



# PERSISTENT GAPS AND CHALLENGES IN TREATMENT AND MANAGEMENT OF ASTHMA IN CANADIAN COMMUNITY PRIMARY CARE SETTING: WHAT ARE THE CAUSES?

## Authors

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## Rationale

Despite strategies to improve asthma care in Canada, studies have shown that gaps in asthma management and control continue to exist. A study was conducted in community care settings to identify gaps in asthma care that could be addressed through educational interventions.

## Methods

A multiple stakeholder, mixed-methods approach that combined qualitative and quantitative data was used.

- 1 IDENTIFY CONTEXT & PRIORITIES**  
Literature Review  
Discussions with faculty experts  
Submission to Independent ethics Review Board (IRB)
- 2 QUALITATIVE EXPLORATION**  
45-minute Telephone Interviews (n: 44 participants)  
Preliminary Analysis (Thematic coding analysis, NVivo)
- 3 QUANTITATIVE VALIDATION PHASE**  
20-minute Online Survey (n: 190 participants)  
Analysis of Data (Frequencies tables, SPSS)
- 4 ANALYSIS & INTERPRETATION**  
Mixed-methods Analysis  
Interpretation with Faculty Experts  
Evidence-based analysis and identification of challenges and needs in community asthma care.

## Sample

PROFESSIONS	PHASE I QUALITATIVE n (%)	PHASE II QUANTITATIVE n (%)	TOTAL n (%)
GENERAL PHYSICIANS	8 (18%)	79 (42%)	87 (37%)
SPECIALISTS*	8 (18%)	18 (10%)	26 (11%)
NURSES	8 (18%)	18 (10%)	26 (11%)
PHARMACISTS	5 (11%)	54 (28%)	59 (25%)
CERTIFIED RESPIRATORY EDUCATORS**	8 (18%)	21 (11%)	29 (12%)
NON-HEALTH CARE PROVIDERS (SOURCES OF TRIANGULATION)			
ADMINS / PAYERS / POLICY INFLUENCERS	5 (11%)	--	5 (2%)
PATIENT ADVOCATES	2 (5%)	--	2 (1%)
<b>TOTAL</b>	<b>44 (100%)</b>	<b>190 (100%)</b>	<b>234 (100%)</b>

\*Includes Respirologists, Pneumologists, Clinical Immunologists and Allergists  
\*\*Includes Pharmacists and Nurses

## 1. LACK OF KNOWLEDGE OF GUIDELINES THAT INFORM ASTHMA CARE

More than half GPs and CREs indicated that their level of knowledge of these guidelines was “sub-optimal”, given their professional role.

### Question:

For each statement below, please rate your current level of knowledge in relation to what it should be, given your professional role?  
(1 = Low, 3 = Acceptable but could be improved, and 5 = Optimal)

Level of knowledge (% selected 1-Low to 3-Acceptable but could be improved)	GPs. (n=79)	Spe. (n=18)	CREs (n=21)	Nurses (n=18)	Pharm. (n=54)	Total (n=190)
CANADIAN THORACIC SOCIETY (CTS) GUIDELINES	52% (n=41)	28% (n=5)	67% (n=14)	83% (n=15)	87% (n=47)	64% (n=122)
GLOBAL INITIATIVE FOR ASTHMA (GINA) GUIDELINES	77% (n=61)	33% (n=6)	57% (n=12)	94% (n=17)	93% (n=50)	77% (n=146)

