



Carolinas HealthCare System

# Shared Decision Making for Asthma Care

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*Agency for Healthcare Research and Quality*



Asthma Dissemination Around Patient-centered Treatments in North Carolina

*Patient-Centered Outcomes Research Institute*



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# Background

- **Asthma** is a complex chronic illness that is difficult to manage, particularly in disadvantaged populations with multiple barriers
  - Disparities in health outcomes
  - Poor medical compliance
  - High healthcare costs
- Failure to address patients' individual goals and preferences may contribute to non-adherence



# Shared Decision Making

- A process based on principles of motivational interviewing that takes into account patients' individual treatment goals and medication preferences, aiming to promote adherence and improve outcomes
- A proven and valuable tool in chronic disease self-management



# Shared Decision Making: A Meeting of 2 Experts

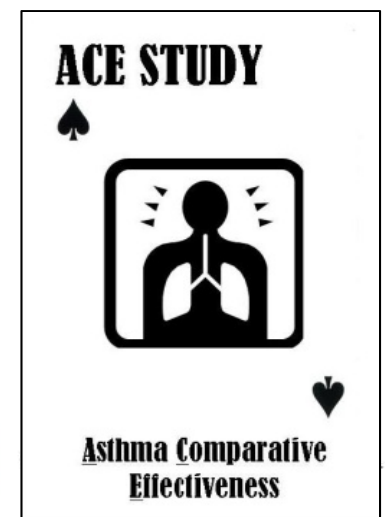
**Patient** provides information on: values, preferences, lifestyle, beliefs and current knowledge about the illness and its treatment

**Physician/ACP** provides all relevant disease information: benefits and risks of various treatments and potential effects on the patient's psychological and social wellbeing



# Objectives

- Develop a SDM intervention for patients with asthma using a participatory approach
- Improve outcomes by implementing SDM asthma clinics
- Advance chronic disease self-management of asthma through SDM





# Setting

- September 2010 – September 2013
- 6 PBRN primary care practices within CHS across Charlotte, NC
- “Safety net” practices serving a predominantly Medicaid, Medicare and indigent population, encompassing the majority of the community’s poorly controlled asthma patients
- English- and Spanish-speaking pediatric, adolescent, and adult patients with persistent and/or poorly controlled asthma



# Methods

- A participatory approach engaged core members from each practice, including a physician champion
- Monthly SDM advisory board meetings
  - Location rotated to each site to foster inclusiveness
- Practice facilitator trained providers, staff and health coaches in SDM using an evidence-based decision support toolkit
  - ACE Study tools were developed by the Better Outcomes of Asthma Treatment (BOAT) study group and revised based on the 2007 NIH asthma guidelines
    - Adapted for pediatrics, Hispanics, low health literacy





## Methods (cont.)

- The resulting asthma SDM half-day clinics were individualized to capture each practice's unique culture, focusing on sustainability and productivity
- Focus groups with patients and providers were held for process improvement and to provide feedback



## Set the Stage

(Health Coach)

- Establish rapport
- Describe shared decision making approach



## Gather Patient Information

(Health Coach)

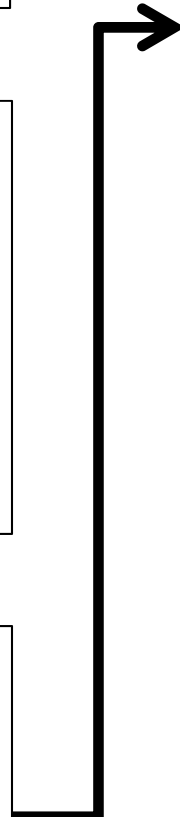
- Asthma symptoms and perceptions of control
- Medication use
- Alternative treatments used
- Environmental triggers
- Identify patient goals



## Provide Information

(Health Coach)

- Determine current understanding of asthma
- Review what asthma is and how it is treated
- Confirm comprehension of information



## Negotiation

(Health Coach)

- Summarize patient goals and information
- Review spirometry results with patient
- Provide assessment of patient's current symptom control and treatment level
- Determine current asthma severity level
- Work with patient to define medication preferences
- Discuss regimen options
- Negotiate a decision about treatment



## Wrap Up

(Provider)

- Physical examination
- Teach back
- Update Asthma Health Maintenance in the EMR
- Write/Fax prescription(s)
- Review proper inhaler technique
- Give Asthma Action Plan and diary
- Set up follow up appointment





## FORM #1: PATIENT INFORMATION FORM

### *ASTHMA BOTHER*

QUESTION	PROBE	NOTES
• How much does asthma get in the way in terms of your daily living - for example, does it affect your daily life?	<input type="checkbox"/> Activity level <input type="checkbox"/> Work and/or home life <input type="checkbox"/> Relationships with friends/family <input type="checkbox"/> Finances <input type="checkbox"/> How you see yourself <input type="checkbox"/> Anything else?	
• Of these things you just mentioned, what bothers you the most or what would you most like to change?		
• How long have you had asthma?		• Years _____

