
Antimicrobial Care Stewardship as Quality Progress

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Therapeutics Stewardship
Island Health



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Antimicrobial Care



Care



Stewardship as Quality Progress



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Quality Progress



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Care Quality Progress



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Care Quality Progress Through Stewardship



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Through Stewardship



Stewardship *noun* \ 'stü-ərd-, ship

The conducting, supervising, or managing of something; especially: the careful and responsible management of something entrusted to one's care



Stewardship *noun* \ 'stü-ərd-, ship

Unsolicited help



Where is help needed?

- Recent data from the College of American Pathologists shows that only 7% of laboratory errors on proficiency testing surveys can be attributed to analytical error
- The remaining 93% of errors are in the pre- and post-analytical phases not managed by traditional quality control practices.



When is help needed?

- Before deciding upon a diagnostic strategy
- After tests have been performed



Who needs help?

- What is the best way to diagnose a patient with this clinical scenario?
- What does this pattern of investigative results mean for my patient?



Who needs help?

- What is the best way to diagnose me?
- What does this pattern of investigative results mean for me?



Who should help?



Who should help?

Everybody



How should they help?



How should they help?

Not Sure



How should they help?

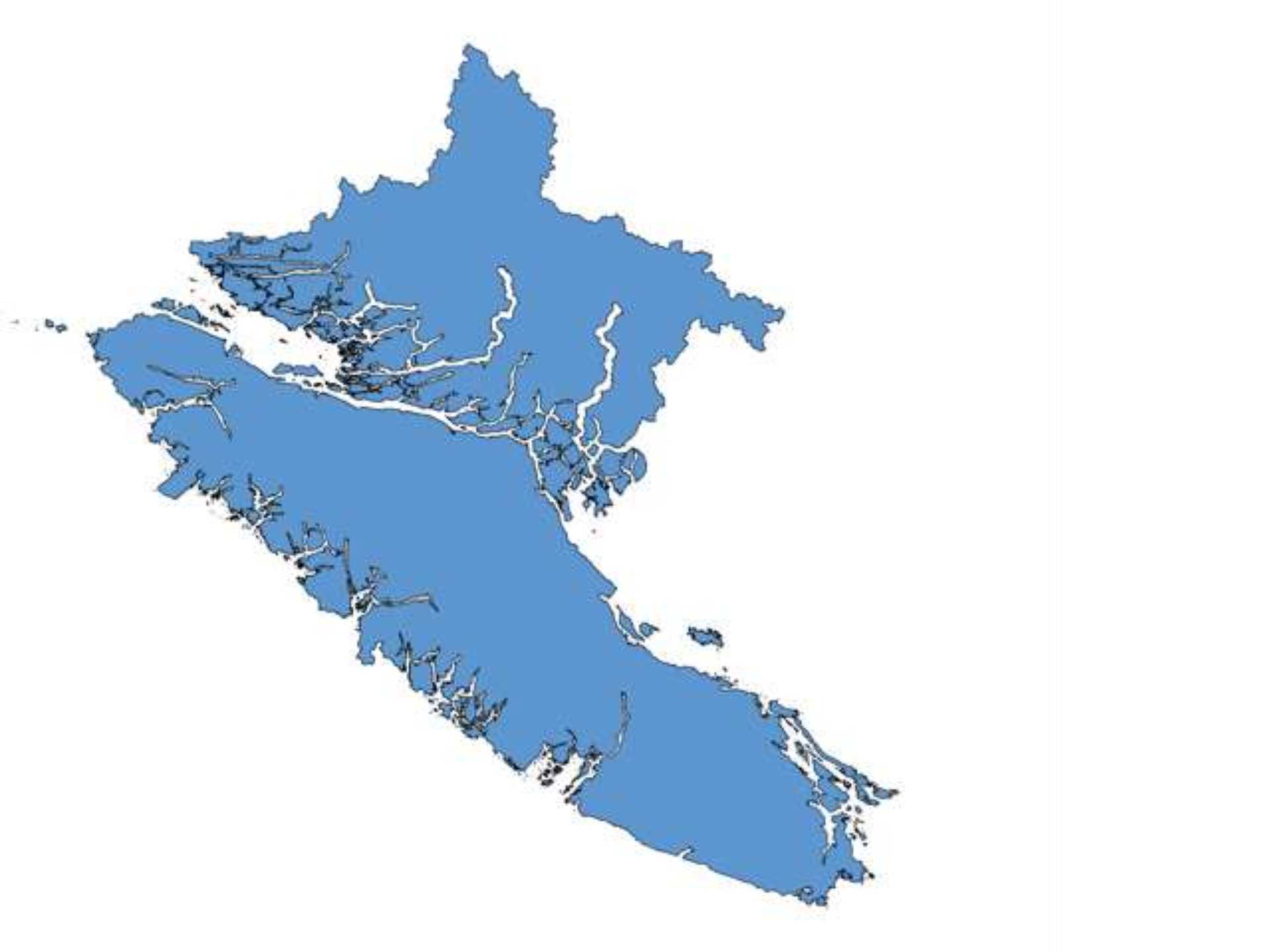
It will certainly take some thinking

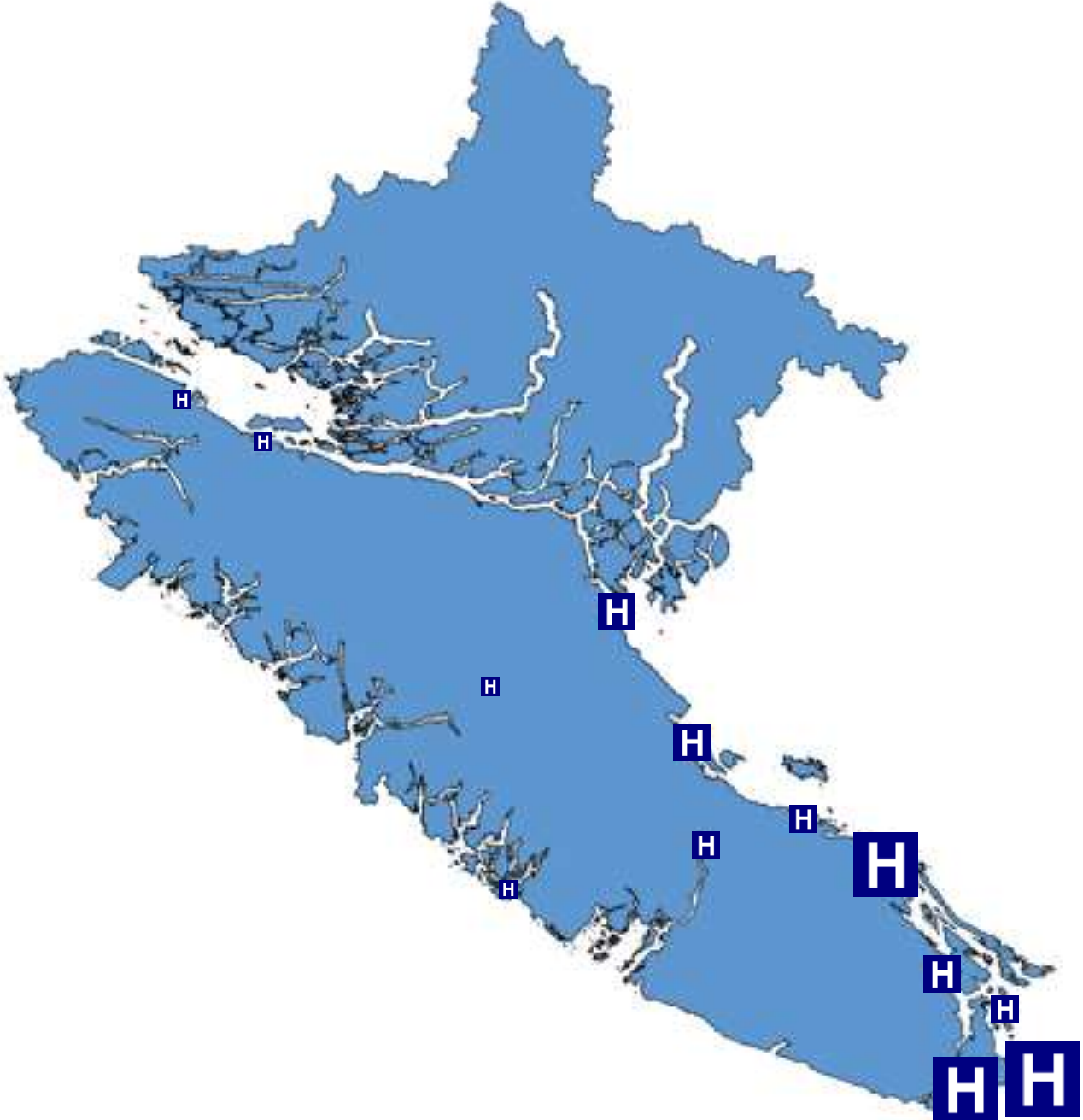


How should they help?