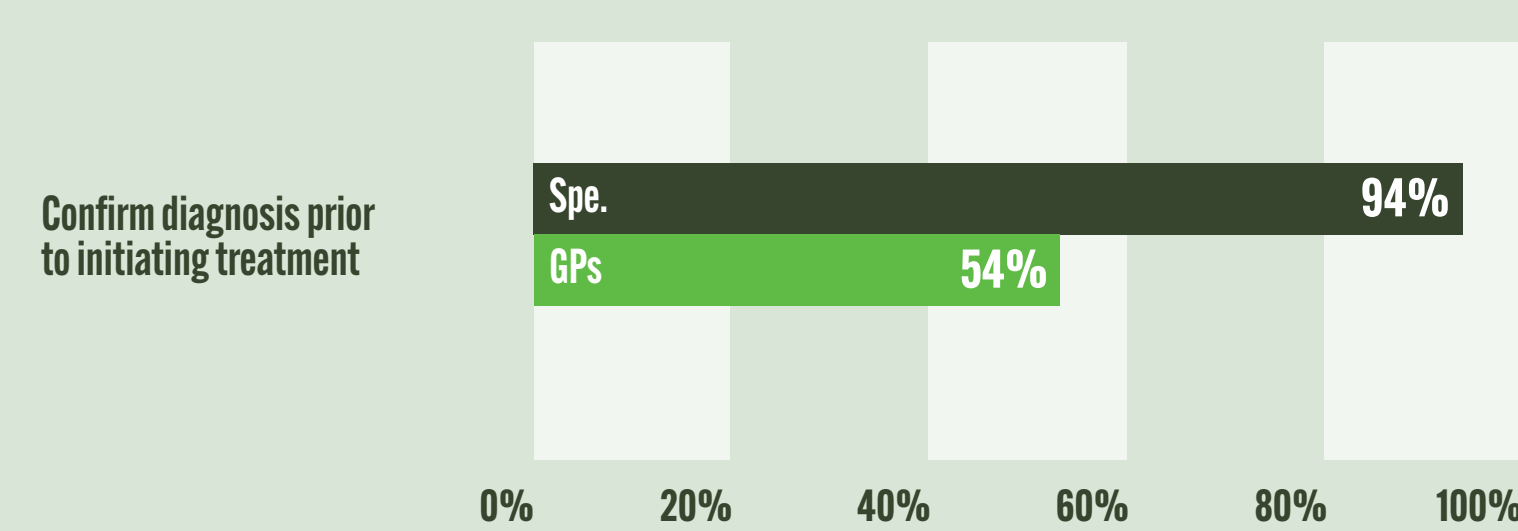
## 2. LACK OF SKILLS AND CONFIDENCE IN DIAGNOSIS

Only half of GPs reported that confirmation of asthma was necessary prior to initiating asthma treatment. GPs also feel less confident than specialists when identifying sub-type of asthma and differentiating between asthma and COPD.

### Question:

Please indicate how necessary, in your professional role, the following items in your practice are for adult patients suffering from asthma.  
(1 = Not necessary at all, 3 = Only necessary in specific cases and 5 = Always necessary)