### *SYMPTOMS*

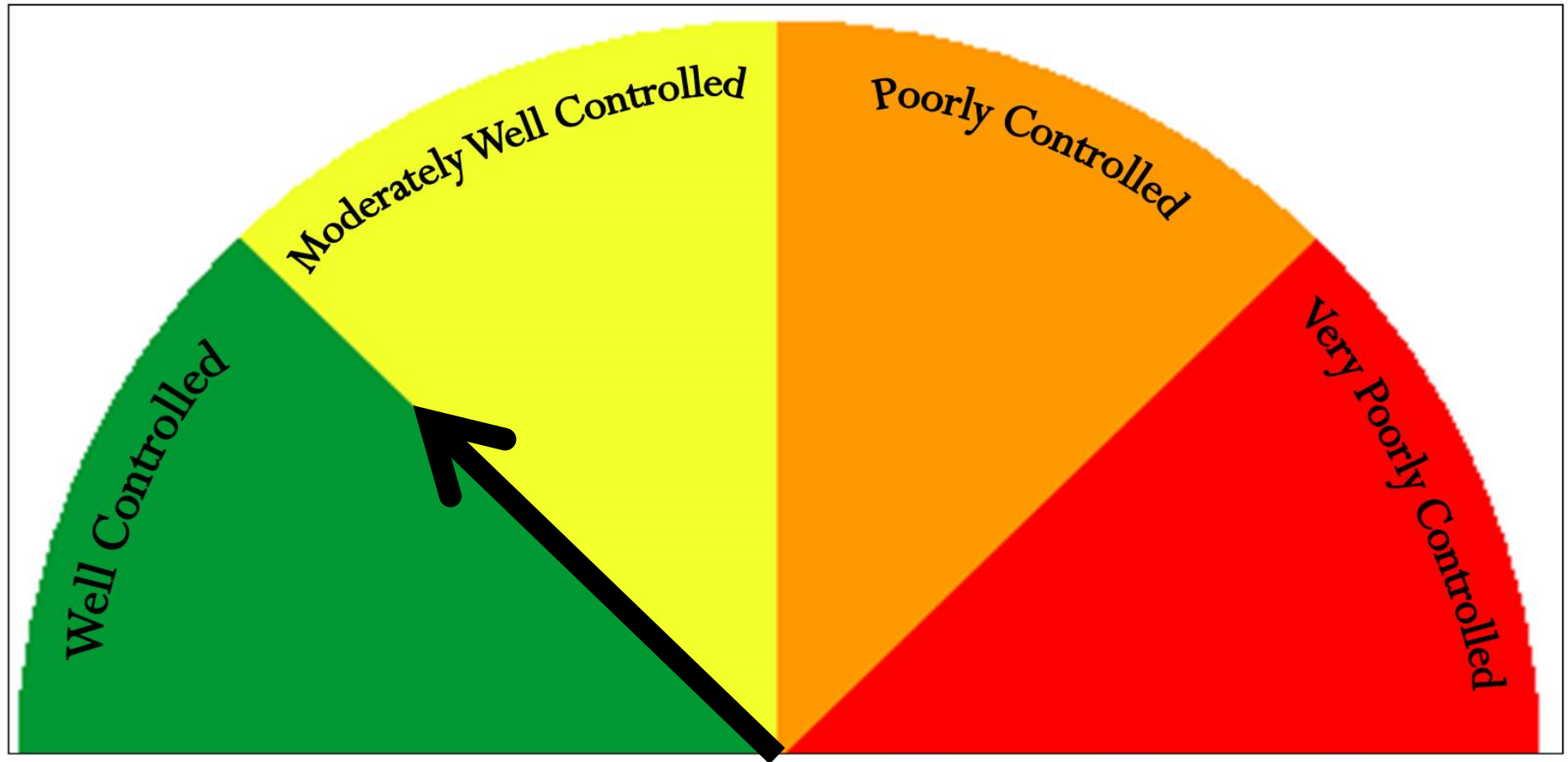
QUESTION	PROBE	NOTES
• In the past 4 weeks, did your asthma wake you up at night (including asthma-related coughing)?	• [If yes] How often?	• Awakened at night? <input type="checkbox"/> Y <input type="checkbox"/> N • Frequency or # of times? _____
• In the past 4 weeks, did you miss any normal daily activity because of your asthma?	• [If yes] How often?	• Missed daily activity? <input type="checkbox"/> Y <input type="checkbox"/> N • Frequency or # of times? _____
• How often do you experience episodes in which your asthma is especially bad (we call these asthma exacerbations, attacks, or flares)?		
• Have you ever had to go to the ER or an urgent care during an asthma attack?	• [If yes] When was the last time?	
• Have you been hospitalized because of your asthma?	• [If yes] When was the last time? • Have you ever been intubated (had a breathing tube inserted)?	
• Do you experience a cough with your asthma?	• [If yes] How often? • What is the cough like?	
• How well-controlled do you think your asthma symptoms are?		

**GO TO FORM #2: HOW WELL CONTROLLED IS YOUR ASTHMA**  
AND HAVE PATIENT INDICATE WHERE THEY THINK THEIR CONTROL IS BY MOVING THE ARROW.

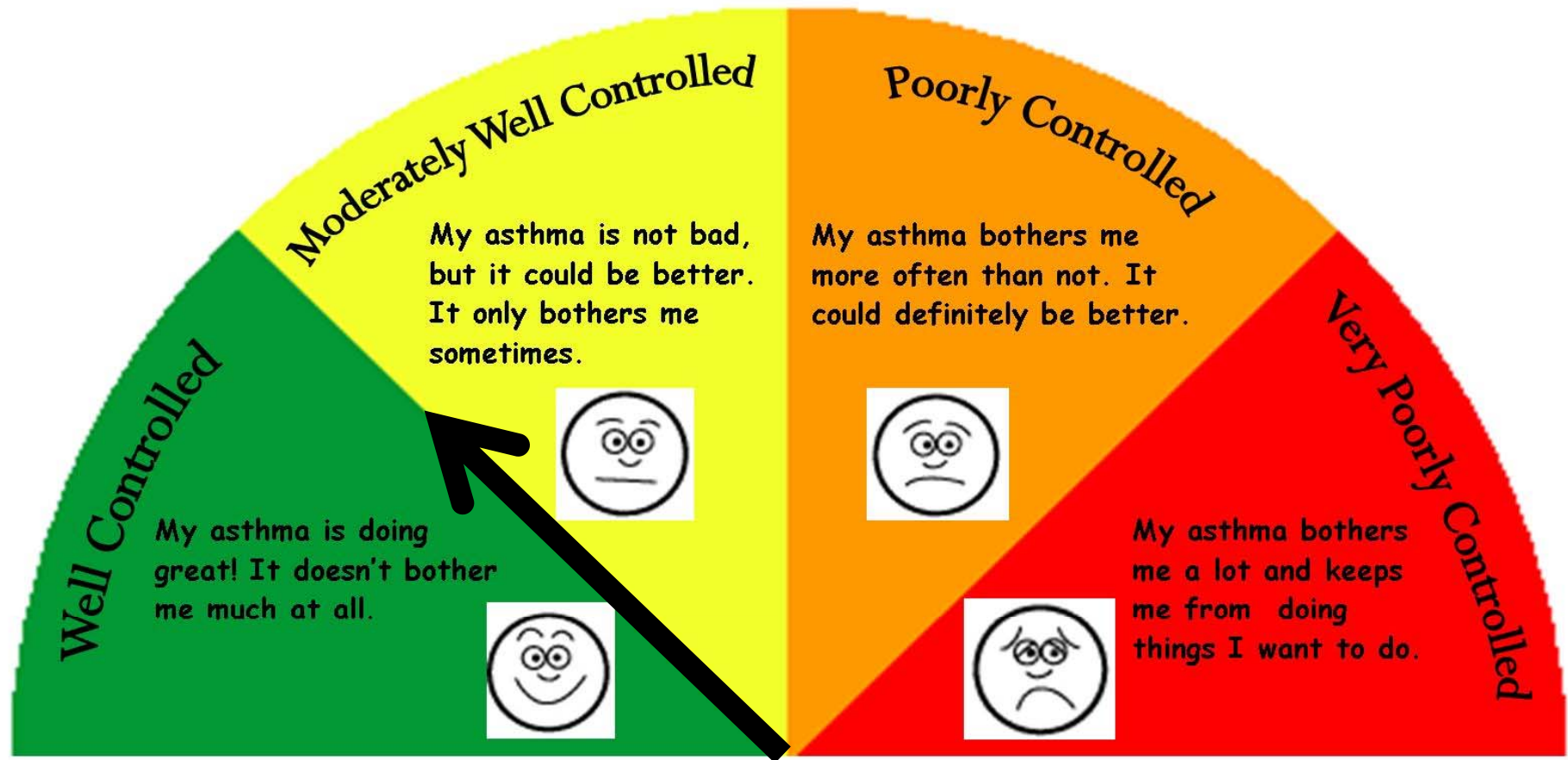
Form completed by: \_\_\_\_\_  
Date: \_\_\_\_\_

