benefits of oral prescribing, agents of excellent oral bioavailability, early IV to oral switch and relevant local guidelines.
- Ensure local guidelines promote and enable IVOS with local mechanisms to identify and prioritise timely referral of patients on IV antimicrobials requiring expert antimicrobial stewardship review to switch to an oral agent.
- Sustain and build on quality improvement efforts to support IVOS.

To address recommendations outlined in this report, the HSE National AMRIC team will:

- Work with stakeholders, including healthcare professionals, senior leaders and healthcare managers, across the health regions to support collaboration and shared learning.
- Build on the positive progress achieved to date and maintain a focus on the national AMRIC IV to oral switch toolkit through continued collaboration with the key stakeholders and building on supportive resources.

## 7.9 Limitations

There were 55 hospitals which agreed to participate in this tPPS. The Route tPPS was carried out on a non-random sample of medical patients. Therefore, the results presented in this report do not represent national estimates and it is not possible to make direct comparison to the national results from previous years. The key objective of this work is to drive local quality improvement.

Point prevalence surveys provide a snapshot of antimicrobial use at a particular point in time. It is acknowledged that variation in practice may arise depending on day selected for the study, inpatient populations and other factors.

## 7.10 Acknowledgement

We would like to acknowledge the work and input of:

- antimicrobial pharmacists and multidisciplinary antimicrobial stewardship teams in the acute hospitals across Ireland who participated in the 2025 Route tPPS;
- members of clinical teams who assisted in data collection;
- antimicrobial pharmacists who piloted and provided feedback the protocol and data collection tool;



- members of the National Antimicrobial Consumption Subgroup to the development of the protocol, review and action plan based on the results of the survey.

## 8. References

1. HSE AMRIC. *Report on Antimicrobial Point Prevalence Survey of Acute Hospitals in Ireland 2024*. 2025.  
[https://healthservice.hse.ie/documents/7521/Antimicrobial Point Prevalence Survey in Acute Hospitals in Ireland 2024 Report.pdf](https://healthservice.hse.ie/documents/7521/Antimicrobial_Point_Prevalence_Survey_in_Acute_Hospitals_in_Ireland_2024_Report.pdf)
2. HSE AMRIC. *National Antimicrobial Targeted Point Prevalence Survey for Route of Administration – Protocol (2025 Route tPPS)*. v1.1. 2025.  
[https://healthservice.hse.ie/documents/7515/National Antimicrobial Targeted Point Prevalence Survey - Route of Administrat RWM9W60.pdf](https://healthservice.hse.ie/documents/7515/National_Antimicrobial_Targeted_Point_Prevalence_Survey_-_Route_of_Administrat_RWM9W60.pdf)
3. HSE AMRIC. HSE AMRIC intravenous to oral switch toolkit. HSE.ie. February 2025.  
[https://healthservice.hse.ie/documents/7433/Intravenous to oral switch information sheet February 2025.pdf](https://healthservice.hse.ie/documents/7433/Intravenous_to_oral_switch_information_sheet_February_2025.pdf)
4. HSE AMRIC. *HSE AMRIC Guideline for Monitoring and Measurement for Antimicrobial Stewardship Programmes in Acute Hospitals*. 2025.  
[https://healthservice.hse.ie/documents/7487/Guideline for measurement and monitoring of antimicrobial stewardship programmes.pdf](https://healthservice.hse.ie/documents/7487/Guideline_for_measurement_and_monitoring_of_antimicrobial_stewardship_programmes.pdf)
5. Health Service Executive. *Antimicrobial Stewardship Guidance for All Healthcare Settings*. 2022.  
[https://healthservice.hse.ie/documents/7109/HSE Antimicrobial Stewardship guidance for all healthcare settings.pdf](https://healthservice.hse.ie/documents/7109/HSE_Antimicrobial_Stewardship_guidance_for_all_healthcare_settings.pdf)

## 9. Appendix

Table A1 – All antimicrobials in this tPPS, by route of administration.

