AnMed Health's *Asthmania Academy*

A Community-Focused Asthma Education Program Model

"Developing a Generation of "Control Freaks"

Association of Asthma Educators Conference 2015
"The Asthma Team – Making wishes come true"

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Conflict of Interest

I have no real or perceived conflict of interest that relates to this presentation. Any use of brand names is not in any way meant to be an endorsement of a specific product, but to merely illustrate a point of emphasis.

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Objectives

Learning objectives for this presentation:

- Identify issues contributing to poor asthma control (Case scenario)
- Identify core beliefs that are important as we approach issues of asthma control (evidence-based).
- Discuss a successful asthma self-management education program model (Asthmania Academy)
  - Program model
  - Outcomes
  - Fiscal sustainability
- Have a little fun along the way ☺

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Asthma – under the radar

- Deaths are rare compared to other diseases:
  - CDC reports ~3500 people die each year from asthma.
- Other causes:
  - Heart disease: 611,105
  - Cancer: 584,881
  - Chronic lower respiratory diseases: 149,205
  - Stroke (cerebrovascular diseases): 128,978
  - Accidents (unintentional injuries): 130,557
  - Alzheimer's disease: 84,767
  - Diabetes: 75,578

Data sources: National Center for Health Statistics 2013 data

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Problem?

- 1980 – 2008: U.S. asthma cases more than tripled
  (from an estimated 6.7 million to 23.4 million).
- 1990 – 2010: Costs for asthma have more than tripled
  (from an estimated $6.2 billion to an estimated $20.7 billion).
- In one year (2003), an estimated 12.8 million school days were missed due to asthma

Data sources: National Center for Health Statistics, National Survey of Children's Health, SC BRFSS, SC Vital Records, SC Office of Research & Statistics

Akinbami LJ. The State of Childhood Asthma - United States, 1980-2005. Advance Data from Vital and Health Statistics: no 381, Revised December 29, 2006. Hyattsville, MD: National Center for Health Statistics, 2006.

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Problem?

- South Carolina
  - Asthma is the leading cause of hospitalization for children
  - Over 137,000 ER visits were due to asthma during 2009-2011
  - >36,000 of these visits were children <18 yrs.
- California
  - In 2010, 12.5% of children had been diagnosed with asthma (at some point).
  - New cases each year are estimated at approximately 93,150 among adults and 96,550 among children
  - In 2010 alone - 179,972 asthma ED visits,

SC Dept. of Health and Environmental Control (DHEC)
California Breathing, Environmental Health Investigations Branch of the California Department of Public Health

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Key Point

- Yes - Asthma is a problem
- Not getting better despite:
  - A better understanding of the disease
  - Updated guidelines
  - New medications…

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Exploring asthma through a case scenario

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Cody is an 8 yr old boy with asthma. One night he developed a bit of a cough so his mom gave him some cough medicine. He was not in any acute distress.

The next morning Cody seemed a little tired, but otherwise normal so his mom went ahead and took him to school. During class, he began to cough and couldn't catch his breath so his teacher excused him to get some water. The principal saw Cody in the hall and thought that Cody should go see the school nurse. By this time, Cody was wheezing and in a good bit of distress so the nurse called his parents and 911.

Cody was taken via ambulance to the ER where he received steroids and several albuterol treatments with little improvement. A chest x-ray revealed hyperinflated lung fields. The decision was made to admit Cody to the hospital.

In the hospital, he received scheduled albuterol treatments for another day and half, along with additional steroids, and some antibiotics "just to be on the safe side". While Cody was hospitalized, he and his family received extensive asthma education. He was discharged home after a 2 day hospital stay with prescriptions for Flovent, Albuterol, Singulair, and a steroid taper over several days. Appointments were made for follow-up with his primary care doctor and with an asthma specialist. His family stopped by the pharmacy to fill his prescriptions on the way home, and Cody was back to school in another day or so.

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Alone? Any treatment by the nurse?

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Anything else? Atrovent? HeliOx? Mag Sulfate?

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Key points…

1. Asthma is a problem…
2. Furthermore, it is a multi-faceted problem and there a LOT of people who have the potential to affect outcomes …

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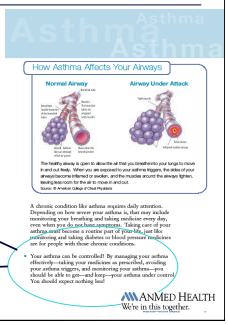
Is it true? Do you believe it…?

