

ANTIMICROBIAL STEWARDSHIP PROGRAM

SEMI-ANNUAL REPORT

For the period December 1, 2025 to June 30, 2026

Volume 3

July 2026

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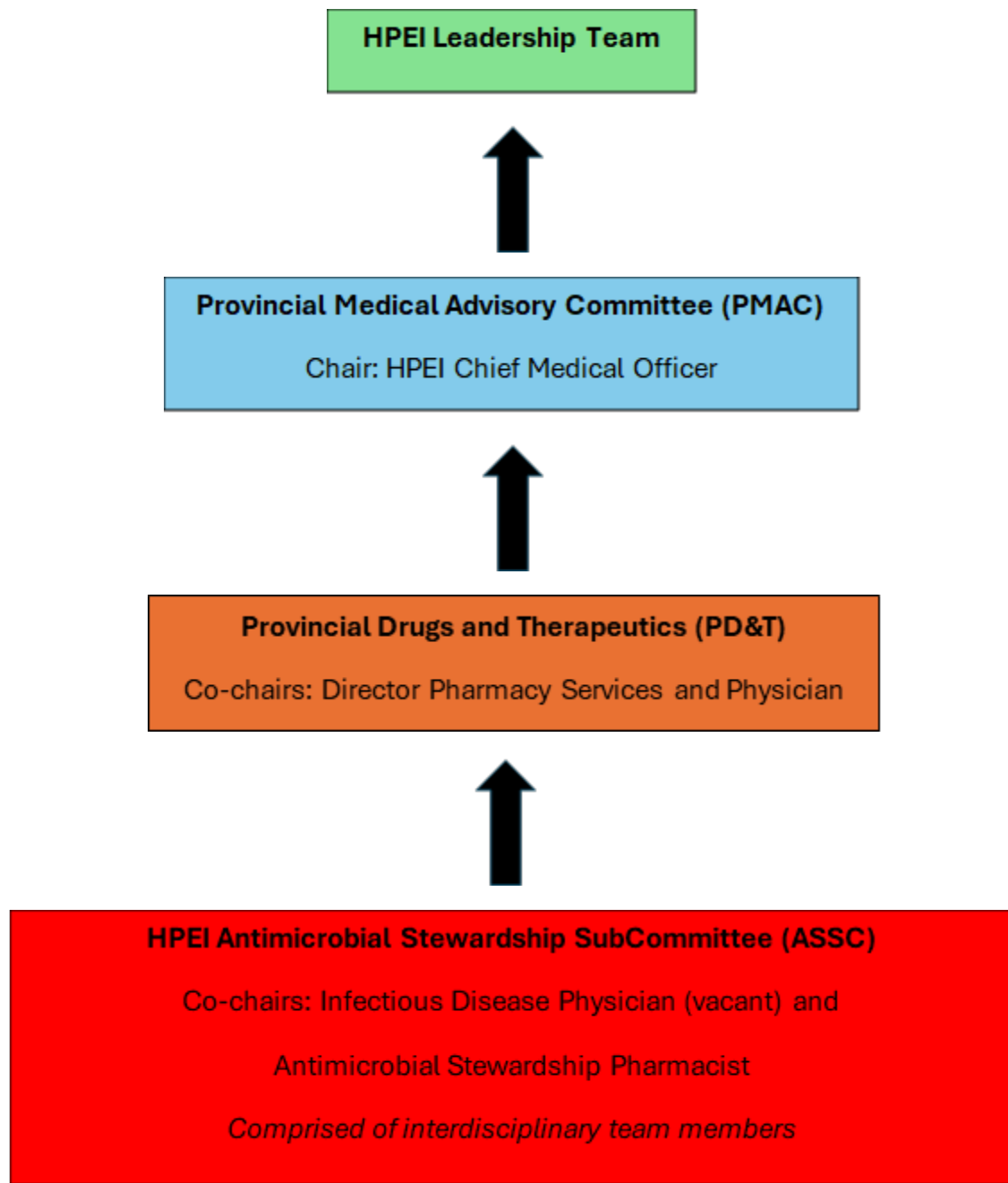
HPEI Antimicrobial Stewardship Mission and Goals

Mission: The mission of Health PEI's Antimicrobial Stewardship (AMS) program is to promote the optimal use of antimicrobials on PEI by providing accessible, up-to-date, evidence-informed guidance for treating common infections and advocating for responsible antimicrobial practices to protect the health of future generations.

To support this mission, the HPEI Antimicrobial Stewardship Team will aim to:

1. Engage healthcare professionals from various disciplines (e.g., pharmacists, physicians, nurses, dentists) to work together in optimizing antimicrobial use to improve patient care.
2. Promote quality and safety of antimicrobial use through evidence-informed guidelines, prescribing tools, and stewardship programs.
3. Provide readily accessible, evidence-informed tools and guidance for all providers across Health PEI.
4. Embed evidence-informed guidance into computerized prescribing systems to leverage innovation and improve efficiency.

HPEI AMS Reporting Structure



Accreditation Canada and AMS

Antimicrobial stewardship is an activity that includes appropriate selection, dosing, route, and duration of antimicrobial therapy.

Accreditation Canada outlines 5 tests for compliance for the Accreditation Canada Antimicrobial Stewardship required organizational practice (ROP):

1. An antimicrobial stewardship program has been implemented.
2. The program specifies who is accountable for implementing the program.
3. The program is interdisciplinary, involving pharmacists, infectious diseases physicians, infection control specialists, physicians, microbiology staff, nursing staff, hospital administrators, and information system specialists, as available and appropriate.
4. The program includes interventions to optimize antimicrobial use, such as audit and feedback, a formulary of targeted antimicrobials and approved indications, education, antimicrobial order forms, guidelines and clinical pathways for antimicrobial utilization, strategies for streamlining or de-escalation of therapy, dose optimization, and parenteral to oral conversion of antimicrobials (where appropriate).
5. The program is evaluated on an ongoing basis, and results are shared with stakeholders in the organization.

Health PEI participates in a four-year accreditation cycle. The next on-site survey is scheduled for November 2026.

