



# Asthma

IN CANADA™

A LANDMARK SURVEY™ - EXECUTIVE SUMMARY

*GlaxoWellcome*

# ASTHMA IN CANADA A LANDMARK SURVEY™

Glaxo Wellcome Inc.  
7333 Mississauga Road North  
Mississauga, Ontario L5N 6L4

## Asthma in Canada A Landmark Survey™

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The survey was conducted by The Angus Reid Group, and funded by Glaxo Wellcome Inc.

Dr. Ken Chapman, Director of The Asthma Centre of the University Health Network and Professor of Medicine at the University of Toronto, and Dr. Pierre Ernst, Professor of Medicine, Respiratory and Clinical Epidemiology Divisions of the McGill University Health Centre, served as technical and medical advisors.

Citations of this report should read: Glaxo Wellcome Inc., Asthma in Canada A Landmark Survey™, 2000.

# Executive Summary

## Introduction

Asthma is a serious chronic lung disease affecting over two million Canadians, including 10 to 15 per cent of Canada's children.

Asthma is due to inflammation of the airways in the lungs and results in recurrent attacks of breathlessness, generally accompanied by wheezing, chest tightness, and/or coughing. This inflammation becomes chronic in people with asthma, which causes the airways to become hypersensitive so that the lungs are easily irritated.

In Canada, the disease is a leading cause of admissions to hospital. Each year approximately 20 children and 500 adults also die from asthma. It is estimated that more than 80 per cent of these deaths could be prevented with proper asthma education.

## Methodology

One of the largest and most comprehensive surveys of patient and physician knowledge, attitudes and behaviour toward asthma in Canada was conducted between September and October 1999. The Asthma in Canada survey explored the frequency and severity of asthma symptoms, use of emergency care, quality of life and quality of care issues. The survey also provides insights into why asthma is poorly controlled, and the impact of asthma on the Canadian health care system.

Interviews were completed with a national sample of 1,001 adults with asthma or parents of children with asthma. The national sample was identified by systematically screening 20,969 Canadian households. The data was weighted by age, gender and region to conform to Statistics Canada data on asthma prevalence. A national sample of 266 physicians - including 176 general practitioners, 30 respirologists, 30 allergists and 30 pediatricians - was also interviewed as part of the survey. (Figure 1)

The survey was conducted by the national public opinion research organization, The Angus Reid Group. Serving as advisors to the project were Dr. Ken Chapman, Director of The Asthma Centre of The University Health Network and Professor of Medicine at the University of Toronto, and Dr. Pierre Ernst, Professor of Medicine, Respiratory and Clinical Epidemiology Divisions of the McGill University Health Centre. The survey was funded by Glaxo Wellcome Inc., a research-based pharmaceutical company.

## Overview

The survey yielded five major conclusions about the current state of asthma in Canada:

- Asthma care in Canada is falling far below national standards set out in the *Canadian Asthma Consensus Guidelines*. In fact, poorly controlled asthma is a widespread problem in this country – six in 10 Canadians with asthma do not have their illness adequately controlled.
- Overall, Canadians with asthma are suffering a much lower quality of life than need be, and the health care system is bearing an unnecessary burden. Poorly controlled asthma accounts for the majority of asthma-related hospitalizations, emergency room and urgent care visits, absenteeism, and activity limitations.
- Canadians with asthma underestimate the severity of their condition, and have learned to live with – and tolerate – symptoms and limitations that are generally very avoidable. They generally have low expectations about their asthma control and a poor understanding about the role of various medications – pointing to the need for improved education of people with asthma.

- Asthma patients and physicians both underestimate the extent to which asthma is out of control. Even though asthma care in Canada falls far short of national standards, most patients believe their asthma is well controlled. Similarly, most physicians believe their patients' asthma is well controlled.
- Finally, there is a significant communications gap between asthma patients and their physicians. The survey underscores the need for better communication between physicians and patients, especially when it comes to implementation of the asthma guidelines. While physicians say they are aware of the guidelines, they are not being implemented on a consistent basis. Similarly, patients need to understand the level of control that is possible with asthma, and to effectively communicate the real impact asthma is having on their lives.

## Missing the Mark

The survey reveals that the treatment of asthma is falling far short of national standards set out in the *Canadian Asthma Consensus Guidelines* (CACG). (Figures 2 and 3)

- The CACGs state that a goal of asthma management is no or minimal need for emergency room visits or hospitalization, each of which are signs of poorly controlled or managed asthma. The survey shows that one in two Canadians with asthma (51%) had to go to an emergency room, or needed hospitalization or other emergency care for asthma in the past year. (Figure 4)
- According to the CACGs, people with asthma should experience daytime symptoms (e.g. coughing, wheezing, breathlessness) less than three days per week. The survey finds that four in 10 people with asthma (42%) experience symptoms more frequently. (Figure 3) In fact, one in four asthma patients suffers daily symptoms.
- No sleep disruption is another goal of the guidelines and asthma management. The survey reveals that one in three Canadians with asthma (35%) is awakened with breathing problems at least once a week. (Figure 3)
- An important goal of asthma management is no missed school, work or social functions due to asthma. Survey findings reveal that one in five people with asthma (20%) reportedly missed school, work or a social engagement in the past three months because of their asthma. (Figure 3)
- Relief or “rescue” medications should only be used on an as-needed basis to control asthma symptoms. In contrast to the CACGs, Canadians with asthma rely too much on relief or “rescue” medications – almost four out of 10 patients (37%) take more than the recommended maximum weekly dose. (Figure 3) In such cases, the patients are treating their symptoms, and not the underlying cause of the disease – irritation or inflammation of the airways.
- Additionally, one in seven Canadians with asthma (14%) reported having had a severe flare-up or requiring urgent treatment for their asthma in the past month. (Figure 3) According to the CACGs, exacerbations from asthma should be mild and/or infrequent.
- The CACGs say that people with asthma should be able to maintain normal physical activity levels. According to the survey, four in 10 Canadians with asthma (39%) say their condition has limited their physical activity in the past three months. (Figure 3)
- In all, close to six in 10 Canadians with asthma (57%) are poorly controlled; that is, they do not achieve acceptable levels of control on at least two key criteria in the national guidelines. (Figure 5)

## Poor Asthma Management Takes a High Toll

Canadians with asthma are generally enduring a much lower quality of life than necessary, restricting their everyday activities as a direct result of their disease and often tolerating symptoms and lifestyle limitations that are generally avoidable. In particular, among the almost six in 10 Canadians with poorly controlled asthma (57%):

- They are considerably more likely to report missed work, school or social engagements than their well controlled counterparts (34% versus 2%). (Figure 6) In fact, Canadians with poorly controlled asthma account for 99% of asthma-related missed work/school days or social engagements in the past three months. (Figure 7)
- They are more likely to require urgent care for their asthma. The survey reveals that in the past year, six in 10 (61%) had been to an emergency room, required hospitalization or other emergency care versus 38% of the controlled group. (Figure 8)
- Most Canadians with poorly controlled asthma (88%) agree that even with proper treatment asthma usually causes some lifestyle limitations. Indeed, more than half (56%) said their condition limits their ability to participate in certain activities. (Figure 9)
- Specifically, their asthma causes them to limit their involvement in sports (73%), every day activities such as walking, climbing stairs, laughing (28%) and participation in outdoor activities (12%). (Figure 9)

## An Unnecessary Burden on the Health Care System

Canadians with poorly controlled asthma are more likely to suffer significant repercussions and to place a greater burden on the health care system. Although they represent 57% of all asthma patients, in the last year people with poorly controlled asthma accounted for:

- 85% of asthma-related hospital admissions (Figure 10)
- 78% of asthma-related emergency room visits (Figure 11)
- 76% of asthma-related unscheduled doctor visits (Figure 12)
- 71% of asthma-related appointments with specialists (Figure 13)

## Misunderstanding and Misinformation — Barriers to Good Asthma Management

Canadians with asthma do not understand what good asthma control is, and do not realize that it is achievable. People with asthma underestimate the severity of their condition; and they are overconfident about how well it is being controlled. This lack of patient awareness and education is contributing to the poor level of asthma control in Canada.

- Although nine in 10 Canadians with asthma (91%) believe they have their asthma under control (Figure 14), 57% are in fact poorly controlled.
- Despite the number and frequency of asthma symptoms reported by patients with poorly controlled asthma, 85% believe their asthma is under control. One-third (33%) of them believe that their asthma is “very well” controlled. (Figure 14)
- One in three people with poorly controlled asthma (35%) describe their asthma as mild, yet 59% of these patients suffer from asthma attacks that are consistent with moderate and severe asthma. (Figure 15)

Patients are not alone in the belief that their asthma is controlled when it frequently is not.

