Shared Decision Making for Asthma Care

Lindsay Kuhn, PA-C and Hazel Tapp, PhD
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Agency for Healthcare Research and Quality

ACE STUDY

Asthma Comparative Effectiveness

MAPPR
The Mecklenburg Area Partnership for Primary Care Research

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

Patient-Centered Outcomes Research Institute

Carolinas HealthCare System
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
# ASTHMA BOTHER

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>PROBE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How much does asthma get in the way in terms of your daily living, for example, does it affect your daily life?</td>
<td></td>
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<tr>
<td>• Of these things you just mentioned, what bothers you the most or what would you most like to change?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How long have you had asthma?</td>
<td></td>
<td>Years _________________</td>
</tr>
</tbody>
</table>

# SYMPTOMS

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>PROBE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In the past 4 weeks, did your asthma wake you up at night (including asthma-related coughing)?</td>
<td>[If yes] How often?</td>
<td>[ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>• In the past 4 weeks, did you miss any normal daily activity because of your asthma?</td>
<td>[If yes] How often?</td>
<td>[ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>• How often do you experience episodes in which your asthma is especially bad (we call these asthma exacerbations, attacks, or flares)?</td>
<td>[If yes] When was the last time?</td>
<td></td>
</tr>
<tr>
<td>• Have you ever had to go to the ER or an urgent care during an asthma attack?</td>
<td>[If yes] When was the last time?</td>
<td></td>
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<tr>
<td>• Have you been hospitalized because of your asthma?</td>
<td>[If yes] When was the last time?</td>
<td></td>
</tr>
<tr>
<td>• Do you experience a cough with your asthma?</td>
<td>[If yes] How often?</td>
<td>What is the cough like?</td>
</tr>
<tr>
<td>• How well controlled do you think your asthma symptoms are?</td>
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</table>

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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?

Well Controlled: My asthma is doing great! It doesn’t bother me much at all.

Moderately Well Controlled: My asthma is not bad, but it could be better. It only bothers me sometimes.

Poorly Controlled: My asthma bothers me more often than not. It could definitely be better.

Very Poorly Controlled: My asthma bothers me a lot and keeps me from doing things I want to do.
FORMULARIO #2: ¿QUÉ TAN BIEN CONTROLADO ESTÁ SU ASMA?
ASTHMA RELIEVERS

Generic Albuterol
Albuterol Nebulizer Solution
ProAir HFA

Ventolin HFA
Proventil HFA
Xopenex Nebulizer Solution
Xopenex HFA
Asthma Controllers

Symbicort
Asmanex Twisthaler
Singulair
Advair Diskus
Advair HFA
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
- 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?

Mild Persistent

- Symptoms > 2 days a week, but not daily
- Nighttime awakenings 3-4 times per month
- Minor limitation with normal activity
- Albuterol use (rescue medicine) > 2 days a week, but not daily and not more than one time on any day
  - FEV1 > 80% predicted, FEV1/FVC normal
  - Exacerbations requiring oral steroids ≥ 2 times a year

Moderate Persistent

- Symptoms daily
- Nighttime awakenings > 1 time a week, but not nightly
- Some limitation with normal activity
- Albuterol use (rescue medicine) daily
- FEV1 60-80% predicted, FEV1/FVC reduced 5%
- Exacerbations requiring oral steroids ≥ 2 times a year

Severe Persistent

- Symptoms throughout the day
- Nighttime awakenings often 7 times a week
- Extreme limitation with normal activity
- Albuterol use (rescue medicine) several times a day
- FEV1 < 60% predicted, FEV1/FVC reduced > 5%
- Exacerbations requiring oral steroids ≥ 2 times a year

Use this dial for patients NOT on controller medication to initiate treatment
≥ 12 Years Old
### Medication Options to Control Asthma
#### 12 Years and Older
#### Medicaid Insurance

**Preferred**
- **Low-Dose ICS**
  - Qvar 40 - 1 puff twice a day
  - Qvar 80 - 1 puff twice a day

**Preferred**
- **Medium-Dose ICS**
  - Over 80 - 2 puffs twice a day
  - Over 80 - 3 puffs twice a day

**Alternative**
- **Low-Dose ICS + LTRA**
  - Over 40 - 1 puff twice a day
  - Over 80 - 1 puff twice a day
  - Over 80 - 3 puffs twice a day

**Additional**
- **Low-Dose ICS + LABA + LTRA**
  - Qvar 80 - 1 puff once a day
  - Qvar 80 - 2 puffs once a day

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**Preferred**
- **High-Dose ICS + LABA**
  - Advar HFA 230/21 – 2 puffs twice a day
  - Advar HFA 115/21 – 2 puffs twice a day
  - Advar Diskus 500/50 – 1 puff twice a day

