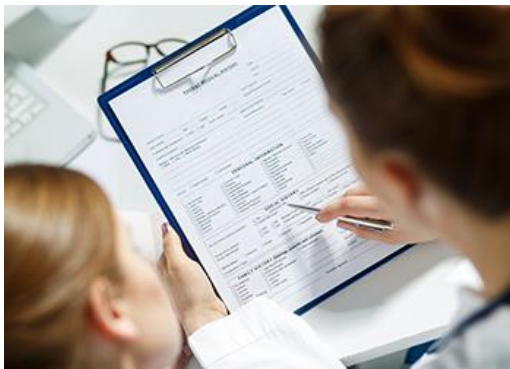


Antimicrobial Stewardship Strategy:

Improved antimicrobial documentation

Adequate documentation of important aspects of antimicrobial prescribing to facilitate communication and decision-making within the health care team.



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Priority Level: **B**

Difficulty Level: **2**

Program Stage:

- Early
- ✓ Intermediate
- Advanced

For more information on these criteria and how they were developed, please see the

[Antimicrobial Stewardship Strategy Criteria Reference Guide](#).

Description

This is an overview and not intended to be an all-inclusive summary. As a general principle, patients must be monitored by the health care team after changes to therapy resulting from recommendations made by the antimicrobial stewardship team.

Adequate documentation of pertinent information related to the prescribing of antimicrobials is an important but often overlooked component of antimicrobial stewardship and should be a priority.

Adequate documentation should communicate the rationale (indication) for initiation of therapy, the intended duration of therapy, culture results and reasons for treatment modification. Sufficient details in the patient's medical record facilitate informed assessment/reassessment of therapy; support seamless transfer of care between medical teams; enable institutional antimicrobial audits; and promote accountability.

Approaches for promoting or encouraging adequate documentation include introducing a policy and undertaking educational efforts. Chart stickers, specific antimicrobial charting forms, and a place of prominence in the chart or medication administration record for recording details of antimicrobial therapy are all ways of improving antimicrobial documentation.

Antimicrobial documentation can also be facilitated by using computerized physician order entry systems; by requiring physicians to document certain information before finalizing an order; and/or by specifying a rationale for opting out of a protocol (e.g., ordering antimicrobials for a longer duration than recommended).

Promoting the documentation of indication, intended duration and re-evaluation can sensitize practitioners to these important aspects of judicious antimicrobial use.

The “bundle” concept (grouping evidence-based practices that have a greater clinical impact when performed as a unit) has been applied to antimicrobial documentation to ensure that key processes of antimicrobial prescribing have been considered.¹

Advantages

- Encourages prescribing best practice.
- Documentation as a stewardship strategy is supported by the Centers for Disease Control, which recommends policy development to promote antimicrobial documentation (e.g., indication, duration) and encourage timely reassessment and discontinuation.
- Documenting the indication for an antimicrobial is one of two national prescribing indicators monitored by the Scottish Antimicrobial Prescribing Group; it is felt to have a positive impact on appropriate antimicrobial prescribing.

Disadvantages

- Difficult to enforce.
- Minimal data to indicate that improvements in documentation have resulted in improved use of antimicrobials and/or patient outcomes.

Requirements

- Resources (personnel, reminders such as posters) for education and promotion of the strategy.

Associated Metrics

- Audits to review the adequacy of documentation.

References

1. Cooke FJ, Holmes AH. The missing care bundle: antibiotic prescribing in hospitals. *Int J Antimicrob Agents*. 2007;30:25–9.

Additional Useful References

Select articles to provide supplemental information and insight into the strategy described and/or examples of how the strategy was applied; not a comprehensive reference list. URLs are provided when materials are freely available on the Internet.

- Centers for Disease Control. Core elements of hospital antibiotic stewardship programs. Atlanta, GA: US Department of Health and Human Services, CDC; 2014. Available from: <http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html>
- Institute for Healthcare Improvement. Antibiotic stewardship driver diagram and change package [Internet]. Cambridge, MA: IHI; July 2012 [cited 2015 Oct 16]. Available from: http://www.cdc.gov/getsmart/healthcare/pdfs/Antibiotic_Stewardship_Change_Package_10_30_12.pdf
- Malcolm W, Nathwani D, Davey P, Cromwell T, Patton A, Reilly J, et al. From intermittent antibiotic point prevalence surveys to quality improvement: experience in Scottish hospitals. *Antimicrob Resist Infect Control*. 2013;2(1):3. Available from: <http://www.aricjournal.com/content/2/1/3>

Tools and Resources

- Srinivasan A. CDC expert commentary. Three steps to antibiotic stewardship [video recording]. New York, NY: Medscape; Nov 15, 2010. Online video: 4 min 56 sec. Available from: <http://www.medscape.com/viewarticle/731784>

Centers for Disease Control video emphasizes need for adequate documentation.

