

## EQIPP: Asthma - Generalist

### Potential Barriers and Suggested Ideas for Change

**Key Activity:** Diagnose all children with asthma.

**Rationale:** A clear diagnosis of asthma is necessary to ensure proper treatment. Clinicians should use key indicators when considering a diagnosis of asthma as noted in [Box 3-1](#) of the National Heart, Lung, and Blood Institute (NHLBI) guidelines and support the diagnosis with physical examination, appropriate history, and spirometry (if 5 years or older) for 90% of all patients with asthma. Exclude all other diagnoses.

| Potential Barriers   | Suggested Ideas for Change  | Still Not Seeing Results?  |
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| <b>Gap:</b> A clear diagnosis of asthma is not consistently established in accordance with NHLBI guidelines and/or documented in patients' charts.   |   |  |
| The NHLBI recommendations for establishing a diagnosis of asthma are not consistently followed in your practice.   | <ol style="list-style-type: none"> <li>1. Use key indicators for considering a diagnosis of asthma as noted in <a href="#">Box 3-1</a> of the NHLBI guidelines. The presence of multiple key indicators increases the probability of a diagnosis of asthma.</li> <li>2. Use physical examination and detailed medical history to help establish the diagnosis. A structured medical history questionnaire such as in <a href="#">Figure 3-2</a> of the NHLBI guidelines can aid this effort.</li> <li>3. <b>For children 5 years or older</b>, use spirometry if any key indicator is present to demonstrate obstruction and assess airflow reversibility. Determine reversibility by an increase in FEV<sub>1</sub> of &gt;200 mL and 12% from the baseline measure after inhalation of SABA.<br/><br/><b>For children younger than 5 years with wheeze</b>, use the API, which outlines the major and minor criteria to identify children at future risk for developing persistent asthma. A trial of therapy may be necessary when the diagnosis cannot be confirmed by pulmonary function testing.</li> </ol> | <p>Discuss the importance of following all recommended procedures for diagnosing asthma in your staff meeting. Review passage of the NHLBI guidelines, eg, <a href="#">Box 3-2</a>, about the importance of spirometry in asthma. Talk about potential barriers, and brainstorm ways to overcome them.</p> <p>Review documentation of bronchodilator responsive wheezing episodes to facilitate recognition of patients who may have an asthma diagnosis.</p> <p>Obtain and use tools such as the asthma key indicator list, history questionnaire, API, differential diagnostic possibilities, and asthma severity tables. Make these resources accessible in exam rooms.</p> <p>Obtain spirometry equipment that meets ATS standards or form a liaison with another resource that conducts spirometry.</p> |
| Staff may be reluctant to label a patient's condition as asthma. However, diagnoses such as reactive airway disease, EIB, or viral pneumonia could result with under-treating the disease. | <ol style="list-style-type: none"> <li>1. Exclude alternative diagnoses. Consult <a href="#">Box 3-3</a> of the NHLBI guidelines—Differential Diagnostic Possibilities for Asthma—for other possible causes of airway obstruction leading to wheezing.</li> <li>2. Classify asthma severity at the time of diagnosis to initiate treatment, using <a href="#">Figure 3-4a</a>, <a href="#">Figure 3-4b</a>, and <a href="#">Figure 3-4c</a> of the NHLBI guidelines based on the patient's age. The selection of type, amount, and scheduling of therapy should correspond to the level of asthma severity based on the child's age.</li> </ol>   |  |

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|                    | <b>Note:</b> For quality improvement purposes, it is best to address each item separately and implement one change idea at a time. |                           |

## Potential Barriers and Suggested Ideas for Change

**Key Activity:** Asthma control assessment

**Rationale:** The goal of asthma treatment is to achieve and maintain control of the clinical manifestations for prolonged periods. Because asthma is a highly variable disease, regular assessment and ongoing monitoring of asthma control are needed to establish the lowest step of treatment and dosage of medication necessary to minimize cost and promote treatment safety. The NHLBI guidelines recommend that physicians use a validated tool to assess control and to guide decisions to maintain or adjust therapy. Patients and their families should be actively involved in recognizing and adjusting to treatment in response to loss of control or worsening of symptoms.