- Physicians believe that it is possible to control asthma to the extent that the disease will have little impact on a person's life. (Figures 16 and 17) Indeed, according to the survey, 77% of general practitioners and 90% of respirologists believe they are doing just that. (Figure 18)

Further, the survey reveals that the misuse of medication by patients is the direct result of widespread misunderstanding as to what those treatments actually do.

- One half of people with poorly controlled asthma are unaware of the important role inhaled corticosteroids play in reducing airway inflammation, the underlying cause of the disease – 26% believe inhaled corticosteroids open the bronchial tubes while 24% are not sure what the medication does. (Figure 19)
- Not surprisingly, almost half of people with poorly controlled asthma (45%) mistakenly take an inhaled corticosteroid when having an asthma attack and over one quarter (28%) take inhaled corticosteroids before exercising. (Figure 20)

The role of short-acting bronchodilators or “rescue” medications appears to be more clearly understood by people with asthma than the function of inhaled corticosteroids.

- A majority of Canadians with poorly controlled asthma (69%) recognize that rescue medications help control symptoms like coughing, wheezing and breathlessness by opening up the bronchial tubes. Even so, one in five incorrectly believe that rescue medications reduce airway inflammation. (Figure 21)

## Adherence to Asthma Guidelines Needs to be Improved

The survey also explored the level of physicians' awareness and use of the *Canadian Asthma Consensus Guidelines* in the management of this disease. The survey focused on three key areas outlined in the guidelines: the use of lung function tests, the use of action plans in the management of asthma and the use of various medications.

The survey findings indicate that, while physicians are aware of the guidelines, they do not appear to follow them rigorously.

- Approximately nine out of 10 physicians (86%) said they are aware of the *Canadian Asthma Consensus Guidelines* and report using them always or most of the time (82%). However, when asked to define how they determine if a patient's asthma is under control, most doctors mention only one or two guideline criteria. Few quantify control in terms of frequency of symptoms as set out in the guidelines. (Figure 22)

The survey reveals real disparities between what physicians report and what patients report. It suggests that a significant communications gap exists between asthma patients and their health care providers.

The guidelines recommend objective documentation of variable airflow obstruction as a means of diagnosing asthma. However, the survey findings suggest that Canadian general practitioners may not be using these types of measures often enough.

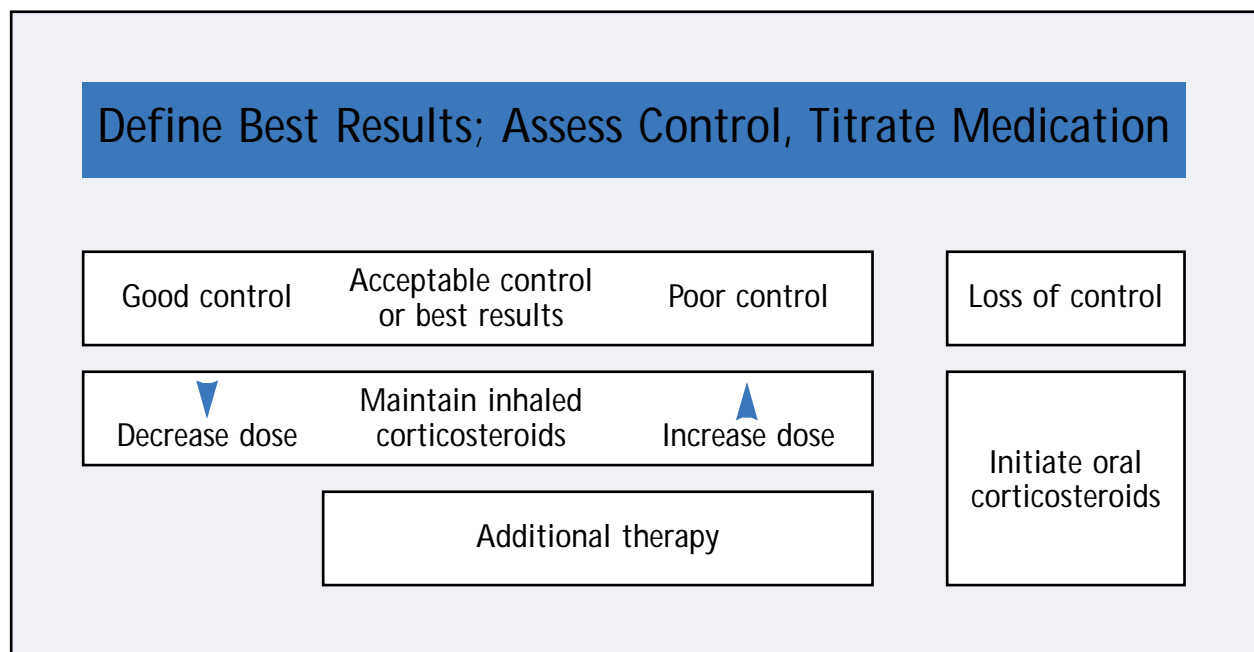
- Only half of all asthma patients (54%) report ever having a lung function test.

The guidelines also recommend that all patients be given a written action plan. However, the findings indicate that physicians use action plans very selectively.

- Only two out of 10 patients (21%) report ever receiving a written action plan.
- Only 29% of physicians claim that all or most of their patients receive a written action plan.

The guidelines state that the purpose of an action plan is to equip asthma patients to deal with exacerbations or flare-ups. Most doctors (72%) indicate their action plans include specific instructions on how to monitor asthma for signs of exacerbations and what to do in the event of a flare-up. However, patients report that their action plans focus primarily on when and how to use medications (68%), followed by information on environmental/lifestyle triggers (e.g., pets/animals, smoking, pollen, exercise, etc.). Few explain what to do during a flare-up of their asthma (11%). (Figure 23)

The *Canadian Asthma Consensus Guidelines* provide physicians with a step-by-step approach to treating asthma based on the severity of the disease and the level of control achieved:

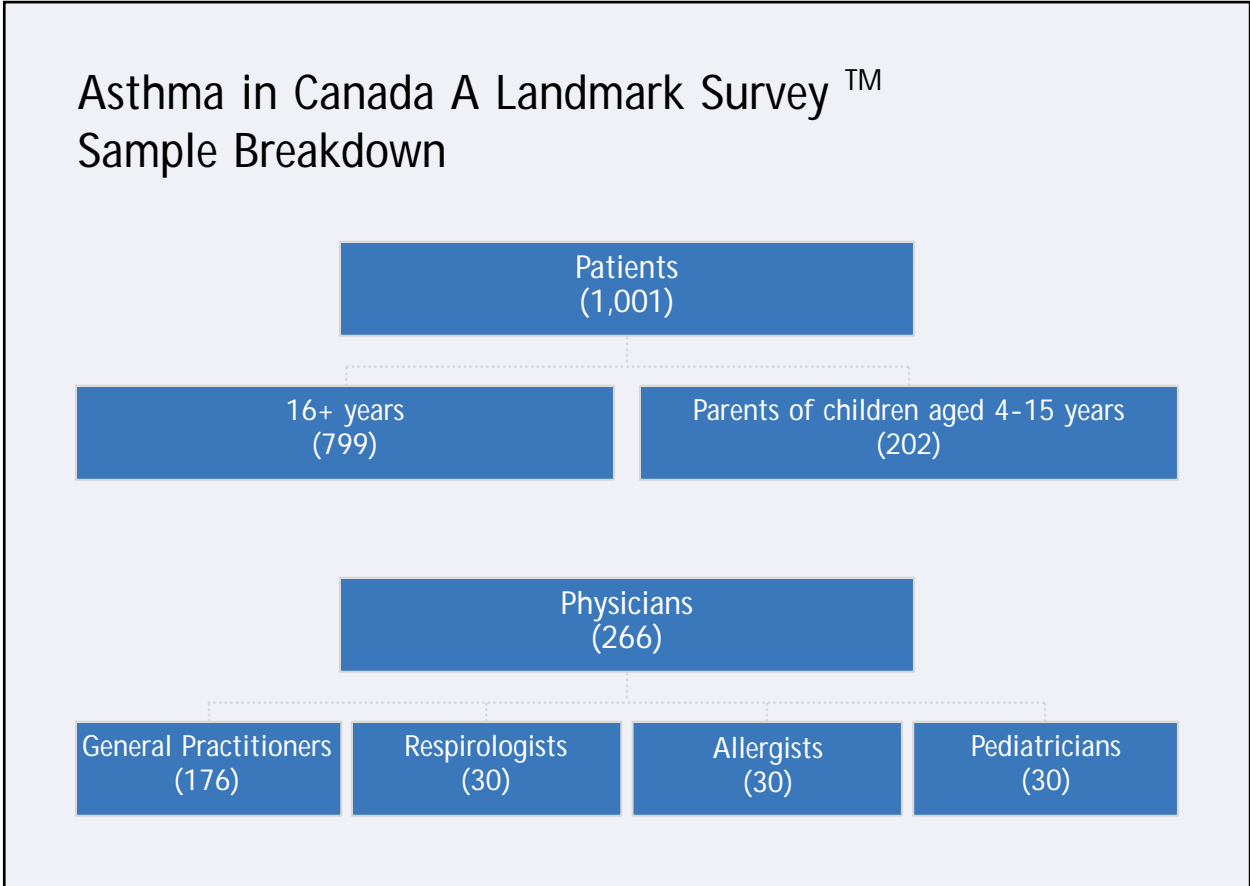


Physicians report their prescription of inhaled corticosteroids and long-acting bronchodilators is largely consistent with the guideline recommendations. (Figure 24) However, the survey results suggest that many people with poorly controlled asthma may not be taking the most appropriate or best treatment for their asthma.