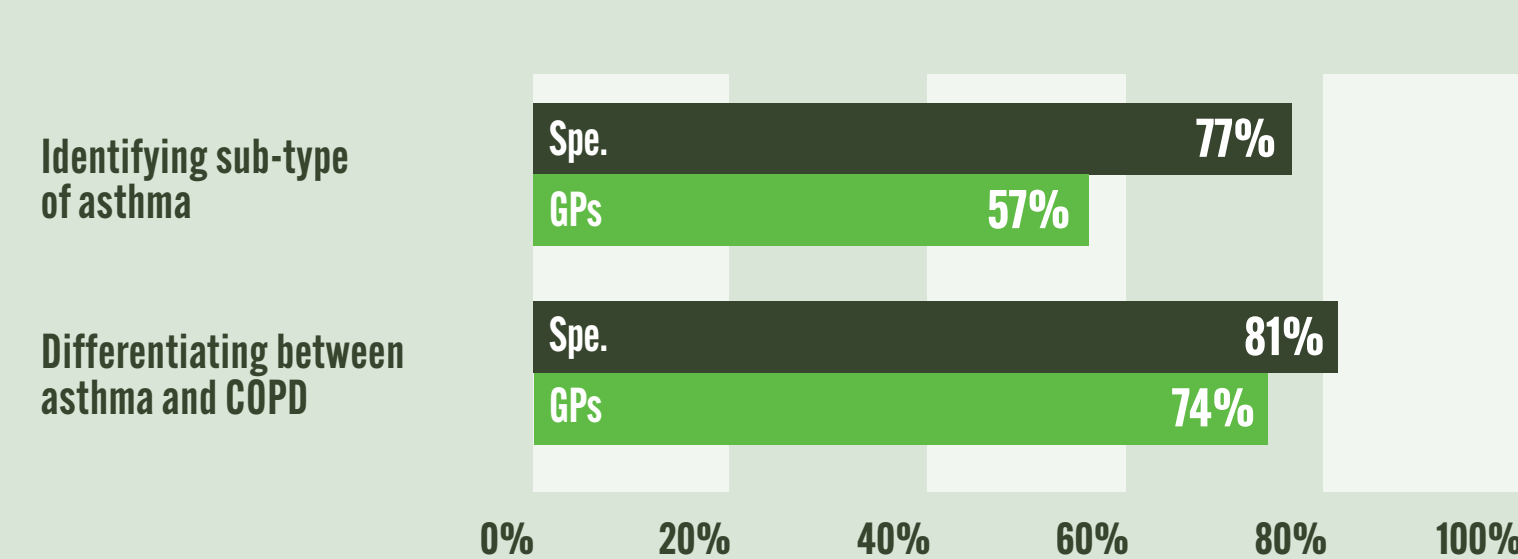
% OF PARTICIPANTS REPORTED THE TASK TO BE NECESSARY OR ALWAYS NECESSARY



### Question:

How confident are you when performing each of the following clinical tasks with your asthma patients.  
(1-100 scale, 0 = Not at all confident to 100 = Highly Confident)

MEAN LEVEL OF CONFIDENCE REGARDING THE TASK



## Results

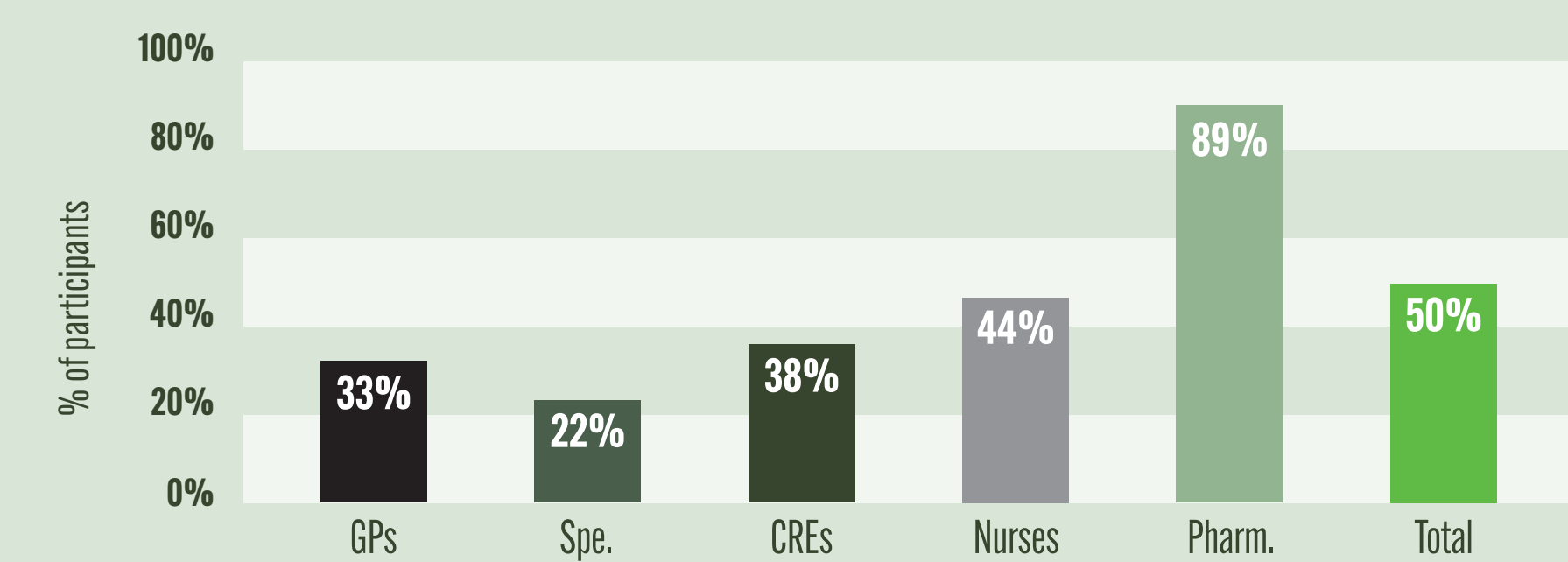
## 3. MISPERCEPTION OF THE IMPORTANCE OF SPIROMETRY