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| <b>Gap:</b> The current level of asthma control and follow-up appointments is not being determined and/or documented, and therefore is not used to guide decisions to maintain or adjust therapy according to NHLBI guidelines. |  |  |
| You do not have age-appropriate validated instruments for assessing asthma control for use in your practice.  | Obtain and implement a validated instrument for assessing asthma control to use in your practice, including ACQ, ACT, C-ACT, TRACK, and ATAQ. <ul style="list-style-type: none"> <li>Downloadable copies of the ACT and C-ACT are available at <a href="http://www.asthmacontrol.com">http://www.asthmacontrol.com</a></li> <li>Downloadable copy of the TRACK is available at <a href="http://asthmatracktest.com">http://asthmatracktest.com</a></li> <li>Downloadable copies of the ATAQ is available at <a href="http://www.asthmacontrolcheck.com">http://www.asthmacontrolcheck.com</a></li> </ul> |  |
| It is unclear what documentation about asthma control is necessary.   | Establish a procedure to document in the patient's chart/EHR: <ul style="list-style-type: none"> <li>The score from the validated tool used</li> <li>The level of asthma control, which takes into consideration the impairment domain and the risk domain, obtained from the age-appropriate NHLBI Expert Panel Report-3 <a href="#">control tables</a></li> <li>Reason(s) for lack of control</li> </ul>   | Have a team brainstorming meeting to determine what should be documented in patient charts/EHR about asthma control and how it should be documented. |
| There is insufficient time allocated to the visit for filling out forms.  | Analyze the patient flow within your clinic and implement means to have the tool used before the face-to-face visit between patient and provider. (Suggestions: Have the TRACK, C-ACT, or ACT handed to patients and/or parents when they are escorted to a room after vital signs are measured. Ask patients to complete these surveys in exam rooms. Also add spirometry to record of visit.)  | Involve your entire staff in brainstorming ways to allow completion of necessary documents.<br>Allot more time to the visit.                         |
| Follow-up to assess asthma control is not regularly scheduled   | Develop a protocol in your practice to recommend follow-up visits and assessments for patients with asthma based on the patient's validated level  | Meet with your team to discuss NHLBI guidelines for follow-up appointments to  |

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| or documented within your practice.                                     | of control in both the impairment and risk domain. Consider the patient's training and confidence in ongoing self-management. Include guidelines for documenting the recommendation or follow-up appointment date in the patient's chart.  | monitor asthma control and brainstorm ways to meet the guideline recommendations. |
| The frequency of follow-up visits to monitor asthma control is unclear. | Establish guidelines for follow-up frequency. Example: Follow up in 2- to 6-week intervals while gaining control; follow up in 1- to 6-month intervals, depending on the step of care required seasonality and the duration of control to monitor whether sufficient control is maintained; follow up in 3-month intervals if a step down in therapy is anticipated. <sup>1</sup>  | Establish a well-asthma check visit in your practice.                             |
| Patients and/or families are reluctant to schedule follow-up visits.    | <p>Explain the purpose for and value of scheduling follow-up visits to ensure the patient is taking the lowest possible dosage of medication to maintain asthma control. Prepare the patient and family to report key factors that determine whether the asthma is well controlled at the next follow-up visit. This includes monitoring asthma symptoms, exacerbations, medication use, restricted activity, and peak flow values, if measured.</p> <p>Consider asking the patient and/or family to keep a daily diary or to complete a validated assessment form (ie, ACT, C-ACT, ATAQ, TRACK, or ACQ) at the time of the visit. A daily diary can be particularly useful for patients whose asthma is not yet under control, who are trying new treatments, or who have difficulty self-assessing asthma control.</p> |   |

