

Popularizing the ATAQ and TRACK for asthmatic youth in Hinesberg Family Practice

Mike Chung
MS3
25 April 2016

Burden of Asthma in the U.S.

General

- Worldwide: 300 million people suffer from asthma
- United States: 1 in 12 adults and 1 in 11 children
- Chronic symptoms
 - Sleep disruption
 - Physical activity restriction

Youth

- Healthcare + productivity costs
 - 3rd highest reason for hospital stay
 - Most frequent cause of school absenteeism

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
Minimal exacerbations/no emergency visits for asthma	Sleep disruptions $\geq 1/wk$	30.0
	Need for emergency health care in the past 12 mo	
	Hospital admission	9.0
	Hospital emergency department visit	23.0
Minimal need for SABA	Unscheduled emergency visit to other health care facility	29.0
	Current use of bronchodilator	61.0
No limitation on physical activity	Asthma restricts normal physical activity	36.0

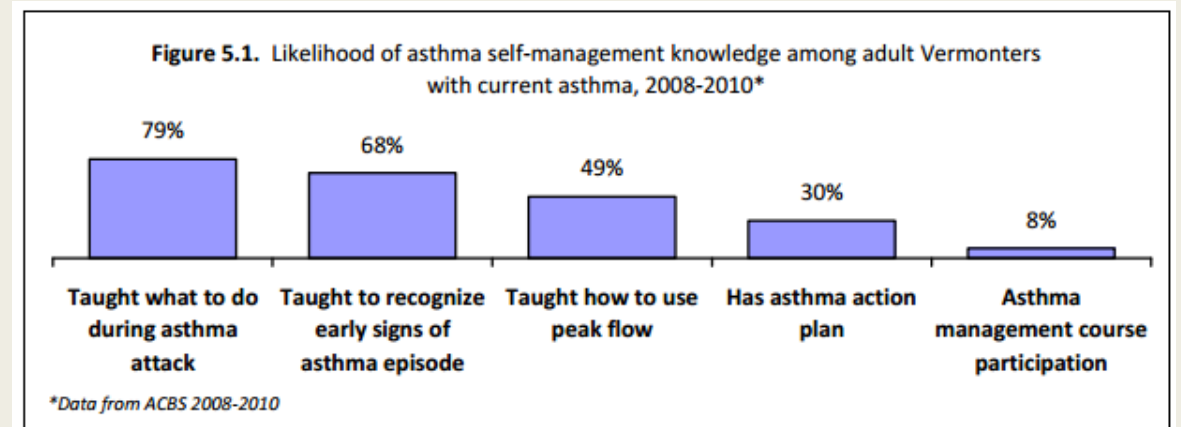
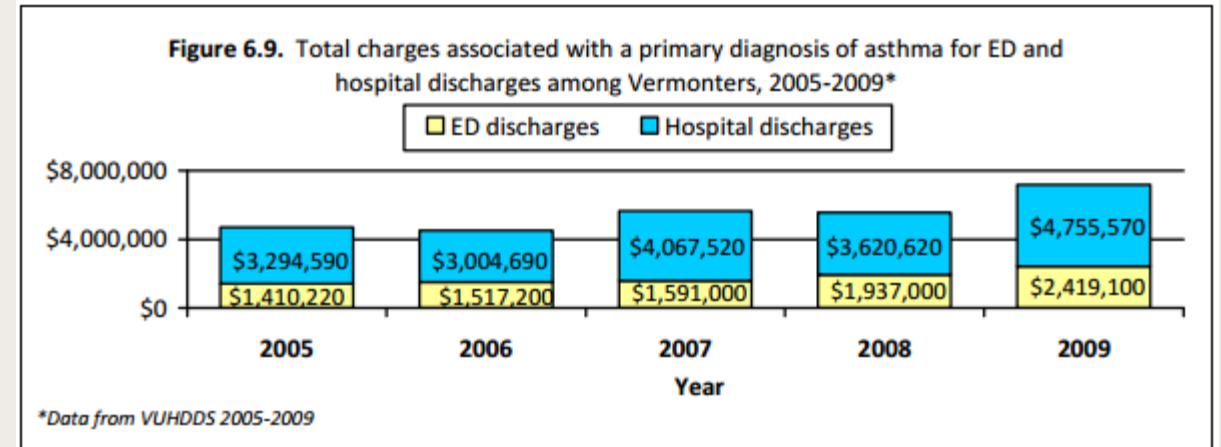
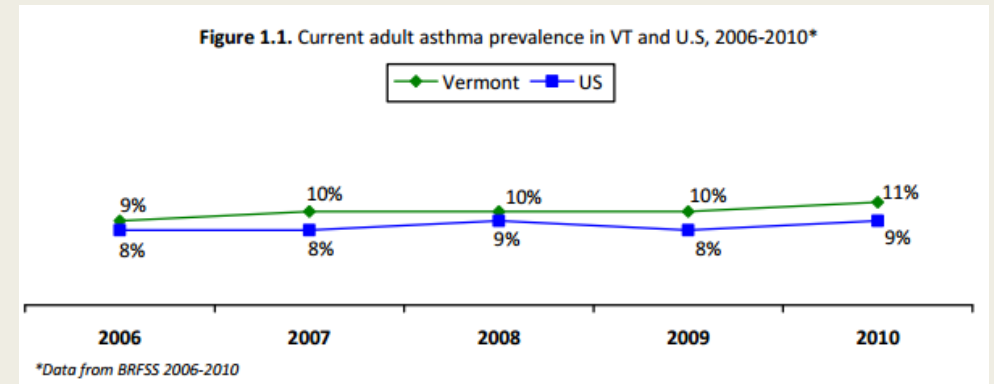
Burden in Vermont

