The Pharmacist's Role in Antibiotic De-escalation: A Survey of Canadian Hospitals

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Background

- Antibiotic resistance is caused by misuse and overconsu antibiotics and is a major public heath threat
- Antimicrobial Stewardship (AMS) interventions, such as a escalation, decreases broad-spectrum antibiotic exposure cost effective
- Antibiotic de-escalation may also result in lower rates of a effects and antibiotic resistance
- The roles and responsibilities of AMS pharmacists in perf escalation activities are not well understood

Objectives

Primary

To determine AMS pharmacist's roles and responsibilities escalate antibiotic therapy

Secondary

- To determine types of activities performed, which patient are targeted with intervention(s), and how success is mea
- To determine potential barriers or enablers to antibiotic de

Methods

Design:

Prospective observational internet-based survey

Setting:

Hospitals across Canada over a six week period (January February 24 2020)

Inclusion Criteria:

- AMS pharmacists affiliated with any Canadian hospital **Data Collection:**
- 31-item online questionnaire (Qualtrics)

Data Analysis:

Data exported into Excel and analyzed using descriptive

Definitions

Antibiotic de-escalation refers to any of the following:

- Changing antibiotics from broad to narrow spectrum
- Decreasing the number of antibiotics used (e.g. changing 2 antibiotics to 1)
- Shortening duration of antibiotics or therapy cessation





	Participant Flow	
umption of antibiotic de- e, is safe and adverse forming de-	118 Invited to Participate 77 Non- responders • 117 Eligible to Participate • 40 Responses • Statistical Completed Response Rate: 33% (3)	<section-header><text><text></text></text></section-header>
	Table 1. Participant Characteristics	
	Characteristic	n (%)
s to de-	Hospital Pharmacy Experience <5 5-10 >10	2 (5) 13 (33) 24 (62)
populations asured e-escalation	Highest Level of Pharmacy Education Entry to Practice Degree Residency Post-graduate PharmD	17 (44) 9 (23) 13 (33)
	Formal ID or AMS Training Yes No	20 (51) 19 (49)
y 13 to	Number of Hospitals Services Provided to 1 2 3 ≥ 4	21 (54) 6 (15) 3 (8) 9 (23)
statistics	Number of Beds Services Provided to <100 100-499 500-1000 >1000	3 (8) 23 (59) 11 (28) 2 (5)
	Teaching Hospital Yes No	27 (69) 12 (31)
	Potential Barriers and Enablers to De-e	escalation
, therapy from	 Barriers: Lack of knowledge and skills related to antibiotic optimization Lack of timely access to complete culture and sensitivity (C&S) results Enablers: Belief that benefits of antibiotic de-escalation outweigh risks Support from health care team to recommend de-escalation Involving patient and/or caregivers in decision to de-escalate antibiotic therapy 	

Figure 1: Barriers and Enablers to De-escalation

Participant knowledge and skills Physicians knowledge and skills Pharmacists knowledge and skills Nurses knowledge and skills Timely access to C&S results Participant belief benefits outweigh risks Physicians belief benefits outweigh risks Pharmacists belief benefits outweigh risks Nurses belief benefits outweigh risks Support from the health care team Involving patient and/or caregivers

Figure 2: De-escalation Program Summary

9 (23) 13 (33)		Resources to Sup
20 (51) 19 (49)	Audit and feedback Order sets Education Antibiotic restriction	
21 (54) 6 (15) 3 (8) 9 (23)	Written materials Electronic resources Antibiotic preauthorization	17.59 Patients Targeteo
3 (8) 23 (59) 11 (28) 2 (5)	Medical Surgical Critical care Pediatrics Long-term care	15.0%
27 (69) 12 (31)	Consumption or costs Drug use evaluations Clinical outcomes Resolution of DTPs	Methods of Meas
De-escalation	Conclusions	
antibiotic ure and sensitivity	 Resources typicall feedback, order se The majority targe 	y used to supp ets, education a ted for de-esca

patients

- C&S results do not appear to be barriers





port de-escalation include audit and and antibiotic restriction alation are medical, surgical and critical care

The most common method of measuring success is consumption or costs Pharmacist and physician lack of knowledge and skills or timely access to

Majority of participants believe that benefits of de-escalation outweigh risks, and their perspective of physicians beliefs are less clear