And new and better ways of organizing and cooperating







Antibiotic Stewardship

AS Pharmacist
Campbell River

AS Pharmacist
Nanaimo

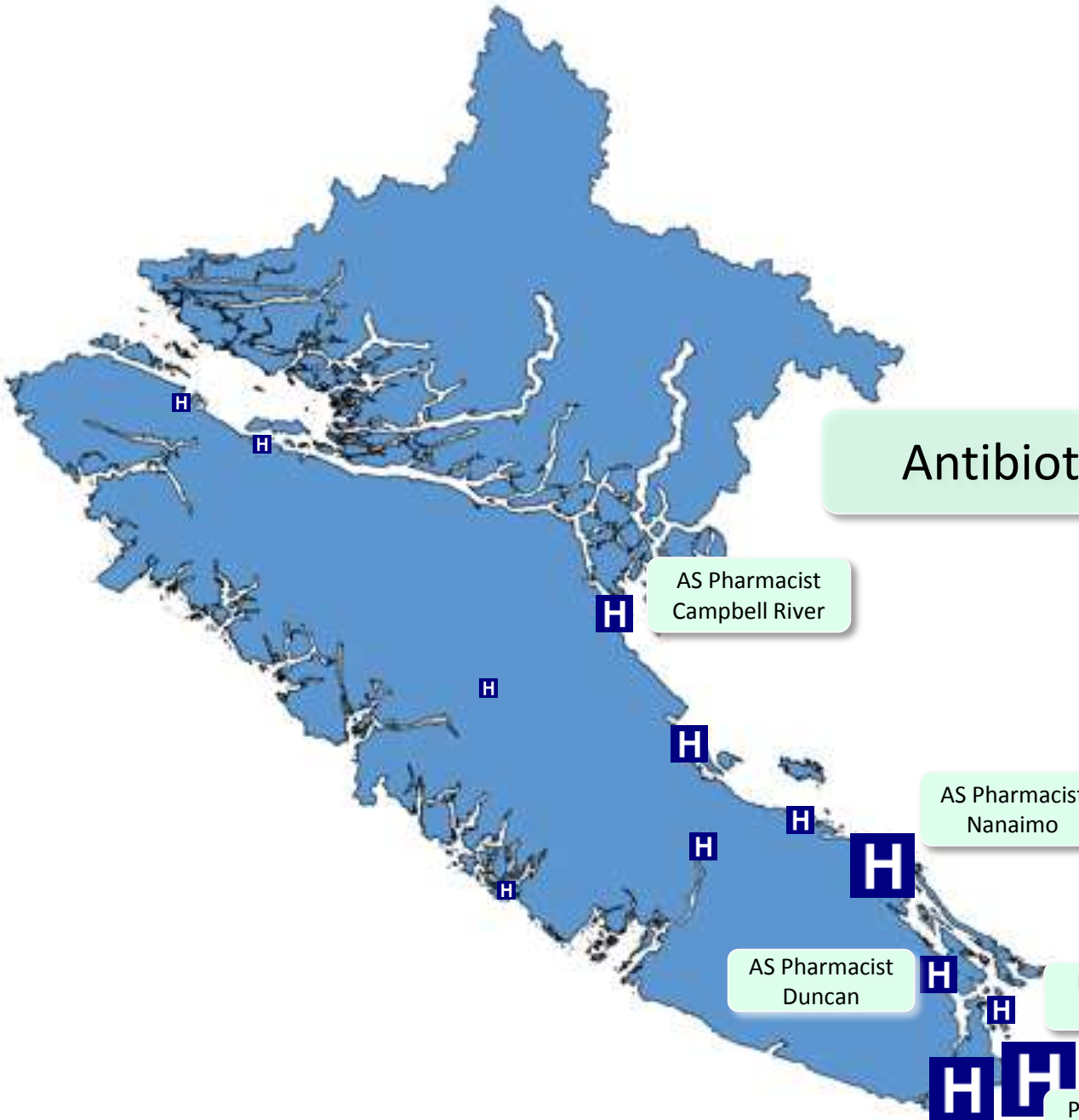
AS Pharmacist
Duncan

Database Expert
Victoria

Data Pharmacist
Victoria

Med Specialist
Victoria

Pharm Specialist
Victoria

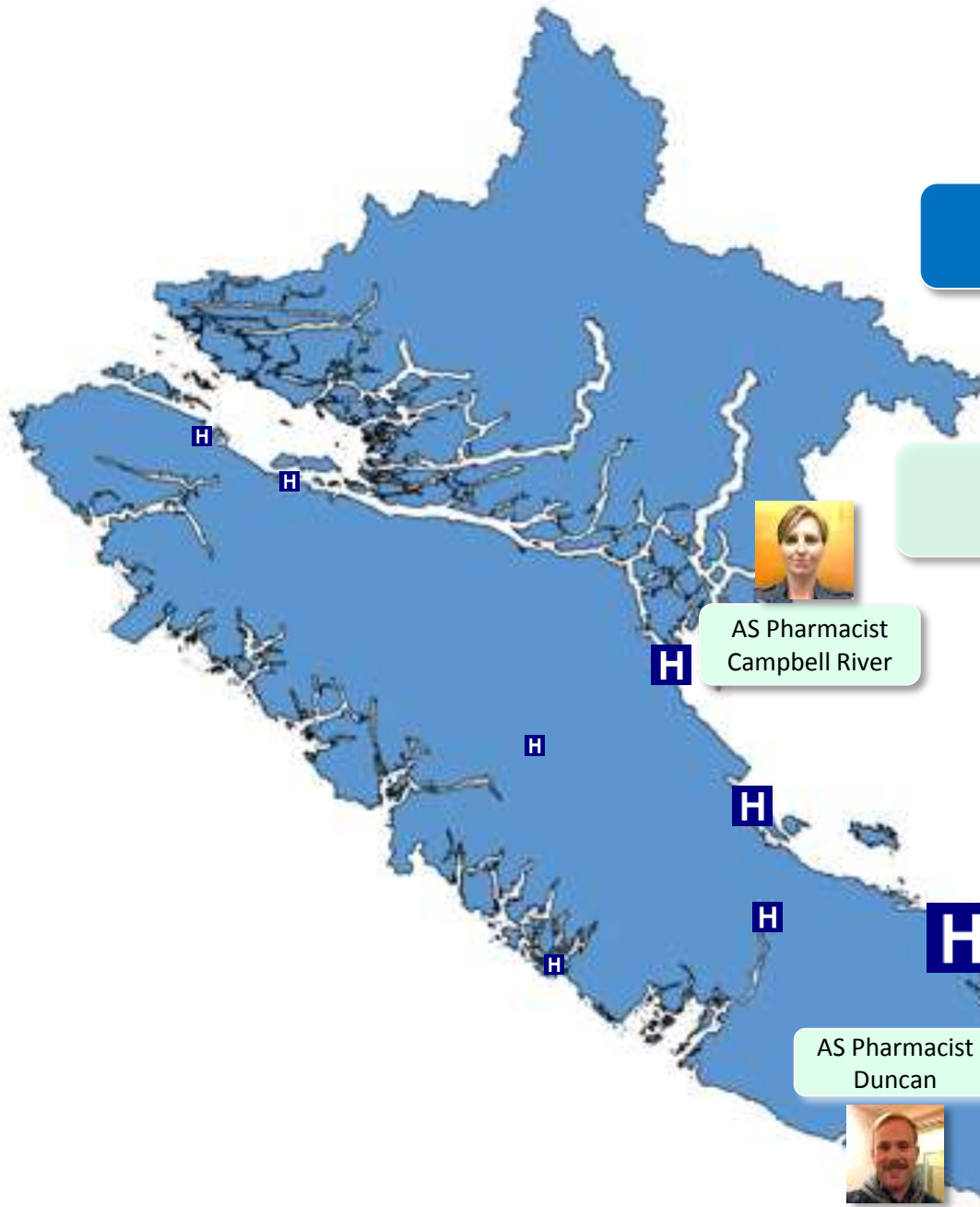




island health

Quality and Safety

Antibiotic Stewardship



AS Pharmacist
Campbell River



AS Pharmacist
Nanaimo



Database Expert
Victoria



Med Specialist
Victoria



Data Pharmacist
Victoria



AS Pharmacist
Duncan



Pharm Specialist
Victoria

Helping everyone to give and
get good therapy



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Helping everyone to give and
get good therapy



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Feedback overwhelmingly positive



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Why not other therapies?





