

Pharmacist Actual and Perceived Priority Interventions in the Emergency Department: An Observational Study and Survey Questionnaire

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Background

- Emergency Department (ED) pharmacists are a finite resource and activities with higher value should be prioritized
- To inform best-practice and guide prioritization of interventions, baseline practice behaviour and perceptions should be established
- High-quality data has shown that pharmacist resolved drug therapy problems (DTPs) improve clinical and health-economic outcomes

Definitions

- Pharmacist Intervention (PI):** Resolved DTP
- Priority Disease PI (PD-PI):** Interventions for prevalent and impactful conditions. PD derived from the BC Ministry of Health's list of Complex Chronic Conditions and Interior Health's top non-surgical Case Mix Groups
- Quality indicator PI (QI-PI):** Interventions for priority diseases with a high-level of evidence for improved outcomes

Objectives

Primary

- To describe the number of interventions completed by ED pharmacists at Interior Health (IH)

Secondary

- To describe the number of interventions completed by ED pharmacists at IH that were PD-PI and QI-PI
- To identify ED pharmacist perceptions of their practice behaviour

Methods

Design

- Retrospective, observational study with an internet-based survey

PI Tracking

- All PI data captured from 3 IH EDs with dedicated clinical pharmacist coverage (Nov. 1, 2015 to Oct. 31, 2016)

National Electronic Survey

- Inclusion Criteria:** At least 50% of time over the past year providing direct patient care in the ED
- Participant Recruitment:** Via a national Canadian network of Emergency Medicine Pharmacists (Jan. 9 to Feb. 6, 2017)
- Question Types:** Multiple choice, 7-point Likert scale (positive response being "strongly agree" or "agree"), free text

Data Analysis

- Data exported into Excel and analyzed using descriptive statistics, themes from free text responses reported

Methods

Primary Outcome

- The number of PIs completed by ED pharmacists at IH over a 12 month period

Secondary Outcomes

- The number and proportion of PIs completed by ED pharmacists at IH over a 12 month period that were PD-PI and QI-PI
- The perceptions of ED pharmacists related to which patients they feel they should be providing prioritized care to and which interventions they should be providing