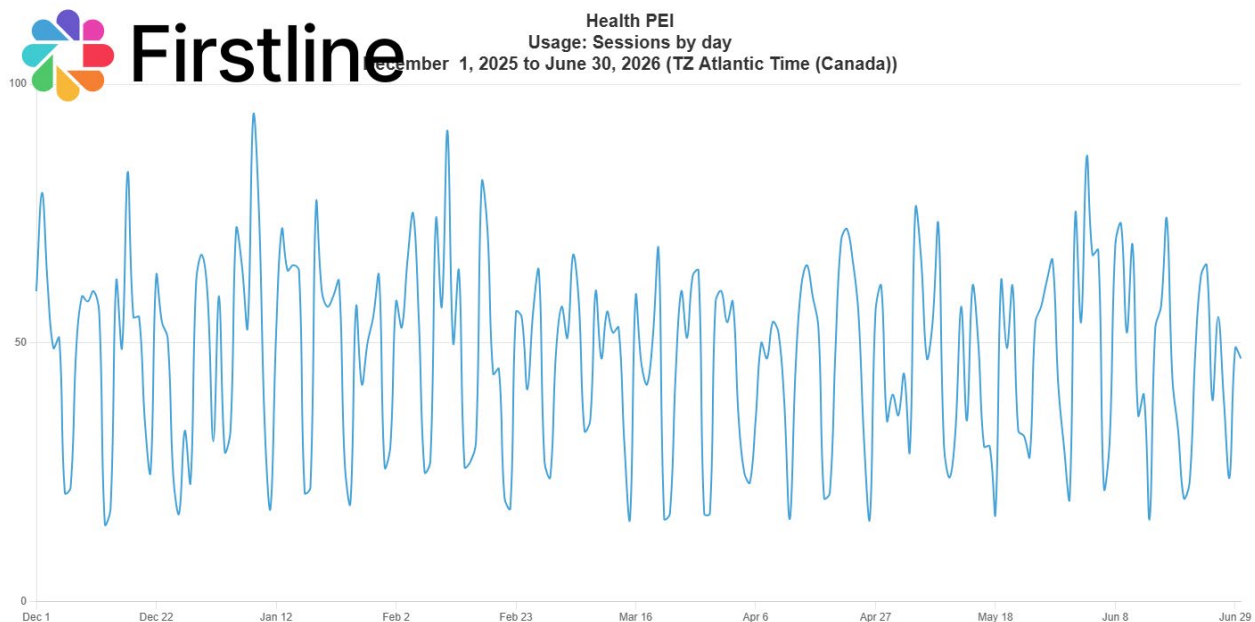
AMS and the FIRSTLINE app

Since October 2020, HPEI has been actively promoting the use of FIRSTLINE as a tool to support evidence-informed clinical practice. With our small antimicrobial stewardship team, the Firstline app is an innovative solution for disseminating healthcare resources across PEI. We appreciate how it enables healthcare providers to effortlessly access antimicrobial guidelines, clinical pearls, and management strategies directly from their mobile devices.

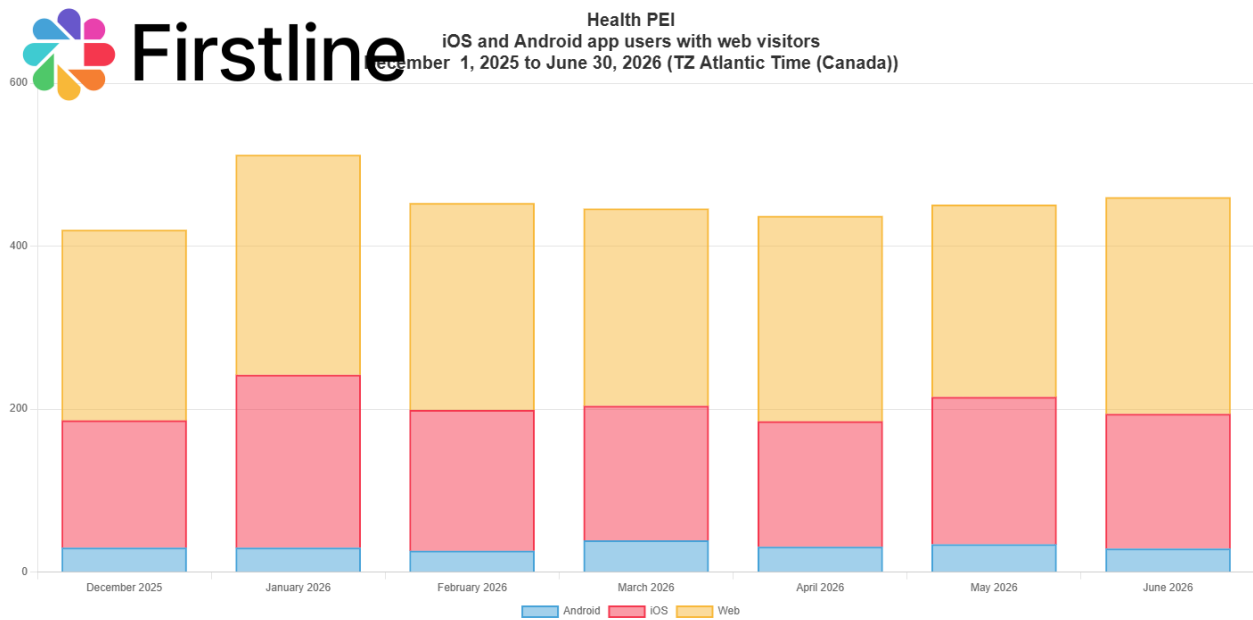
Usage Data

Sessions Per Day

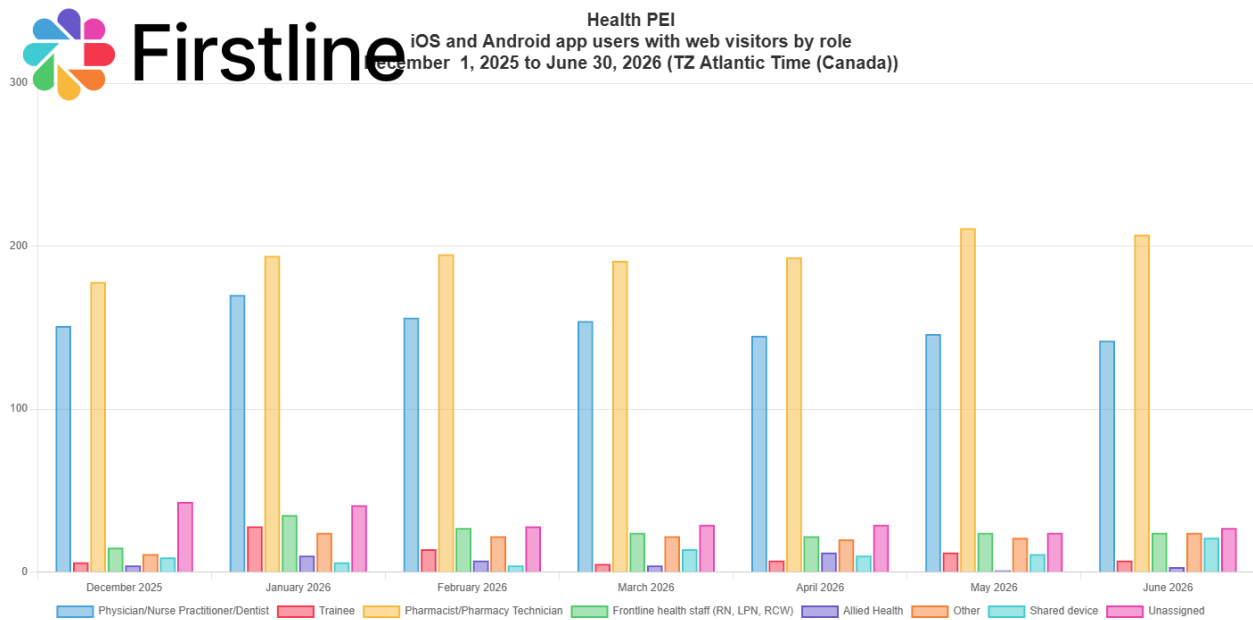
Peak 94 sessions per day on January 8, 2026 Average per day: 48