From the National Heart, Lung, and Blood Institute's 2007 publication *So You Have Asthma*

Your asthma can be controlled!

By managing your asthma effectively—taking your medicines as prescribed, avoiding your asthma triggers, and monitoring your asthma—you should be able to get—and keep—your asthma under control.

You should expect nothing less!



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Can guideline-defined asthma control be achieved? The Gaining Optimal Asthma control study.

"Patients achieved…well-controlled asthma with combination inhaled salmeterol/fluticasone more rapidly and at a lower dose of corticosteroid than with inhaled fluticasone alone."

"Our results demonstrate that in the majority of patients with uncontrolled asthma *across a wide range of severities,* ***comprehensive guideline-defined control can be achieved and maintained.*** *"*

Am J Respir Crit Care Med. 2004 Oct 15;170(8):836-44. Epub 2004 Jul 15.
Can guideline-defined asthma control be achieved? The Gaining Optimal Asthma ControL study.
Bateman ED, Boushey HA, Bousquet J, Busse WW, Clark TJ, Pauwels RA, Pedersen SE; GOAL Investigators Group.

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Achieving asthma control in the inner city: do the National Institutes of Health Asthma Guidelines really work?

"For children living in inner cities, asthma tends to be more frequent and severe….. "

"Based on the observations from the Asthma Control Evaluation study, ***we were impressed that a systematic guidelines-based approach improved asthma control*** significantly over the course of the 1-year treatment period."

Achieving asthma control in the inner city: do the National Institutes of Health Asthma Guidelines really work?
Szefler SJ ; Gergen PJ ; Mitchell H ; Morgan W. - **J Allergy Clin Immunol. 2010; 125(3):521-6**

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Management of asthma based on exhaled nitric oxide in addition to guideline-based treatment for inner-city adolescents and young adults: a randomised controlled trial.

- 546 eligible participants (age 12-20) randomly assigned to 46 weeks of either:
  - Standard treatment (EPR-3, symptom-based adjustment of medications), or
  - Standard treatment modified on the basis of measurements of fraction of exhaled NO.
- ***Conventional asthma management [based on guidelines] resulted in good control of symptoms*** *in most participants.* The addition of fraction of exhaled NO as an indicator of asthma control resulted in higher doses of inhaled corticosteroids, without clinically important improvements in symptomatic asthma control.

Szefler SJ, Mitchell H, Sorkness CA, Gergen PJ, O'Connor GT, Morgan WJ, Kattan M, Pongracic JA, Teach SJ, Bloomberg GR, Eggleston PA, Gruchalla RS, Kercsmar CM, Liu AH, Wildfire JJ, Curry MD, Busse WW.
Lancet. 2008 Sep 20;372(9643):1065-72.

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Key points…

1. Asthma is a problem…
2. It is a multi-faceted problem…
3. But – asthma can be controlled using guideline-based education/management strategies.

Are we missing something – and if so – what????

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A few words about "The Asthma Guidelines"

- National Heart, Lung, and Blood Institute's "Guidelines for the Diagnosis and Management of Asthma"
  - Historically - revised or updated ~every 5 years
  - Most recent is the Expert Panel Report 3 (2007)
  - 440 pages including references etc.
- Sometimes referred to as:
  - "The Guidelines"
  - "EPR – 3"
  - NIH Guidelines
  - NHLBI Guidelines
- Foundation for good asthma care – NOT federal law

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Physician adherence to the national asthma prescribing guidelines: Evidence from national outpatient survey data in the United States

"Physician prescribing of asthma pharmacotherapy does not adequately comply with EPR-2 treatment guidelines."

Prakash Navaratnam MPH, PhD; Sujata S. Jayawant MS; Craig A. Pedersen PhD; Rajesh Balkrishnan PhD
Annals of Allergy, Asthma and Immunology 2008, vol. 100, no. 3, pp. 216 - 221

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Reasons for Pediatrician Nonadherence to Asthma Guidelines

"Although pediatricians [84%] in this sample were aware of the NHLBI guidelines, a variety of barriers precluded their successful use.

To improve NHLBI guideline adherence, *tailored interventions that address the barriers… need to be implemented*."

