The Pharmacist's Role in Beta-Lactam Antibiotic Allergy Delabeling: A Survey of Canadian Hospitals

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Background

- Penicillin allergy is reported in 10% of the population, however, ~90% of these people have negative skin tests and could receive penicillin antibiotics
- Patients reporting beta-lactam antibiotic allergies are frequently prescribed alternative antibiotics with broader spectrums, decreased efficacy, increased adverse events and/or increased cost
- Antibiotic allergy delabeling is the process of removing an allergy label from a patient's medical record(s)
- Delabeling beta-lactam antibiotic allergies requires investigating the reaction by conducting patient interviews, oral drug challenges and/or skin testing

Objectives

Primary

- To describe the roles and responsibilities of antimicrobial stewardship (AMS) pharmacists in delabeling patients who report a beta-lactam antibiotic allergy

Secondary

- To determine the types of delabeling activities performed by Canadian AMS pharmacists and the patient populations targeted for these interventions
- To communicate the results and their significance to pharmacist colleagues and stakeholders on the AMS team

Methods

Design

- Anonymous internet-based survey

Survey Dates

- January 31, 2022 – February 25, 2022

Setting

- Canadian hospitals

Inclusion

- AMS pharmacists currently working in, or associated with a Canadian hospital of any size

Exclusion

- AMS pharmacists who are unable to complete the survey in English or provide consent
- Infectious disease (ID) pharmacists

Results

Response Rate

23 / 36 (64%)

Table 1: Participant/Program Characteristics (N=23)

Characteristic	n (%)
AMS Program with Delabeling Initiatives	7 (30)
Hospital Pharmacy Experience	
• <5 years	5 (22)
• 5 – 10 years	5 (22)
• >10 years	13 (57)
AMS Experience	
• <5 years	11 (48)
• 5 – 10 years	10 (43)
• >10 years	2 (9)
Highest Level of Pharmacy Education	
• Entry-to-Practice Degree	5 (22)
• Accredited Pharmacy Residency	14 (61)
• Post-Graduate PharmD	4 (17)
AMS Training	
• AMS or ID residency or fellowship	4 (17)
• Training modules	18 (78)
• Certificate program	10 (43)
• Informal education sessions/on-the-job training	18 (78)
• Master's with a course on AMS and microbiology	1 (4)
• No training	0
AMS Services Provided for	
• 1 hospital	12 (52)
• 2 hospitals	4 (17)
• 3 hospitals	2 (9)
• ≥4 hospitals	5 (22)
AMS Services Provided to	
• <100 beds	0
• 100 – 300 beds	6 (26)
• 301 – 500 beds	7 (30)
• >500 beds	10 (43)
Teaching Hospital	15 (65)
Pharmacist Full-Time Equivalent (FTE) Allocated to AMS Duties	
• <0.5	4 (17)
• 0.5 – 0.9	8 (35)
• 1	11 (48)
Total FTE of all Pharmacists Working on AMS Service	
• <1	4 (17)
• 1 – 2	11 (48)
• 2.1 – 3	4 (17)
• >3	4 (17)
Other AMS Program Members	
• ID physician	20 (87)
• Non-ID physician	5 (22)
• ID or AMS fellow	5 (22)
• Nurse or nurse practitioner	3 (13)
• Medical student or resident	3 (13)
• Microbiologist	9 (39)
• Epidemiologist	1 (4)
• Data analyst	1 (4)
• No formal team	1 (4)

Figure 1: Characteristics of AMS Delabeling Programs (n=7)