EMR STICKER

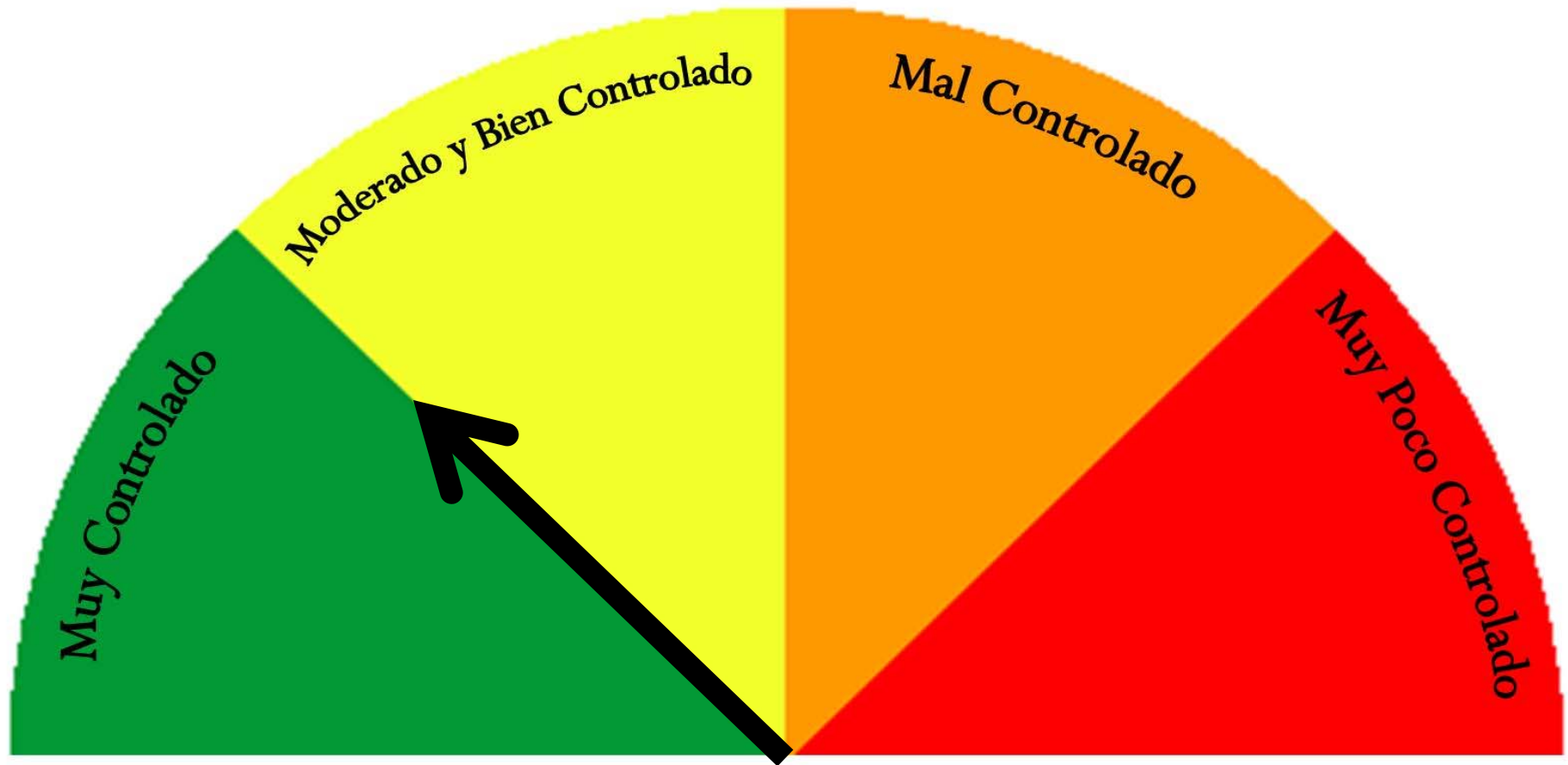
## FORM #2: HOW WELL CONTROLLED IS YOUR ASTHMA?



## FORM #2: HOW WELL CONTROLLED IS YOUR ASTHMA?



## FORMULARIO #2: ¿QUÉ TAN BIEN CONTROLADO ESTÁ SU ASMA?





# ASTHMA RELIEVERS



Generic Albuterol



Ventolin HFA



Albuterol Nebulizer Solution



Proventil HFA



ProAir HFA



Xopenex Nebulizer Solution



Xopenex HFA



# ASTHMA CONTROLLERS



Symbicort



Asmanex Twisthaler



Singulair



Advair Diskus



Advair HFA



Qvar



Pulmicort Respules



Qvar



Flovent HFA



Pulmicort Flexhaler



### FORM #3: ASTHMA TREATMENT GOALS

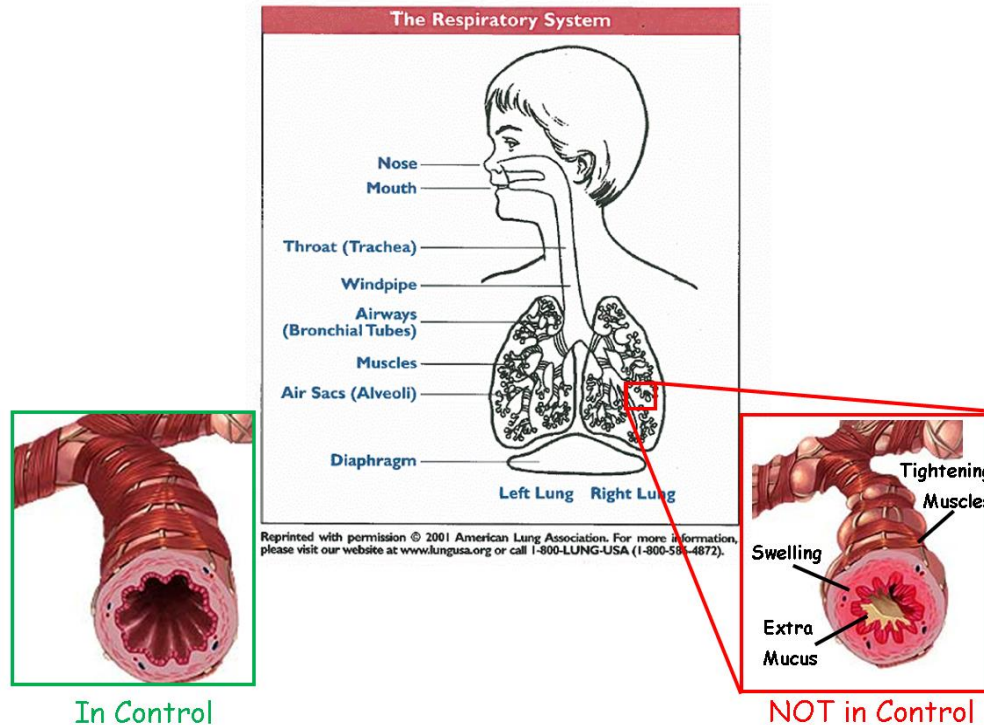
- Activities: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Other Concerns: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### MEDICATION PREFERENCES

- ☐ Control Over Inflammation and Symptoms  
\_\_\_\_\_  
\_\_\_\_\_
- ☐ Side Effects  
\_\_\_\_\_  
\_\_\_\_\_
- ☐ Cost  
\_\_\_\_\_  
\_\_\_\_\_
- ☐ Convenience  
\_\_\_\_\_  
\_\_\_\_\_
- ☐ Other  
\_\_\_\_\_  
\_\_\_\_\_



## Form #4: Facts About Asthma



Asthma is a disease of the airways in your lungs. When someone with asthma breathes in one of their "triggers," it causes their airways to get smaller. Doctors call this "bronchospasm." This makes it harder to breathe and can lead to an asthma attack.