Quality and Safety

Pharmacy



Therapeutics Stewardship

Director Stewardship

Therapeutics Steward/Med Dir. Pharmacy

Director Pharmacy

Port Alberni

Infection Steward

Pharm specialist ID

Hematology Steward

Pharm specialist Hem

Comox

Campbell River

Respirology Steward

Pharm specialist Resp

Psychiatry Steward

Pharm specialist Psych

Oceanside

Cardiac Steward

Pharm specialist Cardiac

Nanaimo

Duncan

Victoria

Saanich



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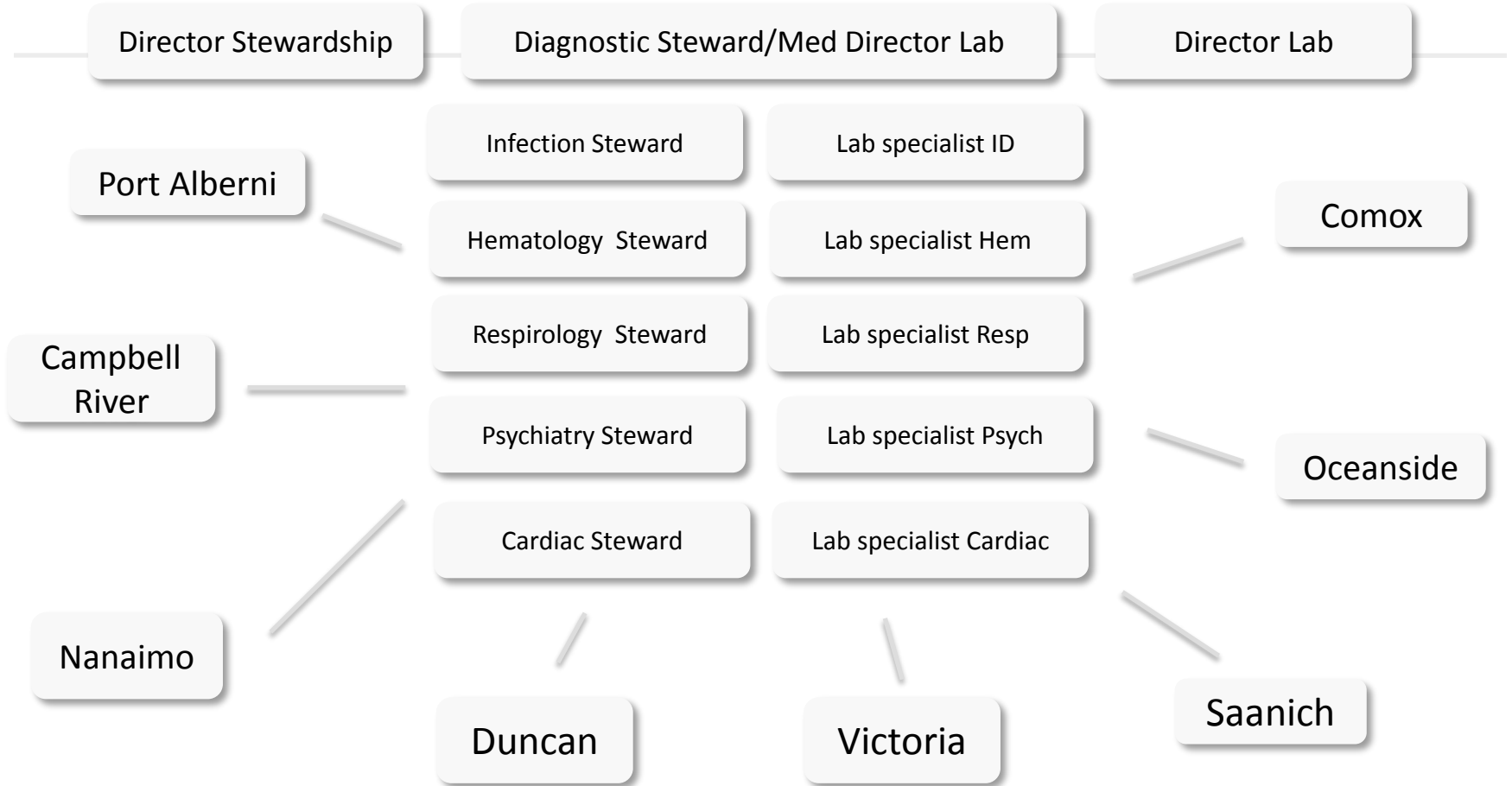
A stable, multidisciplinary,
spoke-hub platform for
quality-driven clinical excellence
supported by local, advanced
clinical analytics



Why not diagnoses?



Diagnostics Stewardship



A stable, multidisciplinary,
spoke-hub platform for
quality-driven clinical excellence
supported by local, advanced
clinical analytics



local, advanced clinical analytics



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The following antibiograms are profiles of antimicrobial susceptibility testing results of the most commonly reported respiratory tract, skin & soft tissue, and urinary tract pathogens submitted to LifeLabs from January 1, 2012 to December 31, 2012. The information in the antibiograms is to be used only as a guide, and we emphasize that culture and susceptibility testing are required for accurate determination of etiology and antimicrobial susceptibility. The analysis and presentation of the antimicrobial susceptibility test data is in accordance with the guidelines in the Clinical and Laboratory Standards Institute (CLSI) document M39-A3.