- Anti-inflammatory medications are very important in the long-term management of persistent asthma because they are used to reduce inflammation in the airways, which is the underlying cause of the disease. However, only six in 10 patients (62%) with poorly controlled asthma take an inhaled corticosteroid medication. Of these patients, only 64% claim they take their inhaled corticosteroid on a regular basis. (Figure 20)
- One-quarter of all poorly controlled asthma patients do not use an inhaled corticosteroid (26%) and simply rely on a short-acting bronchodilator or “rescue” medication alone. Rescue medication is used to provide quick relief of asthma symptoms (e.g., coughing, wheezing, breathlessness).

Survey findings show an important need to improve communication between physicians and patients. Physicians often presume their patients are knowledgeable about their disease, but people with asthma do not know enough to initiate change.

Increasing physician awareness of the level of control asthma patients actually obtain, and letting patients know what is in fact possible to achieve with this disease, will improve communication between both parties. A more frequent and open dialogue will also increase the quality of life for people with asthma, reduce the burden placed on Canada’s health care system by patients with poorly controlled asthma, and reduce the number of deaths in Canada from this disease.



## Criteria for Asthma Control

Parameter <sup>1</sup>	Acceptable Control <sup>2</sup>	Poor Control <sup>3</sup>
1. Daytime symptoms	<3 days/week	3 or more days/week
2. Night-time symptoms	<1 night/week	1 or more nights/week
3. Physical activity	Normal	Restricted in past 3 months
4. Exacerbations	Mild, infrequent	Any exacerbations in past month
5. Absenteeism	None	Missed school/work or social engagement in past 3 months
6. PRN <sup>4</sup> short-acting bronchodilator use	<3 doses/week	3 or more doses/week <sup>5</sup>

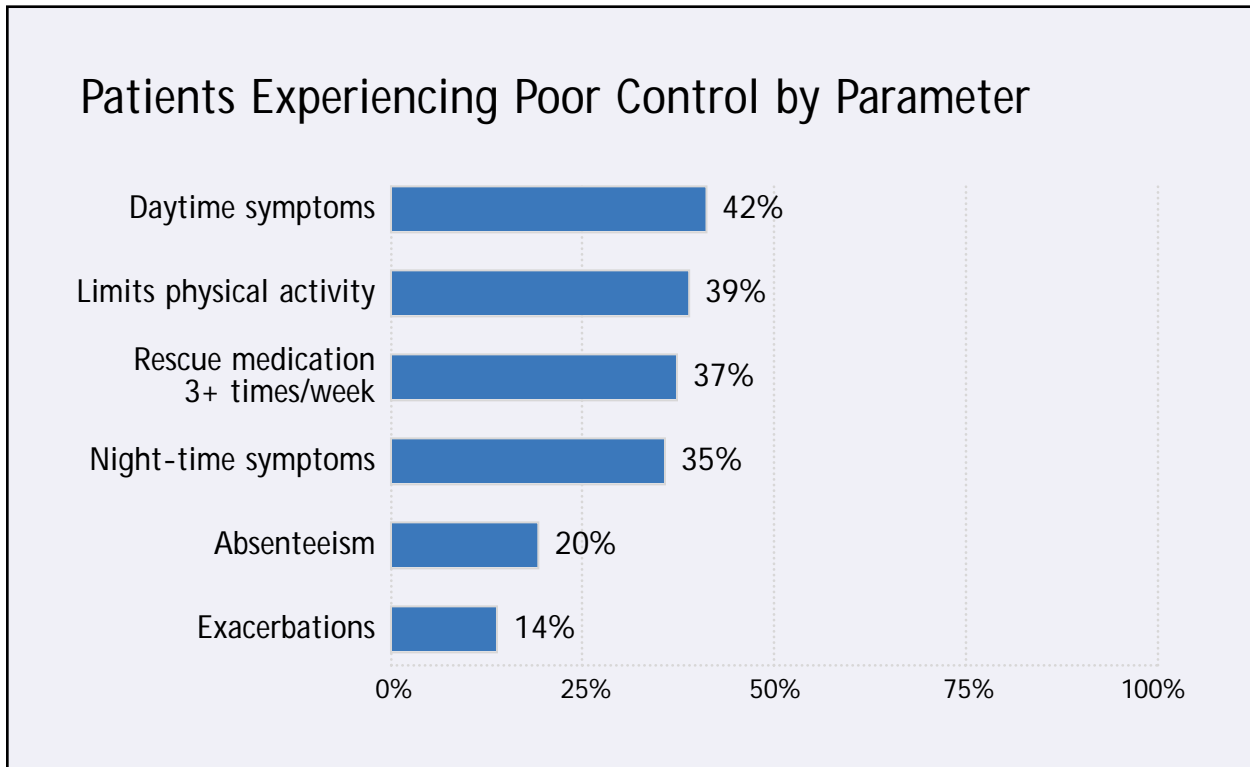
<sup>1</sup> Spirometry values (FEV<sub>1</sub>, FEV<sub>1</sub>/FVC, PEF and PEF variability) were not requested in the patient research.

<sup>2</sup> Ernst P., Fitzgerald J.M., Spier S., Canadian Asthma Consensus Conference: Summary of Recommendations: Canadian Respiratory Journal 1996; 3:89-100.

<sup>3</sup> For purposes of this research, patients were classified as having poorly controlled asthma if they fell short of the acceptable levels of control outlined in the Canadian Asthma Consensus Guidelines on two or more of the following criteria: daytime symptoms, sleep disturbances, physical activity, asthma attacks, absenteeism and the use of rescue medication.

<sup>4</sup> PRN = As required.

<sup>5</sup> Not including use to prevent exercise-induced symptoms.



**Asthma management falls short of standards in the Canadian Asthma Consensus Guidelines.**

- Q. 11 In a typical month, how often do you [does your child] experience asthma symptoms like persistent cough, shortness of breath, wheezing or whistling in the chest, coughing up phlegm or tightness of the chest during the day?
- Q. 12 In a typical month, how often do you [does your child] wake up at night because of asthma symptoms like persistent cough, shortness of breath, wheezing or whistling in the chest, coughing up phlegm or tightness of the chest?
- Q. 16 During the past 3 months has your [your child's] asthma caused you [him/her] to limit your [his/her] physical activities?
- Q. 18 And, during the past 3 months, has your [your child's] asthma caused you [him/her] to miss school, work or a social engagement?
- Q. 27 How many times would you [your child] have taken rescue medication in the past week when you [he/she] "have [has] an attack or difficulty breathing"?
- Q. 28 How many times would you [your child] have taken rescue medication in the past month?
- Q. 46 When was the last time you [your child] had a severe flare-up or needed urgent treatment for your [his/her] asthma?

