

## Provincial Drugs & Therapeutics Antimicrobial Stewardship Subcommittee

To:	PEI Physicians, Nurse Practitioners, Nurse Managers/Educators and Pharmacists
From:	Dr. Greg German and Sarah Lutes, Co-chairs of PD&T Antimicrobial Stewardship Subcommittee
Date:	January 29, 2021
Re:	<b>Updated</b> Health PEI Antibioqram 2021: Antibiotic Usage Practice Points

Health PEI's empiric treatment guidelines (available on the Spectrum app or at [www.healthpei.ca/micro](http://www.healthpei.ca/micro)) are based on local susceptibility patterns from our hospitals and the community. The last antibiogram (released in 2019) was based on 2018 data. The 2021 update is based on data from 2020. A hard copy of the antibiogram will not be sent out as has been done in past years, and instead all clinicians will be provided a card with instructions for downloading the Spectrum app.

### **Top points for your practice:**

#### **1. Urinary Tract Infections (Preventing unnecessary ciprofloxacin):**

##### **a. *E. coli* susceptibility for ciprofloxacin has decreased in PEI since our 2019 antibiogram.**

- *E. coli* encompasses almost 70% of all urine culture results. In urine isolates, *E. coli* susceptibility has decreased from 88% to 83% for ciprofloxacin. Some, and potentially all, of the change is due to changes in interpretation/breakpoints nationally. Other jurisdictions saw a 5 to 10 percent drop.
- In regards to ciprofloxacin usage across PEI, a 21% decrease was seen in the total amount dispensed in the community from 2018 to 2020 indicating a positive change in prescribing.
- While there has been no significant change in amoxicillin-clavulanate sensitivities since 2019 (now 89%), there is still room for improvement. Continuing to lessen the amount prescribed will hopefully have a positive effect on this trend. TID dosing is still preferred.
- Cefuroxime (oral) is another viable option for *E. coli* UTI, even in the setting of most penicillin allergies, and has a 92% susceptibility reported based on new QEH data. For urine samples going to PCH, please request cefuroxime susceptibilities either before or after the culture is reported as they require special processing at this time.

##### **b. Nitrofurantoin (Macrocrystals), Co-trimoxazole, and fosfomycin are the preferred outpatient antibiotics to treat uncomplicated cystitis.**

- Due to the several black box warnings, increased risk of *C. difficile*, and increasing resistance, fluoroquinolone use should be avoided for minor ailments including uncomplicated cystitis. Nitrofurantoin remains the optimal choice for simple cystitis with a susceptibility of 99%.
- With the support of our stewardship program and considering good safety data out of New Brunswick, PEI pharmacists are now able to prescribe the above three agents for uncomplicated cystitis. In addition, they are able to change a prescription for ciprofloxacin or amox/clav to another antimicrobial if the initial drug is felt to be unnecessary for the patient's situation. Good communication between the pharmacist and ordering provider is a vital step in this process.

##### **c. Continue to only order urine cultures for patients with urinary symptoms (eg. dysuria, suprapubic pain, increased urgency/frequency). Foul smelling/cloudy urine or confusion alone are NOT considered**

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symptoms of urinary tract infection and other causes should be sought out. Antibiotic treatment is NOT recommended in the absence of urinary symptoms, except in pregnancy or as directed by a urologist for a procedure. For patient and provider educational tools please see the Association of Medical Microbiology and Infectious Diseases Canada "Symptom Free Pee: Let It Be" resources ([ammi.ca/AntibioticAwareness](http://ammi.ca/AntibioticAwareness)).

### d. Asking for additional susceptibilities

- Since 2019 we no longer routinely report ciprofloxacin in non-pseudomonal gram negative isolates in females, if it is susceptible and there are multiple oral options available. Please call your nearest microbiology lab if reporting is specifically required. This cascading approach is used in almost all other Canadian jurisdictions.
- *Enterococcus spp.* testing - 96% of enterococcus are susceptible to amoxicillin (which we report as ampicillin). *Enterococcus spp.* is inherently resistant to all cephalosporins and co-trimoxazole. Susceptibilities for ciprofloxacin, tetracycline/doxycycline, and fosfomycin (96% susceptible) are possible. In the absence of a microbiologist, we recommend contacting Sarah Lutes for requests on *Enterococcus spp.* susceptibilities.

## 2. Respiratory Infections: (See Health PEI Guidelines for details)

- a. **Avoid using clarithromycin or azithromycin monotherapy as first line therapy for Community Acquired Pneumonia (CAP).** While there has been a dramatic improvement in *Streptococcus pneumoniae* susceptibility for macrolides in PEI over the past two years (in part due to less prescribing), susceptibility is only 81% (up from 59%). The dispensed quantity of azithromycin decreased by **38%** from 2018 to 2020 which suggests that less prescribing has led to decreased resistance. Doxycycline susceptibilities have decreased from 71% to 67% for *Streptococcus pneumoniae*. It is still preferred therapy for *Mycoplasma pneumoniae* but should not be used first line if previously provided in the past 90 days.
- b. Amoxicillin 1 g TID is the first choice for all patients with unilateral CAP or any patient over age 50.

## 3. *C. difficile* rates

- a. *C. difficile* rates continued to decrease last year compared to previous years with a 17% drop. In addition to changes with pandemic, this downward trend may be due in part to decreasing use of broad spectrum antimicrobials. The amount of patient specific and wardstock dispenses of clindamycin within acute care decreased by 70% from 2019 to 2020.

For questions, please contact Sarah Lutes (Provincial Antimicrobial Stewardship Pharmacist; 894-2587; [saelutes@ihis.org](mailto:saelutes@ihis.org)). A special thank you goes out to Chris Norgaard, laboratory technologist at QEH, for compiling the 2021 Health PEI antibiogram.