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## Encouraging the use of asthma control questionnaires ATAQ and TRACK to improve asthma management and outcomes

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**Encouraging the use of asthma control  
questionnaires ATAQ and TRACK to improve  
asthma management and outcomes**

Hinesberg, Vermont  
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Rotation 1 2016  
Mentor: Michelle Cangiano, MD

# Problem Identification and Need

- Worldwide: 300 million people suffer from asthma<sup>1</sup>
- United States: 1 in 12 adults and 1 in 11 children<sup>1</sup>
- Asthmatics suffer chronic symptoms (i.e. sleep disruption, physical activity restriction) and require frequent emergency care<sup>2</sup>
- In youth, asthma ranks 3<sup>rd</sup> highest reason for hospital stay and accounts for most frequent cause of school absenteeism<sup>3</sup>

GINA guideline goal	AIR result, % (range)	United States (n = 2509)
Minimal chronic symptoms, including nocturnal symptoms	Symptoms in past 4 weeks	
	During the day	61.0
	Night waking	41.0
	Exercise induced	53.0
	Sleep disruptions $\geq 1/wk$	30.0
Minimal exacerbations/no emergency visits for asthma	Need for emergency health care in the past 12 mo	
	Hospital admission	9.0
	Hospital emergency department visit	23.0
	Unscheduled emergency visit to other health care facility	29.0
Minimal need for SABA	Current use of bronchodilator	61.0
No limitation on physical activity	Asthma restricts normal physical activity	36.0

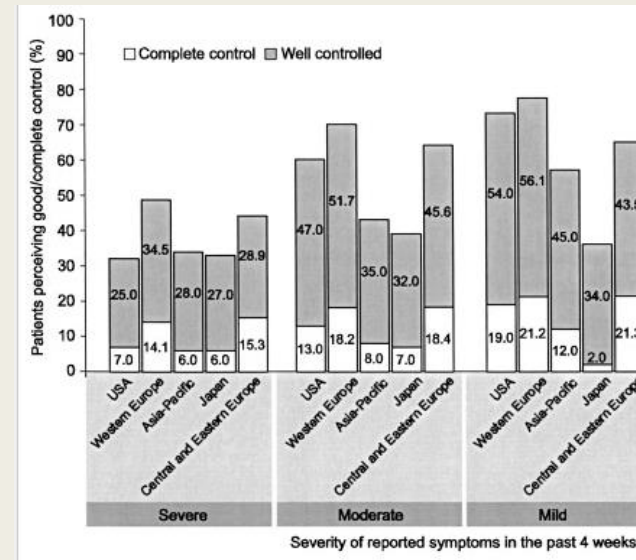
# Problem Identification and Need cont.

That asthma is so poorly controlled begs the question: was asthma severity evaluated in the first place? National data show that most asthma patients have not had spirometry (i.e. pulmonary function testing) and in those who have, the last spirometry was much too long ago. These results fall short of asthma control standards set by the Expert Panel Review 3 Guidelines from the NIH as well as those set by the Global Initiative for Asthma guidelines.

Without the regular use of spirometry, without the use of questionnaires, health care providers rely on the patient to describe their level of asthma control. Data show that patient perception of asthma control has historically been poor. More than a third of patients with severe persistent asthma – diagnostically indicating they experience sleep interruptions more than once per night every night, cough/are short of breath every day, visit the emergency room more than once monthly – report their asthma to be well or completely controlled.

## THE NEED

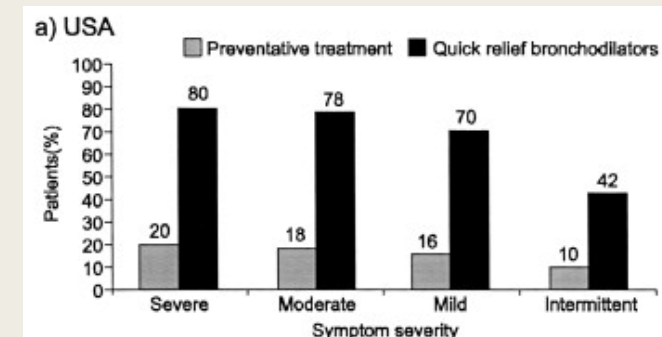
*A systematic, objective evaluation of asthma severity designed to track disease progression, prompt further testing, and inform treatment*



32% of patients with severe asthma report their symptoms to be well controlled<sup>2</sup>

GINA guideline goal	AIR result, % (range)	United States (n = 2509)
Normal or near-normal lung function	Lung function test never performed	53.2
	Lung function test performed in past year	35.0
	Peak flowmeter owner	28.0
	Regular user of peak flowmeter	8.4

Half of asthmatics never had lab evaluation of their level of airway obstruction<sup>2</sup>