Base: All patients (n=1,001)

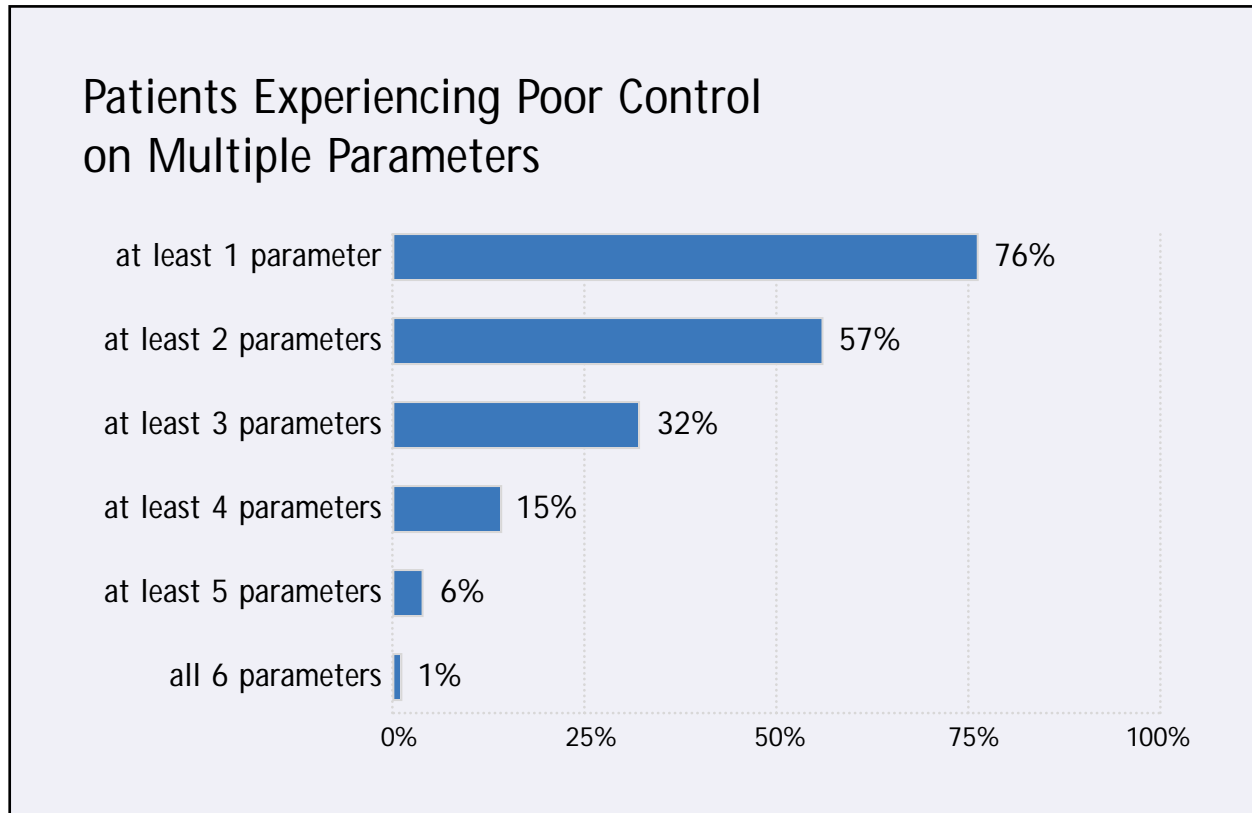
## Utilization of Health Care Resources Among All Patients

	Total (n=1,001)
Any urgent care in past year (net)	51%
- Unscheduled doctor's visit	43%
- Been to emergency room	28%
- Admitted to hospital	7%

**1 in 2 patients required urgent care for their asthma in the past year.**

- Q. 47 How many times in the past year would you [your child] have made an unscheduled visit to the doctor (including housecalls) because of worsening asthma and you [he/she] felt you [he/she] needed immediate help (excluding emergency room visits)?
- Q. 48 How many times would you [your child] have gone to emergency for your [his/her] asthma in the past year?
- Q. 49 How many times in the past year have you [has your child] been admitted to hospital for asthma?

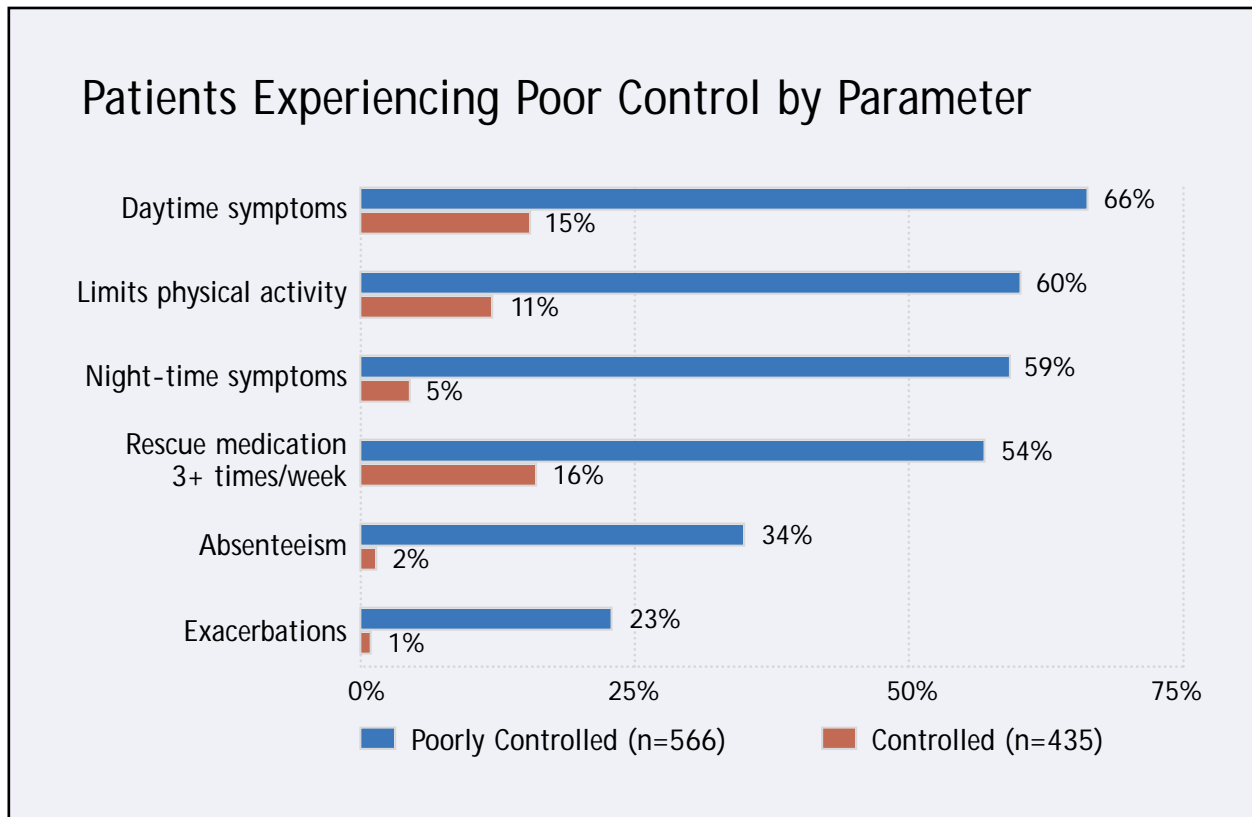
Base: All patients (n=1,001)



**Almost 6 in 10 patients do not achieve acceptable levels of asthma control on at least two of six key Canadian Asthma Consensus Guideline parameters.**

- Q. 11 In a typical month, how often do you [does your child] experience asthma symptoms like persistent cough, shortness of breath, wheezing or whistling in the chest, coughing up phlegm or tightness of the chest during the day?
- Q. 12 In a typical month, how often do you [does your child] wake up at night because of asthma symptoms like persistent cough, shortness of breath, wheezing or whistling in the chest, coughing up phlegm or tightness of the chest?
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- Q. 18 And, during the past 3 months, has your [your child's] asthma caused you [him/her] to miss school, work or a social engagement?
- Q. 27 How many times would you [your child] have taken rescue medication in the past week when you [he/she] "have [has] an attack or difficulty breathing"?
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Base: All patients (n=1,001)

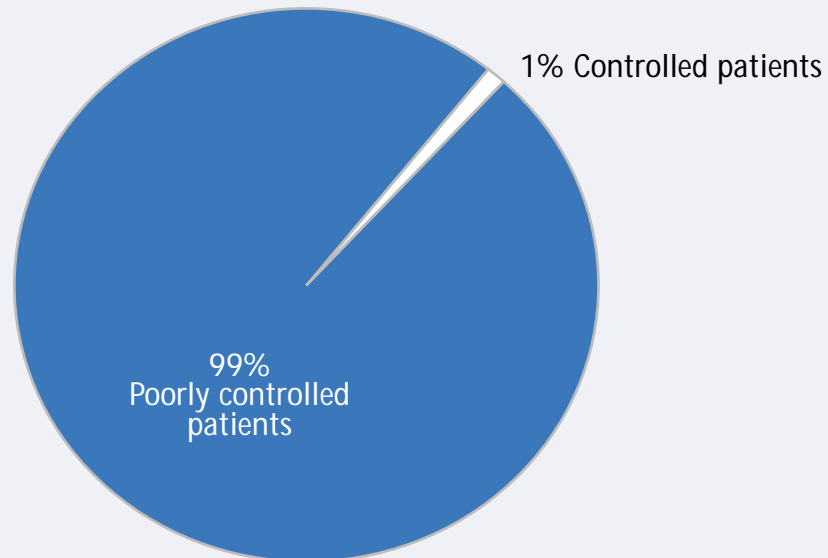


**Patients with poorly controlled asthma are considerably more likely to experience symptoms, activity limitations, absenteeism and take more than the recommended weekly dose of rescue medication.**

- Q. 11 In a typical month, how often do you [does your child] experience asthma symptoms like persistent cough, shortness of breath, wheezing or whistling in the chest, coughing up phlegm or tightness of the chest during the day?
- Q. 12 In a typical month, how often do you [does your child] wake up at night because of asthma symptoms like persistent cough, shortness of breath, wheezing or whistling in the chest, coughing up phlegm or tightness of the chest?
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- Q. 46 When was the last time you [your child] had a severe flare-up or needed urgent treatment for your [his/her] asthma?

