ASTHMA EXACERBATIONS:
IDENTIFYING AND ADDRESSING THE ROOT CAUSES

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Speakers

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This webinar will discuss how Community Health Workers (CHWs) and other health care workers can best help patients who have had an asthma exacerbation.

- Why asthma exacerbations occur
- How Community Health Workers are identifying and addressing the root causes of asthma exacerbations
- How Community Health Workers can use alerts in the GSI Health software program to find out when a patient was in the hospital or emergency room for an asthma exacerbation
- Next steps for project implementation
Definition of Asthma

- Asthma is a common chronic disorder of the airways that is complex and multifactorial.

- Characterized by underlying airway inflammation, bronchial hyper responsiveness, mucus production, variable and recurring symptoms of airflow obstruction often reversible either spontaneously or with treatment.

- The expression of asthma is a complex, interactive process that depends on the interplay between two major factors—host factors (particularly genetics) and environmental exposures that occur at a crucial time in the development of the immune system.

- The interaction of these features of asthma determines the clinical manifestations and severity of asthma and the response to treatment.
Benchmarks of Good Asthma Control

- No coughing or wheezing
- No shortness of breath or rapid breathing
- No waking up at night
- Normal physical activities
- No school absences due to asthma
- No missed time from work for parent or caregiver
The Four Components of Asthma Management

The Expert Panel Reports presenting clinical practice guidelines for the diagnosis and management of asthma have organized recommendations for asthma care around four components considered essential to effective asthma management:

- Measures of assessment and monitoring, obtained by objective tests, physical examination, patient history and patient report, to diagnose and assess the characteristics and severity of asthma and to monitor whether asthma control is achieved and maintained.
- Education for a partnership in asthma care.
- Control of environmental factors and comorbid conditions that affect asthma.
- Pharmacologic therapy.
Primary Goal of Therapy: Achieving and Maintaining Asthma Control

Primary goal of asthma therapy is to enable a patient to achieve and maintain control over their asthma

- Eliminate impairments including symptoms, functional limitations, poor quality of life, and other manifestations of asthma
- Reduce risk of exacerbations, ED use, and hospitalizations
- Treatment goals are identical for all levels of asthma severity

Achieving and maintaining control is dependent on Patient Education for a Partnership in Asthma Care to:

- Ensure adherence to daily controller medications
- Use of delivery devices effectively (MDI, Spacer, Nebulizer, Self Actuated Devices)
- Identifying and avoiding triggers
- Monitoring symptoms, peak flows and following the Asthma Action Plan when symptoms occur
Education for a Partnership in Asthma Care

- Asthma self-management education is essential to provide patients with the skills necessary to control asthma and improve outcomes. (Evidence A).

- Asthma self-management education should be integrated into all aspects of asthma care, and it requires repetition and reinforcement.

- Studies demonstrate the benefits of programs provided in the patient’s home for multifaceted allergen control, although further evaluation of cost-effectiveness and feasibility for widespread implementation will be helpful (Evidence A).

- The Expert Panel encourages using health professionals and others trained in asthma self-management education to implement and teach asthma self-management programs.
Communication and Patient Education

- Communicating well and providing education are as important as prescribing the right medicine.

- Studies consistently show that less than 50% of patients adhere to daily medication regimens.

- Clinicians cannot predict better than chance which patients will be compliant.

- Therefore, all patients need to be educated to ensure adherence to the medical regimen.
Barriers To Effective Communications

- Feel they are wasting the clinician’s valuable time
- Omit details they deem unimportant
- Are embarrassed to mention things they think will make them look bad
- Don’t understand medical terms
- May believe the clinician has not really listened and therefore doesn’t have the information needed to make a good treatment decision
Communication and Adherence

Good communication between patient and clinician helps identify patient concerns that may block adherence, makes patient teaching more effective and promotes patient self-confidence to follow the treatment plan.

Excellence in medical treatment is worthless if the patient doesn’t take the medicine.

Compliance is closely linked to clinician communication and patient education.

Most clinicians believe they are good communicators, but most patients feel clinician communication and education is inadequate.
## Enhancing Adherence

| ✓ Identify factors that make the patient not adhere to the regimen |
| ✓ Clarify the patient's expectations for treatment and address fears or concerns |
| ✓ Involve the patient and the family in development of the treatment plan |
| ✓ Simplify the regimen as much as possible |
| ✓ Explain how each medication works to control or prevent symptoms |
| ✓ Test patients' understanding by having them repeat instructions to you in their own words, or provide a scenario and ask patients how they would respond |
| ✓ Determine if a patient can afford the prescribed medications |
| ✓ Provide positive reinforcement |
| ✓ Discuss a patient's adherence to their medication plan during follow-up consultations |
| ✓ Encourage the patient to seek support through a family member, caregiver, friend, neighbor, or support group |
| ✓ Provide opportunities to meet other patients who have had the same or similar experiences |