3 main things cause the airways to get smaller:

Swelling/Inflammation

Extra Mucus

Tightening Muscles





# There are 2 types of Asthma Medications

## Controller

- These medicines are taken every day to prevent and control asthma symptoms.
- They do NOT relieve symptoms once they start.
- Controllers work slowly over time to decrease swelling and extra mucus in your air tubes.

- ☒ Swelling/Inflammation
- ☒ Extra Mucus
- ☐ Tightening Muscles

Examples:



Symbicort



Asmanex  
Twisthaler



Singulair



Advair Diskus



Advair HFA



Qvar



Pulmicort Respules



Flovent HFA



Pulmicort Flexhaler

## Rescue

- These medicines are only taken when you have symptoms to relieve asthma symptoms right away.
- Rescue medicines relieve the tightening of muscles around your air tubes.
- Tell your doctor if you use these more than 2 times a week. You may need a stronger controller medication.

- ☐ Swelling/Inflammation
- ☐ Extra Mucus
- ☒ Tightening Muscles

Examples:



Generic Albuterol



Ventolin HFA



Albuterol Nebulizer  
Solution



Proventil HFA



ProAir HFA

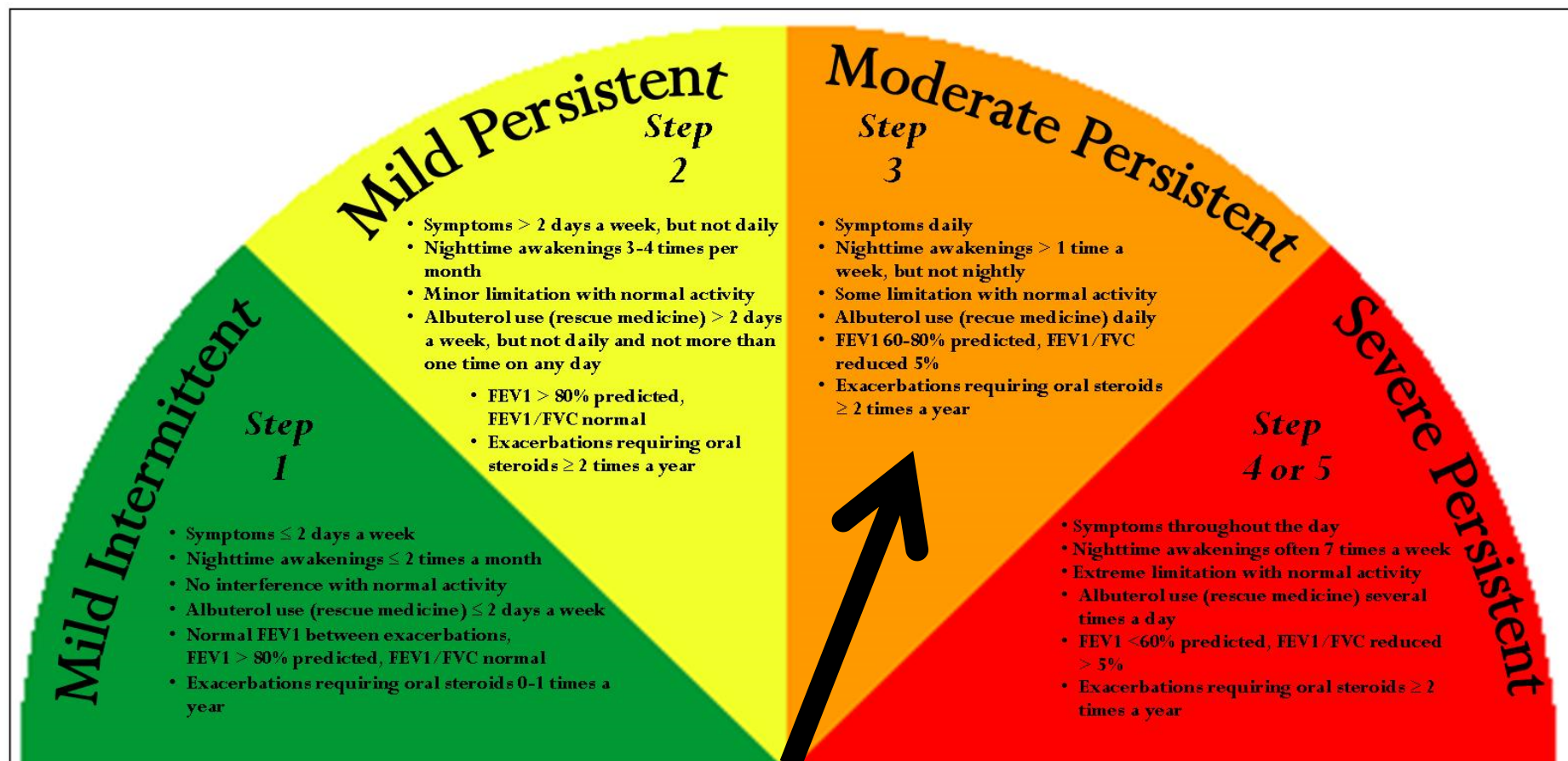


Xopenex Nebulizer  
Solution



Xopenex HFA

## FORM #7: HOW SEVERE IS YOUR ASTHMA?



Use this dial for patients *NOT* on controller medication to initiate treatment  
 $\geq 12$  Years Old



# Medication Options to Control Asthma 12 Years and Older Medicaid Insurance

- \*Singulair dose is 5 mg for ages 12-14 and 10 mg for those 15 years and older
- For Singulair – must complete PA and have documentation of adverse reaction/contraindication to ICS, growth suppression due to ICS, or be on medium dose ICS needing Singulair to achieve control
- For Advair and Symbicort – must complete PA indicating pt's condition is severe enough to warrant ICS/LABA combination product
- For severe persistent asthmatics with allergies may combine Advair or Symbicort with Singulair - listed below as "Additional"
- Other medications (Xopenex, Flovent, Pulmicort, Asmanex) may be obtained through PA; Pulmicort is best for pregnancy/lactation

				listed below as "Additional"							
				• Other medications (Xopenex, Flovent, Pulmicort, Asmanex) may be obtained through PA; Pulmicort is best for pregnancy/lactation							
								Step 5		<u>Preferred</u>	
								<u>Preferred</u>		Same as Step 5 + Oral Steroid Course	
								High-Dose ICS + LABA			
								Advair HFA 230/21 – 2 puffs twice a day			
								Advair Diskus 500/50 – 1 puff twice a day			
								Symbicort 160/4.5 – 2 puffs twice a day			
								<u>Additional</u>			
								High-Dose ICS + LABA + LTRA			
								<u>Less Preferred</u>			
								Advair HFA 230/21 – 2 puffs once a day			
								Advair Diskus 500/50 – 1 puff once a day			
								Symbicort 160/4.5 – 2 puffs once a day			
								Qvar 80 – 4 puffs twice a day + *Singulair 5-10 – 1 daily			
								Qvar 80 – 4 puffs twice a day			