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| The purpose of the follow-up visit is unclear or varies among providers.            | <p>Use the follow-up visit to assess:</p> <ul style="list-style-type: none"> <li>○ Asthma control with validated questionnaire</li> <li>○ Adherence to the medication regimen</li> <li>○ Goals of treatment</li> <li>○ Environmental control</li> <li>○ Quality-of-life issues, including any missed work or school, reduction of activities, sleep disturbances, etc.</li> <li>○ Written action plan: Review and adjust as needed, and confirm that patient and family know what to do if the asthma gets worse</li> <li>○ Peak flow measurements or asthma diary, if indicated. Review inhaler devices and spacer techniques, as appropriate</li> <li>○ Determine satisfaction with asthma care and address concerns</li> </ul> <p>Prepare the patient and/or family to report key factors that determine whether the asthma is well controlled at the next follow-up visit.</p> | Build in EHR or written prompt to guide well-asthma check visit. |
| The skill or knowledge needed for asthma care requires enhancement in select cases. | Consider referral to an asthma specialist if the patient is not meeting the jointly identified goals of therapy after 3 to 6 months of treatment, if the patient is at step 3 to 4 therapy or higher, or to evaluate and assist in the comanagement of allergic comorbidities.   |  |

**Abbreviations:** ACQ, Asthma Control Questionnaire; ACT, Asthma Control Test; ATAQ, Asthma Therapy Assessment Questionnaire; EHR, electronic health record; NHLBI, National Heart, Lung, and Blood Institute; TRACK, Test for Respiratory and Asthma Control in Kids..

1. National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma: Summary Report 2007*. Bethesda, MD: NHLBI; 2007:36. NIH publication 08-5846.  
<http://www.nhlbi.nih.gov/guidelines/asthma/asthsumm.pdf>. Accessed June 25, 2016.

## Potential Barriers and Suggested Ideas for Change

**Key Activity:** Take spirometry measurements.

**Rationale:** The National Heart, Lung, and Blood Institute (NHLBI) guidelines strongly recommend the use of spirometry to confirm the diagnosis of asthma by assessing the reversibility of airflow obstruction. Once a diagnosis of asthma is confirmed, spirometry measurements are recommended every 1 or 2 years to observe asthma trends over time and to help predict risk of exacerbation. However, because asthma is highly variable over time, spirometry may be used more often to assess the effects of interventions or adjustments in the medication regimen to obtain asthma control.

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| <b>Gap:</b> Spirometry measurements are not regularly taken or documented as recommended by the NHLBI guidelines.                             |  |  |
| Spirometry is not part of your practice's asthma diagnosis process.   | Work with your team to develop a plan to incorporate spirometry into your practice's asthma diagnosis process for patients 5 years or older.   |  |
| Spirometry measurements are not regularly taken or the purpose and frequency of spirometry testing is not clear to everyone in your practice. | <p>Discuss the recommendations of the NHLBI guidelines about spirometry at your next team meeting to ensure understanding about the importance and frequency of spirometry testing.</p> <p>Establish a protocol for obtaining ongoing spirometry measurement for patients with asthma ages 5 years or older at least every 1 or 2 years but more frequently for asthma that is not well controlled. Gain commitment from all clinicians to follow these recommendations.</p> | Meet with staff to discuss concerns and barriers about spirometry testing. Address any objections to adherence to the recommendations. |
| Clinicians or families may be concerned about the cost of spirometry testing.   | Spirometry testing is covered by most insurance plans. Prepare members of your practice to explain the benefits of spirometry testing to patients and families that presents the value of testing in context with associated costs. Help direct patients and families to check with their insurance provider about coverage.   | Refer patients without insurance coverage for spirometry to other resources that can conduct the test free of charge.                  |
| Your practice is not equipped to conduct spirometry.  | Obtain spirometry equipment that meets <a href="#">American Thoracic Society standards</a> for your practice or form a liaison with a local hospital or laboratory to perform the tests for you.   | Partner with another practice or determine a health care facility where the test can be performed.                                     |
| Staff members are not trained to use the spirometry equipment effectively or to interpret or review spirometry flow-volume loops and          | Arrange training with the equipment manufacturer or an outside consultant. For backup purposes, ensure that 2 or more persons can accurately perform the tests and keep the machine calibrated. Similarly, provide training on results review and interpretation.  |  |