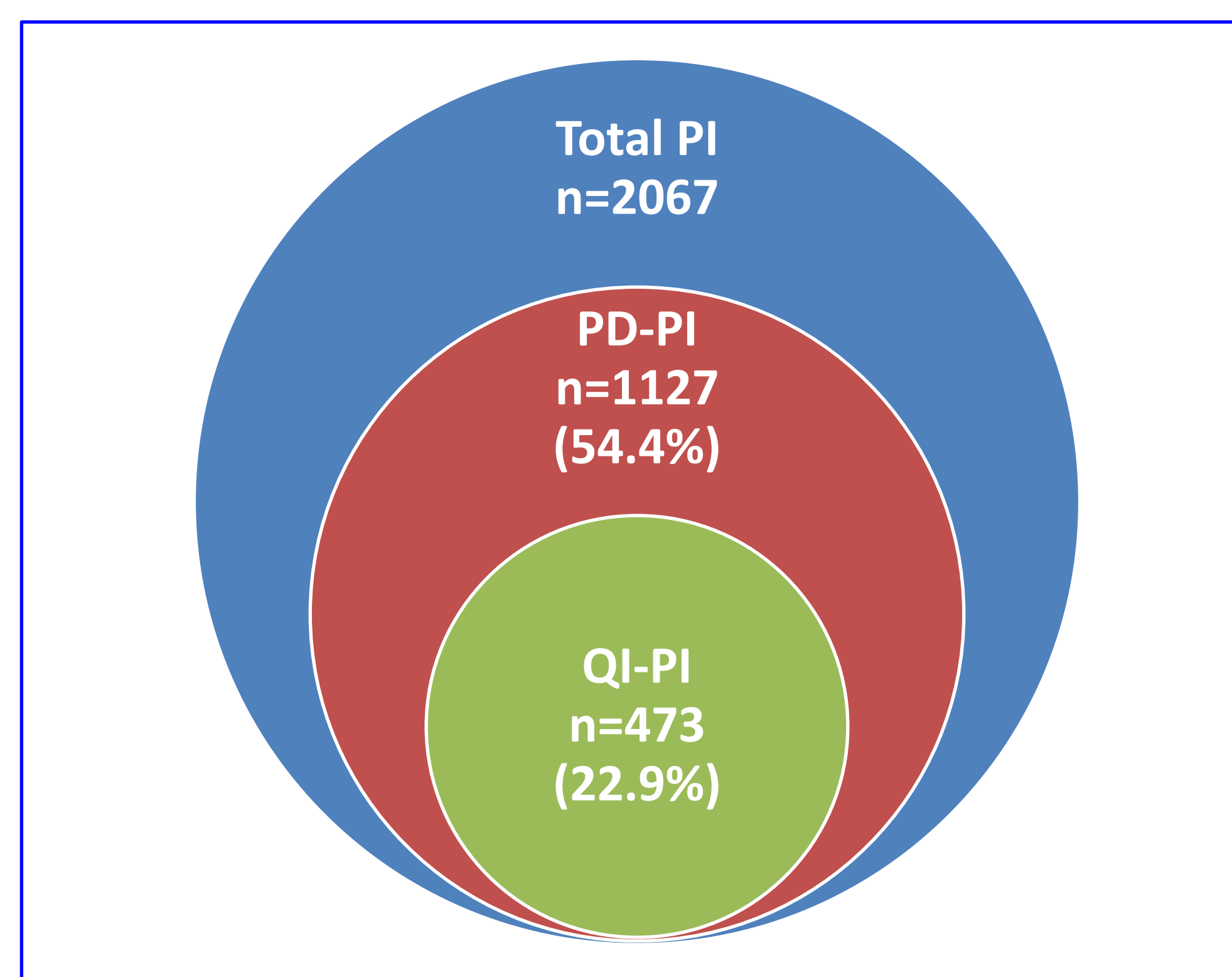


Figure 1: Proportion PD-PI and QI-PI

Table 1: Top 10 Disease States by PI

Disease State	Number of PI (%)
COPD	149 (7.2%)
Pain	143 (6.9%)
Skin and Soft Tissue Infection*	119 (5.8%)
UTI	108 (5.2%)
Hypertension	96 (4.6%)
Community Acquired Pneumonia	82 (4.0%)
Sepsis	78 (3.8%)
Atrial Fibrillation	78 (3.8%)
Fluid/Electrolyte Disorder*	61 (3.0%)
GERD	59 (2.9%)

* Not previously defined as a Priority Disease state

Discussion

- ED pharmacists intervened on many medical conditions defined as priority diseases, but not all
- There may be gaps in current definitions of priority diseases when applied to ED practice
- Factors that may influence prioritization of patients in ED practice setting include acuity, potential for poor outcomes, and high-alert medications
- Themes from survey support notion that ED is a unique practice area, where PD-PI, QI-PI, and cpKPI may not align perfectly with those previously defined in a general medicine population

Limitations

- PI tracking self-reported and from only one Canadian Health Authority
- Low number of survey responses and survey was not administered bilingually
- Majority of survey respondents had less than 2 years of ED practice experience

Table 2: Survey Demographics

Total number of responses = 19		Number (%)
Province	British Columbia	6 (31.6%)
	Alberta	5 (26.3%)
	Ontario	3 (15.8%)
	Others	5 (26.3%)
Postgraduate Education	ACPR	14 (73.7%)
	PharmD	5 (26.3%)
	Other	3 (15.8%)
ED Pharmacy Experience	0-2 years	11 (57.9%)
	3-5 years	6 (31.6%)
	6-10 years	2 (10.5%)
	>10 years	0
Hospital Size	≥350 beds	11 (57.9%)
	150-349 beds	4 (21.1%)
	50-149 beds	3 (15.8%)
	0-49 beds	1 (5.3%)

Table 3: ED Specific Candidate PD Identified in Survey

Disease State	Number (%)
Sepsis/Acute Infections	12 (63.2%)
ACLS/Trauma	6 (31.6%)
Overdose/Toxicology	6 (31.6%)
DVT/PE	5 (26.3%)
Allergic Reactions/Anaphylaxis	3 (15.8%)
Falls Secondary to ADRs	2 (10.5%)
Electrolyte Abnormalities	2 (10.5%)
Addictions/Substance Abuse	2 (10.5%)
Neurologic Emergencies	1 (5.3%)