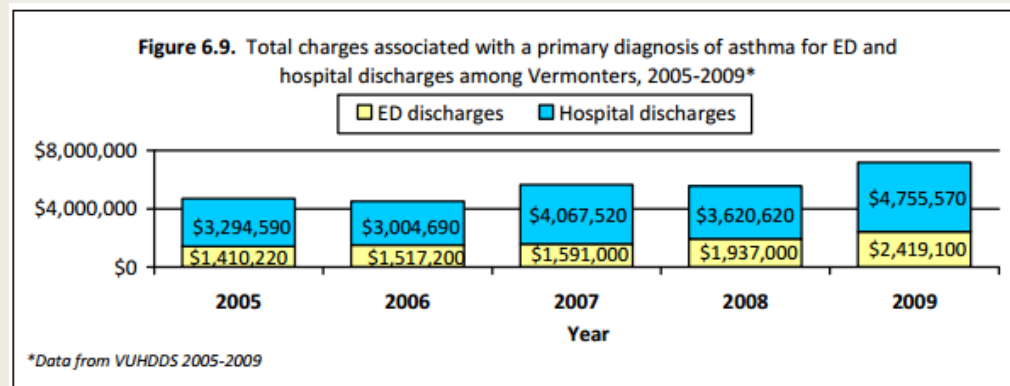


Patients with persistent asthma have quick-relief short acting bronchodilators, but only 20% have inhaled corticosteroids to combat disease progression

# Public Health Cost

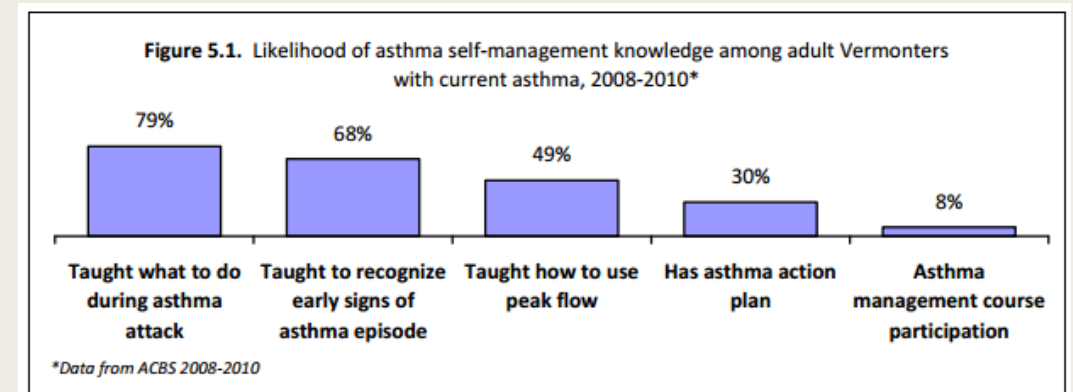
## Unique Cost Considerations in Vermont<sup>4</sup>

If anything, asthma control in Vermont is worse as compared to national averages. Hospital costs and admissions have risen accordingly and continue to rise. Youth with asthma in Vermont suffer from the same kinds of chronic symptoms as youth with asthma in the nation. More worryingly, the youth seem ill-prepared against this burden and potentially fatal disease. The overwhelming majority have no asthma action plan, a third have not been taught to recognize signs of an imminent asthma attack, and a fifth of youth with asthma are uncertain of what to do should the attack occur.



### Generally in Vermont

- Significantly higher adult prevalence than nation, and rising<sup>4</sup>
- Hospital admissions for asthma are rising



### Youth in Vermont

- Average 1 annual emergency room visit for asthma symptoms
- Consistently average 1 missed school day per year due to asthma
- ~ 1 of 5 have difficulty sleeping at least once a month
- 70% have no asthma action plan

# Community Perspective

- I interviewed a representative from each level of asthma care, from the patient, to the patient's guardian, to the nurse who first meets the family and performs all physician orders, and the physician herself
  - A central theme emerged: asthma is not well controlled, poorly evaluated, questionnaires are needed for objective evaluation, and incorporating this into practice can be challenging.
- **Tammy McMurray: Clinical Care Associate, Medical Assistant**
  - *"Looking at our charts every month, there are so many missed opportunities [to have given asthma control questionnaires to patients]"*
  - *"When you finally get these patients in for an acute issue, the child is sick, and there's no time because there are so many things to get done, so many compliance things to do every day..."*
  - *"[Distributing asthma control questionnaires] is not part of our workflow yet"*
- **Michelle Cangiano: Hinesberg Site Physician Leader, Associate Professor Department of Family Medicine**
  - *"We've been seeing that if they ask people how their asthma is, they say 'fine' or 'great' but then they will end up in the emergency room with an exacerbation and we find they are using their asthma control medications often"*
  - *"I've been part of a quality study over the past year to help with asthma control. The data we've been finding from patients is that they are not being evaluated and their asthma is not being well controlled"*
  - *"We're not seeing children for well asthma or planned asthma visits. One way to help would be to identify this need during non-asthma visits and plan for asthma visits to better assess asthma control once they're well"*
- **BB, guardian of SE and KJ, children with asthma who live in Milton, VT**
  - *"Her asthma is uncontrollable, she'll be coughing through the entire night, struggling to sleep"*
  - Describing one asthma exacerbation: *"His O2 was at 50%, nebulizers didn't help, he could hardly stand and we went to the emergency room"*
  - Exposure to second hand smoke consistently triggers asthma exacerbations in these children. When BB mentions this to the parents who smoke, they reply that the smoke being a trigger is *"all made up,"* accusing BB of *"not wanting to take the kids"*
  - Neither had an asthma action plan, but one was developed that day!