There was an overall perceived lack of importance when using spirometry for diagnosing and monitoring.

### Question:

For each statement below, please rate your current level of knowledge in relation to what it should be, given your professional role?  
(1 = Low, 3 = Acceptable but could be improved, and 5 = Optimal)

% OF PARTICIPANTS THAT REPORTED SUB-OPTIMAL KNOWLEDGE OF INDICATORS TO REQUEST OR CONDUCT A SPIROMETRY TEST



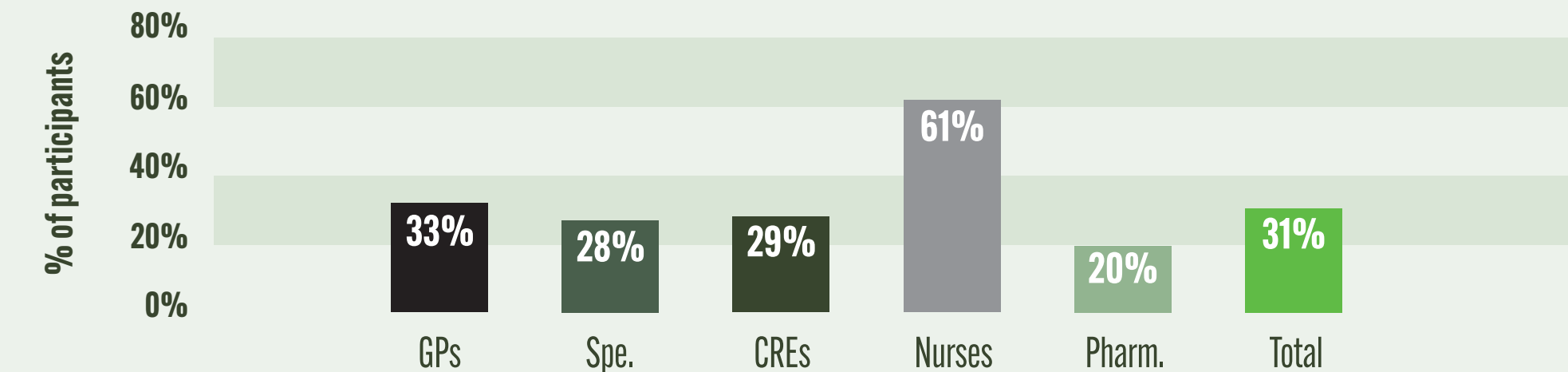
Barriers (% selected among list of 14 barriers)	GPs (n=79)	Spe. (n=18)	CREs (n=21)	Nurses (n=18)	Pharm. (n=54)	Total (n=190)
LACK OF ACCESS TO SPIROMETRY IN MY PRACTICE SETTING	43% (n=34)	0%	29% (n=6)	6% (n=1)	30% (n=16)	30% (n=57)
Agreement (% selected 3-4 Slightly agree or Completely agree)						
ASTHMA SPIROMETRY TEST IS NOT NECESSARY TO DIAGNOSE ASTHMA	43% (n=34)	44% (n=8)	14% (n=3)	17% (n=3)	17% (n=9)	30% (n=57)
ASTHMA CAN BE DIAGNOSED BASED ON PATIENT HISTORY AND RESPONSE TO A MEDICATION TRIAL	75% (n=59)	72% (n=13)	71% (n=15)	50% (n=9)	63% (n=34)	68% (n=130)
Involvement (% selected Never or Only in the first consultation of my patients)						
ASSESS ASTHMA CONTROL WITH SPIROMETRY	56% (n=44)	17% (n=3)	76% (n=16)	50% (n=9)	93% (n=49)	64% (n=121)
ASSESS ASTHMA SYMPTOMS AND EXACERBATIONS WITH SPIROMETRY	54% (n=43)	28% (n=5)	62% (n=13)	56% (n=10)	94% (n=50)	64% (n=121)