Base: All patients (n=1,001)

### Missed School/Work or Social Engagements Among Asthma Patients



Poorly controlled asthma accounts for virtually all asthma-related absenteeism.

Q. 18 During the past 3 months, has your [your child's] asthma caused you [him/her] to miss school, work or a social engagement?

Base: All patients (n=1,001)

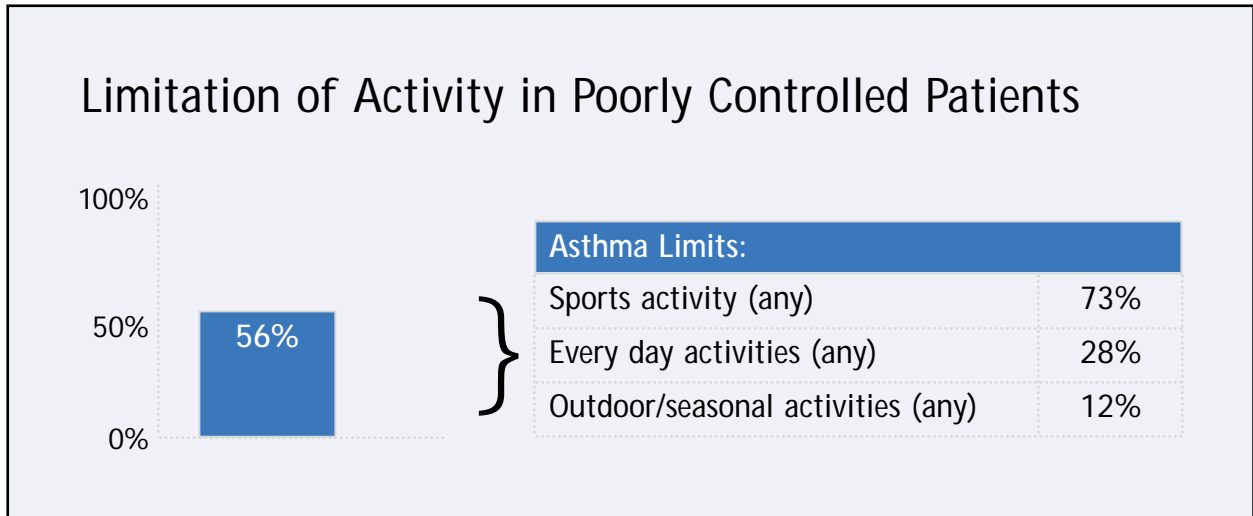
## Utilization of Health Care Resources Among Patients

	Poorly Controlled (n=566)		Controlled (n=435)	
	% used service	% of visits made	% used service	% of visits made
Any urgent care in past year (net)	61		38	
- Unscheduled doctor's visit	51	76	30	24
- Been to emergency room	34	78	19	22
- Admitted to hospital	10	85	4	15

Poorly controlled asthma accounts for most asthma-related urgent care.

- Q. 47 How many times in the past year would you [your child] have made an unscheduled visit to the doctor (including housecalls) because of worsening asthma and you [he/she] felt you [he/she] needed immediate help (excluding emergency room visits)?
- Q. 48 How many times would you [your child] have gone to emergency for your [his/her] asthma in the past year?
- Q. 49 How many times in the past year have you [has your child] been admitted to hospital for asthma?

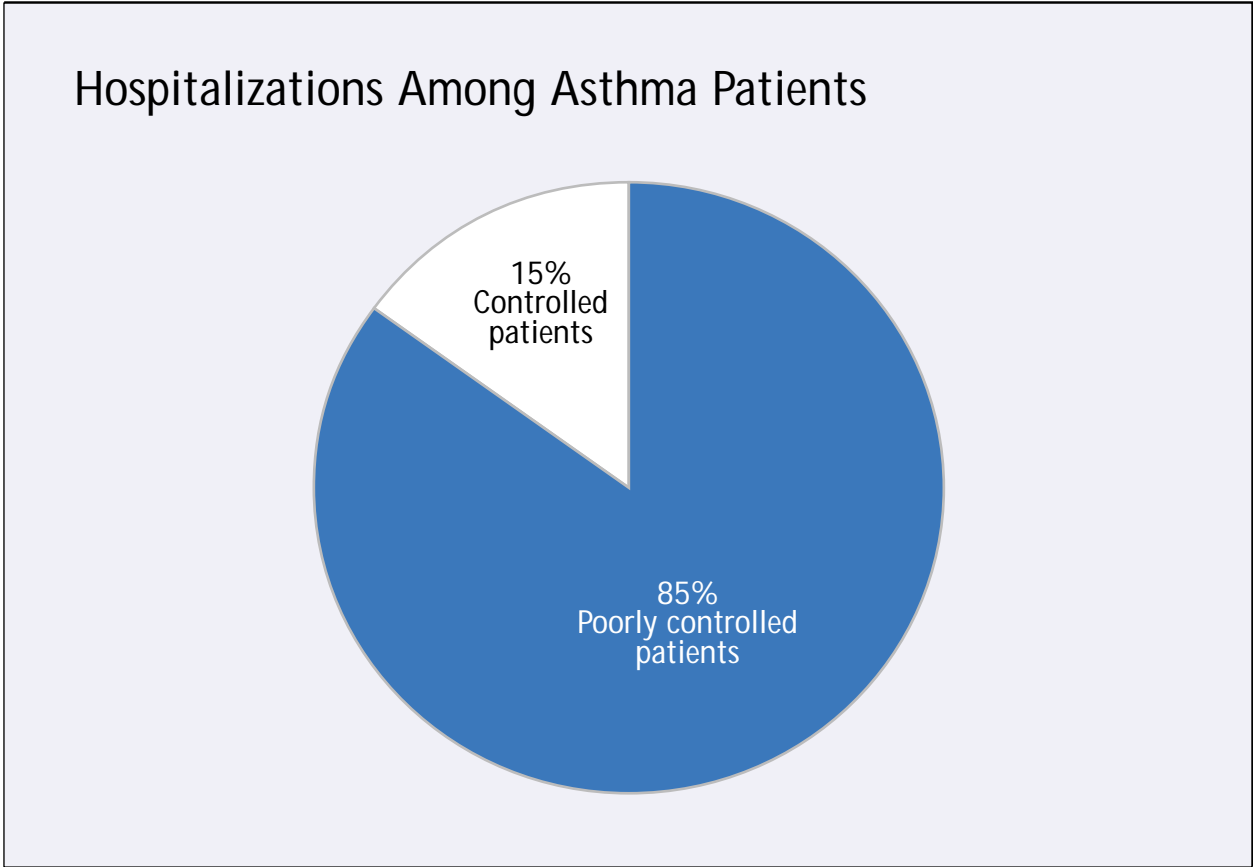
Base: All patients (n=1,001)



**More than half of all patients with poorly controlled asthma limit their physical activity.**

Q. 14 Is there anything that you wish you could do but feel you [your child wishes he/she could do but feels he/she] can't do or can't do well because of your [his/her] asthma?