Respiratory Tract Pathogens

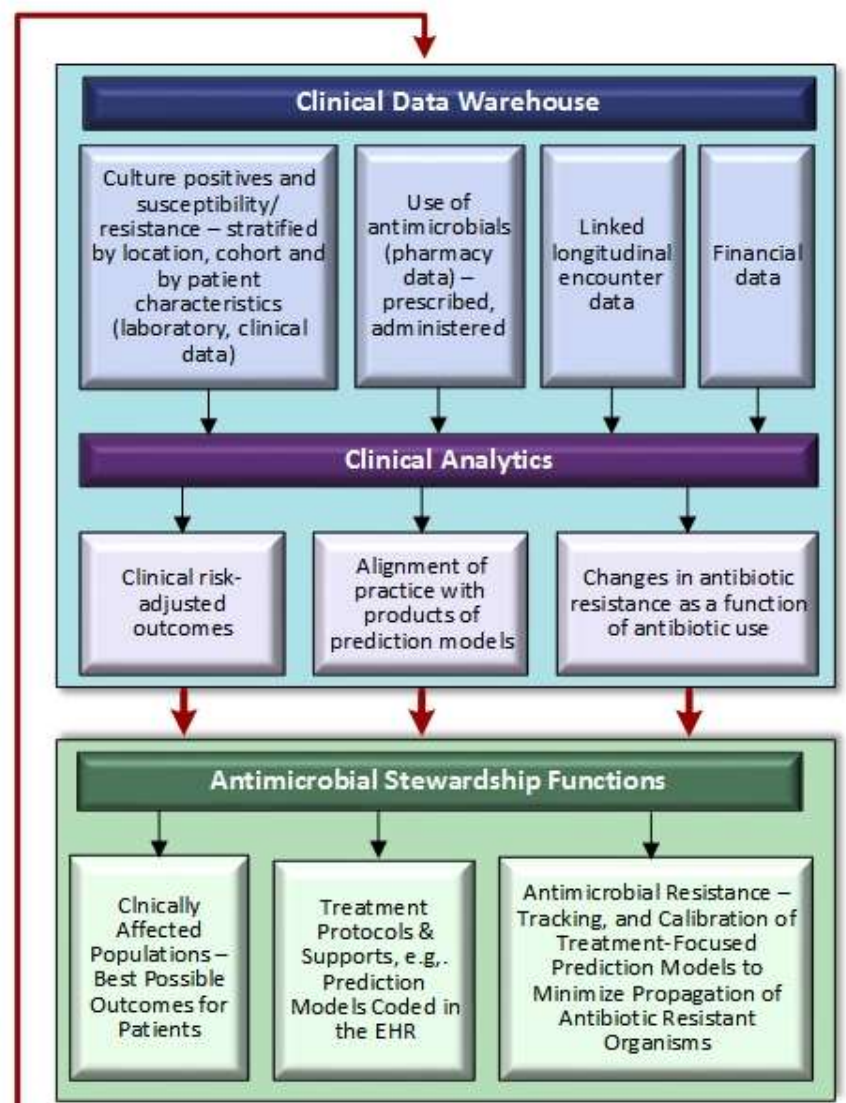
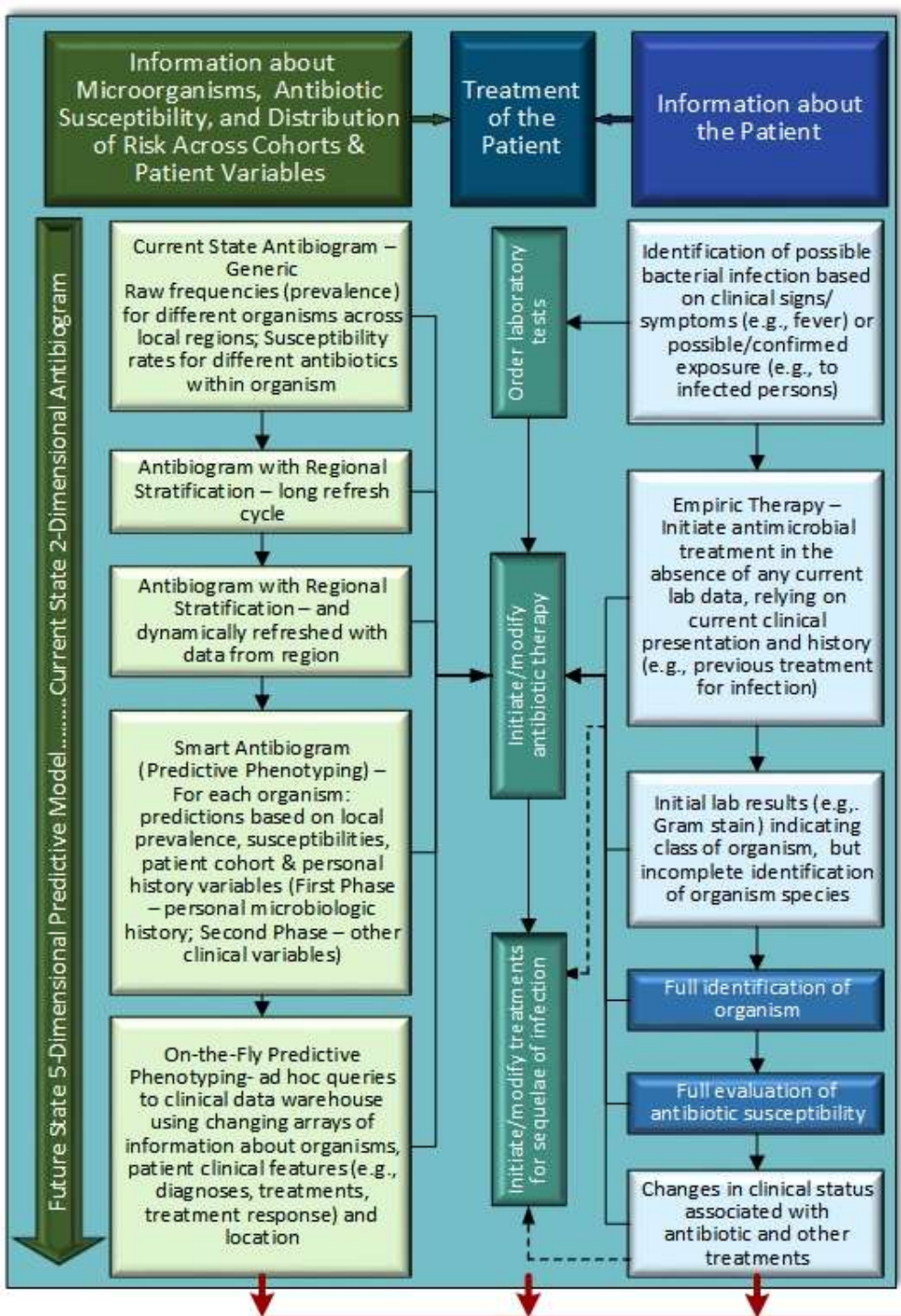
ORGANISM	Number of isolates	ANTIBIOTIC (% susceptible)								
		Ampicillin	Azithromycin	Cefuroxime	Clarithromycin	Erythromycin	Levofloxacin	Penicillin	Tetracycline	TMX
<i>Haemophilus influenzae</i>	85	85		98	96			R	88	78
<i>Moraxella catarrhalis</i> ¹	61	R						R		
<i>Streptococcus pneumoniae</i>	33	88	79		79	79	100	88	85	79