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| related data.   |   |  |
| You do not have a way to identify patients with asthma (or patients with asthma who are 5 years or older) in your practice. | Create an electronic database of patients that enables you to extrapolate the records of patients with asthma (or respiratory-related diagnoses such as bronchitis, cough, shortness of breath, and wheezing) <i>and</i> of patients 5 years or older. You may be able to use your billing system that identifies International Classification of Diseases <sup>5</sup> , Tenth Revision, Clinical Modification (ICD-10-CM) codes and the child's date of birth for this purpose.<br><br>Use the database information to help schedule appointments for regular spirometry testing. | For paper records, add a sticker or other visual aid on the chart to identify patients with asthma. Also record the child's date of birth. |
| You do not have a procedure to document the date and outcome of spirometry tests for patients.                              | If an electronic database of patients with asthma exists, add appropriate fields in which to record spirometry dates and results or, create a paper-based form to be placed in the charts of patients 5 years or older where the test dates and measurements can be recorded.<br><br>Scan printed reports of the patient chart into the EHR, where they are easily accessible.  |  |
| The purpose and frequency of spirometry testing is not clear to everyone in your practice.                                  | Discuss the recommendations of the NHLBI guidelines about spirometry at your next team meeting to ensure understanding about the importance and frequency of spirometry testing. Gain commitment from all clinicians to follow these recommendations.   | Meet with staff to discuss concerns and barriers about spirometry testing. Address any objections to adherence to the recommendations.     |

National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma: Summary Report 2007*. Bethesda, MD: NHLBI; 2007:36. NIH publication 08-5846.  
<http://www.nhlbi.nih.gov/guidelines/asthma/asthsumm.pdf> Accessed May 12, 2016.



## Potential Barriers and Suggested Ideas for Change

**Key Activity:** Teach use of controller medications.

**Rationale:** The National Heart, Lung, and Blood Institute (NHLBI) guidelines recommend the use of controller medications on a long-term basis to achieve and maintain control of persistent asthma. Inhaled corticosteroids (ICSs) are the preferred controller agents for persistent asthma. Evidence-based asthma management requires proper use of ICSs at low to medium doses before nonpreferred alternative drugs (eg, montelukast) or step 4 to 6 add-on drug combinations (eg, fluticasone-salmeterol or budesonide-formoterol) are considered. Patients taking asthma controller medication should be assessed every 3 to 6 months to determine the current level of asthma control, and therapy should be adjusted or maintained accordingly by using the EPR-3 evidence-based recommendations.

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| <b>Gap:</b> The NHLBI recommended stepwise approach to initiate asthma therapy based on severity or to adjust or maintain treatment based on asthma control is not consistently followed or documented. |  |                           |
| Asthma severity for initiating treatment or level of control for adjusting or maintaining treatment is not documented in patient charts.  | <p>Discuss in a staff meeting the principles of the stepwise approach to initiate asthma therapy or gain and maintain control of asthma. Also discuss the importance of clear, up-to-date asthma treatment documentation.</p> <p>Involve the team in determining the reasons for lack of documentation and identifying possible solutions.</p> <p>Make it a goal that the chart of every patient with asthma in your practice clearly shows how the child's asthma management decisions were made and what the current follow-up plans are for that child.</p> |                           |