- DeVreese L, Zvonar R, Garber G. [Assessing the adequacy of documentation in patients receiving antibiotic therapy](#). Abstract 743. Poster presented at: ID Week 2012. 2012 Oct 17–21; San Diego, CA.

An example of an audit of antimicrobial documentation in the patient's chart.

Samples/Examples

- [Example 1: The Ottawa Hospital - Audit Form to Assess the Adequacy of Antimicrobial Documentation in Medical Charts](#)
- [Example 2: St. Joseph's Healthcare Hamilton - Antimicrobial Order Form](#)

These documents have been generously shared by various health care institutions to help others develop and build their antimicrobial stewardship programs. We recommend crediting an institution when adopting a specific tool/form/pathway in its original form.

Examples that contain clinical or therapeutic recommendations may not necessarily be consistent with published guidelines, or be appropriate or directly applicable to other institutions. All examples should be considered in the context of the institution's population, setting and local antibiogram.

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Links with Other Strategies

- [Clinical decision support systems/computerized physician order entry](#)
- [Prescriber education](#)
- [Scheduled antimicrobial reassessments \("antibiotic time outs"\)](#)

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For further information

[Antimicrobial Stewardship Program](#), Infection Prevention and Control, Public Health Ontario.

Email: asp@oahpp.ca

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Example 1: The Ottawa Hospital - Audit Form to Assess the Adequacy of Antimicrobial Documentation in Medical Charts



Antimicrobial Documentation Audit Form

Patient Demographics:	
Study #:	
Service:	Age:
Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	
Date of Admission: ____/____/____	
Drug Allergies:	
Infection Details	
Antibiotic Indication: _____ <input type="checkbox"/> Stated within 1 DAY of initiating therapy <input type="checkbox"/> Stated within 3 DAYS of initiating therapy <input type="checkbox"/> Not Stated <input type="checkbox"/> Not Stated but described signs and symptoms of infxn <input type="checkbox"/> increased WBC count <input type="checkbox"/> Fever <input type="checkbox"/> localized signs: redness, warmth, swelling, sputum, discharge <input type="checkbox"/> Abnormal Chest X-ray <input type="checkbox"/> Other _____	Site of Infection: _____ <input type="checkbox"/> unknown Drainage/Surgical Intervention needed? _____ <input type="checkbox"/> Yes <input type="checkbox"/> No List Procedure: _____ INVOLVEMENT OF INFECTIOUS DISEASE SERVICE: <input type="checkbox"/> Yes <input type="checkbox"/> No Day # _____
Antibiotic Details	
Name, dose, route, frequency	Actual Duration
Antibiotic Plan/Duration of Therapy	
Is there an antibiotic plan for duration of therapy documented before: <input type="checkbox"/> Discontinuation of therapy <input type="checkbox"/> Discharge from hospital Plan documented within 3 days of starting therapy: <input type="checkbox"/> YES <input type="checkbox"/> NO	
Reassessment of Antibiotic Therapy (based on new clinical data)	
Is patient a candidate for de-escalation/streamlining antibiotic therapy? <input type="checkbox"/> YES <input type="checkbox"/> NO Was antimicrobial therapy modified after final report from microbiology? <input type="checkbox"/> YES <input type="checkbox"/> NO Whether yes or no, was there a reason documented? 	

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Example 1: The Ottawa Hospital - Audit Form to Assess the Adequacy of Antimicrobial Documentation in Medical Charts (continued)

Microbiology	
Date: _____ Cultures sent:	
<input type="checkbox"/> blood <input type="checkbox"/> urine <input type="checkbox"/> sputum <input type="checkbox"/> other _____	
Significant microbiological results:	Changes made by: <input type="checkbox"/> pharmacy <input type="checkbox"/> ID <input type="checkbox"/> admitting service
Recorded in Chart? <input type="checkbox"/> YES <input type="checkbox"/> NO Were changes made according to microbiology results? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, Day # _____ after final C&S results available	
Step-down (IV to po switch)	
Step-down Oral route compromised? ↓ swallow, ↓ absorption Vomiting, unconscious, NPO, deteriorating clinically	If not compromised, was possibility of IV → po switch documented in chart when possible? Was IV→PO completed? <input type="checkbox"/> Yes <input type="checkbox"/> No
Description of Pharmacy Involvement	
Did pharmacist document? <input type="checkbox"/> Indication <input type="checkbox"/> Plan for Duration of Therapy <input type="checkbox"/> Comment on streamlining/de-escalation of therapy <input type="checkbox"/> Comment on IV to PO Step-down?	