¹Susceptibility testing for *Moraxella catarrhalis* is not routinely performed. Most clinical isolates of *M. catarrhalis* are resistant to amoxicillin but are generally susceptible to amoxicillin-clavulanate, macrolides, trimethoprim-sulfamethoxazole, quinolones, cefuroxime, cefixime, and ceftriaxone.

Skin and Soft tissue Pathogens

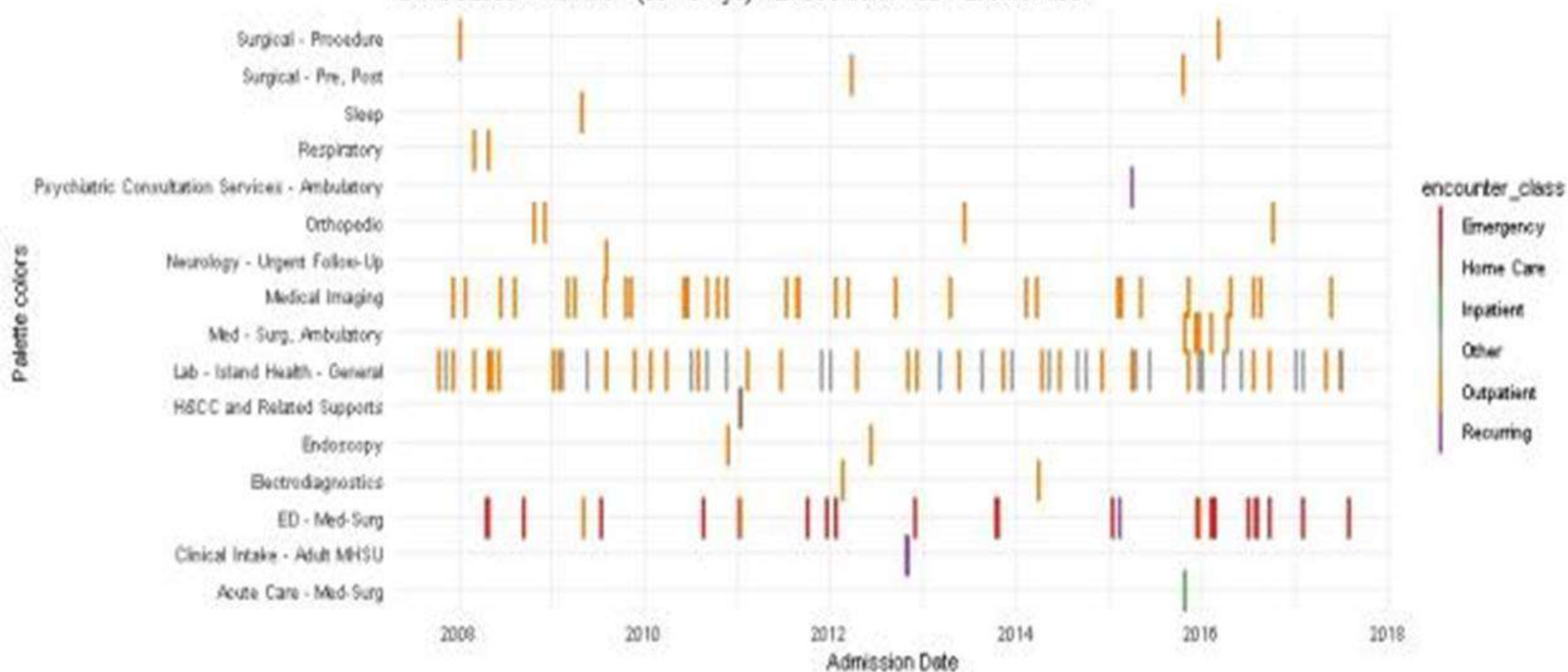
ORGANISM	Number of isolates	ANTIBIOTIC (% susceptible)										
		Ampicillin	Ceftriaxone	Cephalothin / Cephalexin	Ciprofloxacin	Clindamycin	Cloxacillin	Erythromycin	Penicillin	Tetracycline	TMX	Vancomycin
Streptococcus group A ¹	N/A										R	
<i>S. aureus</i> (MSSA)	2650			100			100	83		97		
<i>S. aureus</i> (MRSA)	405	R	R	R	21	87	R	16	R	96	98	100
<i>S. aureus</i> (MSSA & MRSA)	3055			87			87	74		97		

¹Streptococcus group A isolates are predictably susceptible to penicillin, amoxicillin and cephalosporins (e.g. cephalexin); therefore, antimicrobial susceptibility testing is not routinely performed. Susceptibility to erythromycin and clindamycin is variable.