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| Some but not all of the NHLBI-recommended procedures for initiating asthma therapy or gaining and maintaining control of asthma are consistently followed in your practice. | <p>Apply the principles of the stepwise approach to initiate asthma therapy or gain and maintain control of asthma.</p> <ol style="list-style-type: none"> <li>1) To <b>initiate</b> therapy in patients not currently taking long-term control medication:                             <ol style="list-style-type: none"> <li>a) Classify asthma severity using <a href="#">Figures 4-2a, 4-2b, and 4-6</a> of the NHLBI guidelines.</li> <li>b) Use the treatment steps presented in the stepwise approach, <a href="#">Figures 4-1a, 4-1b, and 4-5</a>, for managing asthma in children based on the appropriate age group (0–4, 5–11, and 12 years).</li> <li>c) Recommend the type, amount, and schedule of preferred medications; document reasons when nonpreferred agents are used.</li> <li>d) Consult the age-appropriate NHLBI table for recommended medication dosages for :                                     <ul style="list-style-type: none"> <li>✓ Usual dosages for long-term control medications</li> <li>✓ Estimated comparative daily dosages for inhaled corticosteroids</li> <li>✓ Usual dosages for quick-relief medications</li> </ul> </li> <li>e) Schedule patient contact at intervals appropriate to the level and duration of asthma control and treatment required to monitor response to therapy.</li> </ol> </li> <li>2) To <b>gain or maintain control</b> of asthma in patients already taking long-term control medication:                             <ol style="list-style-type: none"> <li>a) After reviewing the patient's current medication use and step of therapy, use <a href="#">Figures 4-3a, 4-3b, and 4-7</a> to assess asthma control in conjunction with the patient's adherence to the medication regimen, inhaler technique, environmental control measures, and control of comorbid conditions. Follow the table recommendation to maintain, step up, or step down therapy according to the level of asthma control: well controlled, not well controlled, or very poorly controlled.</li> <li>b) If an alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up. Follow steps as outlined in 1c through 1e above, as appropriate.</li> </ol> </li> </ol> | <p>Discuss the importance of following all recommended procedures for initiating asthma therapy based on severity and adjusting or maintaining treatment based on level of asthma control in a staff meeting. Review relevant recommendations, tables, and figures from the NHLBI guidelines.</p> <p>Obtain the tables, figures, and other resources identified here. Make them accessible in exam rooms.</p> <p>Delegate responsibility to an employee to oversee patient contact and scheduling regarding asthma control.</p> <p>Provide appropriate patient education on how the medications work, including benefits and risks. Teach proper inhaler and other device techniques. Review this information and the action plan at every visit to ensure patient skills do not deteriorate.</p> <p>Anticipate formulary and durable medical equipment issues for asthma drugs and supplies to handle them expeditiously (eg, there is no generic inhaled corticosteroid or SABA).</p> |

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| Historical asthma therapy information for individual patients is difficult to retrieve or is inadequate. | Maintain records to help monitor the patient's risk domain and asthma progression by recognizing exacerbations and changes in pulmonary function as related to the management step, medications used, and duration of therapy.   | Create or adapt a <a href="#">medical record log</a> for this purpose. <sup>1</sup>   |
| There are no checks and balances for monitoring asthma therapy at the practice level.                    | Establish a practice-wide protocol to monitor the therapy your practice provides. Establish an asthma case manager position to manage items such as prescription refill requests (special attention to SABA refills if more than 3 per year), routine control assessments, ratio of controller medication canisters to beta-agonist refills, communication with emergency departments and urgent care facilities to monitor exacerbations and medications prescribed by other physicians, patient education, and communication with schools and daycare personnel. | Identify specific checks and balances for monitoring asthma therapy within your practice, and delegate these responsibilities to a nurse practitioner, physician assistant, or registered nurse.                                  |
| Referral to asthma specialist is inconsistent within the practice.                                       | Develop a practice-wide protocol for referring patients to an asthma specialist if asthma management is step 3 or higher in the 6 steps of care, as specified in the NHLBI guidelines.   | Delegate responsibility to an asthma case manager or other employee to review all cases for this purpose. Establish working relationships with asthma specialists in your area to exchange information and comanage patient care. |

**Abbreviation:** SABA, short-acting beta agonists.

1. National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma: Summary Report 2007*. Bethesda, MD: NHLBI; 2007:36. NIH publication 08-5846.  
<http://www.nhlbi.nih.gov/guidelines/asthma/asthsumm.pdf>. Accessed June 25, 2016.