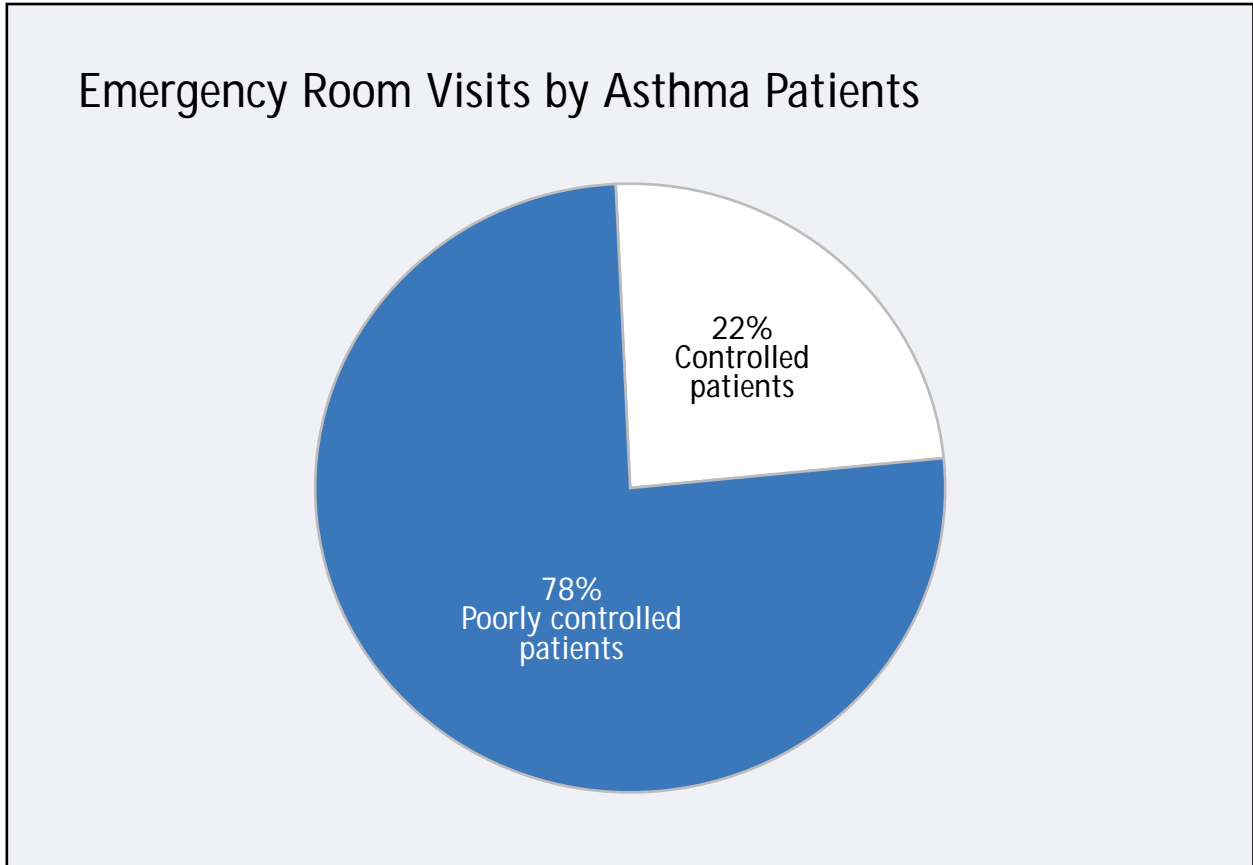
Base: All patients with poorly controlled asthma (n=566)



**Poorly controlled asthma accounts for most asthma-related hospital admissions.**

Q. 49 How many times in the past year have you [has your child] been admitted to hospital for asthma?

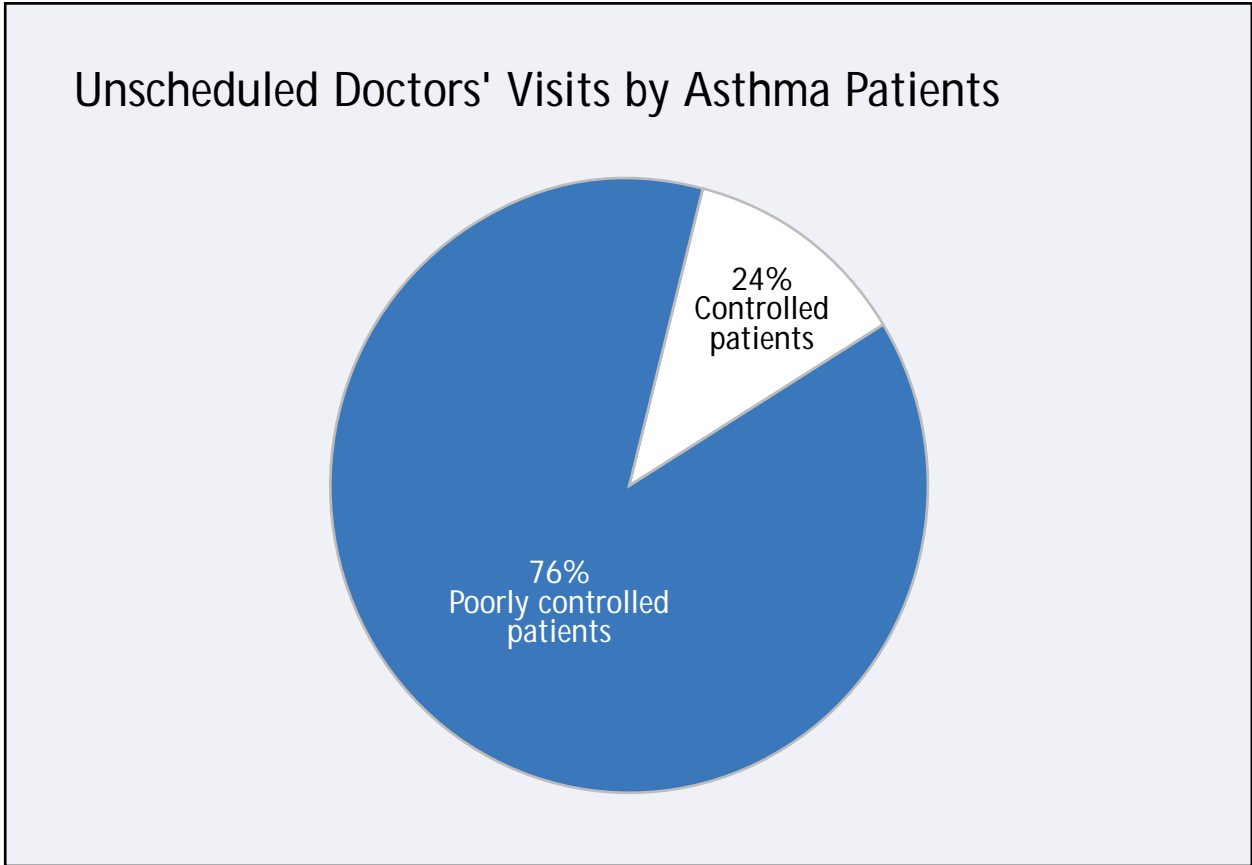
Base: All patients (n=1,001)



Poorly controlled asthma accounts for most asthma-related emergency room visits.

Q. 48 How many times would you [your child] have gone to emergency for your [his/her] asthma in the past year?

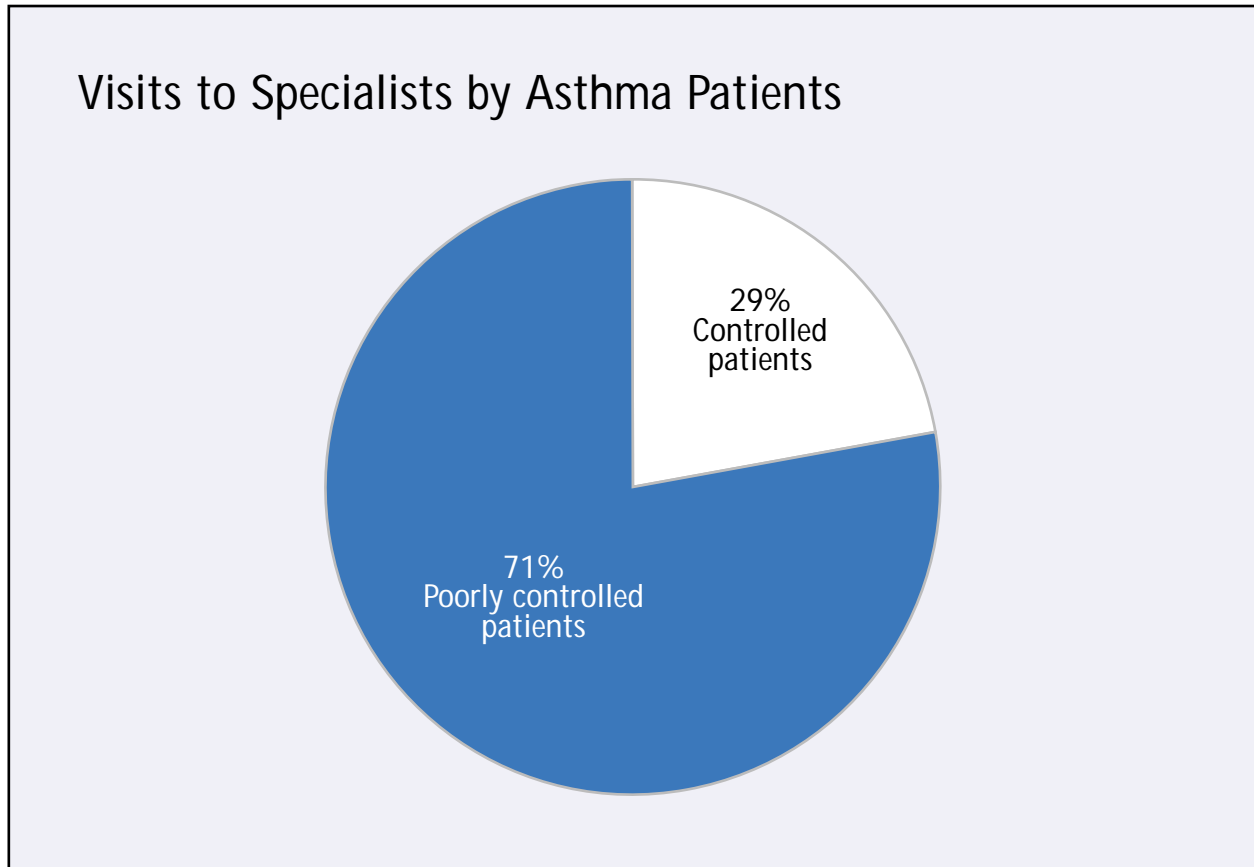
Base: All patients (n=1,001)



