

IREDELL HEALTH SYSTEM

Antimicrobial Stewardship	
Approved by: Laura Rollings, PharmD, BCPS, BCGP Randi Raynor, PharmD, MBA, BCPS Dr. Robert Aryeetey, Infectious Disease	Last Revised/Reviewed Date: 09/2020
Antimicrobial Stewardship Committee P&T Committee	Date:09/2020 Date: 10/2020

Policy Summary

This policy sets out the background, the rationale, the core principles and the expectations of staff in relation to antimicrobial prescribing, optimization of antimicrobial usage and reducing the risk of healthcare-associated Infections at Iredell Health System.

Introduction

Antimicrobial drug resistance is an institutional, regional, and global health threat. Antimicrobial resistance increases morbidity and mortality, prolongs hospitalization, and significantly increases healthcare costs. It is well established that inappropriate antimicrobial use drives resistance. The CDC has estimated that up to 50% of antimicrobial use is suboptimal or unnecessary. For no other class of medications does inappropriate use in one patient substantially impact treatment options for another. To make matters worse, clinicians in the US and globally are faced with dwindling treatment options for infectious diseases, as the antimicrobial pipeline is dry.

In its landmark document entitled “Antibiotic Resistance Threats in the U.S., 2013”, the CDC has recognized four core actions to combat resistance: preventing the spread of resistance through infection prevention initiatives, tracking healthcare-associated infections, improving antimicrobial prescribing through antimicrobial stewardship, and developing new antimicrobial agents and diagnostics tests. Of these, CDC Directors have recognized antimicrobial stewardship as the most urgent.

Rationale

This policy is necessary to provide staff with clear guidance on the principles of appropriate usage of antimicrobial agents. It is supported by specific antimicrobial prescribing guidance as well as operationally by Pharmacy and Therapeutics Committee (P&T). The Antimicrobial Stewardship Committee (ASC) is a sub-committee of the Pharmacy and Therapeutics Committee, working alongside the Infection Control Committee (ICC), to oversee the production of guidelines and protocols involving antimicrobial agents, the introduction of new antimicrobial agents and to monitor and assure good practice relating to antimicrobial usage.

While it is recognized that, from the institutional perspective, as many as 30% of inpatients will be receiving an antimicrobial agent at a given point in time, and that antimicrobials form a considerable proportion of hospital pharmacy budgets, it is also recognized that as much as 50% of antimicrobial use may be inappropriate. It is not only the acquisition cost of antimicrobials which plays a major role in healthcare finances, there are several reports linking inappropriate and unnecessary antimicrobial usage to increased selection of resistant pathogens and significant impact on patient morbidity and mortality.

So, as well as impacting on healthcare costs, appropriate antimicrobial usage is a fundamental component of the patient safety agenda. Also, as inappropriate antimicrobial use can lead to increased adverse drug

events (such as medication errors, allergy-related incidents, and drug-drug interactions), improving antimicrobial usage is clearly part of the medication safety agenda as well.

The primary goal of this policy on antimicrobial usage is to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use, such as toxicity, the selection of pathogenic organisms, and the emergence of resistance, with a secondary goal being to reduce health care costs without adversely impacting quality of care.

Scope

- I. Applies to all Clinical Staff at Iredell Health System
 - a. Every person who prescribes, administers, dispenses and verifies prescriptions for antimicrobials should understand the risks posed by inappropriate antimicrobial usage, know the principles and practices of antimicrobial stewardship relating to their own area of work, and ensure that they do not themselves contribute to inappropriate antimicrobial usage.
- II. The roles and responsibilities of key staff groups are defined in section 5 in this document.

Principles

- I. This policy is based on best-practice evidence from the UK and the US and provides guidance to enable the ASC to meet such goals as set forth by the CDC, The Joint Commission, and the Center for Medicare and Medicaid Services.
- II. The primary goal of antimicrobial stewardship is to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use, including toxicity, the selection of pathogenic organisms (such as *Clostridium difficile*), and the emergence of resistance.
 - a. The combination of effective antimicrobial stewardship with a comprehensive infection control program has been shown to limit the emergence and transmission of antimicrobial-resistant bacteria.
 - b. Antimicrobial stewardship includes limiting inappropriate use and also optimizing antimicrobial selection, dosing, route, and duration of therapy to maximize clinical cure or prevention of infection. Given the association between antimicrobial use and the selection of resistant pathogens, rates of inappropriate antimicrobial use are considered as surrogate markers for the avoidable impact on antimicrobial resistance.
- III. All orders for antimicrobial agents should be clinically justified and consider in all cases:
 - a. previous antimicrobial history,
 - b. previous infection or colonization with multi-resistant organisms,
 - c. allergies,
 - d. availability of, and absorption by, the oral route.
- IV. All orders for antimicrobial agents should include information on the indication for usage, documented on the medication chart.
 - a. If there are felt to be confidentiality issues around having this information on the medication chart, then the chart should be annotated that the indication for prescribing is clearly documented in the patient's medical record.
- V. All orders for antimicrobial agents should include information on either the intended total duration, or an intended initial prescribing period documented on the medication chart (see Stop Order Policy).
- VI. All orders for antimicrobial agents should be reviewed on a daily (excluding weekends and holidays) basis by a licensed individual practitioner (LIP) to assess clinical progress, microbiology results, and continued appropriateness of therapy, including choice of agent(s),