Monthly Users by iOS, Android and Web



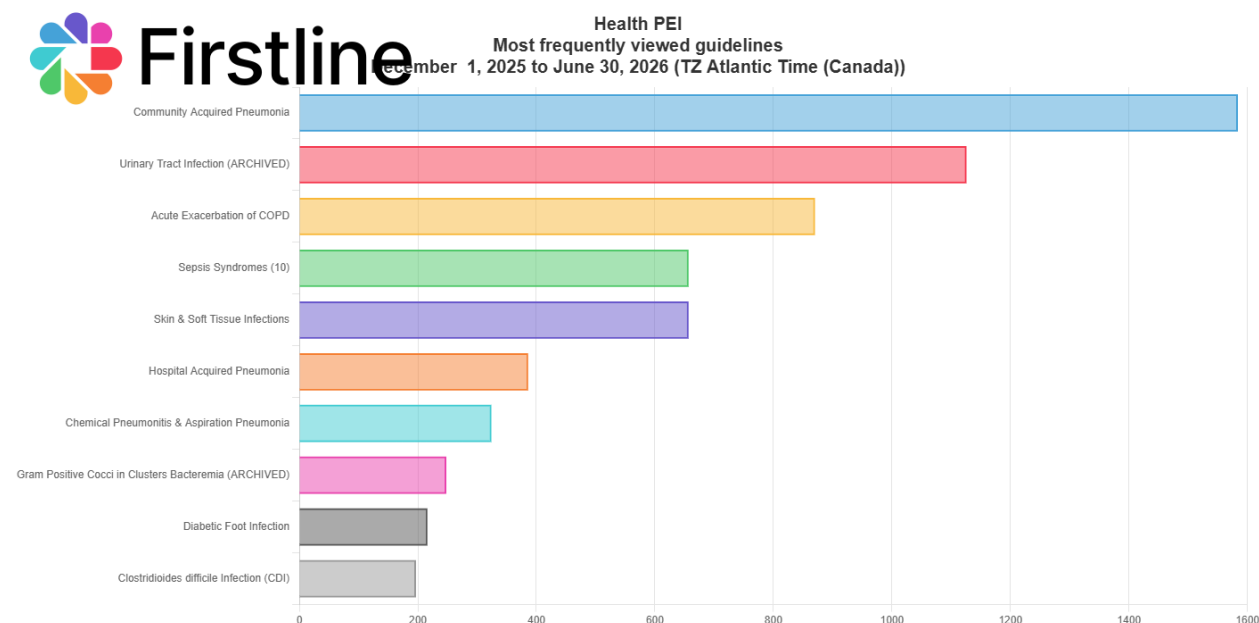
Monthly Users by Role (as defined by user)



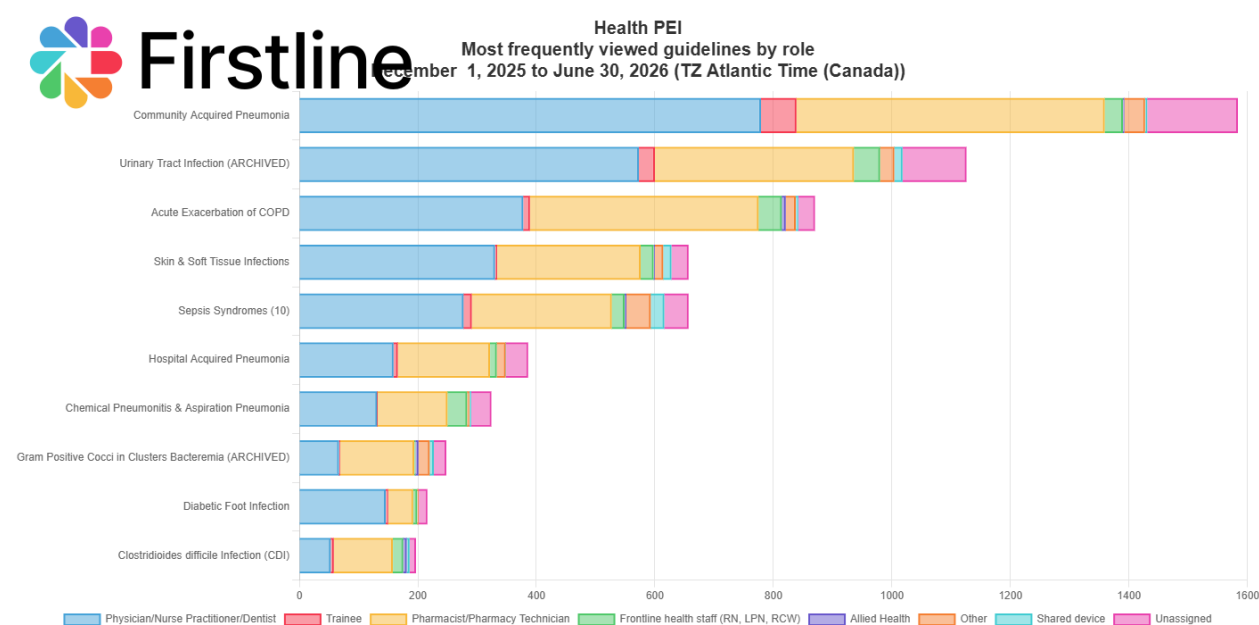
Viewed Content

Guidelines

The most frequently accessed guideline for this reporting period was *Community Acquired Pneumonia* with 1584 views, followed by *Urinary Tract Infection (ARCHIVED)* (1126 views) and *Acute Exacerbation COPD* (870 views).