## EQIPP: Asthma - Generalist

### Potential Barriers and Suggested Ideas for Change

**Key Activity:** Administer annual influenza vaccinations.

**Rationale:** Viral infections are the most common precipitant of asthma symptoms. Influenza type A and type B viruses can be prevented with timely immunizations.

| Potential Barriers   | Suggested Ideas for Change  | Still Not Seeing Results?  |
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| <b>Gap:</b> Annual vaccinations for influenza are not regularly recommended or administered to patients with asthma. |   |  |
| There is no protocol in place for administering flu shots to patients with asthma.                                   | Identify patients in your practice who are 6 months or older with asthma and develop a protocol to contact them to recommend and schedule influenza vaccinations before the influenza season.   | Create an electronic database of patients that enables you to extrapolate the records of patients with asthma (or respiratory-related diagnoses such as bronchitis, cough, shortness of breath, and wheezing) <i>and</i> who are 5 years or older.<br><br>You may be able to use your billing system that identifies International Classification of Diseases, Tenth Revision, Clinical Modification codes (ICD 10-CM) and the child's date of birth for this purpose. |
| The purpose and importance of flu shots for children with asthma are not clear to patients and families.             | Provide information about the recommendation for influenza vaccine for patients who are 6 months or older and receiving or participating in regular asthma therapy. Communicate the following: <ul style="list-style-type: none"> <li>Patients with asthma may be at increased risk for complications from influenza.</li> <li>The vaccine is not given with the expectation that it will reduce the frequency or severity of asthma exacerbations during the influenza season.</li> </ul> <p>The CDC Fact Sheet: Key Facts About Seasonal Flu Vaccine is available at: <a href="http://www.cdc.gov/flu/protect/keyfacts.htm">http://www.cdc.gov/flu/protect/keyfacts.htm</a></p> | Be a resource to local news media to publicly communicate the purpose and importance of flu shots. This may be a fun and creative way to reach parents and children in your community and is a good practice builder as well.  |

## EQIPP: Asthma - Generalist

### Potential Barriers and Suggested Ideas for Change

**Key Activity:** Provide a written asthma action plan.

**Rationale:** The National Heart, Lung, and Blood Institute (NHLBI) guidelines recommend that a current written asthma action plan should be provided and reviewed with patients, including instructions for:

- Daily management of asthma
- How to recognize and handle worsening asthma, including how to adjust medication dosages and when to seek urgent medical attention

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| <b>Gap:</b> A written asthma action plan is not provided or explained at every visit.  |   |  |
| You do not have age-appropriate action plans that incorporate new guideline recommendations, or you are unclear about what should be included in them. | <p>Develop an asthma action plan that suits your practice, patients, and style, and is individualized with involvement of the patient and/or family. Examples of asthma action plans are provided in <a href="#">Figures 3-10a, 3-10b, and 3-10c</a> of the NHLBI guidelines. Include instructions for daily management and how to recognize and handle worsening asthma:</p> <p><b>Daily management</b></p> <ul style="list-style-type: none"> <li>✓ List medicine to take daily, including the specific names of each medication.</li> <li>✓ Describe actions to take to control of environmental factors that may worsen the asthma.</li> </ul> <p><b>How to recognize and handle worsening asthma</b></p> <ul style="list-style-type: none"> <li>✓ Describe signs and symptoms that indicate worsening asthma:               <ul style="list-style-type: none"> <li>○ Increased wheeze, persistent cough, shortness of breath, nighttime awakenings, etc.</li> <li>○ Peak expiratory flow measurements (if peak flow monitoring is used)</li> </ul> </li> <li>✓ List medications to take in response to signs of worsening asthma.</li> <li>✓ Describe symptoms that require urgent medical care.</li> </ul> <p>List appropriate phone numbers for emergency contacts such as physician, emergency department, and ambulance service.</p> | Contact other organizations and asthma coalitions to see the asthma action plans they are using and adapt for your purposes. |