Antimicrobial	IV (n)	Oral (n)	Inhalation (n)	Total (n)
Amikacin	7	0	0	7
Amoxicillin	20	25	0	45
Amoxicillin/clavulanic acid	219	184	0	403
Amphotericin B	7	0	0	7
Anidulafungin	2	0	0	2
Atovaquone	0	1	0	1
Azithromycin	0	59	0	59
Aztreonam	34	0	0	34
Benzylpenicillin	12	0	0	12
Caspofungin	5	0	0	5
Cefaclor	0	2	0	2
Cefalexin	0	53	0	53
Cefazolin	20	0	0	20
Cefiderocol	1	0	0	1
Cefotaxime	14	1	0	15
Ceftazidime	11	0	0	11
Ceftazidime/avibactam	3	0	0	3
Ceftriaxone	107	0	0	107
Cefuroxime	59	0	0	59
Ciprofloxacin*	14	23	0	37
Clarithromycin	4	92	0	96
Clindamycin*	10	5	0	15
Clofazimine	0	1	0	1
Colistin	2	0	3	5
Dalbavancin	1	0	0	1
Dapsone	0	2	0	2
Daptomycin	5	0	0	5
Doxycycline	1	61	0	62
Ertapenem	2	0	0	2
Erythromycin	0	2	0	2
Ethambutol	0	4	0	4
Fidaxomicin	0	12	0	12
Flucloxacillin	63	29	0	92
Fluconazole*	3	14	0	17
Flucytosine	0	1	0	1
Fosfomycin	0	3	0	3
Fusidic Acid*	0	2	0	2
Gentamicin	27	0	0	27
Isavuconazole*	0	2	0	2
Isoniazid	0	2	0	2
Itraconazole	0	2	0	2

<b>Antimicrobial</b>	<b>IV (n)</b>	<b>Oral (n)</b>	<b>Inhalation (n)</b>	<b>Total (n)</b>
Levofloxacin*	5	11	0	<b>16</b>
Linezolid*	8	18	0	<b>26</b>
Lymecycline	0	3	0	<b>3</b>
Meropenem	64	0	0	<b>64</b>
Methenamine	0	1	0	<b>1</b>
Metronidazole*	47	36	0	<b>83</b>
Minocycline	0	2	0	<b>2</b>
Moxifloxacin	0	1	0	<b>1</b>
Nitrofurantoin	0	41	0	<b>41</b>
Phenoxymethylpenicillin	0	7	0	<b>7</b>
Piperacillin/tazobactam	410	0	0	<b>410</b>
Posaconazole	0	4	0	<b>4</b>
Rifampicin*	0	5	0	<b>5</b>
Rifampicin, pyrazinamide and isoniazid	0	1	0	<b>1</b>
Rifaximin	0	18	0	<b>18</b>
Sulfamethoxazole and trimethoprim*	4	78	0	<b>82</b>
Teicoplanin	9	0	0	<b>9</b>
Temocillin	2	0	0	<b>2</b>
Tigecycline	2	0	0	<b>2</b>
Tobramycin	1	0	1	<b>2</b>
Trimethoprim	0	26	0	<b>26</b>
Vancomycin	73	16	0	<b>89</b>
Voriconazole*	0	1	0	<b>1</b>

\*Antimicrobials with excellent oral bioavailability.

The rectal route had no cases and has been omitted from the table.

Table A2 – IV antimicrobials with an opportunity to stop, by site of diagnosis for antimicrobial treatment of infection.

<b>Diagnosis</b>	<b>Opportunity to stop (n)</b>	<b>No opportunity to stop (n)</b>	<b>Not applicable (n)</b>
Pneumonia	67	343	8
Bronchitis	25	83	0
Undefined	20	0	1
Cystitis	17	32	1
Intra-abdominal infection	15	98	0
Skin soft tissue infection not related to surgery	13	88	2
Pyelonephritis	11	100	3
Not applicable	10	15	4
Bacteraemia	8	67	1
Septic arthritis not related to surgery	5	38	0
Febrile neutropenia	4	19	0
Septic arthritis related to surgery	3	16	0
Ear, nose, throat	3	12	0

Diagnosis	Opportunity to stop (n)	No opportunity to stop (n)	Not applicable (n)
Systemic inflammatory response with no clear anatomical site	3	10	0
Central nervous system	2	13	0
Clinical sepsis	2	51	2
Cardiovascular system	2	14	0
Cystic fibrosis	1	4	0
Endophthalmitis	1	0	0
Gastrointestinal infection	1	13	1
Prostatitis/epididymoorchitis	0	4	1
Obstetric or gynaecological infections	0	13	0
Surgical site infection involving skin or soft tissue	0	8	0
<b>Total</b>	<b>213</b>	<b>1,041</b>	<b>24</b>

Table A3 – IV antimicrobials with an opportunity to stop, by antimicrobial name.