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Example 2: St. Joseph's Healthcare Hamilton - Antimicrobial Order Form



PATIENT INFORMATION

Allergies: _____	
Antimicrobial Oral / Parenteral Order Set	
Orders Transcribed Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm) PRINT NAME _____ Signature/Discipline _____	<p style="color: blue;">***Use the Restricted Antibiotic Order Set for the following: amikacin, colistin, daptomycin, ertapenem, linezolid, meropenem***</p> <p>Consults</p> <p><input type="checkbox"/> penicillin allergy test: MD to contact Dr.</p> <p>Antimicrobial(s)</p> <p style="color: blue;">***Two agents for the same indication can be written on one form***</p> <p>Drug #1 Name: _____ Dose: _____ Route: _____ Frequency: _____ Duration: <input type="checkbox"/> 3 days <input type="checkbox"/> 7 days <input type="checkbox"/> 14 days <input type="checkbox"/> Other, specify: _____</p> <p>Drug #2 Name: _____ Dose: _____ Route: _____ Frequency: _____ Duration: <input type="checkbox"/> 3 days <input type="checkbox"/> 7 days <input type="checkbox"/> 14 days <input type="checkbox"/> Other, specify: _____</p> <p>Antimicrobial(s) to Discontinue</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____</p> <p>Clinical Indication</p> <p>Treatment (select most applicable)</p> <p><input type="checkbox"/> Bloodstream Infection <input type="checkbox"/> Catheter-related <input type="checkbox"/> Endocarditis <input type="checkbox"/> Other source: _____</p> <p><input type="checkbox"/> Bone Infection</p> <p><input type="checkbox"/> Central Nervous System (CNS) Infection</p> <p><input type="checkbox"/> C. difficile Infection (refer to Clostridium difficile Infection (CDI) Order Set)</p> <p><input type="checkbox"/> Gynaecologic / Obstetric</p> <p><input type="checkbox"/> Intra-abdominal Infection</p> <p><input type="checkbox"/> Joint Infection <input type="checkbox"/> Native joint <input type="checkbox"/> Prosthetic related</p> <p><input type="checkbox"/> Respiratory Tract Infection</p> <p><input type="checkbox"/> Community Acquired Pneumonia (CAP) <input type="checkbox"/> Bronchitis <input type="checkbox"/> Pharyngitis</p> <p><input type="checkbox"/> Hospital Acquired Pneumonia (HAP) <input type="checkbox"/> Empyema <input type="checkbox"/> Viral</p> <p><input type="checkbox"/> Ventilator Associated Pneumonia (VAP) <input type="checkbox"/> Fungal</p>
Orders Scanned Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm) PRINT NAME _____ Signature/Discipline _____	<p>Transcription Checked By</p> <p>Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm) PRINT NAME _____ Signature/Discipline _____</p>
Order Written	Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm)
Ordered By:	<input type="checkbox"/> Check if counter signature required
Print Name _____	Signature _____
Counter Signature Print Name _____	Pager # _____ Counter Signature/Discipline _____

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PatientOrderSets

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Example 2: St. Joseph's Healthcare Hamilton - Antimicrobial Order Form (continued)



PATIENT INFORMATION

Allergies: _____	
Antimicrobial Oral / Parenteral Order Set	
Orders Transcribed Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm) PRINT NAME _____ Signature/Discipline _____	Clinical Indication Continued... Treatment (select most applicable) Continued... <input type="checkbox"/> Skin and Soft Tissue Infection <input type="checkbox"/> Cellulitis <input type="checkbox"/> Diabetic foot infection <input type="checkbox"/> Infected ulcer <input type="checkbox"/> Necrotizing fasciitis <input type="checkbox"/> Surgical site infection <input type="checkbox"/> Urinary Tract Infection <input type="checkbox"/> Cystitis <input type="checkbox"/> Pyelonephritis <input type="checkbox"/> Other, specify: _____ Prophylaxis <input type="checkbox"/> Pre-operative prophylaxis <input type="checkbox"/> Post-operative prophylaxis <input type="checkbox"/> Gynae /OBS – Group B Streptococcus (GBS) <input type="checkbox"/> Other, specify: _____
Orders Scanned Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm) PRINT NAME _____ Signature/Discipline _____	Microbiology Results <input type="checkbox"/> Cultures pending <input type="checkbox"/> Previous pending cultures reviewed Patient Education Discuss potential for development of <i>C. difficile</i> Infection (CDI) with patient and provide a copy of the Antibiotic-Associated Diarrhea fact sheet (PD 7496)
Transcription Checked By Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm) PRINT NAME _____ Signature/Discipline _____	
Order Written	Date: _____ (yyyy/mm/dd) Time: _____ (hh:mm)
Ordered By:	<input type="checkbox"/> Check if counter signature required
Print Name _____ Signature _____	Counter Signature Print Name _____ Pager # _____ Counter Signature/Discipline _____