- Reasons given for non-adherence:
  - Lack of time
  - Lack of support staff
  - Lack of reimbursement
  - Lack of agreement with guidelines

Michael D. Cabana, MD, MPH; Cynthia S. Rand, PhD; Oren J. Becher,MD; Haya R. Rubin, MD, PhD
Arch Pediatr Adolesc Med. 2001;155:1057-1062.

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Barriers to adherence to asthma management guidelines among inner-city primary care providers.

- 202 providers from 4 major general medicine practices in East Harlem, NY.
- Adherence to the NHLBI guidelines for ICS use (62%) and for influenza vaccinations (73%).
- Adherence for asthma action plan use (9%), and for allergy testing (10%).
- **Conclusions:**
  - Lack of outcome expectancy and poor provider self-efficacy prevent providers from adhering to national asthma guidelines.
  - ***Efforts to improve provider adherence should address these specific barriers***.

Ann Allergy Asthma Immunol. 2008 Sep;101(3):264-70. Wisnivesky JP, Lorenzo J, Lyn-Cook R, Newman T, Aponte A, Kiefer E, Halm EA.

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What Nurses in Primary Care Practices Know About Asthma Care: Results from a National Survey

- < 10% [of nurses surveyed] identified inflammation of the airways as the underlying condition…
- 51% believed the underlying condition could be treated, while 44% believed only the symptoms could be treated, and 5% didn't know.
- 35% said they were aware of the National Heart, Lung, and Blood Institute's (NHLBI) asthma guidelines.

Conclusions: Nurses working in ambulatory primary care settings may lack sufficient knowledge to effectively teach and participate in asthma care.

Journal of Asthma 2002, Vol. 39, No. 7 , Pages 667-671
Professor Susan Janson, D.N.Sc., R.N., A.N.P., F.A.A.N & Kevin Weiss, M.D

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Key points…

1. Asthma is a problem…
2. It is a multi-faceted problem…
3. It's a problem that can be addressed using guideline-based education/management strategies…
4. However – use of guidelines is not consistent among *physicians or non-physician* healthcare professionals…

Are we missing something?

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The Asthmania Academy Model

(See process map with handouts)

Designed to address specific issues:

1. Guideline knowledge/mgmt/education is not optimal across the continuum of care; consistent use of guidelines is an important first step.
2. PCPs don't have the time or staff to provide in-depth, individualized asthma education.
3. The inpatient setting and the ED likely have teachable moments, but they are not ideal settings for learning – need clear and consistent messages, action plans, etc.
4. Children with asthma (and their families) are getting very mixed messages about their disease (remember all those people Cody came across…?)
5. Many parents don't know what well-controlled asthma is supposed to look like ("he was only in the hospital once this year", "she's fine as long as she takes her albuterol"…

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Focus is on gaining asthma control…

Asthmania Academy

- Opened in January 2009
- One of 3 programs in the United States with Asthma Self-Management Education (ASME) Certification
- Staffed by certified asthma educators, respiratory therapists, and pediatric hospitalists on demand
- Operates 2 days a week
- Made possible through a re-allocation of internal resources

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Asthmania Academy Process

- Referrals - IP, PCP, Kids' Care/ER, School Nurse, Self-referral
- We perform lung function testing, provide individualized asthma education, and co-develop a family centric written asthma plan reviewed by an Asthmania Academy physician
- The patient gains a better understanding of how to self manage their condition, a written action plan with copies for the school nurse and extended family, and phone/email info for a certified asthma educator

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Asthmania Academy Process

- The Patient's Primary Care Physician receives: a report with EPR-3 Guideline-based recommendations, a copy of the asthma action plan, and a copy of diagnostic study results
- Connect patient with resources:
  - Family Connection's Project Breathe Easy (Community Health Worker home visits)
  - Work to find a PCP if they don't have one
- IMPORTANT CONCEPT – We are not, and cannot be, the patients health care provider. We provide education and services that PCPs (and even pulmonology) offices can not do with time-limited office visits.