Poorly controlled asthma accounts for most unscheduled doctors' visits.

Q. 47 How many times in the past year would you [your child] have made an unscheduled visit to the doctor (including housecalls) because of worsening asthma and you [he/she] felt you [he/she] needed immediate help (excluding emergency room visits)?

Base: All patients (n=1,001)



Poorly controlled asthma accounts for most visits to specialists.

Q. 45 How many times have you [has your child] been to see a specialist about your [his/her] asthma?

Base: All patients (n=1,001)

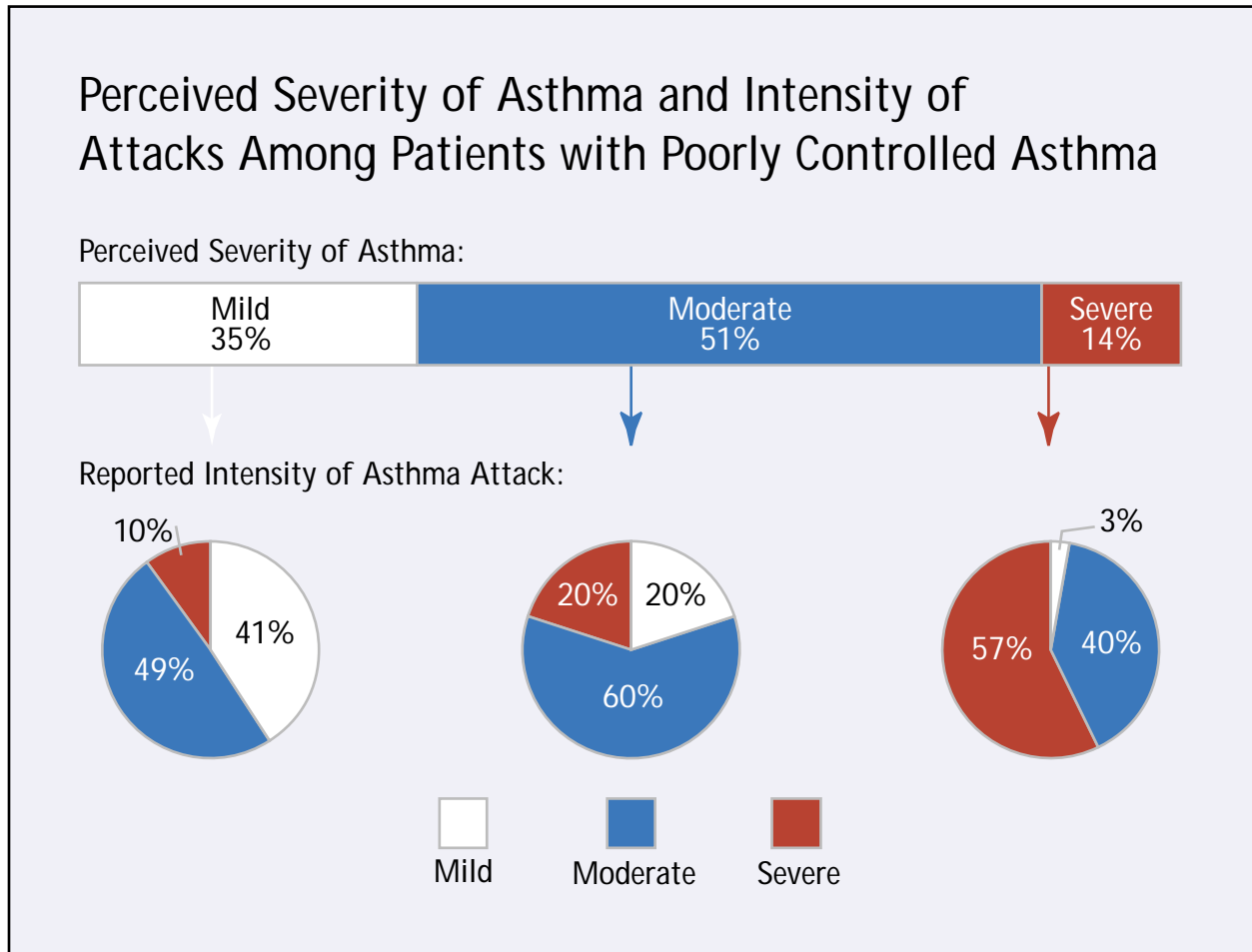
### Perceived Level of Asthma Control by Patients

	Total (n=1,001)	Poorly Controlled (n=566)	Controlled (n=435)
Perceived Level of Control:			
Very well controlled	49%	33%	70%
Adequately controlled	42%	52%	28%
Not very well controlled	8%	13%	1%
Not at all controlled	1%	2%	1%

**85% of Canadians with poorly controlled asthma believe their asthma is under control.**

Q. 33 Overall, would you say your [your child's] asthma is very well controlled, adequately controlled, not very controlled, or not controlled at all?

Base: All patients (n=1,001)



**Most patients with poorly controlled asthma misjudge the severity of their condition.**

- Q. 20 Would you consider yourself [your child] overall to currently have mild, moderate or severe asthma?
- Q. 21 People often suffer asthma attacks of different levels of intensity. I am going to read 3 statements to you and I would like you to tell me which one you feel best describes your [your child's] condition?
- A slight wheezing or tightening of the chest but did not stop activity.
  - A feeling of wheezing or difficulty breathing which caused you [your child] to change activities until normal breathing.
  - A feeling of difficulty breathing so intense that you [your child] had to stop activity.

Base: All patients with poorly controlled asthma (n=566)

### Physicians' Attitudes Towards Asthma

	Agree Strongly/Somewhat	
	General Practitioners	Respirologists
With proper treatment most asthma patients can lead a full and active life	100%	100%
Treatments available today can control asthma so that patients can lead normal symptom-free lives	98%	97%
Serious asthma symptoms can be prevented in most cases	99%	100%

**Physicians generally agree that asthma patients can lead full and active lives.**

Q. 3 I'm going to read you a series of statements (outlined above). As I read each statement, please tell me whether you agree strongly, agree somewhat, disagree somewhat or disagree strongly with the statement?

Base: All General Practitioners (n=176) and all Respirologists (n=30)

## Comparison of Physicians' and Patients' Attitudes Towards Asthma

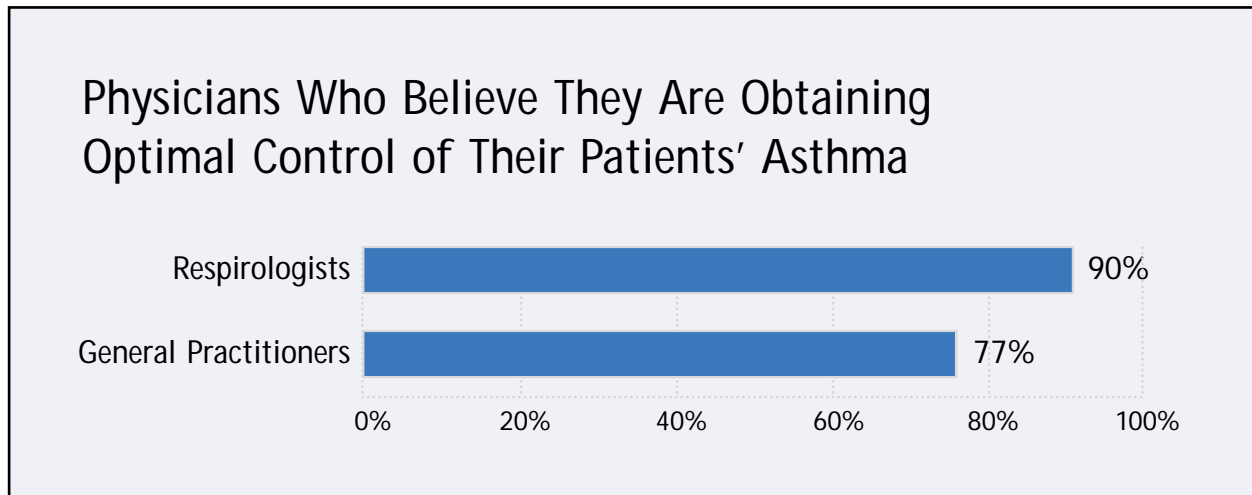
	Agree Strongly/Somewhat	
	Physicians	Patients
There are no truly effective treatments for asthma	4%	30%
Serious asthma symptoms can be prevented in most cases	98%	76%
Treatments available today can control asthma so that patients can lead normal symptom-free lives	98%	83%

Patients are less convinced that good asthma control is possible.