Antimicrobial	AMRIC G/A/R category	WHO AwaRe category	IV antimicrobials (n)
Piperacillin/tazobactam	Amber	Watch	76
Amoxicillin/clavulanic acid	Amber	Access	51
Ceftriaxone	Amber	Watch	20
Vancomycin	Amber	Watch	11
Cefuroxime	Amber	Watch	10
Metronidazole	Green	Access	10
Amoxicillin	Green	Access	6
Flucloxacillin	Green	Access	6
Aztreonam	Amber	Reserve	4
Meropenem	Red	Watch	4
Gentamicin	Amber	Access	3
Ceftazidime	Amber	Watch	2
Clindamycin	Amber	Access	2
Amikacin	Amber	Access	1
Caspofungin	Red		1
Cefotaxime	Amber	Watch	1
Clarithromycin	Amber	Watch	1
Daptomycin	Red	Reserve	1
Fluconazole	Green		1
Levofloxacin	Amber	Watch	1
Teicoplanin	Amber	Watch	1
<b>Total</b>			<b>213</b>

Table A4 – IV antimicrobial prescriptions suitable for oral switch.

Suitable for oral switch	n
Yes	356
No	866
Unknown	36
Not applicable*	20
<b>Total</b>	<b>1,278</b>

\*Non-applicable responses include surgical antibiotic prophylaxis prescriptions of 24 hours or less.

Table A5 – IV antimicrobials that are suitable for oral switch, by site of diagnosis for antimicrobial treatment of infection.

Diagnosis	Suitable for oral switch (n)	Not suitable for oral switch (n)	Unknown (n)	Not applicable (n)
Pneumonia	128	276	12	2
Bronchitis	39	66	2	1
Skin soft tissue infection not related to surgery	37	63	3	0
Pyelonephritis	33	77	3	1
Cystitis	28	20	1	1
Intra-abdominal infection	28	80	5	0
Bacteraemia	12	63	1	0
Undefined	10	4	1	6
Ear, nose, throat	7	8	0	0
Not applicable	7	13	1	8
Septic arthritis related to surgery	5	14	0	0
Febrile neutropenia	5	18	0	0
Septic arthritis not related to surgery	4	37	2	0
Clinical sepsis	3	47	4	1
Gastrointestinal infection	3	12	0	0
Obstetric or gynaecological infections	3	9	1	0
Systemic inflammatory response with no clear anatomical site	2	11	0	0
Cystic fibrosis	1	4	0	0
Prostatitis/epididymoorchitis	1	4	0	0
Central nervous system	0	15	0	0
Cardiovascular system	0	16	0	0
Endophthalmitis	0	1	0	0
Surgical site infection involving skin or soft tissue	0	8	0	0
<b>Total</b>	<b>356</b>	<b>866</b>	<b>36</b>	<b>20</b>

Table A6 – IV antimicrobials with suitability for oral switch, by antimicrobial name.

Antimicrobial	AMRIC G/A/R category	WHO AwaRe category	IV antimicrobials (n)
Piperacillin/tazobactam	Amber	Watch	105
Amoxicillin/clavulanic acid	Amber	Access	94
Ceftriaxone	Amber	Watch	34
Cefuroxime	Amber	Watch	22
Metronidazole	Green	Access	21
Flucloxacillin	Green	Access	17
Vancomycin	Amber	Watch	11
Aztreonam	Amber	Reserve	6
Amoxicillin	Green	Access	5
Ceftazidime	Amber	Watch	5
Ciprofloxacin	Amber	Watch	5
Meropenem	Red	Watch	4
Cefotaxime	Amber	Watch	3
Clarithromycin	Amber	Watch	3
Clindamycin	Amber	Access	3
Fluconazole	Green		3
Levofloxacin	Amber	Watch	3
Linezolid	Red	Reserve	3
Cefazolin	Green	Access	2
Amikacin	Amber	Access	1
Benzylpenicillin	Green	Access	1
Daptomycin	Red	Reserve	1
Doxycycline	Green	Access	1
Sulfamethoxazole and trimethoprim	Green	Access	1
Teicoplanin	Amber	Watch	1
Temocillin	Amber	Watch	1
<b>Total</b>			<b>356</b>

Table A7 – IV antimicrobials with patient signals for IVOS, by suitability for oral switch.