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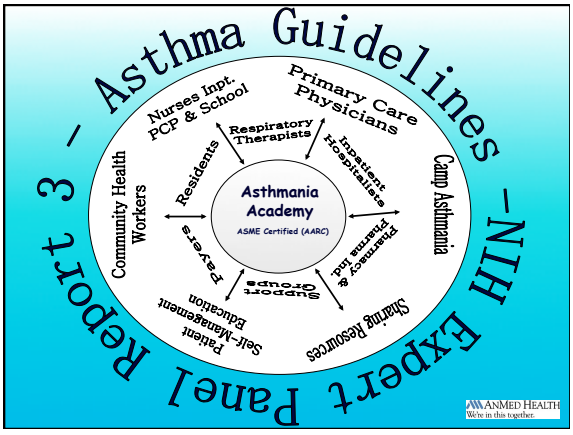

Our 3R's Definition

- Asthma is….
  - ***Reactive***: flare ups usually happen in response to a trigger such as a cold, allergies or cigarette smoke
  - ***Repetitive***: patients will have flare ups again and again, especially if they are not on the right medications
  - ***Reversible***: symptoms improve with Albuterol, which opens up the airways quickly, and with steroids that calm the swelling down over time

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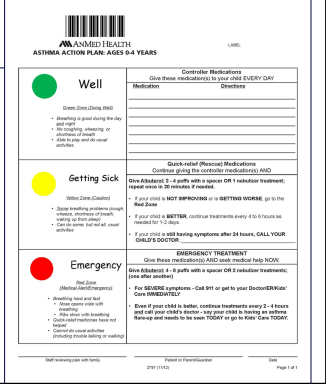
Common Asthma Action Plans


ANMED HEALTH
ASTHMA ACTION PLAN: AGES 0-4 YEARS

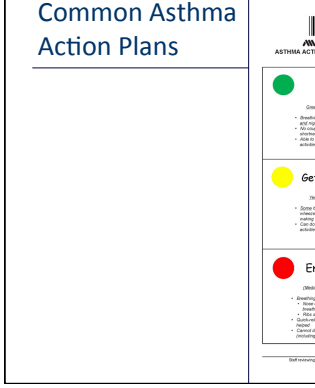
Well
Getting Sick
Emergency

Controller Medications
Give these medication(s) to your child EVERY DAY
Medication | Directions

Quick-relief (Rescue) Medications
Continue giving the controller medication(s) AND

EMERGENCY TREATMENT
Give these medication(s) AND seek medical help NOW.

Common Asthma Action Plans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ASTHMA ACTION PLAN: AGES 5 YEARS AND OLDER

Well
Getting Sick
Emergency

Controller Medications
Take these medications EVERY DAY
Medication | Directions

Quick-relief (Rescue) Medications
Continue the controller medications AND

EMERGENCY TREATMENT
Give these medication(s) AND seek medical help NOW.

Control Freaks!

(Goal is always Well-Controlled Asthma)

- *Full participation in physical activities (PE, team sports, etc,)*
- *Rare school absences*
- *"Colds" are short (3-4 days)*
- *Uninterrupted sleep*
- *Rare rescue medicines (1 – 2 X / mo)*
- *Infrequent oral steroids (1 – 2 X / yr)*
- *No hospitalizations*
- *Normal pulmonary function*
- *Few medication side - effects*

Asthmania Academy / AnMed Health Outcomes

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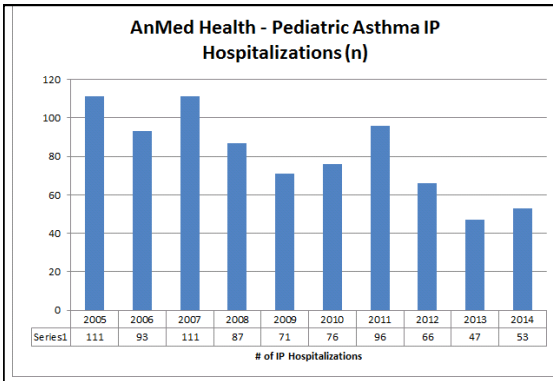
2013 compared with 2008 (pre-Asthmania)

AnMed Health has achieved:

- 46.0% reduction in the number of pediatric asthma hospitalizations
- 52.5% reduction in pediatric asthma patient days
- 12.0% reduction in average length of stay for pediatric asthma



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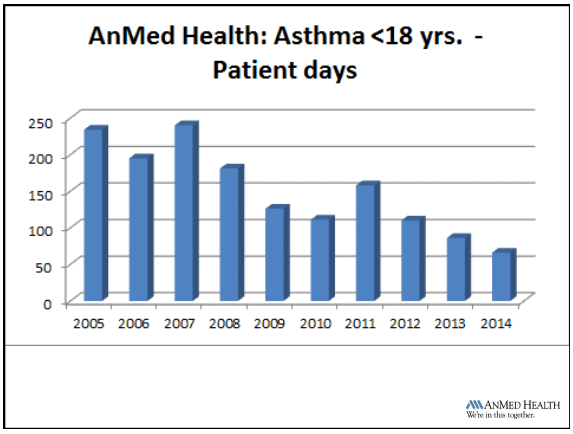