FORM #9: MEDICATION PLANNER

FEATURES THAT MATTER TO ME	<u>CURRENT PLAN</u>	<u>OPTION 1</u>	<u>OPTION 2</u>	<u>OPTION 3</u>

EMR STICKER

## FORM #9: MEDICATION PLANNER

FEATURES THAT MATTER TO ME	<u>CURRENT PLAN</u>	<u>OPTION 1</u>	<u>OPTION 2</u>	<u>OPTION 3</u>
	<b>Albuterol -</b>	<b>Advair Diskus 100/50 -</b>	<b>Qvar 80 -</b>	<b>Qvar 80 - 1 puff bid</b>
	<b>2 puffs prn</b>	<b>1 puff bid</b>	<b>2 puffs bid</b>	<b>+ Singulair 10mg daily</b>
<b>Control</b>	(-)	+ + +	+ +	+
<b>Cost</b>	\$	\$ \$	\$ \$	\$ \$ \$
<b>Side Effects</b>	<b>Slight</b>	<b>Few</b>	<b>Few</b>	<b>More</b>
<b>Convenience</b>	+	+ + +	+ +	+ +
<b>Other</b>				

# FORM #9: MEDICATION PLANNER

FEATURES THAT MATTER TO ME	CURRENT PLAN	OPTION 1	OPTION 2	OPTION 3
	Albuterol - 2 puffs prn	Advair Diskus 100/50 - 1 puff bid	Qvar 80 - 2 puffs bid	Qvar 80 - 1 puff bid + Singulair 10mg daily
Control	(-)	+ + +	+ +	+
Cost	\$	\$ \$	\$ \$	\$ \$ \$
Side Effects	Slight	Few	Few	More
Convenience	+	+ + +	+ +	+ +
Other				

# Asthma Website

- <https://asthma.carolinashealthcare.org/>



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## Primary Care Asthma Tools

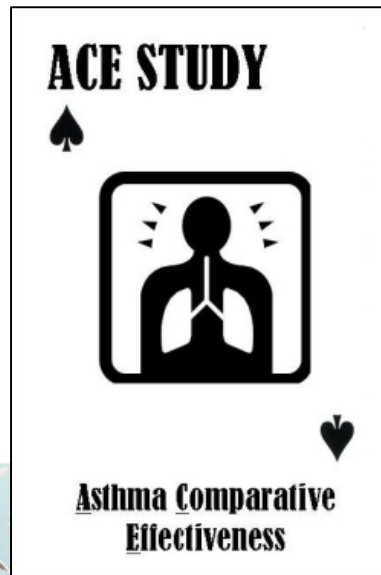
Helping providers make clinical decisions at the point of care.

- › [Asthma Action Plan Generator](#)
- › [Shared Decision Making Toolkit](#)
- › [Implementation Resources](#)



# Results

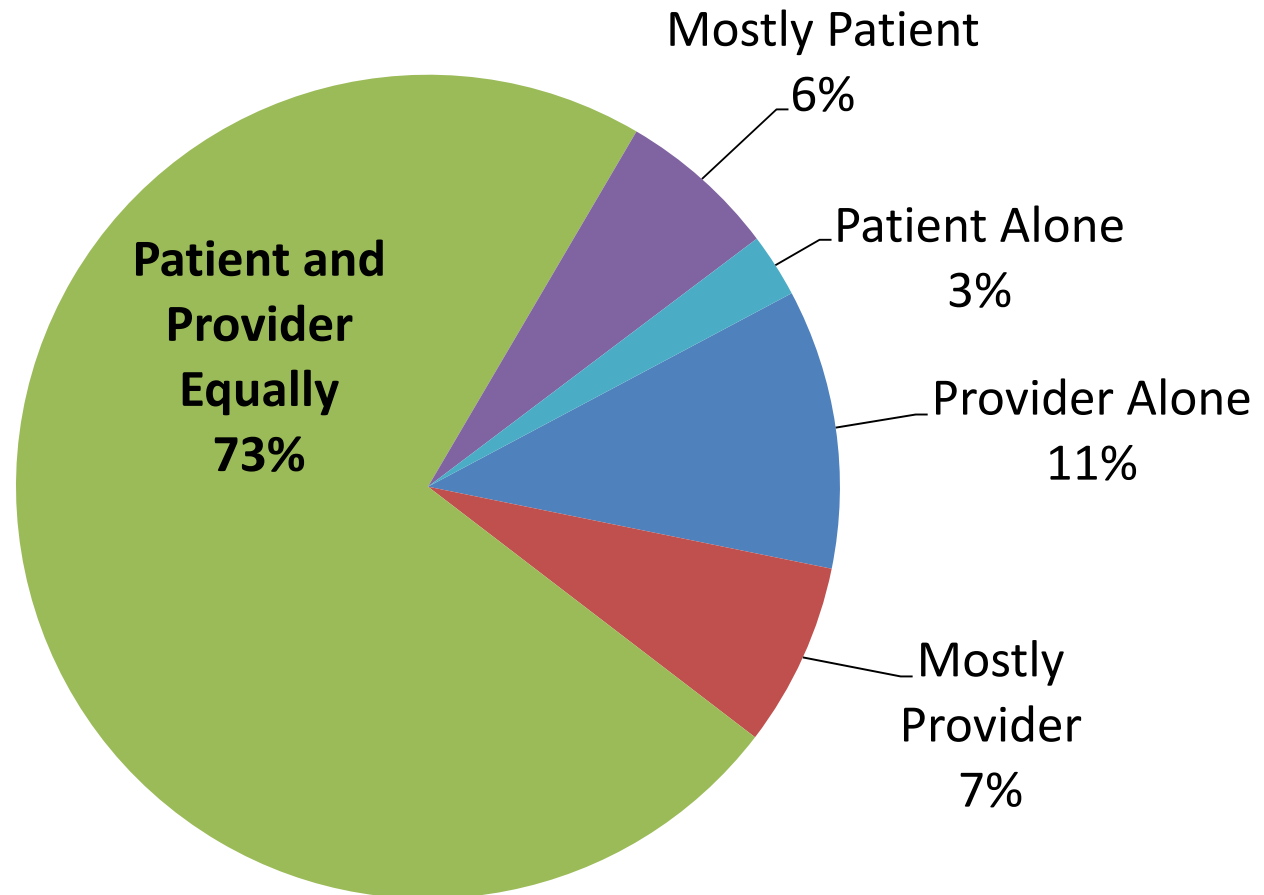
- From June 2011 through September 2013
  - **258** English- and Spanish-speaking pediatric, adolescent, and adult patients with persistent and/or poorly controlled asthma participated in **358** SDM half-day clinic visits