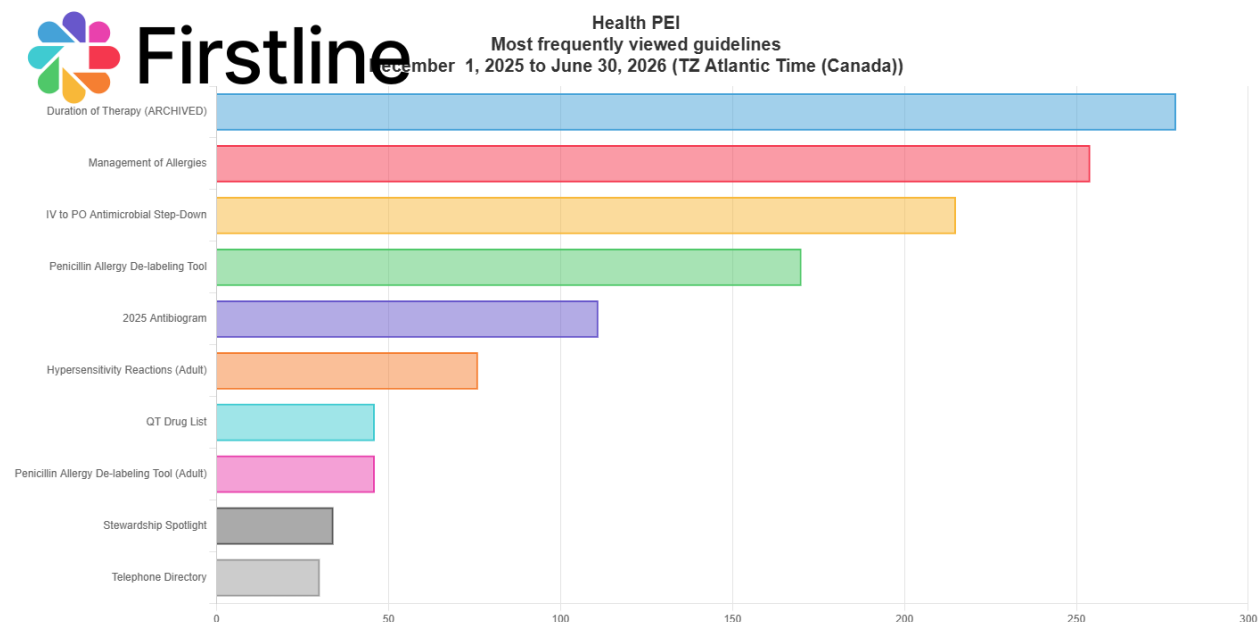


Guideline access by role

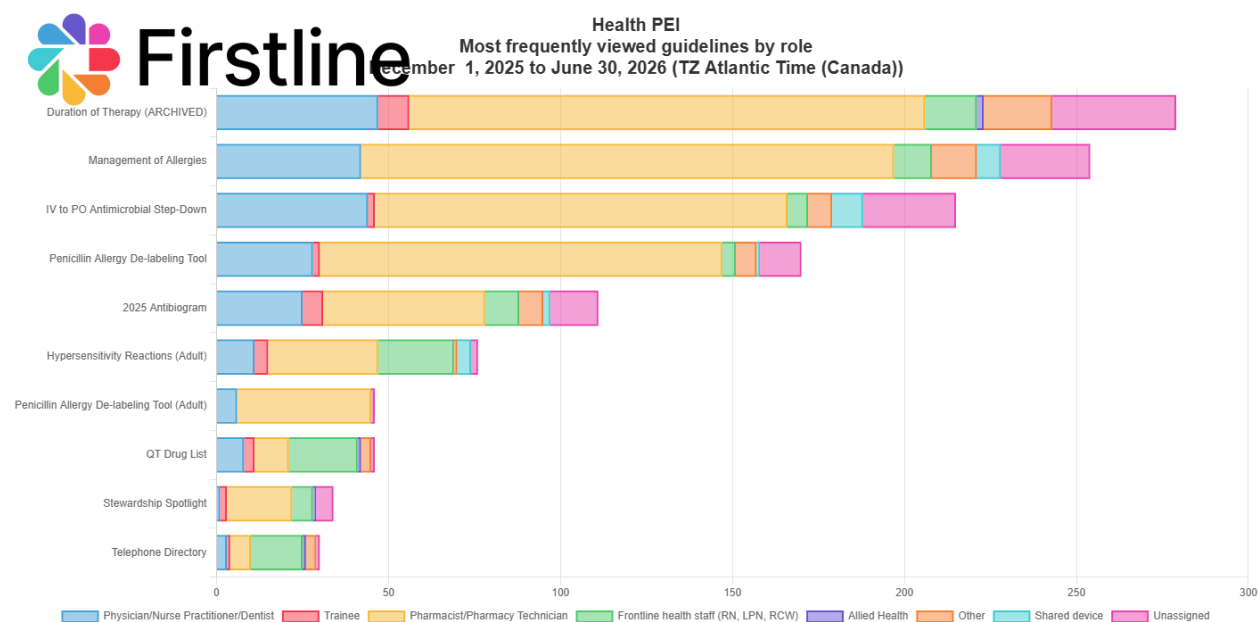


Useful Tools

The most frequently accessed tool for this reporting period was *Duration of Therapy (ARCHIVED)* with 279 views followed by *Management of Allergies* (254 views), and *IV to PO Antimicrobial Step-Down* (215 views).

