

Antimicrobial Stewardship (AMS) Program: Highlight Report - FY 16/17 Quarter 4

Executive Summary

Best Practices

There is ongoing work to develop and revise clinical tools, protocols and order sets. Items completed and actively developed/ revised include:

- Antimicrobial Dosing Guidelines for Adults clinical tool 2016/17 update (projected completion April 2017)
- Empiric Treatment of Common Infections in Adults clinical tool 2016/17 update (projected completion April 2017)
- Revision/regionalization of Sexual Assault Order set (AMS contribution for antimicrobial section completed March 2017)
- Creation/Regionalization of Chronic Obstructive Pulmonary Disorder (COPD) order sets (projected completion June 2017)
- Pharmacist Managed Pharmacokinetic Monitoring and Dosing of Vancomycin and Aminoglycosides clinical practice standard (projected completion June 2017)
- Intravenous to oral antimicrobial conversion order set (pilot project Dawson Creek - implemented March 2017)
- Revision of Outpatient IV Antimicrobial Therapy options; re-instatement of Cefazolin + Probenecid (Probenecid available for use May 1st; order set completion projected June 2017)
- Regional Sepsis protocol revisions/updates (projected completion June 2017)
- Pharmacy Resident Research project - Gap analysis of outpatient IV antimicrobial therapy (OPAT) across NH (project completion May 2017)

Future projects in active initial or planning stages include:

- Education Module and treatment algorithm development for Urinary Tract Infections (including catheter associated and asymptomatic bacteriuria)
- Education Module development for Community Acquired Pneumonia, Aspiration Pneumonia and Hospital Acquired pneumonia in Adults

Antimicrobial Usage Metrics

We have developed a new reporting system for gathering our usage metrics and plan on publishing results in the annual report.

Clinical Service/Audit & Feedback

Variations of Prospective Audit and Feedback (A&F) of targeted antimicrobials continue to occur at UHNBC, GR Baker, Mills Memorial hospital, Prince Rupert Regional Hospital, Bulkley Valley & District Hospital and Wrinch Memorial Hospital. During this quarter, A&F reviews commenced at Fort St. John Hospital and the Omineca Lakes district facilities. GR Baker has graduated to a more independent model for identifying and resolving drug therapy problems related to antimicrobials. Over the quarter approx. 1650 patient cases were reviewed and 534 drug therapy problems were identified with a 61% resolution rate. The top 3 drug therapy problems encountered continue to be: A. Unnecessary Antimicrobial Discontinued, B. Suboptimal or ineffective therapy and C. Converting IV antimicrobial to an oral agent.

Patient case reviews at Kitimat General Hospital are planned to commence September 5th 2017.

Antimicrobial Usage Metrics

Antibiotic utilization, measured in defined daily dose (DDD) per 100 patient-days, is calculated to track the utilization trend over time. The DDD is the assumed average adult maintenance dose per day for a drug used for its main indication. The conversion of drug utilization amount to DDD units is performed to standardize utilization of different classes of antibiotics, allowing comparisons to be made across different facilities or patient groups (excluding pediatric populations). New reports for pulling data have been created and are currently being analyzed for production of these metrics. Reports containing the DDD per 100 patient days will be circulated as an annual AMS program report in May 2017.

Audit and Feedback Service

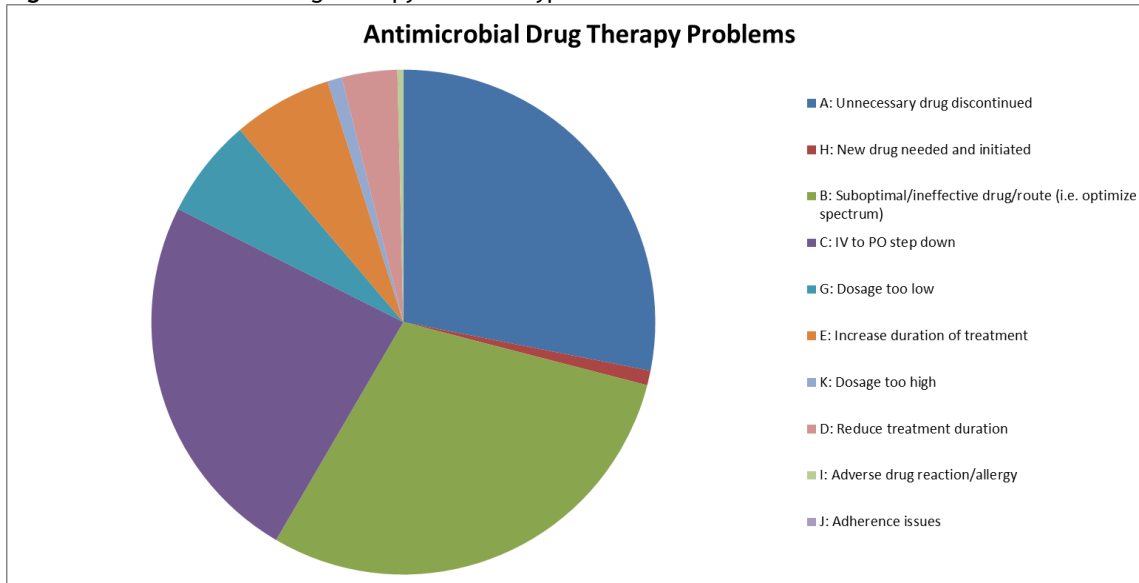
Variations of prospective audit and feedback (A&F) of targeted antimicrobials are currently occurring at UHNBC, GR Baker, Mills Memorial, Bulkley Valley & District, Wrinch Memorial, Prince Rupert Regional, Omenica Lakes District facilities and Fort St. John Hospital. This process involves assessment of patients on antimicrobial therapy evaluated against recommended therapies according to infectious disease resources and guidelines to ensure the optimal use of drug therapy. There are a variety of types of antimicrobial therapy problems; Figure 1 displays various types of drug therapy problems identified.

Analysis of the cases reviewed, drug therapy problems identified and resolved was done collectively for all sites active at any point during quarter 4 (see Table 1).

Table 1 - Audit and Feedback antimicrobial drug therapy problem resolutions; (Dec 2nd - Mar 31st, 2017)

| Measure | Number of Patients |
|---|--------------------|
| Patient Chart Reviewed | 1656 |
| Antimicrobial therapy problems identified | 534 |
| Antimicrobial therapy recommendations resolved | 328 (61%) |
| Unresolved antimicrobial drug therapy problems | 206 |
| Unresolved drug therapy problems due to pharmacist workload demands | 116 (56%) |
| Unresolved drug therapy problems due to patient discharge | 51 (25%) |

Figure 1 - Antimicrobial Drug Therapy Problem Types



For the full quarterly report please visit OurNH under Clinical & Patient Care on the Medications page > [Antimicrobial Stewardship](#). (In order to access OurNH, you must be connected to a Northern Health computer or have remote access. Please contact the AMS program coordinator (Alicia Ridgewell) at 250-565-5956 if you have any difficulty accessing the documents).