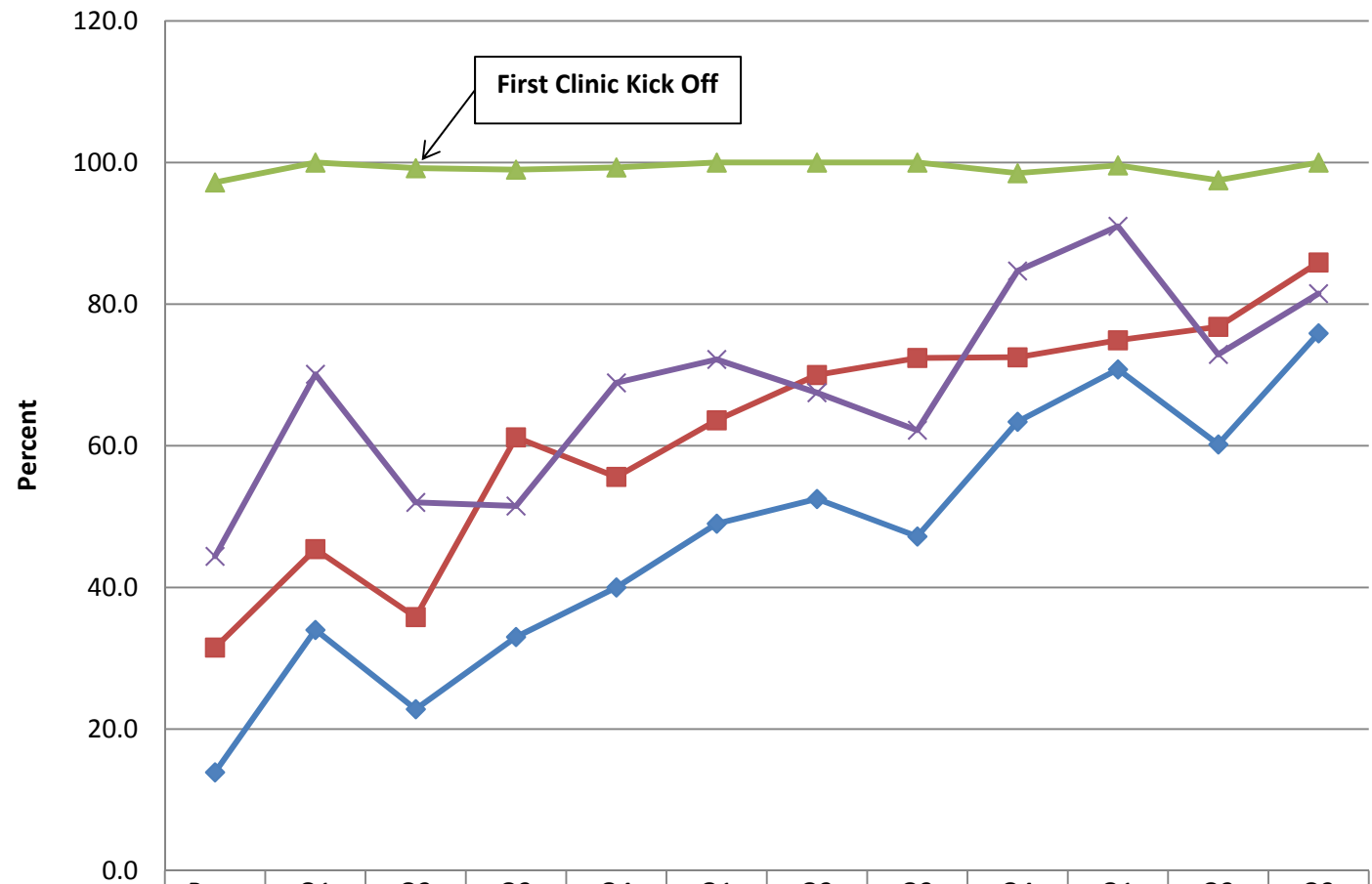
# SDM Survey Responses: Who Made the Treatment Decision?

n = 319



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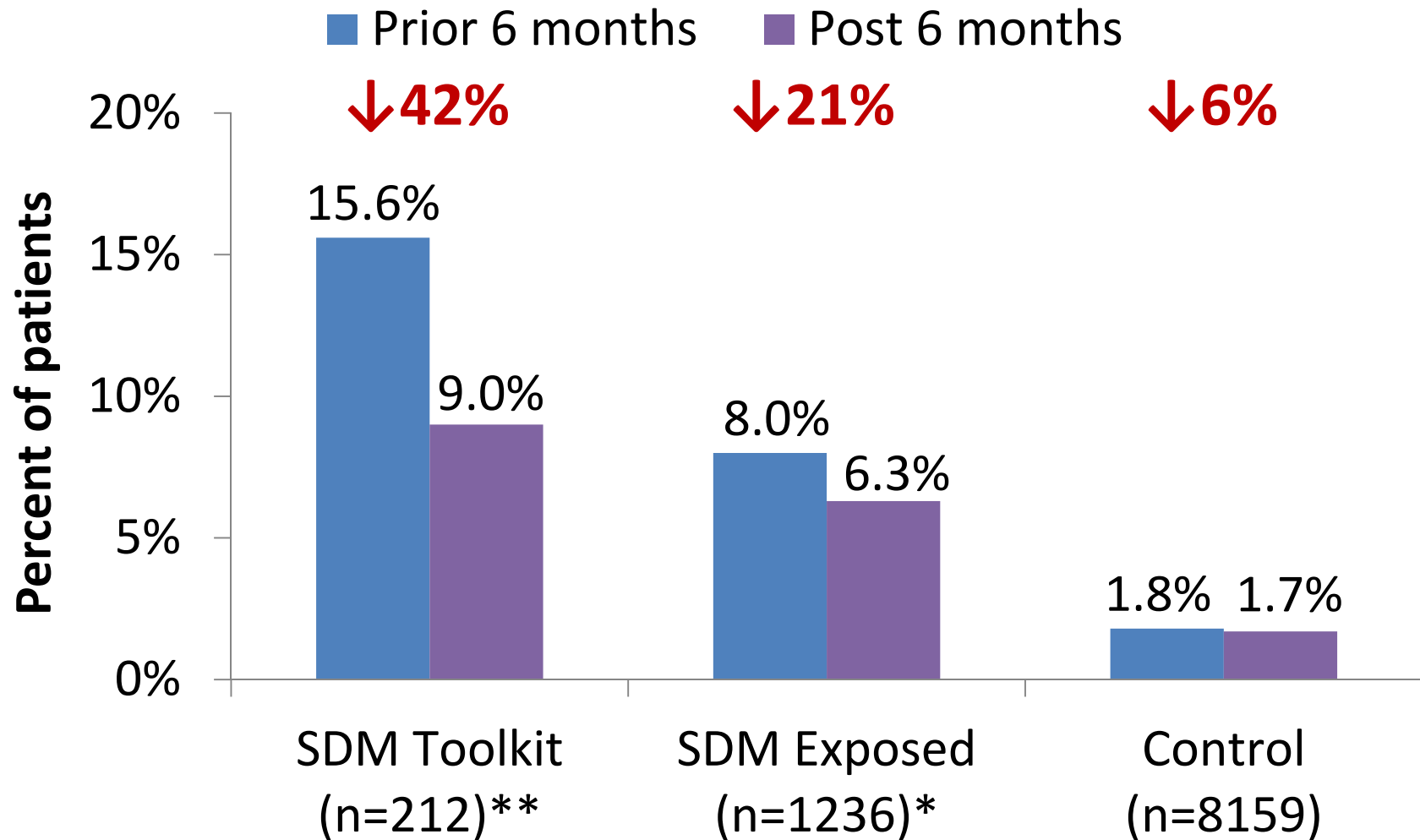
## CHS Faculty Physicians Network Asthma Appropriate Care Measures