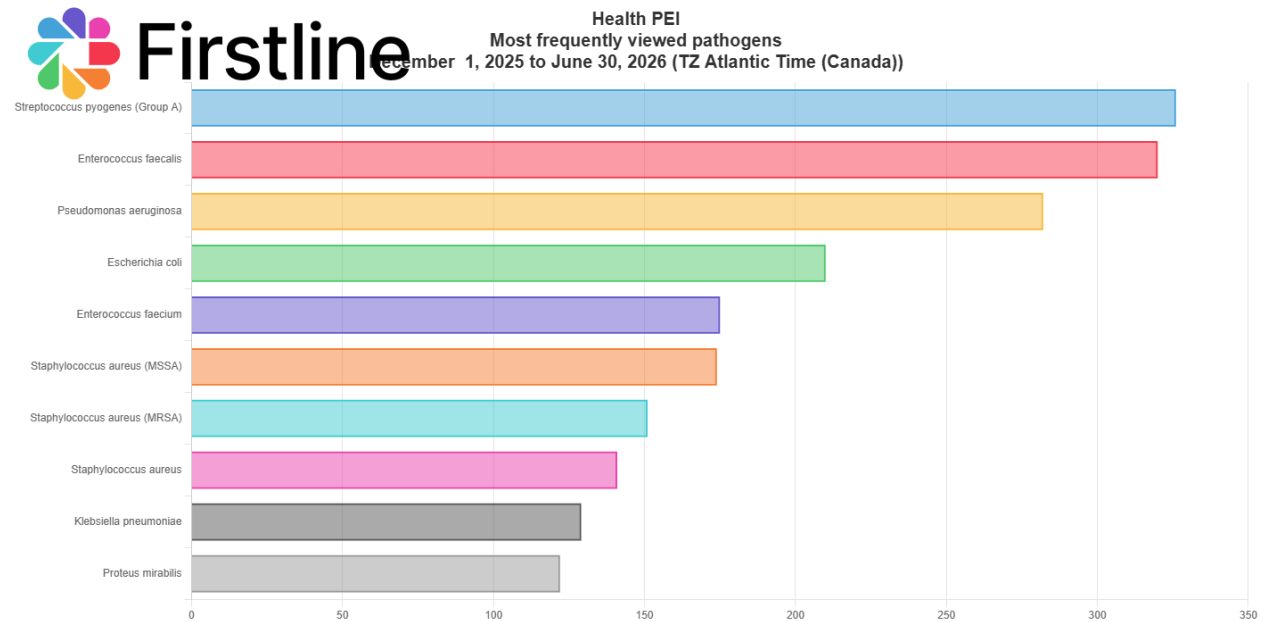


Useful tool access by role

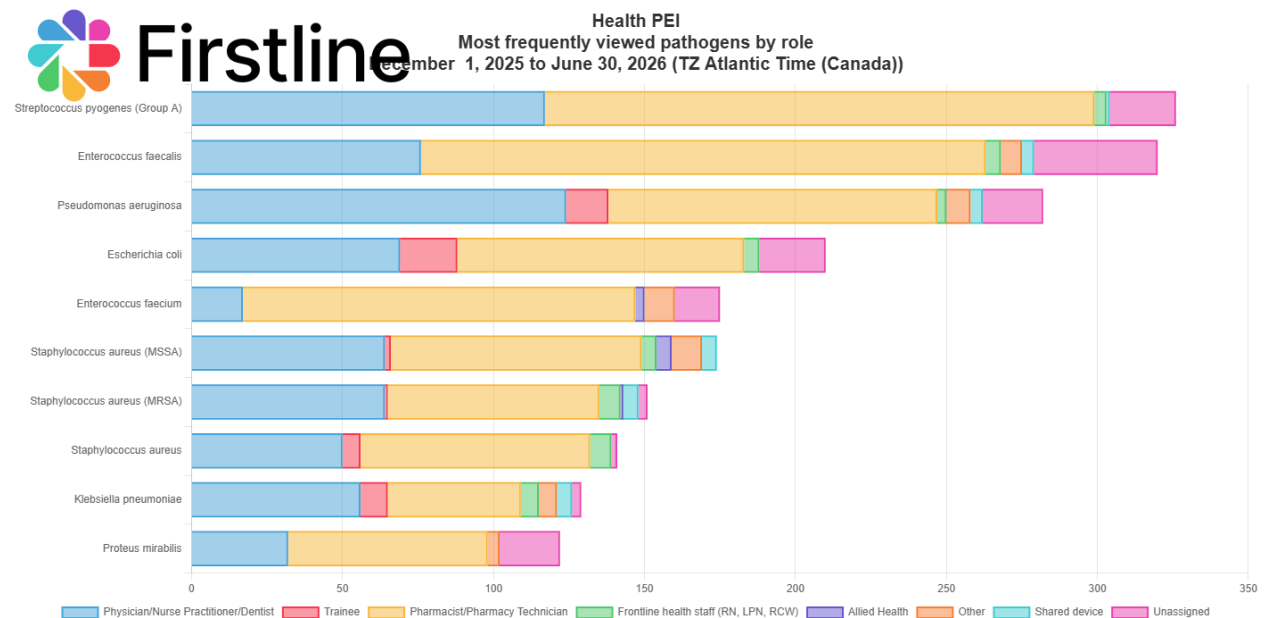


Pathogens

The most frequently accessed pathogens for this reporting period were *Streptococcus pyogenes* (Group A) with 326 views followed by *Enterococcus faecalis* (320 views), and *Pseudomonas aeruginosa* (282 views).