IVOS guideline compliance markers	Suitable for oral switch (n)	Not suitable for oral switch (n)	Unknown (n)	Not applicable (n)	Total (n)
Patient currently taking oral medication & haemodynamically stable & has improving signs and symptoms	311	370	15	6	702
Patient currently taking oral medication & haemodynamically stable	22	204	14	6	246
Patient haemodynamically stable & has improving signs and symptoms	5	29	2	0	36

IVOS guideline compliance markers	Suitable for oral switch (n)	Not suitable for oral switch (n)	Unknown (n)	Not applicable (n)	Total (n)
Patient currently taking oral medication & has improving signs and symptoms	14	56	3	1	74
Patient currently taking oral medication	3	160	1	1	165
Patient currently haemodynamically stable	1	18	1	0	20
Patient has improving signs and symptoms	0	5	0	0	5
No or unknown IVOS guideline compliance markers	0	24	0	0	24

Table A8 – Oral switch suitability of prescriptions from patients with three patient signals for IVOS, by site of diagnosis for antimicrobial treatment of infection.

Diagnosis	Suitable for oral switch (n)	Not suitable for oral switch (n)	Unknown (n)	Not applicable (n)
Pneumonia	111	88	4	2
Bacteraemia	11	40	1	0
Pyelonephritis	31	38	0	1
Intra-abdominal infection	25	33	1	0
Bronchitis	36	31	0	1
Septic arthritis not related to surgery	4	30	2	0
Skin soft tissue infection not related to surgery	34	26	2	0
Clinical sepsis	2	16	4	0
Cardiovascular system	0	15	0	0
Septic arthritis related to surgery	5	11	0	0
Central nervous system	0	10	0	0
Cystitis	23	6	1	1
Cystic fibrosis	1	4	0	0
Ear, nose, throat	7	4	0	0
Febrile neutropenia	3	4	0	0
Gastrointestinal infection	3	3	0	0
Systemic inflammatory response with no clear anatomical site	2	3	0	0
Surgical site infection involving skin or soft tissue	0	3	0	0
Endophthalmitis	0	1	0	0
Prostatitis/epididymoorchitis	1	1	0	0
Obstetric or gynaecological infections	0	1	0	0
Undefined	8	1	0	1
Not applicable	4	1	0	0
<b>Total</b>	<b>311</b>	<b>370</b>	<b>15</b>	<b>6</b>

Table A9 – IV antimicrobial prescriptions with a suitability for oral switch, by opportunity to stop.

Suitable for oral switch	Opportunity to stop (n)	No opportunity to stop (n)	Not applicable (n)	Total (n)
Suitable for oral switch	147	198	11	<b>356</b>
Not suitable for oral switch	45	815	6	<b>866</b>
Unknown	6	28	2	<b>36</b>
Not applicable	15	0	5	<b>20</b>
<b>Total</b>	<b>213</b>	<b>1,041</b>	<b>24</b>	<b>1,278</b>

Table A10 – Sample of type of local quality improvement projects/initiatives implemented by sites. Text provided here unedited free text provided by site.

Assessing impact of education of various HCPs on rates of IV-PO switch, and impact of tailored education on rate of IV-PO switch amongst surgeons.

PO switch stickers for patient medication administration record (PMAR) Link Nurse programme education incorporating the materials provided by AMRIC. Recorded as part of the KPIs on the weekly antimicrobial stewardship round

updated IV to PO switch guideline in line with AMRIC, in October 24. ran an audit cycle on two medical and two surgical wards (medical wards not included in this PPS) with iv to po switch focus. Did an alert on messaging app to all service users on 24/6/25 as an ongoing education campaign, as well as separate presentation to nursing staff at nursing forum to engage and empower nurses to identify opportunities for oral switch (11/9/24). poster of audit cycle also presented at clinical audit day in MMUH June 2024. Pharmacy staff education in 2024 and 2025 to identify opportunities for oral switch. HSE AMRIC posters hung around hospital in visually prominent areas in 2025 which remain.

Weekly AMS ward rounds with consultant Microbiologist. Clinical Pharmacists promote IV to PO switch. IV to PO switch sticker in place for use on drug Kardex. Sharepoint now in place with easy access to Meg app for hospital guidelines. IV Monographs prompt switch to PO for agents with excellent oral bioavailability.

Regular auditing on all medical ward, which include IVOS compliance audits quarterly, with feedback to all stakeholders. Targeted education provided where appropriate and pharmacist antimicrobial talk with NCHDs on initiation. Regular pharmacist/Microbiologist interventions on patient review. Antimicrobial IVOS newsletter available on all wards.

The vascath and IPC teams ran a campaign in October 2024 which included an emphasis on IV to PO switch, the campaign included: a newsletter, quiz, screensavers, a social media campaign, the AMS team undertook a targeted round focusing on IV to PO switch. In February 2025 the vascath CNM spoke at nursing grand rounds and delivered a lesson on encouraging removal of lines and switching to oral.