- route, dose and frequency (including any necessary adjustments for worsening or improving organ function), and intended duration.
- VII. Prescribers should avoid the widespread use of 3rd, 4th and 5th-generation cephalosporins, clindamycin and fluoroquinolones, except where advised or approved by guidelines or specialist ID/Microbiology clinical advice.
 - VIII. Unnecessary duplicative therapy, including redundant anaerobic combination therapy, should be avoided.
 - IX. Intravenous (IV) therapy should only be used for those patients with severe infections and/or those who are unable to take oral antimicrobials (see IV to PO policy)
 - X. All orders for antimicrobial agents must be discontinued as soon as is reasonable.
 - XI. Antimicrobial agents may be used for prophylaxis of infection, in both medical and surgical contexts.
 - a. As in IV above, the indication for use must be documented on the medication chart.
 - b. Antimicrobial agents used for surgical prophylaxis should only be prescribed as a single dose prior to the surgical incision unless specific guidance (Surgical Care Improvement Project – SCIP) indicates that further post-operative doses may be necessary.
 - XII. Education regarding resistance and optimal prescribing will be provided to LIPs and clinical staff upon hire and periodically thereafter. Ongoing educational opportunities to address local and national antimicrobial prescribing will be sponsored by the ASC and may include Grand Rounds and webinar presentations, distribution of the local antibiogram and prescribing trends, and newsletters.
 - XIII. All guidelines for the use of antimicrobial agents within Iredell Health System must be approved by the ASC prior to introduction into clinical use. The ASC will consider the effect of the proposed antimicrobial agent on incidence of healthcare-associated infection, organism resistance patterns, antimicrobial usage patterns, medication safety concerns, and impact on drug and other resource expenditure. The ASC may recommend to the medical staff the restriction of certain antibiotics (see “Restricted Antibiotic” policy). Order sets for common indications will be developed and revised in conjunction with the Pharmacy and Therapeutics Committee for medical staff review and approval based upon current evidence-based guidelines and the local antibiogram.
 - XIV. The supporting procedures, protocols and guidance to this policy are based on current knowledge and evidence in management of infection(s).

Roles & responsibilities of key staff groups

- I. All individual staff and staff groups will comply with the core principles of antimicrobial usage as listed above in the Principles section above.
- II. Antimicrobial Utilization Committee:
 - a. Members include hospital leadership, medical specialty, Infection Prevention, Microbiology, Quality programs, Nursing, Clinical Informatics and Pharmacy
 - b. Is to meet on a monthly basis. The membership of the committee reflects the expertise required to manage antimicrobial usage at Iredell Health System.
 - c. Establish a system for monitoring antimicrobial utilization and resistance, in concert with Duke Antimicrobial Stewardship Outreach Network (DASON)
 - d. Establish guidelines and institutional policies regarding antimicrobial selection based on the data acquired from the monitoring process
 - e. Evaluate and adopt, as appropriate, evidence-based guidelines from advisory boards or national societies regarding antimicrobial selection
 - f. Oversee and approve the findings and activities of the IMH Antimicrobial Stewardship Program (ASP)

- g. Measure outcomes and evaluate the effectiveness of guidelines, policies and procedures that are established
 - h. Periodically evaluate the IMH antimicrobial formulary and recommend additions, deletions or revisions when appropriate
 - i. Periodically report antimicrobial use data to hospital administration, Infection Control Committee, and Quality Coordinating Council.
- III. Staff involved in administering and dispensing antimicrobial therapy:
- a. Are to refer any orders for antimicrobials that are outside Iredell Health System guidelines or are not annotated with appropriate documentation (see principles section IV and V above) to a pharmacy member of the ASC
 - b. Are to follow other IMH policies with relevance to antimicrobial usage
- IV. Clinical pharmacy staff
- a. Are to review medication charts of patients on select antimicrobials on a daily (except weekends and holidays) basis to check compliance with antimicrobial guidelines, including optimal dosing, review of culture and sensitivity reports, and avoidance of duplicative therapy.
 - b. Are to discuss with prescribers any orders for antimicrobials that are outside IMH guidelines or are not annotated with appropriate documentation (see principles sections IV and V above)
 - c. Are to follow other Iredell Health System policies with relevance to antimicrobial usage, including renal dosing, IV to PO conversion, Antimicrobial Time Out, automatic stop dates, and PK dosing for vancomycin and aminoglycosides. (See policies.)
 - d. Are to consult an Infectious Diseases Specialist for complex cases.

Monitoring and assurance of this Policy

- I. The ASC is responsible for monitoring IMH compliance with this Policy
- II. Significant deviations from prior performance will be discussed with the Pharmacy and Therapeutics Committee and action plans to address deviations will be developed, reviewed and monitored by the ASC.

INITIAL EFFECTIVE DATE: 2014

DATES REVISIONS EFFECTIVE: 12/2017, 12/2020

DATES REVIEWED (no changes):

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5. ASHP Statement on the Pharmacist's Role in Antimicrobial Stewardship and Infection Prevention and Control. Medication Therapy and Patient Care: Specific Practice Areas-Statements. *American Journal Health System Pharmacy*, Volume 67, 2010, p575-577.
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Note: This requirement applies to, but is not limited to, epidemiologically important organisms such as methicillin-resistant staphylococcus aureus (MRSA), clostridium difficile (CDI), vancomycin-resistant enterococci (VRE), and multidrug-resistant gram-negative bacteria. The Joint Commission E-dition 3.5.0.0. Last Accessed April 16th, 2011
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