General

- Higher adult prevalence and rising
- Hospital admissions for asthma are rising

Youth in Vermont

- Average 1 annual emergency room visit for asthma symptoms
- ~ 1 of 5 have difficulty sleeping at least once a month
- 70% have no asthma action plan

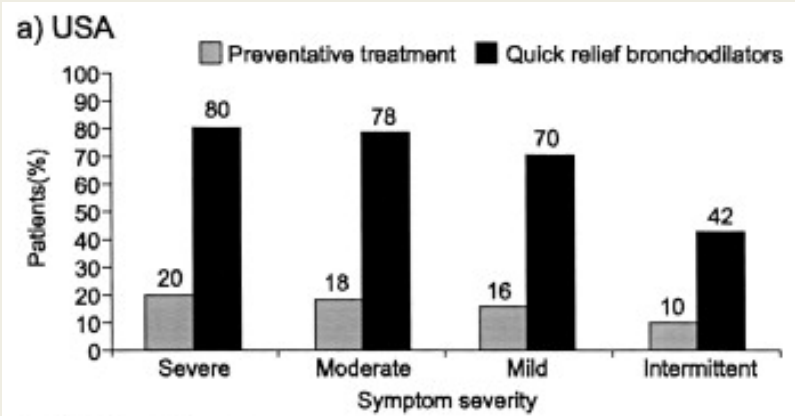


Spirometry + ICS may be underutilized

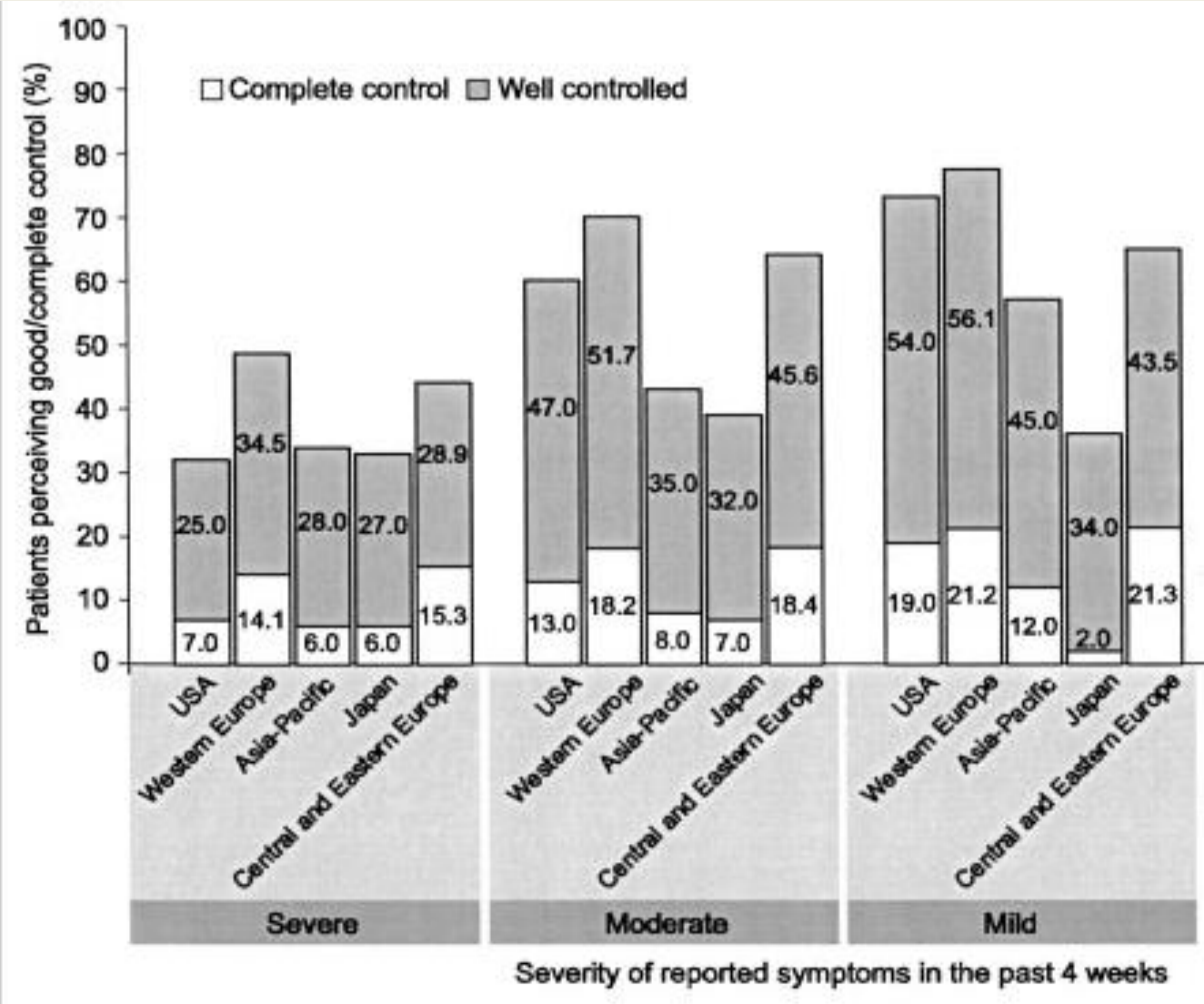
- 2004 survey of 2500 US asthmatics
 - 57% mild to severe
 - Two thirds didn't have spirometry in past year
 - Half never had spirometry
 - 1 of 5 on ICS

Country-region, % patients (range)	Persistent			
	Severe	Moderate	Mild	Intermittent
United States	19	22	16	43

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



Self-assessment of asthma control is poor



Questionnaires

TABLE 1—Questionnaires for Measuring Asthma Control in Children

Name of test	Age	Number of items	Scoring	Recall period	MID ^a
Asthma Control Test (ACT)	adults child ≥ 12 years	5 items	≤ 19 : uncontrolled asthma Range: 5–25	4 weeks	3 (adults) 2 (children)
Childhood Asthma Control Test (C-ACT)	child: 4–12 years	7 items: 4 child 3 parent	≤ 19 : uncontrolled asthma Range: 5–27	4 weeks	2
Asthma Control Questionnaire (ACQ)	adults child 6–16 years	7 items, including FEV1	≤ 0.75 controlled asthma ≥ 1.5 uncontrolled asthma Range: 0–6	1 week	0.5
Asthma Therapy Assessment Questionnaire (ATAQ)	adults child 5–17 years	4 items	0: controlled asthma ≥ 1 : uncontrolled asthma (1–2: not well controlled; 3–4 very poorly controlled) Range: 0–4	4 weeks	No MID
Test for Respiratory and Asthma Control in Kids (TRACK)	child < 5 years	5 items	< 80 : uncontrolled asthma ≥ 80 : controlled asthma	4 weeks (oral steroid courses 12 months)	10

^aMID: minimal important difference.

ATAQ

- Parent fills out for 5-17 y.o. pts
- 4 domains
 1. Asthma control
 2. Attitude and behavior
 3. Self-efficacy
 4. Patient-provider communication
- Simple yes or no questions
- Scores are consistent with:
 - Asthma-related hospitalizations
 - ER or urgent care visits
 - Primary care visits

Pediatric/Adolescent Asthma Therapy Assessment Questionnaire

Patient Name: _____

ID Number: _____

Physician Name: _____ Date: _____

Please have the parent or guardian complete this questionnaire.