## 4. VARIABILITY IN SKILLS AND PERCEIVED IMPORTANCE OF INDIVIDUALIZING DEVICE TYPE

There was no consensus that selecting the most appropriate device for a given patient is necessary. A majority of nurses reported sub optimal skills (given their professional role) recommending devices most adapted for a given patient.

Question: For each statement below, please rate you current level of skills in relation to what it should be, given your professional role. (1 = Low, 3 = Acceptable, but could be improved and 5 = Optimal)

% OF PARTICIPANTS THAT REPORTED SUB-OPTIMAL SKILLS, GIVEN THEIR PROFESSIONAL ROLE, ON THE TASK "SELECTING / RECOMMENDING THE MOST ADAPTED DEVICE TO A GIVEN PATIENT"



Perceived importance (% selected 4 - 5 Always necessary)	GPs (n=79)	Spe. (n=18)	CREs (n=21)	Nurses (n=18)	Pharm. (n=54)	Total (n=190)
SELECT THE TYPE OF DEVICE BASED ON MY PATIENT'S PREFERENCES	73% (n=58)	94% (n=17)	67% (n=14)	61% (n=11)	83% (n=45)	76% (n=145)
ASSESS PROPER USE OF DEVICE WITH A DEMONSTRATION	76% (n=60)	78% (n=14)	81% (n=17)	61% (n=11)	93% (n=50)	80% (n=152)

There are about fifteen kinds [...] that's a lot... There's at least ten devices to use the inhaler, and it doesn't work with all the patients: people are more familiar with one or the other, and it needs to be tested.

— Specialist

## 5. LACK OF PERCEIVED IMPORTANCE OF PROVIDING WRITTEN ACTION PLAN

Half of participants consider “providing a written action plan” necessary, or always necessary. This proportion was higher when referring to an “oral action plan”.

### Question:

Please indicate how necessary, in your professional role, are the following items in your practice with adult patients suffering from asthma  
(1=Not necessary at all, 3 = Only necessary in specific cases and 5 = Always necessary)

Perceived importance (% selected 4 - 5 Always necessary)	GPs (n=79)	Spe. (n=18)	CREs (n=21)	Nurses (n=18)	Pharm. (n=54)	Total (n=190)
PROVIDE A WRITTEN ACTION PLAN TO MY PATIENTS	56% (n=44)	67% (n=12)	57% (n=12)	39% (n=7)	48% (n=26)	53% (n=101)
PROVIDE AN ORAL ACTION PLAN TO MY PATIENTS	82% (n=65)	83% (n=15)	76% (n=16)	67% (n=12)	85% (n=46)	81% (n=154)

That [written] asthma action plan is the bee's knees to me. That's one thing that just lets the patient know when and why they would need to be concerned, and how they should be treating their asthma. [...] If they've never gone through it [...] how would they know? They're just treating themselves as they think they should be.