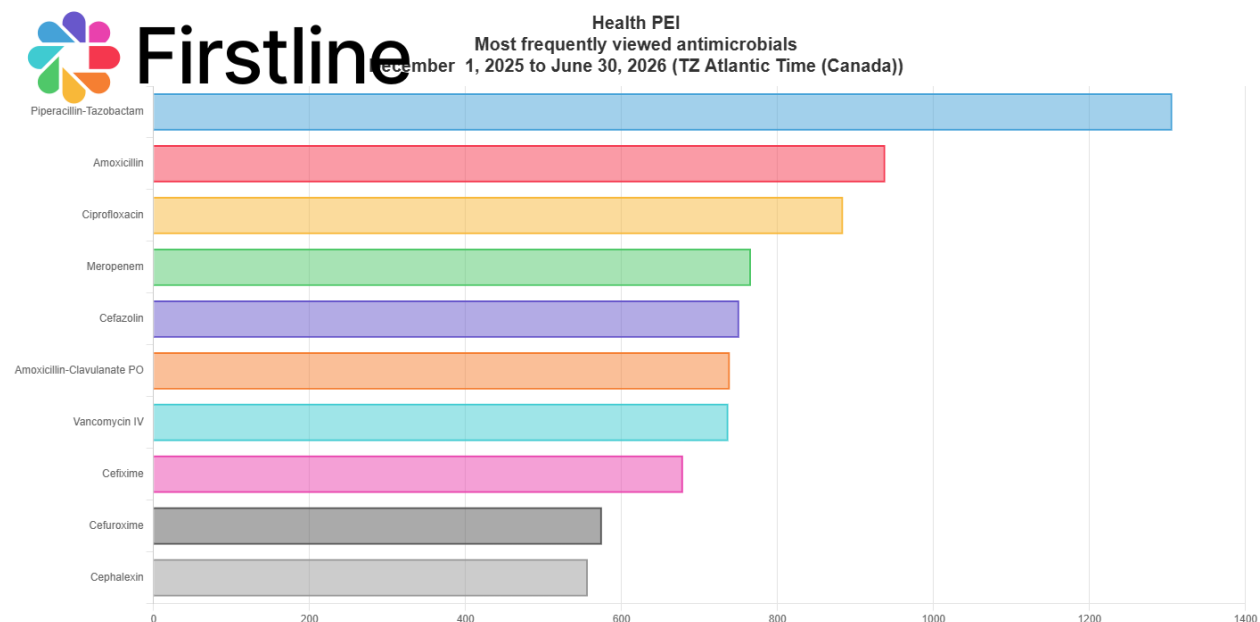


Pathogen access by role

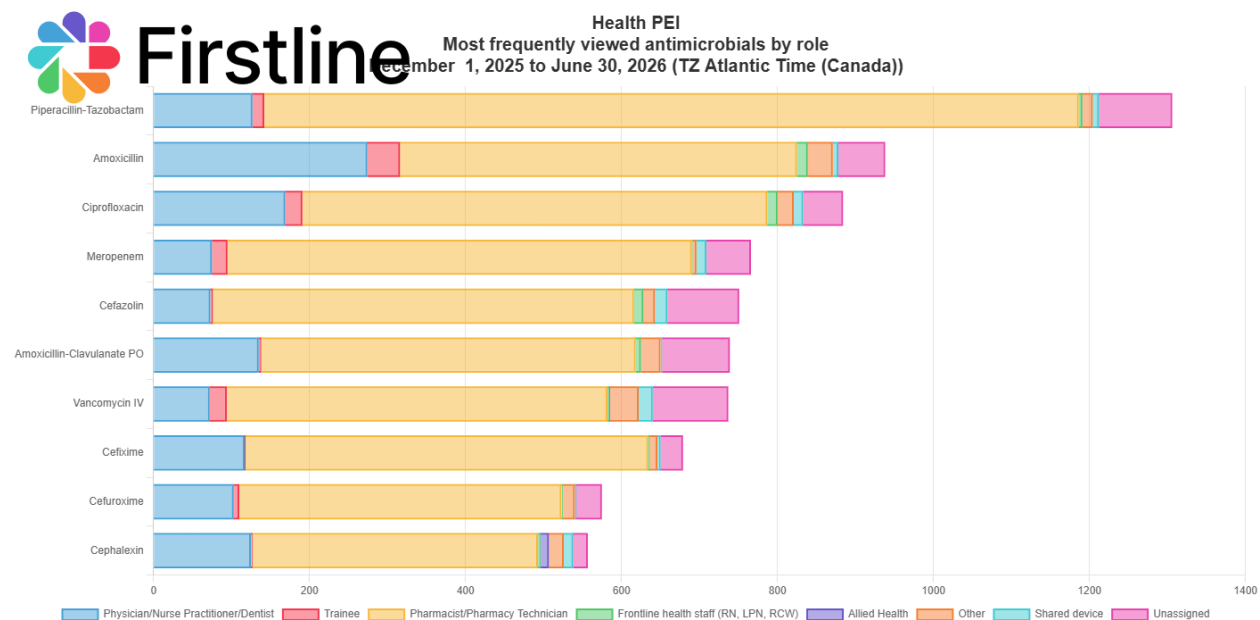


Antimicrobials

The most frequently accessed antimicrobials for this reporting period were *Piperacillin-Tazobactam* with 1306 views followed by *Amoxicillin* (938 views), and *Ciprofloxacin* (884 views).



Antimicrobials by role



Guideline Creation and Review

The HPEI Antimicrobial Stewardship team has **16 clinical guidelines** that are actively being used. The table below identifies when the guideline was last updated. Highlighted items were updated during this reporting period. During this reporting period, 2 new guidelines were revised, and 4 guidelines were partially or entirely archived with the following disclaimer statement:

"It is recognized that reviewing/updating AMS guidelines requires the clinical expertise of a dedicated Infectious Diseases physician/Medical Microbiologist. At present, guideline updates remain on hold due to the absence of Infectious Diseases or Medical Microbiologist resources for the AMS Program within Health PEI"

No updates were made to the remaining 10 guidelines.

Guideline Name	Last updated
Gram Positive Cocci in Clusters Bacteremia (archived)	May 2026
Urinary Tract Infection (archived)	May 2026
Sepsis Syndromes (portions archived Intra-abdominal infections, Urinary tract infections, Meningitis and encephalitis, Sepsis of unknown source)	May 2026
Duration of Therapy Guideline (archived)	May 2026
Lyme Disease Algorithm	May 2026
COVID-19	January 2026
Seasonal Influenza	September 2025
Penicillin Allergy De-labeling Tool	July 2025
Acute Exacerbation of Chronic Obstructive Pulmonary Disease (COPD)	May 2025
Febrile Neutropenia	March 2025
Adult Chemical Pneumonitis and Aspiration Pneumonia	February 2025
Community Acquired Pneumonia	February 2025
Hospital Acquired Pneumonia	February 2025
Diabetic Foot Infections	December 2023
Clostridioides (Clostridium) difficile Infection	July 2023
Skin and Soft Tissue Infections	February 2023

Top 10 Guidelines Accessed via Firstline

The following table reflects the top 10 guidelines accessed via Firstline for the period of December 1, 2025 to June 30, 2026, broken down by all users, physicians/nurse practitioners/dentists, and pharmacists.

	Guideline Name	Last updated	# times accessed during this period		
			All	MD/NP/DDS	PhC
1	Community Acquired Pneumonia	February 2025	1584	779	520
2	Urinary Tract Infection (ARCHIVED)	May 2026	1126	573	336
3	Acute Exacerbation of Chronic Obstructive Pulmonary Disease (COPD)	May 2025	870	378	386
4	Skin & Soft Tissue Infections	February 2023	657	330	242
5	Sepsis Syndromes (partially ARCHIVED)	May 2026	657	277	236
6	Hospital Acquired Pneumonia	February 2025	386	159	156
7	Chemical Pneumonitis and Aspiration Pneumonia	February 2025	324	131	118
8	Gram Positive Cocci in Clusters Bacteremia (ARCHIVED)	May 2026	248	67	125
9	Diabetic Foot Infection	December 2023	216	146	42
10	Clostridioides difficile Infection (CDI)	July 2023	197	53	100

Firstline Antimicrobial Library Review

The Antimicrobial Stewardship team is responsible for updates to the antimicrobial library in Firstline. All content was initially reviewed for go live in 2020. Work is underway to review each antimicrobial and recommend updates where needed.