INSTRUCTIONS: Check 1 answer to each question and enter point value (0 or 1) on line

			Control Issues	Other Issues
1. In the past 4 weeks, did your child:				
a) Have wheezing or difficulty breathing when exercising?	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No (0)	<input type="checkbox"/> Unsure (1)	
b) Have wheezing during the day when not exercising?	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No (0)	<input type="checkbox"/> Unsure (1)	
c) Wake up at night with wheezing or difficulty breathing?	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No (0)	<input type="checkbox"/> Unsure (1)	
d) Miss days of school because of his/her asthma?	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No (0)	<input type="checkbox"/> Unsure (1)	
e) Miss any daily activities (such as playing, going to a friend's house, or any family activity) because of asthma?	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No (0)	<input type="checkbox"/> Unsure (1)	
2. Does your child use an inhaler or a nebulizer for quick relief from asthma symptoms?*				
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure	
(If Yes) In the past 4 weeks, what was the greatest number of times in 1 day your child used this inhaler/nebulizer?				
0	<input type="checkbox"/> (0)	5 to 6	<input type="checkbox"/> (1)	
1 to 2	<input type="checkbox"/> (0)	More than 6	<input type="checkbox"/> (1)	
3 to 4	<input type="checkbox"/> (1)*	Enter score _____		
3. Has your child ever had a prescription for an asthma medicine that is NOT used for quick relief but is used to control his/her asthma?				
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure	
(If Yes or Unsure) What best describes how your child takes this medicine now?				
Takes it every day	<input type="checkbox"/> (0)	Only takes it when he/she has symptoms	<input type="checkbox"/> (1)	
Takes it some days, but not other days	<input type="checkbox"/> (1)	Never takes it	<input type="checkbox"/> (1)	
Used to take it, but now does not	<input type="checkbox"/> (1)	Enter score _____		
4. Are you dissatisfied with any part of your child's current asthma treatment?				
	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No (0)	<input type="checkbox"/> Unsure (1)	
5. Do you believe that:				
a) Your child's asthma was well controlled in the past 4 weeks?	<input type="checkbox"/> Yes (0)	<input type="checkbox"/> No (1)	<input type="checkbox"/> Unsure (1)	
b) Your child is able to take his/her asthma medicine(s) as directed?	<input type="checkbox"/> Yes (0)	<input type="checkbox"/> No (1)	<input type="checkbox"/> Unsure (1)	
c) Your child's medicine(s) is useful for controlling his/her asthma?	<input type="checkbox"/> Yes (0)	<input type="checkbox"/> No (1)	<input type="checkbox"/> Unsure (1)	
6. During this office visit, would you like the doctor to discuss:				
a) Different types of drugs available to control asthma?	<input type="checkbox"/> (1)			
b) Your child's asthma treatment options?	<input type="checkbox"/> (1)			
c) How your child prefers to take his/her asthma medicine(s)?	<input type="checkbox"/> (1)			
d) Other issues?	<input type="checkbox"/> (1)			
Enter score _____				
Add numbers in the light blue area and enter total SCORE here.				
Add numbers in the dark blue area and enter total SCORE here.				
If either SCORE is 1 or greater, discuss questionnaire with your doctor.				

*This reflects a lower threshold to identify potential control problems than was used in the ATAQ validation studies. This modification was designed to encourage patients and providers to discuss how asthma medications are being used.

TRACK

- Parent completes for child under age 5
- 5 questions/domains
 - Perception
 - Activity limitation
 - Night awakening
 - Use of reliever
 - Use of oral corticosteroids*
- Conforms with latest EPR-3 by NIH
- * Previous exacerbations predict future ex.

TRACK™ Test for Respiratory and Asthma Control in Kids

For kids under 5 years of age

Who should use TRACK?

This simple test can help determine if your child's breathing problems are not under control.

The test was designed for children who

- Are under 5 years of age **AND**
- Have a history of 2 or more episodes of wheezing, shortness of breath, or cough lasting more than 24 hours **AND**
- Have been previously prescribed bronchodilator medicines, also known as quick-relief medications (eg, albuterol, Ventolin®, Proventil®, Maxair®, ProAir®, or Xopenex®), for respiratory problems **OR** have been diagnosed with asthma

How to take TRACK

Step 1: Make a check mark in the box below each of your selected answers.

Step 2: Write the number of your answer in the score box provided to the right of each question.

Step 3: Add up the numbers in the individual score boxes to obtain your child's total score.

Step 4: Take the test to your child's health care provider to talk about your child's total TRACK score.