# Intervention and Methodology

- I chose my intervention to focus on distributing these surveys on a more regular basis
- The objective of this project was to educate and motivate nurses and physicians at Hinesberg Family Practice to disseminate the ATAQ and TRACK questionnaires to patients under 18 years of age with asthma
- A PowerPoint was presented to physicians, nurses, and the supervising manager (n = 10) at Hinesberg Family Practice
- The contents of the presentation included:
  - The prevalence, burden, under-reporting, and under-treatment of asthma in Vermont
  - A review of the demographics targeted and asthma domains assessed by the Asthma Therapy Assessment Questionnaire (ATAQ) and Test for Respiratory and Asthma Control in Kids (TRACK) questionnaires
  - Advocacy for specifically the ATAQ and TRACK to be used in asthma patients under 18 years of age at Hinesberg Family Practice
- Attendants were asked through an anonymous paper survey if they agree/disagree/were neutral on 2 statements:
  1. *“I feel that the ATAQ and TRACK are clinically valuable instruments for patients with asthma under 18 years old”*
  2. *“I am more likely to recommend handing out the ATAQ or TRACK questionnaires when discussing patient office visit agendas during huddles”*
- Responses were counted manually

# Results and Responses

- The presentation was well received and stimulated questions and discussion:
  1. A physician asked about the clinical utility of spirometry and the availability of questionnaires for patients older than 18 years
  2. Nurse practitioners asked me and the physicians in the room the type of patient visits in which asthma questionnaires should be handed out.
  3. The physicians encouraged that the ATAQ and TRACK questionnaires should be handed out at least once *a year for every asthma patient regardless of the chief complaint for that visit.*
- 100% (10/10) audience members agreed that:
  - The ATAQ and TRACK are clinically valuable instruments for patients with asthma under 18 years of age
  - They are more likely to recommend handing out the ATAQ or TRACK questionnaires when discussing patient office visit agendas prior to seeing patients



# Evaluation of Effectiveness and Limitations

## Effectiveness:

- All 10 audience members answered that they are more likely to hand out the ATAQ and TRACK surveys and that they believe these are clinically useful tools
- The presentation stimulated discussion about ways to incorporate the distribution of these surveys in practice

## Limitations:

- The presentation was given only to staff at Hinesberg Family Practice. Motivation and/or education state-wide or nation-wide is needed to enhance the delivery of asthma questionnaires on a larger scale
- The presentation did not offer specific strategies on how dissemination and collection of questionnaires can be achieved into already constraining appointment period of 15 minutes. Knowing the importance of a task may not be relevant if that task can't feasibly be performed.
- The inadequacy of asthma assessment was generalized from national trends, rather than from Hinesberg

# Recommendations for Future Interventions/Projects

- Expand the target audience: presenting this information at a larger (i.e. national) conference or at other family practice sites are worthwhile pursuits
- Propose specific strategies that incorporate the distribution and collection of the questionnaires into office visits, or, propose strategies that streamline this process.
- Case studies featuring asthma patients receive primary care at Hinesberg Family Practice are more relevant and thus may have a more powerful, persuasive effect
- Utilize PRISM patient charts to determine the proportion of patients who are receiving an asthma questionnaire when they visit the doctor.
  - One could investigate if asthmatics who receive questionnaires receive better asthma care/control. Such outcomes include spirometry, asthma action plan, inhaled corticosteroids).
  - IRB approval is required to report chart data from patients under 18
- Literature suggests that adding spirometry to asthma questionnaires does not help better evaluate the severity of a patient's asthma. Spirometry is also difficult for patients to perform. Patients with asthma require long recovery periods between the required 2 spirometry trials to catch their breath. Does spirometry offer clinical evaluation that is useful enough to justify the human resources required to administer it in the primary care (as opposed to pulmonologist office) setting?

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