Smart Antibigram Within the Context of Antimicrobial Stewardship
 © Kenneth Moselle, James Hutchinson, Kennard Tan
 Island Health
 June 1, 2015

ID: 10C2563 - Female - (60 - 64 ya) - Encounters: 150 - Events: 150



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BC Opportunities



HUGE

BC Opportunities



Laboratory Agency



New Government



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Healthy finances



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Investments in data



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How often is nitrofurantoin your first choice for UTI?

Your personal prescribing portrait for uncomplicated acute cystitis^{1,2}

Clinical Vignette



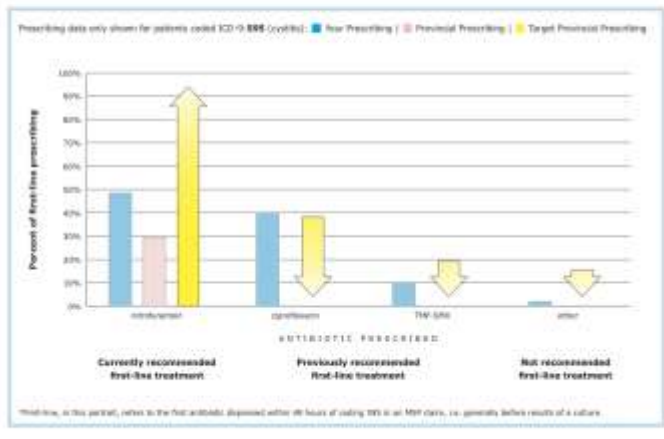
An otherwise healthy 30-year-old woman presents with frequency and dysuria. Her dipstick is positive for leukocytes and nitrites, which confirms your diagnosis of uncomplicated acute bacterial cystitis.

What would YOU prescribe?

Nitrofurantoin is now the first-line* (empiric) treatment for uncomplicated acute cystitis.

Escherichia coli (*E. coli*) resistance to ciprofloxacin and trimethoprim-sulfamethoxazole (TMP-SMX) now exceeds 20% in BC, thus limiting the effectiveness of these treatments.

Your First-Line* Prescribing for Cystitis in 2010 with BC Average and Target BC Average First-Line Prescribing^{1,2}



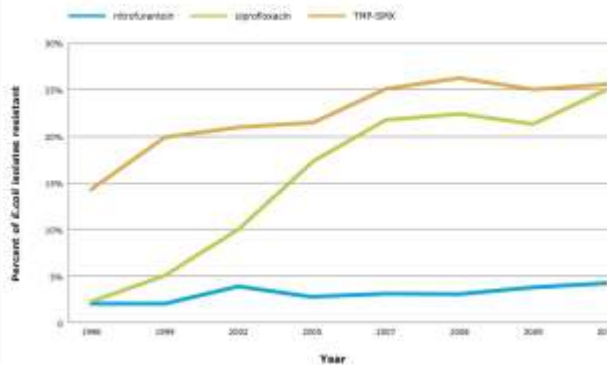
Fluoroquinolones and trimethoprim-sulfamethoxazole are not first-line treatments for uncomplicated acute cystitis.

Rates of *E. coli* resistance to ciprofloxacin mirror the increase in fluoroquinolone utilization.

Overuse of fluoroquinolones is contributing to resistance in other enteric Gram-negative organisms.

Nitrofurantoin is a narrow spectrum antibiotic that acts only on urinary pathogens. Rates of *E. coli* resistance to nitrofurantoin have remained at 5% or less in BC over the past 15 years, despite increasing utilization.³

Rates of *E. coli* Resistance to Ciprofloxacin, Nitrofurantoin and TMP-SMX⁴



Notes

Inaccuracy in your personal prescribing portrait may arise from incomplete patient visit data or imprecise diagnosis coding.

1. A detailed explanation of the definitions and assumptions used to create this portrait is available at www.ajpa.ca

Messages and resistance data provided by the BC Centre for Disease Control's Dr. Hugh Aspin Drugs² program.

2. Where identifiable in the data, patients with complicating factors have been removed from your portrait. Approximately 20% of patients present with have been removed according to these criteria. Refer to www.ajpa.ca/UTI for a comprehensive list of exclusions; refer to www.bccdc.ca for detailed treatment recommendations.

3. "Target Prescribing" of nitrofurantoin is set at greater than 75% but less than 100% to allow for patients for whom nitrofurantoin is not indicated, such as those with an eGFR <30 mL/min. For these patients, nitrofurantoin may not reach adequate concentration in the urine.

4. Epidemiology: Science British Columbia (Center for Disease Control). Antimicrobial resistance trends in the Province of British Columbia, August 2008. BC Centre for Disease Control. Available online: www.bccdc.ca/Programs/InfectiousDisease/Health/Reports/2008/08