2015/04/V1



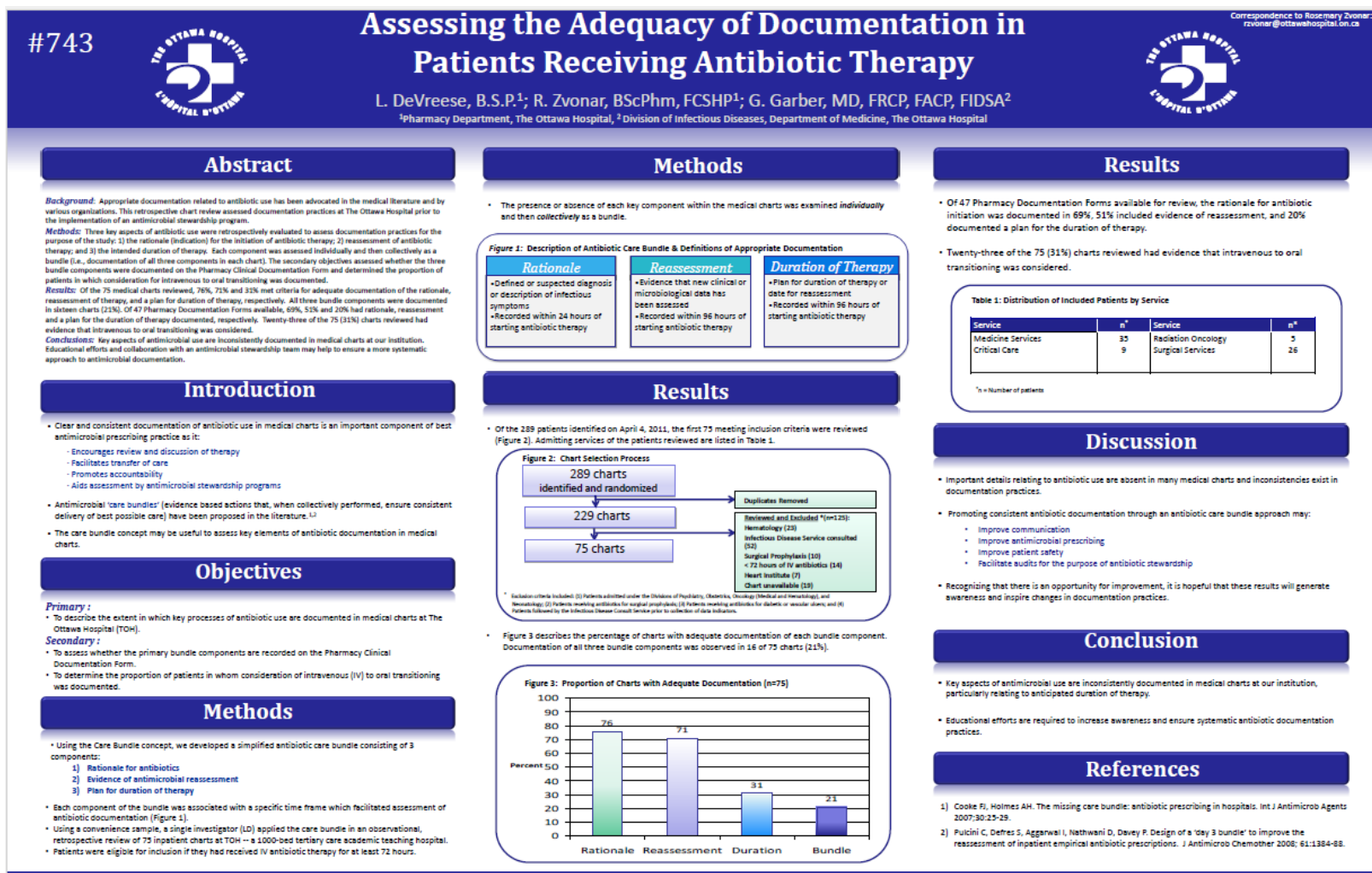
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PatientOrderSets

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Poster: Assessing the Adequacy of Documentation in Patients Receiving Antibiotic Therapy



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