Q. 3 I'm going to read you a series of statements (outlined above). As I read each statement, please tell me whether you agree strongly, agree somewhat, disagree somewhat or disagree strongly with the statement?

Base: All physicians (n=266) and all patients (n=1,001)

FIGURE 18



**Most physicians believe their asthma patients are optimally controlled.**

Q 11a In general, do you feel that you are obtaining optimal control of your patients' asthma?

Base: All General Practitioners (n=176) and all Respirologists (n=30)

## Perceived Role of Inhaled Corticosteroids (ICS) Among Current Users

	Total (n=589)	Poorly Controlled (n=362)	Controlled (n=227)
<b>Perceived Role of ICS:</b>			
Not sure how it works or what it does	22%	24%	18%
Helps control symptoms by opening up the bronchial tubes	26%	26%	26%
Helps control asthma by reducing inflammation in airways	52%	50%	56%

**50% of patients with poorly controlled asthma are unaware of the role of inhaled corticosteroids.**

- Q. 30 Which of the following best describes what you know about what inhaled corticosteroids do for you [your child]?
- Inhaled corticosteroids help control my [my child's] asthma by reducing inflammation in my [his/her] airways.
  - Inhaled corticosteroids help control my [my child's] symptoms by opening up my [his/her] bronchial tubes.
  - Inhaled corticosteroids help me [my child] but I am not really sure how the medication works or what it does.

Base: All patients who use inhaled corticosteroids (n=589)

### Use of Inhaled Corticosteroids (ICS) Among Current Users

	Total (n=589)	Poorly Controlled (n=362)	Controlled (n=227)
<b>Current Use of ICS:</b>			
When getting an attack or having difficulty breathing	50%	45%	58%
Before exercise or doing something which might cause an attack	24%	28%	17%
Every day, on a regular basis to help control asthma	52%	64%	33%
Every day during certain times of the year	21%	18%	25%

**Misunderstanding of role of inhaled corticosteroids contributes to their misuse.**

- Q. 23 Do you [does your child] take inhaled corticosteroids:
  - When you get [he gets/she gets] an attack or have [has] difficulty breathing?
  - Before you exercise [your child exercises] or do [does] something which you think [he thinks/she thinks] might cause an attack?
  - Every day on a regular basis, to help control your [his/her] asthma?
- Q. 24 Do you [does your child] take inhaled corticosteroids every day to help control your [his/her] asthma during certain times of the year, such as winter or hay fever season?

Base: All patients who use inhaled corticosteroids (n=589)

### Perceived Role of Rescue Medication Among Current Users

	Total (n=684)	Poorly Controlled (n=413)	Controlled (n=271)
Perceived Role of Rescue Medication:			
Helps control asthma by reducing inflammation in airways	18%	20%	15%
Not sure how it works or what it does	14%	11%	17%
Helps control symptoms by opening up the bronchial tubes	68%	69%	68%

**One-third of patients with poorly controlled asthma don't understand the role of rescue medications.**

- Q. 30 Which of the following best describes what you know about what rescue medication does for you [your child]?
- Rescue medication helps control my [my child's] asthma by reducing inflammation in my [his/her] airways.
  - Rescue medication helps control my [my child's] symptoms by opening up my [his/her] bronchial tubes.
  - Rescue medication helps me [my child] but I am not really sure how it works or what it does.

Base: All patients who use rescue medication (n=684)

### Criteria Used by Physicians to Determine Asthma Control

	General Practitioners	Respirologists
Symptoms (any)	49%	37%
Nocturnal symptoms (any)	33%	60%
Objective tests	49%	47%
Rescue medication use	30%	43%
Activity limitation	15%	27%
Exercise tolerance	11%	13%
Absenteeism (any)	2%	10%

Physicians use only 1 or 2 parameters to determine if a patient’s asthma is under control.

Q. 24 In general, what are the criteria you use to determine whether or not a patient’s asthma is under control?

Base: All General Practitioners (n=176) and all Respirologists (n=30)

## Physician and Patient Perceptions of Written Action Plans

	Physicians	Patients
Content of Written Action Plan:		
- Details on medications (net)	74%	68%
- What to do in the event of a flare-up (net)	59%	11%
- Environmental triggers/lifestyle modifications (net)	17%	22%

**11% of patients recall that their written action plan contains information on how to deal with a flare-up.**

Q. 34c What instructions do you include in this written set of recommendations?

Q. 53b What does it [written action plan] contain?

Base: All physicians reporting they write an action plan (n=323) and all patients reporting receiving a written action plan (n=192)

### Physicians' Reported Prescription of Various Types of Medication by Disease Severity

	Mild		Moderate		Severe	
	General Practitioners	Respirologists	General Practitioners	Respirologists	General Practitioners	Respirologists
<b>Currently Prescribed:</b>						
Rescue medication	50%	32%	13%	1%	2%	0%
Rescue medication and inhaled corticosteroid	43%	61%	70%	66%	49%	39%
Rescue medication, inhaled corticosteroid and long-acting bronchodilator	5%	4%	13%	32%	40%	54%
Other	2%	4%	4%	1%	8%	7%

Physicians report their prescription of medications is largely consistent with the Canadian Asthma Consensus Guidelines.

- Q. 19a, 21a, 23a Overall, what percent of your (mild, moderate, severe) asthma patients are currently taking:
- Rescue medication only?
  - Rescue medication with an inhaled corticosteroid?
  - Rescue medication, long-acting bronchodilator and an inhaled corticosteroid?
  - Others?

Base: All General Practitioners (n=176) and all Respirologists (n=30)

### Use of Rescue Medication Among Current Users

	Total (n=684)	Poorly Controlled (n=413)	Controlled (n=271)
<b>Current Use of Rescue Medication:</b>			
When getting an attack or having difficulty breathing	90%	91%	88%
Before exercise or doing something which might cause an attack	40%	45%	32%
Every day, on a regular basis to help control asthma	24%	34%	8%
Every day during certain times of the year	24%	29%	15%
DK/NA	4%	3%	7%

**One-third of patients with poorly controlled asthma use rescue medication daily.**

- Q. 23 Do you [does your child] take this rescue medication:
  - When you get [he gets/she gets] an attack or have [has] difficulty breathing?
  - Before you exercise [your child exercises] or do [does] something which you think [he thinks/she thinks] might cause an attack?
  - Every day on a regular basis, to help control your [his/her] asthma?
- Q. 24 Do you [does your child] take rescue medication every day to help control your [his/her] asthma during certain times of the year, such as winter or hay fever season?

Base: All patients who use rescue medication (n=684)

### Perceived Severity and Intensity of Attacks

	Poorly Controlled (n=566)	Controlled (n=435)
<b>Perceived Severity of Asthma:</b>		
- Mild	35%	79%
- Moderate	51%	19%
- Severe	14%	2%
<b>Actual Intensity of Attacks:</b>		
- Mild	25%	55%
- Moderate	53%	38%
- Severe	22%	7%

**Canadians with poorly controlled asthma tend to be more severe than their controlled counterparts.**

- Q. 20 Would you consider yourself [your child] overall to currently have mild, moderate or severe asthma?
- Q. 21 People often suffer asthma attacks of different levels of intensity. I am going to read 3 statements to you and I would like you to tell me which one you feel best describes your [your child's] condition?
  - A slight wheezing or tightening of the chest but did not stop activity.
  - A feeling of wheezing or difficulty breathing which caused you [your child] to change activities until normal breathing.
  - A feeling of difficulty breathing so intense that you [your child] had to stop activity.

Base: All patients (n=1,001)