Additions to Library

Antimicrobial	Summary	Date
ceftazidime-avibactam	Formulary addition with restriction: - For multidrug resistant complicated intra-abdominal infections, complicated urinary tract Infections (including pyelonephritis), hospital-acquired bacterial pneumonia and ventilator associated bacterial pneumonia, or other serious infection, where there is a contraindication to, failure or intolerance to other available therapies. - Discussion with an infectious diseases, microbiology, or internal medicine specialist is required.	December 2025
ceftobiprole	Formulary addition with restriction: - For resistant Gram-positive organisms where there is a contraindication to, failure or intolerance to vancomycin, daptomycin or linezolid, or in whom these options are not appropriate. - Discussion with an infectious diseases, microbiology, or internal medicine specialist is required.	December 2025
meropenem-vaborbactam	Formulary addition with restriction: - For carbapenem-resistant, vaborbactam/meropenem susceptible Gram-negative bacteria (i.e. Enterobacterales, such as <i>Enterobacter cloacae</i>, <i>Escherichia coli</i>, and <i>Klebsiella pneumoniae</i>) where there is a contraindication to, failure or intolerance to other available therapies. - Discussion with an infectious diseases, microbiology, or internal medicine specialist is required.	December 2025

Updates to Library

Antimicrobial	Summary	Date
cefixime	Added peritoneal dialysis dosing	July 2026
caspofungin	Added a note in hepatic dosing section "Consider maintenance dose of 50 mg IV daily in critical illness or severe infections"	July 2026
cefuroxime	Updated dosing for most indications: 750 - 1500 mg IV q8h - Use higher dosing range for serious/invasive infections Updated renal dosing for IV	July 2026
ceftolozane-tazobactam	Updated to align with NSHA and IDSA 2024 Guideline on treatment of MDR gram negative infections	July 2026
probenecid	Dosing information updated to "In combination with outpatient cefazolin (for uncomplicated SSTI): Probenecid 1 g/day 30 min before cefazolin dose"	June 2026
daptomycin	Added formula for adjusted body weight (Adjusted body weight = IBW + 0.4 (actual body weight - IBW)) to both adult and renal section	June 2026
amoxicillin-clavulanate PO	875 mg PO q12h is now listed as first option due to less diarrhea with BID vs TID dosing - Added a dosing option for serious or invasive infection	June 2026
nitrofurantoin	- Updated description of Macrobid to nitrofurantoin monohydrate/ macrocrystal sustained release capsules (MACROBID) - Added dosing for nitrofurantoin regular release oral solid (MACRODANTIN) - Added section for peritoneal dialysis	June 2026

daptomycin	• Use adjusted body weight in obese patients • SSTI: Updated to 4-6 mg/kg/day (from 4 mg/kg/day) • Severe infections: Updated to 8-12 mg/kg IV q24h (from 8-10 mg/kg) • Renal dose section updated including HD and PD dosing	May 2026
ceftazidime	• Updated usual adult dosing to 1-2 g IV q8h (previously q8-12h) • Updated non-dialysis renal dosing (removed CrCl less than 5 mL/min section) • Updated HD dosing and added PD dosing • Removed CAPD dosing	January 2026
ciprofloxacin	Added dosing for severe infections; pseudomonas infections	December 2025

Health PEI Antibioqram 2026

The Health PEI Antibioqram is updated yearly by the Microbiology team.

Antibiotic susceptibility results of non-duplicative isolates from all community and health care settings.

Urine Isolates

Health PEI ANTIBIOGRAM 2026 (Antibiotic Susceptibility Results of Non-Duplicative Isolates From All Community And Health Care Settings)														
URINE Isolates	Total Number	Nitrofurantoin*	Sulfamethoxazole + Trimethoprim	Fosfomycin~	AmpIV/AmoxPO	Amox+Clav.Acid (3 times a day)	Cefuroxime	Cefixime	Ciprofloxacin	Ceftazidime	Piperacillin+Tazo	Ertapenem	Meropenem	Tobramycin
<i>E. coli</i>	2624	99	86	99	64	87	92	92	83^	94	94	98	100	94
<i>Klebsiella pneumoniae</i>	453	55	94			95	91	95	94	96	96	100	100	98
<i>Klebsiella oxytoca</i>	106	94	98			92	93	94	98	94	93	100	100	98
<i>Enterobacter spp.</i> #	137	36	88						93			91	100	96
<i>Proteus mirabilis</i>	322		90		87	94	95	92	96	99	100			92
<i>Pseudomonas aeruginosa</i>	179								90	97	97		96	96
<i>Enterococcus faecalis</i>	464	95		95	100	100								100
<i>Enterococcus faecium</i>	48													100
^E. coli and Cipro: ER (215) QEH 79%, (150) PCH 91%; # Includes <i>Klebsiella</i> (formally <i>Enterobacter aerogenes</i>) *Nitrofurantoin activity limited to cystitis. Suitable for use with adequate renal function (CrCl ≥30 mL/min) ~ Oral Fosfomycin use is mostly limited to the bladder (cystitis) Shaded boxes = Not routinely reported or recommended Red Boxes = Predictably resistant														

Gram Negative Isolates (Excluding urines)

Health PEI ANTIBIOGRAM 2026 (Antibiotic Susceptibility Results of Non-Duplicative Isolates From All Community And Health Care Settings)														
Gram Negative Isolates (Excluding urines)	Total Number	AmpIV/AmoxPO	Amox+Clav.Acid (3 times a day)	Cefuroxime	Cefixime	Sulfamethoxazole + Trimethoprim	Ciprofloxacin	Cefazolin	Ceftriaxone	Ceftazidime	Ertapenem	Piperacillin+Tazo	Meropenem	Tobramycin
<i>E. coli</i>	176	55	81	85	89	94	77	75	85	89	100	90	100	94
<i>Klebsiella</i> spp.	70		89	81	93	96	90	60	89	91	100	89	100	96
<i>Enterobacter</i> spp. [#]	40					95	93				95		98	98
<i>Serratia</i> spp.	24					100	100		92	96	100	100	100	92 [†]
<i>Pseudomonas aeruginosa</i> [^]	299						95			98		98	93	97
[†] For <i>Serratia</i> spp., Gentamycin (100% susceptible) is more effective than Tobramycin [#] Includes <i>Klebsiella</i> (formally <i>Enterobacter</i>) <i>aerogenes</i> [^] <i>Haemophilus influenzae</i> beta-lactamase positive: (16 isolates) 29% Shaded boxes = Not routinely reported or recommended Red Boxes = Predictably resistant														
[^] Ceftolozane-Tazobactam available for <i>Pseudomonas aeruginosa</i> infections with restrictions. Contact Antimicrobial Stewardship pharmacist or Infectious Diseases for advice														