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| The plan is provided at every visit, but there is not enough time for physicians to review it.                  | Develop a protocol that designates a representative of your practice—a nurse or asthma case manager, for example—to review the asthma action plan with the patient and/or family caregiver at every follow-up visit. Reinforce key educational messages, and ensure that the plan is understood. | Allot more time for visits for patients with asthma.<br><br>Provide simple, brief, written materials that reinforce the skills taught. These materials can help streamline key messages and instill confidence that the skills can be duplicated at home. |
| The patient and/or family follows the asthma action plan at home, but it is not adhered to during school hours. | Encourage parents to provide copies of the child's written asthma action plan to all caregivers, including relevant personnel at the child's school. Provide extra copies of the asthma action plan as needed to keep all regular caretakers informed.   | Obtain parental permission and send a copy of the child's asthma action plan to the school nurse or designee. Include office contact numbers so the school can call your office for clarification, if necessary.  |

National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. *Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma: Full Report 2007*. Bethesda, MD: NHLBI; 2007:117-119. <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>. Accessed June 25, 2016.

## EQIPP: Asthma - Generalist

### Potential Barriers and Suggested Ideas for Change

**Key Activity:** Educate patients.

**Rationale:** Frequent and open communication among the provider, patient, and family is needed for a shared understanding of the treatment approach to controlling asthma. Through education, patients and caregivers can be equipped with the information and skills necessary to monitor asthma, take medication effectively, and avoid environmental factors that worsen asthma.

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| <b>Gap:</b> Patient self-management education and materials are not provided or explained, and patients may lack the information and skills necessary to control asthma and improve outcomes. |  |  |
| The asthma educational message and materials are not consistent between patients and among providers or are not tailored to individual patients.  | <p>Develop a protocol that <b>introduces</b> patient education regarding pathophysiology of asthma and how to take medication correctly, including proper inhaler and other device techniques, and <b>reviews</b> this information to ensure that patient skills do not deteriorate.</p> <p>Provide self-monitoring education that meets individual patients' needs to help them assess their level of asthma control and adjust medications to regain control, including:</p> <ul style="list-style-type: none"> <li>How to recognize signs of worsening asthma</li> <li>Appropriate use of a peak flow meter, particularly for patients who have difficulty perceiving symptoms, have a history of severe exacerbations, or have moderate or severe asthma</li> </ul> <p>Ensure that all caregivers (for patients who live in multiple households) get copies of the asthma educational materials.</p> | Consult with other practices and coalitions to see the educational materials they are using and adapt for your purposes. |
| The asthma educational materials are not tailored to the patient's and family's literacy level and language.  | <p>Engage the services of an interpreter to converse with patients in their native language and to translate materials as needed.</p> <p>Research materials are available in other languages on the Internet. Check out these materials in Spanish:</p> <p><a href="http://www.epa.gov/iaq/espanol/asma.html">http://www.epa.gov/iaq/espanol/asma.html</a><br/> <a href="http://www.cdc.gov/spanish/enfermedades/asma.html">http://www.cdc.gov/spanish/enfermedades/asma.html</a><br/> <a href="http://www.nhlbi.nih.gov/health/dci/Diseases/Asthma/Asthma_Links.html">http://www.nhlbi.nih.gov/health/dci/Diseases/Asthma/Asthma_Links.html</a><br/>         (Click Espanol)</p>  |  |

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| There is not enough time for patient education; provider's time is devoted to making clinical decisions. | <p>Develop a protocol in your practice that designates a representative of your practice to review the asthma action plan and other key educational messages with patients and caregivers at every visit.</p> <p>Encourage parents to provide copies of the child's action plan to other caregivers and to relevant personnel at the child's school or daycare facility.</p> |  |
| Not all staff members feel equipped as educators.  | Provide skill-building training for staff to effectively deliver relevant asthma education.  | <p>Enlist the support of others on your team regarding educational activities that would empower staff to be effective educators.</p> <p>Consider offering continuing education credit courses, on-site or online.</p> |