					Score
1	During the <u>past 4 weeks</u> , how often was your child bothered by breathing problems, such as wheezing, coughing, or shortness of breath?				<input type="text"/>
	Not at all <input type="checkbox"/> 20	Once or twice <input type="checkbox"/> 15	Once every week <input type="checkbox"/> 10	2 or 3 times a week <input type="checkbox"/> 5	4 or more times a week <input type="checkbox"/> 0
2	During the <u>past 4 weeks</u> , how often did your child's breathing problems (wheezing, coughing, shortness of breath) wake him or her up at night?				<input type="text"/>
	Not at all <input type="checkbox"/> 20	Once or twice <input type="checkbox"/> 15	Once every week <input type="checkbox"/> 10	2 or 3 times a week <input type="checkbox"/> 5	4 or more times a week <input type="checkbox"/> 0
3	During the <u>past 4 weeks</u> , to what extent did your child's breathing problems, such as wheezing, coughing, or shortness of breath, interfere with his or her ability to play, go to school, or engage in usual activities that a child should be doing at his or her age?				<input type="text"/>
	Not at all <input type="checkbox"/> 20	Slightly <input type="checkbox"/> 15	Moderately <input type="checkbox"/> 10	Quite a lot <input type="checkbox"/> 5	Extremely <input type="checkbox"/> 0
4	During the <u>past 3 months</u> , how often did you need to treat your child's breathing problems (wheezing, coughing, shortness of breath) with quick-relief medications (albuterol, Ventolin®, Proventil®, Maxair®, ProAir®, Xopenex®, or Primatene® Mist)?				<input type="text"/>
	Not at all <input type="checkbox"/> 20	Once or twice <input type="checkbox"/> 15	Once every week <input type="checkbox"/> 10	2 or 3 times a week <input type="checkbox"/> 5	4 or more times a week <input type="checkbox"/> 0
5	During the <u>past 12 months</u> , how often did your child need to take oral corticosteroids (prednisone, prednisolone, Orapred®, Prelone®, or Decadron®) for breathing problems not controlled by other medications?				<input type="text"/>
	Never <input type="checkbox"/> 20	Once <input type="checkbox"/> 15	Twice <input type="checkbox"/> 10	3 times <input type="checkbox"/> 5	4 or more times <input type="checkbox"/> 0

The brands mentioned herein are trademarks of their respective owners and are not trademarks of the AstraZeneca group of companies. The makers of these brands are not affiliated with and do not endorse AstraZeneca or its products.

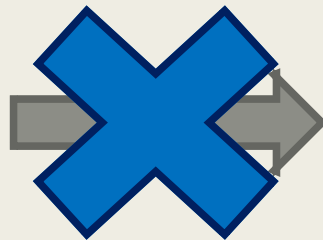
Please see reverse side for an explanation of what your child's total TRACK score means.

Total

Summary

- High prevalence
- High \$ cost
- High quality of life cost

- Inadequate assessment
- Underestimated severity



Compromised
follow-up and
treatment

Thank you for your attention

- Please take 60 seconds to complete a questionnaire

References

Skinner EA, Diette GB, Algatt-Bergstrom PJ, Nguyen TT, Clark RD, Markson LE, and AW Wu. 2004. The asthma therapy assessment questionnaire (ATAQ) for children and adolescents. *Disease Management*. Winter;7(4):305-13

Diette GB, Sajjan SG, Skinner EA, Weiss TW, Wu AW, and LE Markson. 2009. Using the pediatric asthma therapy assessment questionnaire to measure asthma control and healthcare utilization in children. Dec 1;2(4):233-41

Chipps B, Zeiger RS, Murphy K, Mellon M, Schatz M, Kosinski M, Lampl K, and S Ramachandran. 2011. Longitudinal validation of the test for respiratory and asthma control in kids in pediatric practices. *Pediatrics*. Mar;127(3):e737-47

Ather, J.L., Chung, M., Hoyt, L.R., Randall, M.J., Georgsdottir, A., Daphtary, N.A., Aliyeva, M.I., Suratt, B.T., Bates, J.H.T., Irvin, G.G., Russell, S.R., Forgione, Dixon, A.E., and M.E. Poynter. Weight loss decreases inherent and allergic methacholine hyperresponsiveness in mouse models of diet-induced obese asthma. In press, *American Journal of Respiratory Cell and Molecular Biology*, April 04, 2016.

Rabe KF, Adachi M, Lai CK, Soriano JB, Vermeire PA, Weiss KB and ST Weiss. Worldwide severity and control of asthma in children and adults: the global asthma insights and reality surveys. *Journal of Clinical Allergy and Immunology*. 2004 Jul;114(1):40-7

Bergen SV, Vaessen-Verberne AA, Jongste JC, and MW Pijnenburg. Asthma control questionnaires in the management of asthma in children: a review. *Pediatric Pulmonology*. 2015 50:202-208

Department of Health Vermont: http://healthvermont.gov/research/asthma/documents/asthma_burden_report.pdf