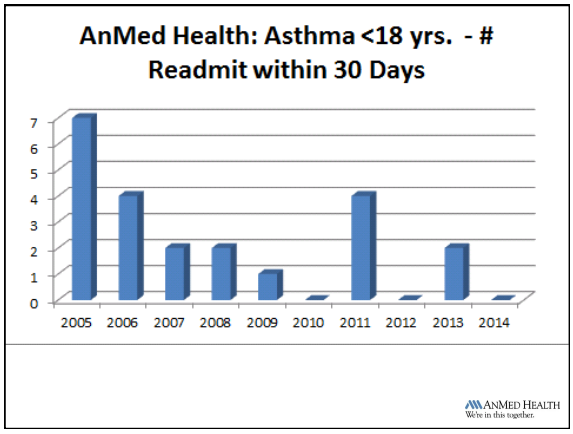

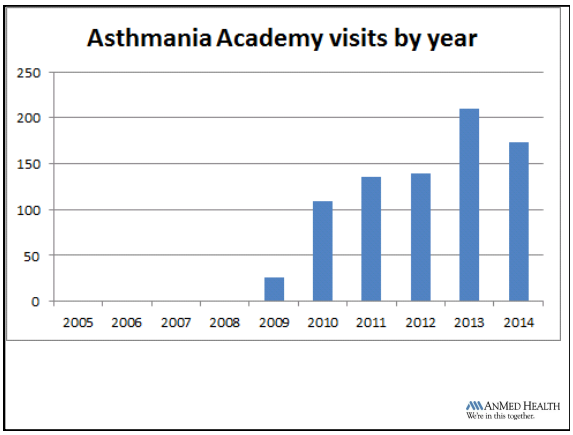

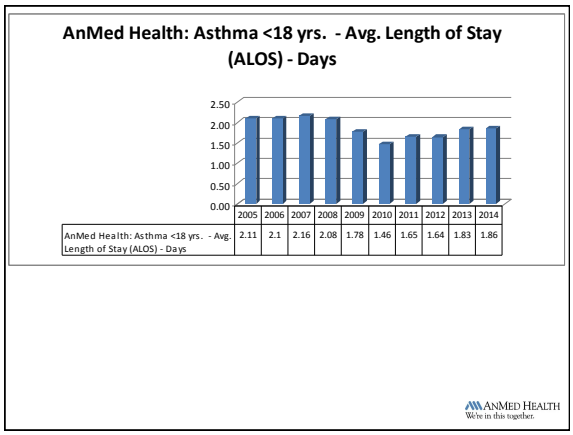

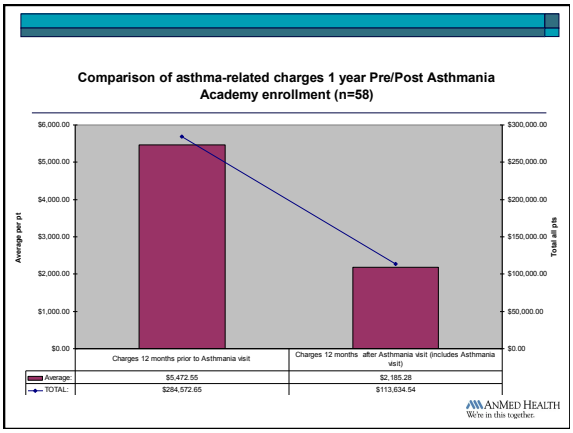

The future

- Partnering with local schools and school nurses
- Technology –
  - Using telemedicine to provide asthma education
  - Integrate the use of Impulse Oscillometry (IOS) for children unable to perform spirometry
- Providing asthma educators to local physician practices
- Petitioning Medicaid and other Payers to recognize the value of high quality asthma education and to provide reimbursement.

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This is why we do it….

Gregory

"That boy is 100% better…I used to worry about him. Now, I just let him go [play]. He's not rasping and wheezing anymore."

Jody, grandmother of Asthmania Academy patient, Gregory

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Questions or comments?

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