The NAEPP also recommended that the patient should be given written instructions about how to use long-term control and rescue medications. The instructions should include the dose, frequency of administration, guidelines for changing dose or adding medications, adverse effects to report to the clinician, and contact for securing urgent care, if needed.
Asthma Action Plan Examples
Proper Use of Medications and Devices
# Environmental Factors: Major Triggers

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiratory infections</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Cockroach allergens</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Air pollution</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Strenuous exercise</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Tobacco smoke</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Indoor mold</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Cold, damp, windy, stormy weather</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Respiratory infections</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Dust mites</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Wood smoke</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Sudden temperature changes</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Common food allergies</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Animal dander</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Formaldehyde</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Weeds, trees, grass</strong></td>
<td>✔</td>
</tr>
<tr>
<td><strong>Volatile organic compounds</strong></td>
<td>✔</td>
</tr>
</tbody>
</table>
Control of Environmental Factors and Comorbid Conditions that affect Asthma

**Inhalant Allergens**
The Expert Panel recommends that patients who have asthma at any level of severity should be queried about exposures to inhalant allergens, particularly indoor inhalant allergens, and their potential effect on the patient’s asthma (Evidence A).

- Evidence strengthens recommendations that reducing exposure to inhalant indoor allergens can improve asthma control and notes that a multifaceted approach is required; single steps to reduce exposure are generally ineffective.

**Assess sensitivity to the allergens to which the patient is exposed**
- Use the patient’s medical history, which is usually sufficient, to determine sensitivity to seasonal allergens.
- Use skin testing or in vitro testing to determine the presence of specific IgE antibodies to the indoor allergens to which the patient is exposed year round. Allergy testing is the only reliable way to determine sensitivity to perennial indoor allergens.

**Assess the clinical significance of positive allergy tests in the context of the patient’s medical history**

**Management – Reduce – Exposure**

**Effective allergen avoidance requires a multifaceted, comprehensive approach; individual steps alone are generally ineffective (Evidence A).**
Clinicians should evaluate a patient for the presence of a chronic comorbid condition when the patient’s asthma cannot be well controlled. Treating the conditions may improve asthma management: ABPA (Evidence A), gastroesophageal reflux (Evidence B), obesity (Evidence B, limited studies), OSA (Evidence D), rhinitis/sinusitis (Evidence B), chronic stress/depression (Evidence D).
Follow up

- The Expert Panel recommends that the frequency of visits to a clinician for review of asthma control is a matter of clinical judgment; in general, patients who have intermittent or mild persistent asthma that has been under control for at least 3 months should be seen by a clinician about every 6 months, and patients who have uncontrolled and/or severe persistent asthma and those who need additional supervision to help them follow their treatment plan need to be seen more often.

- Patient with Moderate and Severe Persistent Asthma should be referred and managed by a specialist
Summary

Achieving and maintaining asthma control is dependent on chronic disease management with an interdisciplinary TEAM that facilitate frequent follow up and interventions in the clinical setting and at home that provides Patient Education and establishes a Partnership in Asthma Care to:

- Ensure adherence to daily controller medications
- Use of delivery devices effectively (MDI, Spacer, Nebulizer, Self Actuated Devices)
- Identify and avoid triggers
- Monitoring symptoms, peak flows and following the Asthma Action Plan when symptoms occur
- Ensures adequate follow up
- Minimizes Emergency Room visits and hospitalizations
- Prevents adverse patient outcomes
References

- www.nhlbi.nih.gov/health/prof/lung/asthma/pace
Root Cause Analysis
Targeting the Reasons for Asthma Exacerbations
What is a Root Cause Analysis?

- The ‘root cause analysis’ is an approach to working with the patient and the family to identify underlying causes.
- The Purpose of the root cause analysis:
  - To identify precipitating factors
  - To identify causes of exacerbation
  - To identify ways of improving care
  - To inform the care team’s treatment plan

The Purpose of a root cause analysis is to look at the fundamental causes that drive asthma exacerbations.
Who should conduct a Root Cause Analysis?

- The Clinician
- The Community Health Worker (CHW)
- Additional Care Team Members:
  - Social Worker
  - Care Manager
Key Components of the Root Cause Analysis

**Clinical Provider**
- Facilitate a follow up visit within 5 days of exacerbation, re-examination, root cause analysis, and treatment adjustment if needed.
- Accurate classification of asthma severity
- Adjustments of medications as needed, medication adherence, assessment of technique in taking inhaled medications
- Assessment of social factors affecting adherence
- Problems in home environment
- Exposure to allergens and triggers
- Barriers to access care
- Other acute or chronic medical problems affecting asthma control
Key Components of the Root Cause Analysis (cont.)

