### Decision Variables

#### 0–4 Years of Age

<table>
<thead>
<tr>
<th>Rec_1: Cond_1: DV_1</th>
</tr>
</thead>
<tbody>
<tr>
<td>four or more episodes of wheezing in the past year that lasted more than 1 day and affected sleep</td>
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<tr>
<td>Rec_1: Cond_1: DV_2</td>
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<tr>
<td>parental history of asthma</td>
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<tr>
<td>Rec_1: Cond_1: DV_3</td>
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<tr>
<td>a physician diagnosis of atopic dermatitis</td>
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<tr>
<td>Rec_1: Cond_1: DV_4</td>
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<tr>
<td>evidence of sensitization to aeroallergen</td>
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<tr>
<td>Rec_1: Cond_1: DV_5</td>
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<tr>
<td>evidence of sensitization to foods</td>
</tr>
<tr>
<td>Rec_1: Cond_1: DV_6</td>
</tr>
<tr>
<td>4 percent peripheral blood eosinophilia</td>
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<tr>
<td>Rec_1: Cond_1: DV_7</td>
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<tr>
<td>wheezing apart from colds</td>
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<tr>
<td>Rec_1: Cond_1: DV_8</td>
</tr>
<tr>
<td>consistently require symptomatic treatment more than 2 days per week for a period of more than 4 weeks</td>
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<tr>
<td>Rec_2: Cond_2: DV_9</td>
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</tbody>
</table>

#### 0–4 Years of Age

<table>
<thead>
<tr>
<th>Rec_2: Cond_2: DV_10</th>
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<tbody>
<tr>
<td>a second asthma exacerbation requiring systemic corticosteroids within 6 months</td>
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<tr>
<td>Rec_3: Cond_3: DV_11</td>
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</tbody>
</table>

#### 0–4 Years of Age

<table>
<thead>
<tr>
<th>Rec_3: Cond_3: DV_12</th>
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<tbody>
<tr>
<td>periods of previously documented risk for a child</td>
</tr>
<tr>
<td>Rec_4: Cond_4: DV_13</td>
</tr>
</tbody>
</table>

#### 0–4 Years of Age

| Rec_4: Cond_4: DV_14 |
5–11 Years of Age

persistent asthma

already taking long-term control medication

if control of the impairment domain is not achieved and maintained

patient adherence

inhaled technique

environmental control measures

control of the risk of exacerbations is not achieved or maintained (a history of one or more exacerbations)

0–4 years of age

5–11 years of age

the history of exacerbations suggests poorer control than does the assessment of impairment

patient experiences troublesome or debilitating side effects

difficulties achieving or maintaining control of asthma

The patient has had an exacerbation requiring hospitalization.

Immunotherapy or other immunomodulators are considered, or additional tests are indicated, to determine the role of allergy

0–4 years of age
requires step 3 care or higher to achieve and maintain control

if additional education is indicated to improve the patients’ management skills or adherence

5–11 years of age

requires step 4 care or higher

additional education is indicated to improve the patients’ management skills or adherence

0–4 years of age

requires step 2 care

5–11 years of age

requires step 3 care

well-controlled asthma is achieve

well-controlled asthma is maintained for at least 3 months,

no clear response within 4–6 weeks

a clear and positive response for at least 3 months

intermittent asthma

(URI) symptoms are mild

this therapy (SABA every 4–6 hours for 24 hours, longer with a physician consult )
viral respiratory infection provokes a moderate-to-severe exacerbation,

history of severe exacerbations with viral respiratory infections,

intermittent asthma

history of severe exacerbations

children who had four or more wheezing episodes in 1 year

risk factors for persistent asthma

children who have a second exacerbation requiring oral systemic corticosteroids in 6 months

children who consistently require symptomatic treatment $\geq$ 2 days a week for $\geq$ 4 weeks

patient has an exacerbation at the time long-term control therapy is started

moderate or severe asthma with frequent interference with sleep or normal activity

no clear response occurs within 4–6 weeks

medication technique and adherence are satisfactory

a clear and positive response for at least 3 months

alternative treatment is selected

adequate asthma control is not achieved and maintained in 4–6 weeks

infants and young children who have never before been treated with long-term control therapy
2 years of age or older

inhaled medication delivery is suboptimal due to poor technique or adherence

children 0–4 years of age

asthma is not well controlled on low doses of ICS

when initiating daily long-term control therapy for mild or moderate persistent asthma,

moderate or severe exacerbations due to viral respiratory infections

history of severe exacerbations with viral respiratory infections

patients who have intermittent asthma and a history of severe exacerbations

has an exacerbation at the time long-term control therapy is started

patients who have moderate asthma with frequent interference with sleep or normal activity

patients who have severe asthma with frequent interference with sleep or normal activity

two or more exacerbations requiring oral systemic corticosteroids in the past year

add-on therapy initially administered does not lead to improvement in asthma control

well-controlled asthma is achieved

patients in whom the diagnosis of asthma is being considered

children 5 years of age
office-based physicians who care for asthma patients

office spirometry shows severe abnormalities

questions arise regarding test accuracy or interpretation

peak flow monitoring is performed,

Patient has had a life-threatening asthma exacerbation

Patient is not meeting the goals of asthma therapy after 3–6 months of treatment. An earlier referral or consultation is appropriate if the physician concludes that the patient is unresponsive to therapy.

igns and symptoms are atypical, or there are problems in differential diagnosis.

Other conditions complicate asthma or its diagnosis (e.g., sinusitis, nasal polyps, aspergillosis, severe rhinitis, VCD, GERD, COPD)

Additional diagnostic testing is indicated (e.g., allergy skin testing, rhinoscopy, complete pulmonary function studies, provocative challenge, bronchoscopy)

Patient requires additional education and guidance on complications of therapy, problems with adherence, or allergen avoidance.

Patient is being considered for immunotherapy.

Patient requires step 4 care or higher (step 3 for children 0–4 years of age).

Consider referral if patient requires step 3 care (step 2 for children 0–4 years of age)

Patient has required more than two bursts of oral corticosteroids in 1 year or has an exacerbation requiring hospitalization.
Patient requires confirmation of a history that suggests that an occupational or environmental inhalant or ingested substance is provoking or contributing to asthma.

patients who have significant psychiatric, psychosocial, or family problems that interfere with their asthma therapy