Gram Positive Cocci

Health PEI ANTIBIOGRAM 2026 (Antibiotic Susceptibility Results of Non-Duplicative Isolates From All Community And Health Care Settings)													
Gram Positive Cocci	Total Number	Penicillin (meningitis)	Penicillin (non-meningitis)	Penicillin~ (oral)	Ceftriaxone*	AmpIV/AmoxPO	Amox+Clav.Acid	Cefadroxil, Cephalexin, Cefazolin	Doxycycline (Tetracycline)	Sulfamethoxazole + Trimethoprim	Erythromycin	Clindamycin	Vancomycin IV
<i>Staphylococcus aureus</i> [^] (MSSA and MRSA)	1340						89	89	97	93	75	80	100
MSSA	1184						100	100	98	95	78	80	100
MRSA	156								91	78	56	81	100
<i>Staphylococcus lugdunensis</i>	71						97	97	99	99	94	92	100
<i>Staphylococcus epidermidis</i>	191						60	60	77	71	41	78	100
<i>Enterococcus faecalis</i>	558					100	100		100				100
<i>Enterococcus faecium</i>	66								98				97
Group A <i>Streptococcus</i>	47	100	100	100	100	100	100	100			72	77	100
Group B <i>Streptococcus</i>	26	100	100	100	100	100	100	100			50	50	100
<i>Streptococcus pneumoniae</i>	24	100	100	88	100				96		88		100
MRSA rate 15% of <i>Staphylococcus aureus</i> Blood Cultures 13% of <i>Staph. aureus</i> ER wounds *Includes both meningitis and non-meningitis breakpoints when reported for <i>Streptococcus pneumoniae</i> Numbers do not reflect meningitis rates ~Can predict susceptibility to ampicillin (oral or parenteral), amoxicillin, amoxicillin-clavulanate, cephalosporins (I,II,III) and carbapenems Shaded boxes = Not routinely reported or recommended Red boxes = Predictably resistant													
[^] Daptomycin and Linezolid are available for <i>Staphylococcus aureus</i> infections with restrictions. Contact Antimicrobial Stewardship pharmacist or Infectious Diseases for advice													

Penicillin Allergy De-Labeling

A new penicillin allergy de-labeling tool was added to Firstline in July of 2025.

During the reporting period, 2 patients underwent formal penicillin allergy assessments and amoxicillin oral challenge testing. Both patients successfully tolerated the challenge without evidence of an allergic reaction and were subsequently de-labeled as penicillin allergic.

Key Outcomes

Measure	Result
Patients Assessed	2
Amoxicillin Challenges Completed	2
Successful Challenges	2
Adverse Reactions	0
Penicillin Allergies Removed	2
De-Labeling Success Rate	100%

Antimicrobial Stewardship Team Education and Communication

1. Stewardship Spotlights

As a means of improving communication, the AMS team has started to produce and circulate Stewardship Spotlights to highlight new or updated information that is pertinent to clinicians.

2. Continuing Education

On May 26, PEI AMS representative attended a conference hosted by the Atlantic Network for Combating Antimicrobial Resistance Health Threats through Organized Research Planning and Knowledge Translation at the Nova Scotia Health Innovation Hub. This conference included more than 50 participants from the Atlantic region with interest in antimicrobial resistance from a human and/or animal perspective. The conference was an excellent networking opportunity and provided insight into the many programs and initiatives underway in the Atlantic region in the AMR space.

3. Advocacy

The Antimicrobial Stewardship Subcommittee (ASSC) submitted a letter to the executive leadership team requesting dedicated Infectious Diseases (ID) physician support for the Antimicrobial Stewardship (AMS) Program. A response was received from the interim CEO and a follow-up letter was sent by the ASSC.

Antimicrobials are essential to modern healthcare; however, inappropriate use contributes to patient harm, increased healthcare costs, and the emergence of antimicrobial resistance (AMR). AMR threatens patient outcomes across all areas of care and is projected to become one of the leading causes of death globally by 2050, with an estimated 13,700 deaths annually in Canada. If resistance rates reach 40%, AMR could account for nearly 1% of total Canadian healthcare spending (*When Antibiotics Fail*, 2019).

Effective antimicrobial stewardship is critical to preserving the effectiveness of these therapies. International best practice guidelines, including those from IDSA/SHEA and the

CDC, identify a physician-pharmacist co-leadership model as the standard for AMS programs. This model supports real-time prescribing oversight, implementation of stewardship interventions, and alignment with Accreditation Canada standards and regional practice.

The ASSC is advocating for a 0.5 FTE ID physician AMS co-lead with dedicated time to further develop, monitor, and improve Health PEI's AMS program. This investment would strengthen patient safety and quality of care, support Accreditation Canada requirements, reduce healthcare costs and antimicrobial-related complications, and enhance Health PEI's ability to address the growing threat of AMR.

4. AMS Pharmacist SOP

The AMS program developed and implemented Standard Operating Procedures for updating Firstline antimicrobial monographs and infectious disease clinical guidelines/tools, establishing a transparent, documented review process with defined responsibilities, escalation pathways, and approval requirements. This initiative supports timely maintenance of AMS clinical resources and alignment with evolving evidence and regional practices.

5. Order Set

The Sexually transmitted blood-borne infection (STBBI) screening Order Set was created at the request of the Infectious Diseases team. It includes the following tests:

- HIV Ag/Ab Screen
- Hepatitis B Anti-HBcore IgG/IgM
- Hepatitis B Surface Antibody
- Hepatitis B Surface Antigen
- Hepatitis C Antibody Screen
- Syphilis Antibody Screen

Next Steps for the AMS Team

The AMS team has considerable work in progress to continue improving efforts to enhance antimicrobial stewardship.

- Updates underway to HIV PEP dispensing process in collaboration with CPHO.
- Four formulary change requests for new antimicrobials
- Vancomycin Dosing and Monitoring Guideline
- Diabetic Foot infection guideline

Contact Us

For questions about the content of this report or ongoing work of the AMS team, please contact:

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