Overall Appropriate Care	13.9	34.0	22.8	33.0	40.0	49.0	52.5	47.2	63.4	70.8	60.2	75.9
Assessment of Daytime/Nighttime Symptoms	31.5	45.4	35.8	61.2	55.6	63.6	70.0	72.4	72.5	74.9	76.8	85.9
Controller Medication for Persistent Asthma	97.2	100.0	99.2	99.0	99.3	100.0	100.0	100.0	98.5	99.6	97.5	100.0
Influenza Vaccine	44.4	70.1	52.0	51.5	68.9	72.2	67.5	62.2	84.7	91.0	72.9	81.5



# Change in Asthma ER Visits

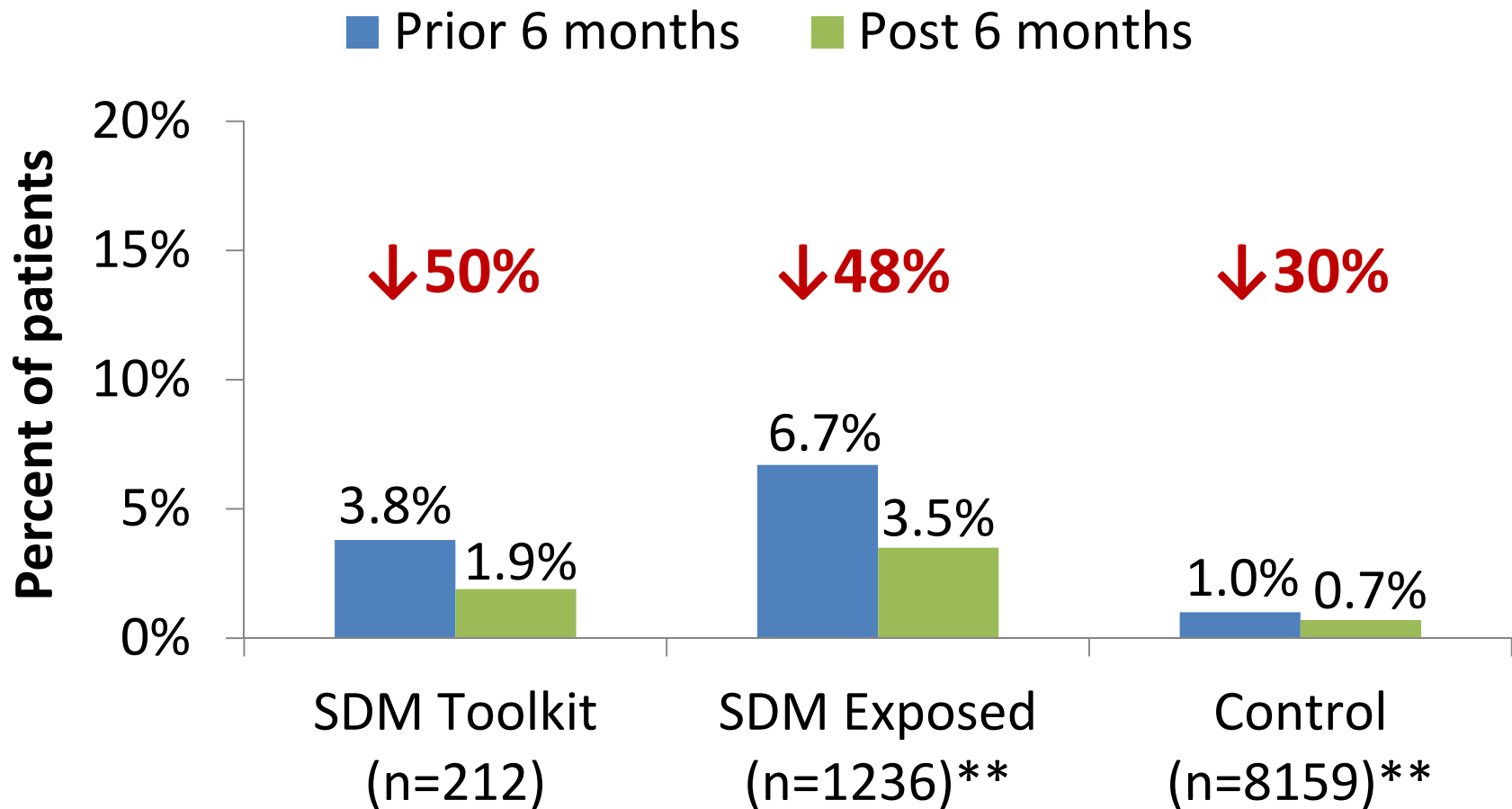


\*p<0.10; \*\*p<0.05



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# Change in Asthma Hospitalizations