**Alternative**
- **Medium-Dose ICS + LTRA**
  - Over 80 – 2 puffs twice a day
  - Over 80 – 3 puffs twice a day

**Additional**
- **Low-Dose ICS + LABA + LTRA**
  - Advar HFA 230/21 – 2 puffs once a day
  - Advar Diskus 500/50 – 1 puff once a day
  - Symbicort 160/4.5 – 2 puffs once a day

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**Preferred**
- **Low-Dose ICS**
  - Qvar HFA 2 puffs every 4-6 hours

**Alternative**
- **LTRA**
  - Over 5-10 mg – 1 daily

**Additional**
- **SABA PRN**
  - Over 4-6 hours

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*Singular 5-10 – 1 daily

For Singular – must complete PA and have documentation of adverse reaction/contraindication to ICS, growth suppression due to ICS, or be on medium dose ICS needing Singular 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 Singular - listed below as “Additional”

Other medications (Kopenex, Flovent, Pulmicort, Asmanex) may be obtained through PA; Pulmicort is best for pregnancy/lactation

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**Step 6**
- Same as Step 5
- Oral Steroid Course
<table>
<thead>
<tr>
<th>FEATURES THAT MATTER TO ME</th>
<th>CURRENT PLAN</th>
<th>OPTION 1</th>
<th>OPTION 2</th>
<th>OPTION 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>(-)</td>
<td>+++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Cost</td>
<td>$</td>
<td>$$</td>
<td>$$</td>
<td>$$$</td>
</tr>
<tr>
<td>Side Effects</td>
<td>Slight</td>
<td>Few</td>
<td>Few</td>
<td>More</td>
</tr>
<tr>
<td>Convenience</td>
<td>+</td>
<td>+++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEATURES THAT MATTER TO ME</td>
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<td>OPTION 1</td>
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<tr>
<td></td>
<td>Albuterol - 2 puffs prn</td>
<td>Advair Diskus 100/50 - 1 puff bid</td>
<td>Qvar 80 - 2 puffs bid</td>
<td>Qvar 80 - 1 puff bid + Singulair 10mg daily</td>
</tr>
<tr>
<td>Control</td>
<td>(-)</td>
<td>+++++</td>
<td>++</td>
<td>+</td>
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<td>$</td>
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<td>+++++</td>
<td>++</td>
<td>++</td>
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<tr>
<td>Other</td>
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Asthma Website

- [https://asthma.carolinashealthcare.org/](https://asthma.carolinashealthcare.org/)
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

- Patient and Provider Equally: 73%
- Mostly Patient: 6%
- Patient Alone: 3%
- Provider Alone: 11%
- Mostly Provider: 7%
CHS Faculty Physicians Network
Asthma Appropriate Care Measures

First Clinic Kick Off

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

Prior 6 months

SDM Toolkit (n=212)**

15.6%

9.0%

↓ 42%

SDM Exposed (n=1236)*

8.0%

6.3%

↓ 21%

Control (n=8159)

1.8%

1.7%

↓ 6%

Percent of patients

↓ 42%  ↓ 21%  ↓ 6%

*p<0.10; **p<0.05
Change in Asthma Hospitalizations

- **SDM Toolkit (n=212)**: Prior 6 months: 3.8%, Post 6 months: 1.9%, ↓50%
- **SDM Exposed (n=1236)**: Prior 6 months: 6.7%, Post 6 months: 3.5%, ↓48%
- **Control (n=8159)**: Prior 6 months: 1.0%, Post 6 months: 0.7%, ↓30%

*p<0.10; **p<0.05
Change in Oral Steroid Prescription Orders

Prior 6 months  |  Post 6 months
---|---
SDM Toolkit (n=212)*  | 25.9% ↓ 19.8%
SDM Exposed (n=1236)**  | 18.1% ↓ 15.1%
Control (n=8159)**  | 20.5% ↓ 18.5%

*p<0.10; **p<0.05
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

ACE STUDY
Asthma Comparative Effectiveness

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

CHS • UNC • Duke • Vidant
• 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?”
• 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
Practices Recruited for ADAPT-NC
THANKS!

• **UNC: NC-FM-RN**
  – Jacqui Halladay
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  – Jen Rees
  – Kathleen Mottus

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  – Debra Thompson
  – Heather Deans
  – Crystal Rudd
  – Karen Huey

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  – Lauren Mowrer
  – Tom Ludden
  – Yhenneko Taylor
Questions?