— Clinic administrator

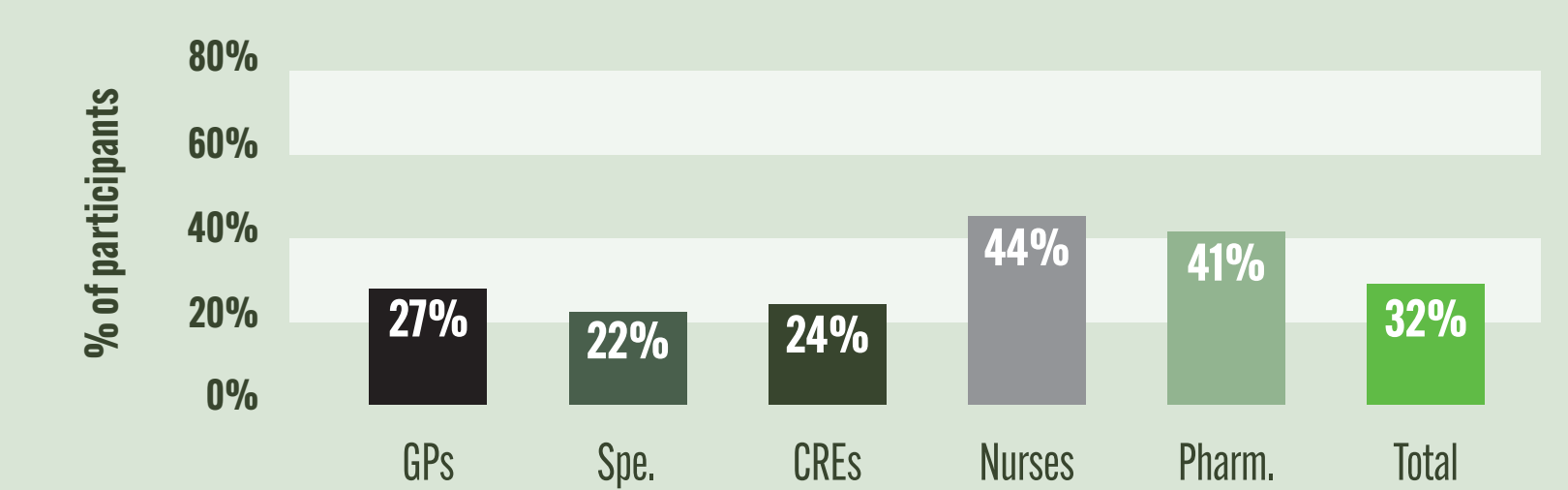
## 6. UNCLEAR SHARING OF ROLES AND RESPONSIBILITIES AMONG THOSE WHO PROVIDE PATIENT EDUCATION

There was sub-optimal knowledge of the responsibilities of health care professional regarding patient education, especially among nurses and pharmacists.

### Question:

For each statement below, please rate your current level of knowledge in relation to what it should be, given your professional role?  
(1 = Low, 3 = Acceptable but could be improved, and 5 = Optimal)

% OF PARTICIPANTS WHO REPORTED SUB-OPTIMAL KNOWLEDGE (1= LOW TO 3= ACCEPTABLE) OF RESPECTIVE RESPONSIBILITIES OF HEALTH CARE TEAM MEMBERS REGARDING PATIENT EDUCATION IN MY PRACTICE SETTING



I think asthma care could be optimized if there was more education around what the specific role of each health professional [doctor, pharmacist] was in regards to asthma care.

— Pharmacist

## CONCLUSION AND RECOMMENDATIONS:

Numerous gaps were identified in community asthma care amongst many different professionals. Findings from this study underscore the need for greater access to, and understanding of, the role of spirometry, greater attention to individualized care regarding devices and action plans, and clearer roles and responsibilities for members of the healthcare team.