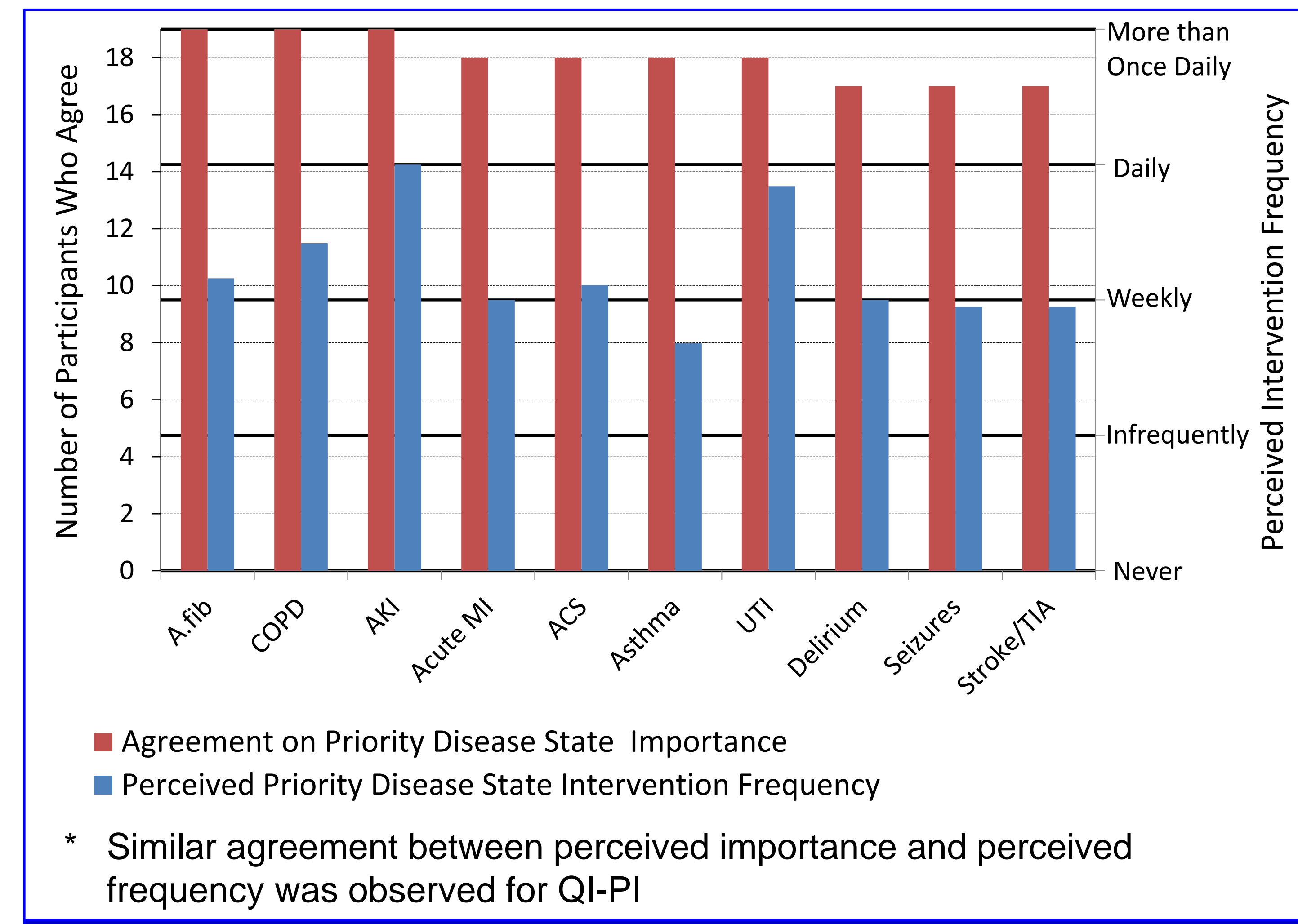


Figure 3: ED Pharmacist Perceptions of PD-PI*

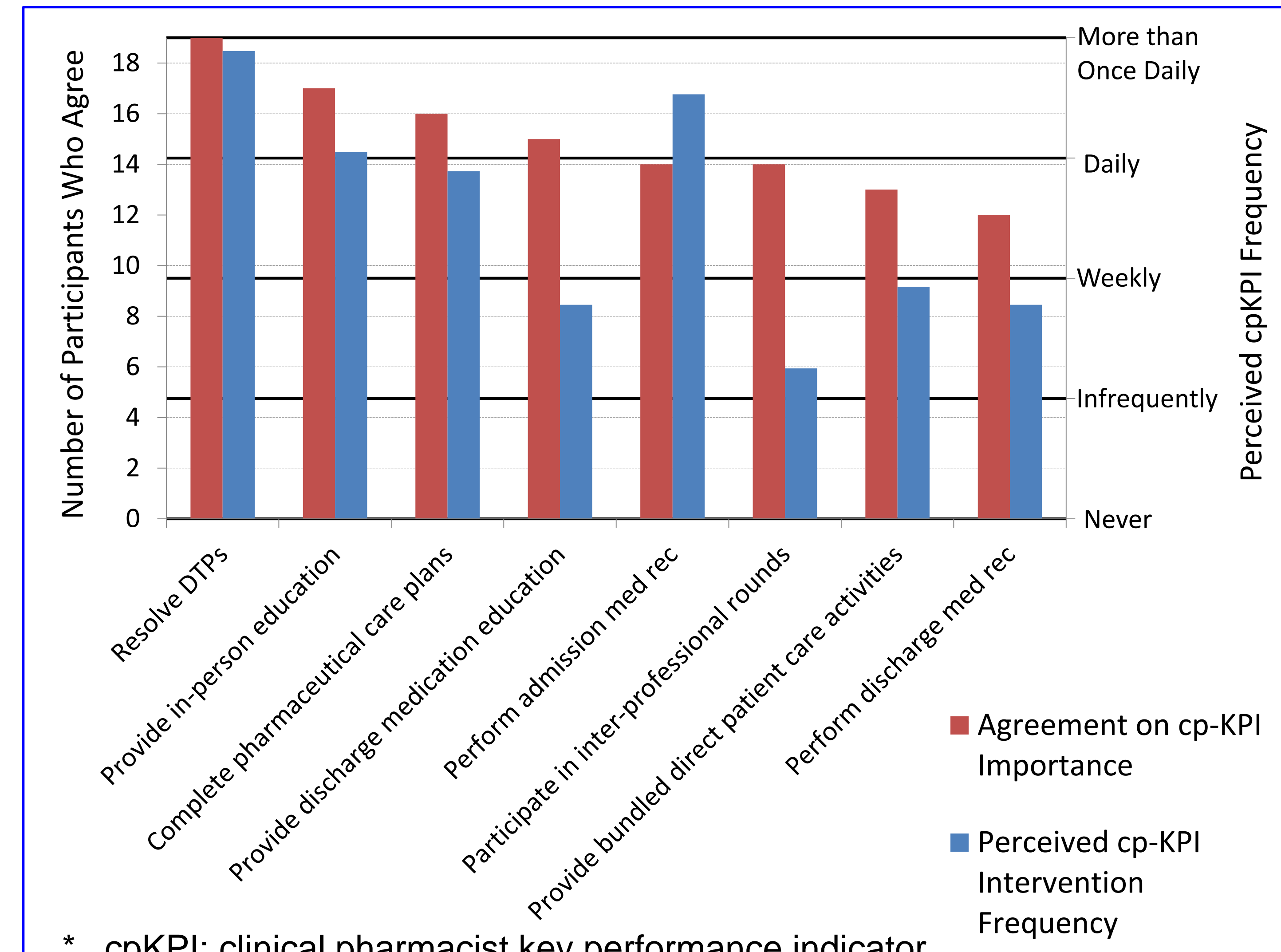


Figure 4: ED Pharmacist Perceptions of cpKPI*

Conclusions

- ED pharmacists at Interior Health are performing impactful, high-quality interventions for priority diseases
- Canadian ED pharmacists agreed with most previously defined PD and QI-PI, but identified gaps in current definitions specific to the ED
- Survey and tracking data align and indicate that there may be unique opportunities for ED pharmacists to provide high-impact, prioritized care
- Future research:** Systematic review of literature to identify ED QI-PI, development of consensus ED QI-PI, patient satisfaction survey