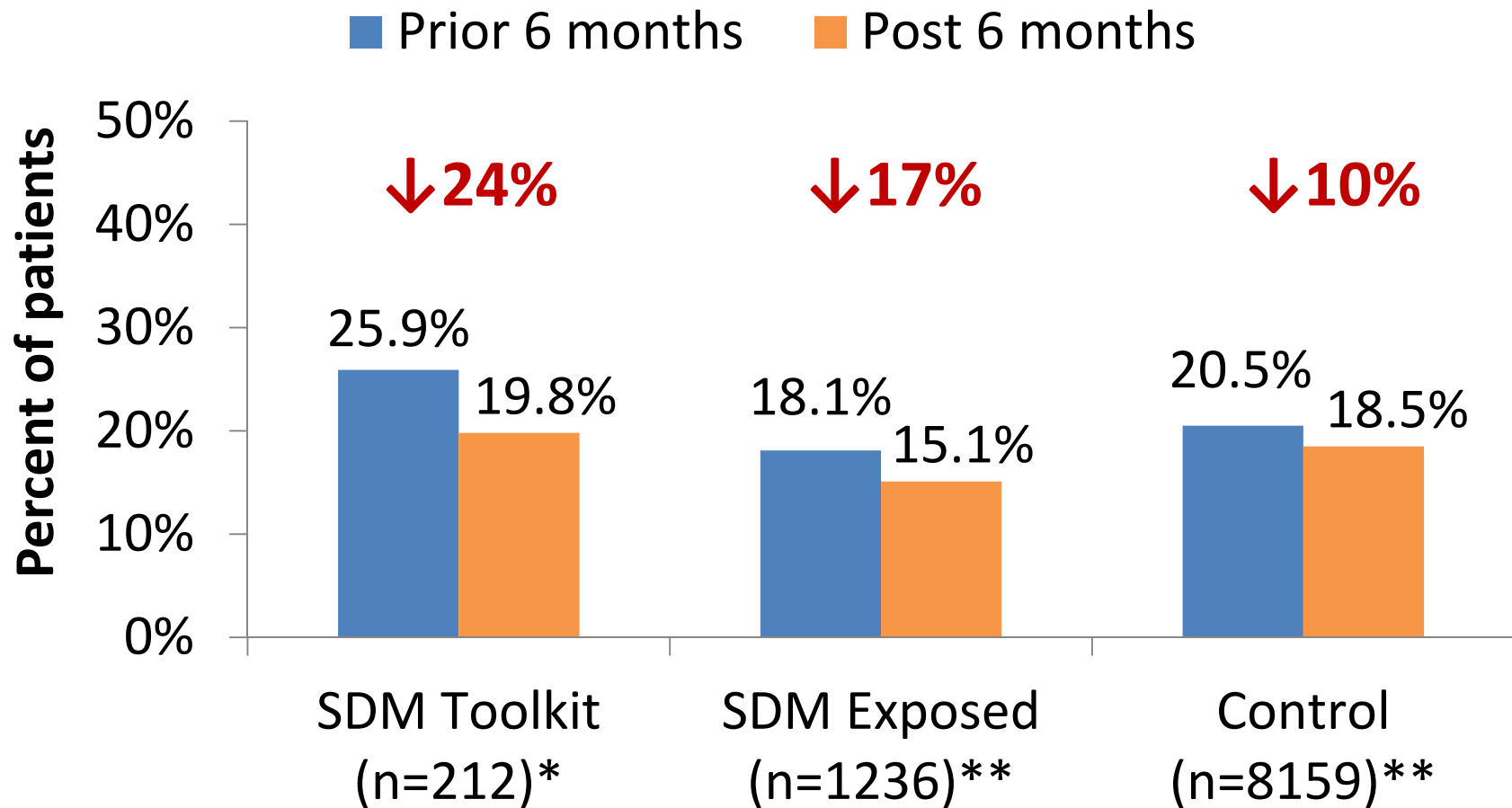


\*p<0.10; \*\*p<0.05



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# Change in Oral Steroid Prescription Orders



\*p<0.10; \*\*p<0.05



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# Conclusions

- Reductions in ER visits, hospitalizations and oral steroid prescription orders for acute exacerbations were seen in a largely underserved population of uncontrolled asthmatics within CHS in Charlotte, NC
- SDM is a valuable tool in chronic disease self-management that is associated with improved asthma-related outcomes
- Further dissemination of the intervention could positively affect the asthma community locally, regionally and even nationally







***Dissemination/  
Spread***

**ADAPT-NC**   
Asthma Dissemination Around Patient-centered Treatments in North Carolina

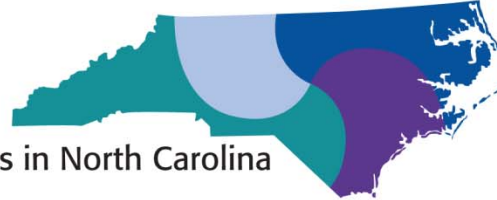
**CHS • UNC • Duke • Vidant**



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# ADAPT-NC

Asthma Dissemination Around Patient-centered Treatments in North Carolina



- This project is comparing passive knowledge spread, a “lunch-and-learn” approach, with a real world approach that partners with the practices
- Despite rapid advances in medical knowledge, challenges remain in the dissemination or spread into everyday practice
- We want practices with real world problems:
  - *“We don’t have time for this”*
  - *“Shared decision making sounds good but it won’t work with our patient population”*
  - *“We can’t work this into our clinic flow”*
  - *“We’re too short staffed right now”*
  - *“How do we meet system goals with this?”*



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# ADAPT-NC

Asthma Dissemination Around Patient-centered Treatments in North Carolina

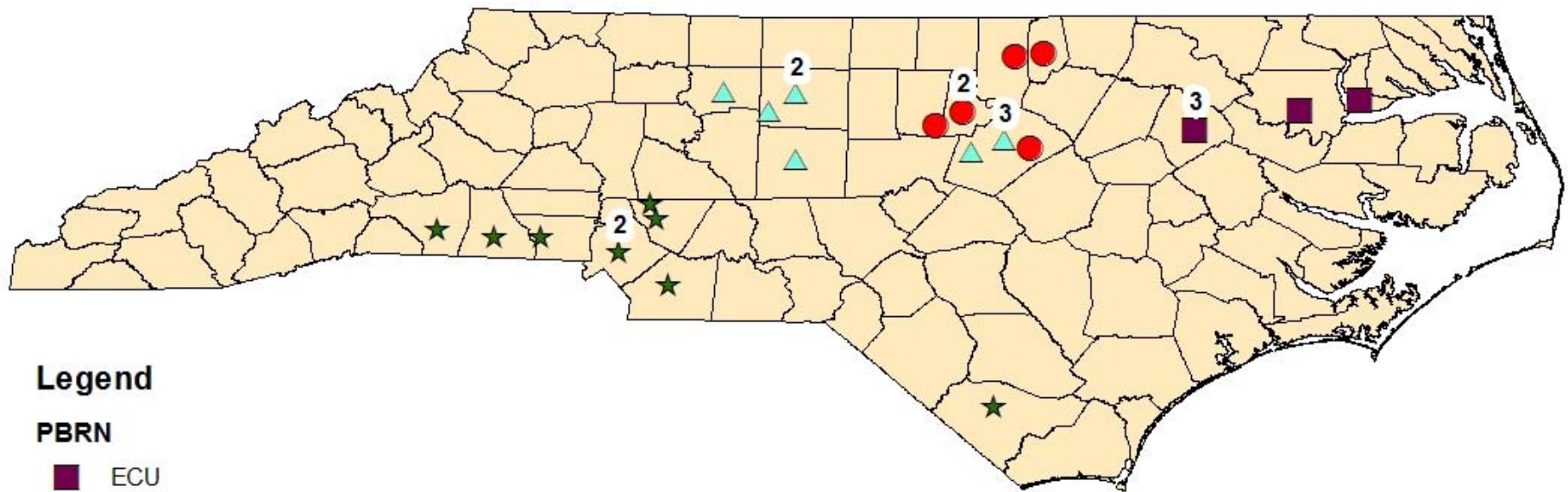


- 30 Practices Statewide
  - 10 FLOW (Facilitator Led Participant Owned)
    - A Practice Facilitator from the research team trains the practice in the intervention, adapting it to their clinic culture
  - 10 Traditional (Active Diffusion)
    - Lunch-and-learn once a year
  - 10 Control (Usual Care)
    - No involvement for the first 18 months then the opportunity for a lunch-and-learn



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## Practices Recruited for ADAPT-NC



### Legend

#### PBRN

-  ECU
-  Duke
-  MAPPR
-  UNC
-  County Boundaries

**ADAPT-NC**  
Asthma Dissemination Around Patient-centered Treatments in North Carolina



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# THANKS!

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- Yhenneko Taylor



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# Questions?