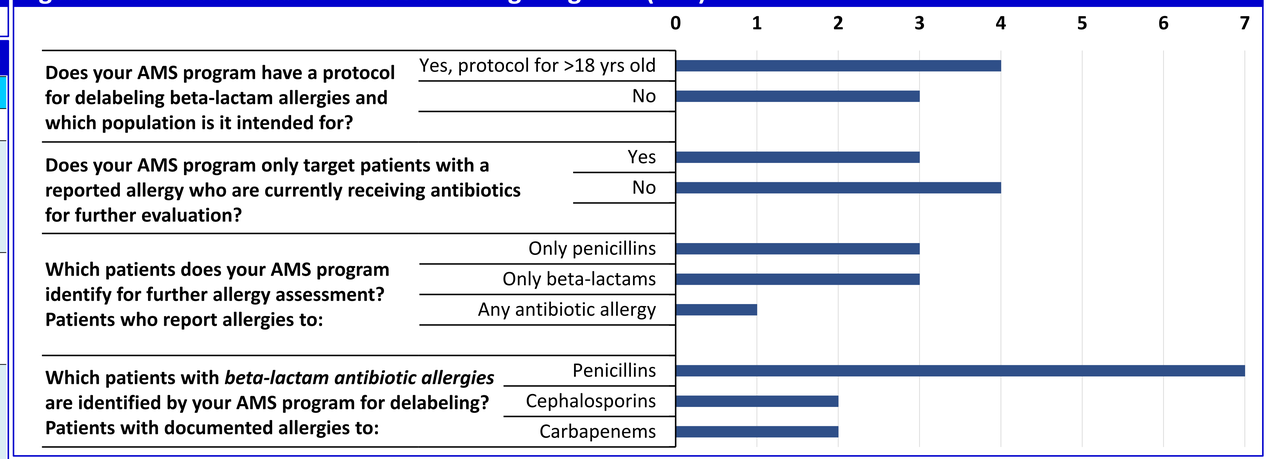
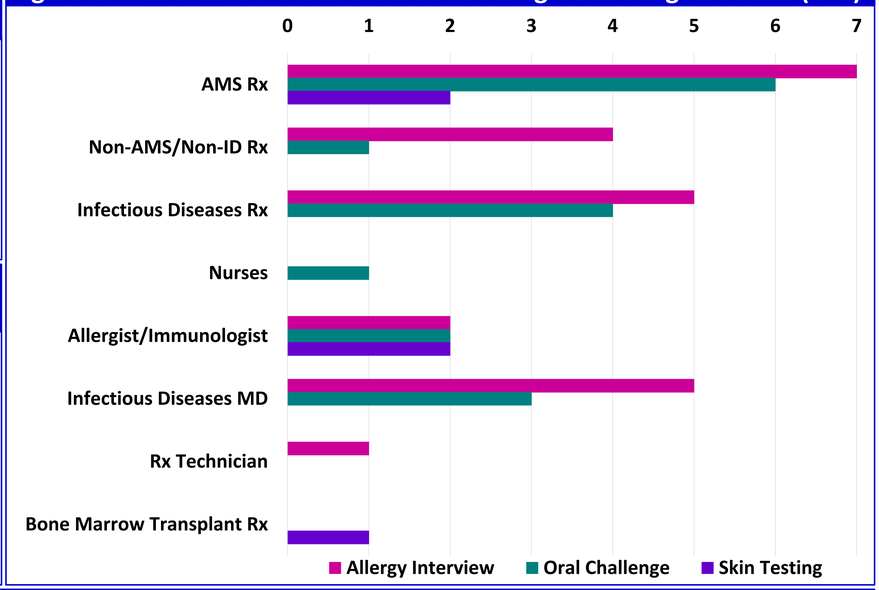


Figure 2: Beta-Lactam Delabeling Strategies (n=7)

Table 2: AMS Rx Allergy Interview Statistics (n=7)

#	0-2	3-5	>6
Allergy Histories Completed per Week	4	3	0
Minutes	**<5**	**5-15**	**>15**
Time Spent Conducting Allergy History	0	3	4
%	**25-50**	**51-75**	**>75**
Interviews that Confirm or Exclude Allergy	5	1	1

Figure 3: Healthcare Professionals Conducting Delabeling Activities (n=7)



Limitations

- Number of pharmacists to whom the survey was distributed (n=36) may be inaccurate as the survey may have been forwarded to AMS pharmacist colleagues
- Interpretation of what is considered a delabeling activity (i.e. allergy interview) may have led to a low response rate from participants who stated their programs are not involved in delabeling
- Small number of AMS programs with delabeling initiatives (n=7)

Conclusions

- 70% of AMS programs do not formally target patients with antibiotic allergies for delabeling
- In the AMS programs targeting delabeling, patients with penicillin allergies are targeted by all programs
- In addition to delabeling penicillin allergies, some programs also assess patients with cephalosporin and carbapenem allergies for delabeling
- In the AMS programs that perform delabeling, all AMS pharmacists conduct allergy interviews, 86% conduct oral drug challenges and 29% conduct skin testing
- AMS pharmacists complete less than 6 allergy interviews per week, taking at least 5 minutes per interview

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