Community Health Worker (CHW)
- Arrange a follow-up encounter with patient/family after any exacerbation severe enough to require oral steroids, ED visits or a hospitalization.
- Medication adherence, patient understanding of medication regimen and access to medications.
- Identification of social factors affecting adherence.
- New or persistent problems in home environment.
Sample Quality Improvement Tool

A ‘fishbone diagram’ is used to document the root cause analysis.

- Environmental Triggers
- Social and Emotional Stressors
- Medication non-adherence or poor technique
- Educational gaps for Patient/family/caretakers
- Access to Care Issues
- Medications inadequate
- Other chronic Medical issues
- Infections
- Asthma Exacerbation
How should the root cause analysis be acted on, documented, and communicated?

- Discussion with patient/family
- Both clinician team and CHWs should work with patient/family to address the problems identified in the root cause analysis.
- Other team members such as social workers or school nurses should also be engaged in addressing root causes.
How Community Health Workers can use alerts in the GSI Health software program to find out when a patient was in the hospital or emergency room for an asthma exacerbation
# Asthma Home-Based Self Management Tool

## Patient Experience

<table>
<thead>
<tr>
<th>Question</th>
<th>Select One</th>
</tr>
</thead>
<tbody>
<tr>
<td>55. During your last visit with the Primary Care Physician who manages your Asthma, did you have a good understanding of how to manage your Asthma at home?</td>
<td>Select One</td>
</tr>
<tr>
<td>56. During your last communication with the Community Health Worker, did you have a good understanding of how to manage your Asthma at home?</td>
<td>Select One</td>
</tr>
<tr>
<td>57. Please name one change that you will be making today in your lifestyle to better self-manage your Asthma at home</td>
<td>Select One</td>
</tr>
</tbody>
</table>
Root Cause Analysis Patient/Caretaker Interview Tool

4. Community Health Worker (Script – Interview Talking Points)

Let’s go back to the day you went home from the hospital on [date].

1. Do you remember the events or challenges you and your family faced while you were still at home? How do you think the hospital could have done better to support you and your family? I am going to read a list of possible things.

Please let me know if this is an area we need to improve.

Root Cause Analysis Patient/Caretaker Interview Tool

SIde 1: Patient/Caretaker Interview Tool

Community Health Worker: Asthma Related Emergency Visit or Hospitalization Root Cause Analysis Patient/Caretaker Interview Tool

Patient/Caretaker Root Cause Analysis Review Information

Community Health Worker Name/Agency:
Patient Name/Date of Birth:
Emergency Room Visit – Date:
Hospitalization – Date:
Patient/Caretaker Interview – Date:
Clinical Case Conference – Date:
Facility Name:

PARENT/CARETAKER INTERVIEW

Hi, my name is [Community Health Worker] and I am calling about your Emergency Room visit/hospitalization for Asthma on [date].

Practically, I would like to ask you a few questions to see how we can best support you to self-manage your child’s Asthma to stay safe at home after a visit with the Primary Care Team. The interview takes only 5 minutes of your time.

Interview:

1. Can you tell me what happened that brought you to the hospital this time?

2. Why do you think this happened?

3. Was there anything you think the Primary Care Team could have done to prevent your hospital visit?

Solutions Management

- How often do you make medication changes? [Yes] [No]
- Do you have trouble filling your new medication at the pharmacy? [Yes] [No] [N/A]
- How to resolve the medication changes? [Yes] [No]
- Do you have trouble filling your new medication at the pharmacy? [Yes] [No] [N/A]
- How to resolve the medication changes? [Yes] [No] [N/A]

Caring Instructions and Patient Education

- Have the hospital staff given you information about your child’s medications including dosage, side effects, or changes after your ER or hospitalization? [Yes] [No] [Don’t know]
- Are you aware about how to manage your child’s Asthma? [Yes] [No] [Don’t know]
- Have you received written instructions or information to your care provider or family members? [Yes] [No] [Don’t know]
- Have you seen or been contacted by the Primary Care Team regarding your child’s Asthma and the medications they have prescribed? [Yes] [No] [Don’t know]
- Any other comments you would like to add? [Yes] [No] [Don’t know]

Thank you for your time!
1. The patient in your “My Patient Panel” will have a crit tag, identifying a critical event.

2. To access the CRIT tag/critical alert, navigate to the “Patients by Alerts Severity” graph on the dashboard and click into the critical section.
3. A new window will appear with a list of patients that have CRIT tags/critical events. Place your mouse cursor (hover) over the patient name and a list of alerts will appear. From this screen, you can select “…” in the right corner and access the Care Book to review the detailed alert information.
Next Steps: All Partners

If you have any questions, please contact:

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Lead Director Chronic Disease Initiative & Clinical Performance
Email: smithy1@nychhc.org
THANK YOU FOR YOUR PARTICIPATION!

The presentation has ended, but we will remain on the line if you have any additional questions.

Please type your questions into the chat box.