Recommended Asthma Home Visit Design

Risk factors for asthma are similar to those for lead exposure, infant mortality, other chronic illnesses and school/work attendance and educational success. Linking patients and families with resources for insurance, a Patient Centered Medical Home (PCMH), medication access, transportation, smoking cessation, environmental remediation and other activities should control costs and improve outcomes in all of these areas.

Referral Criteria

Referral for a home visit for asthma should be based on the National Institute of Health, National Heart, Lung and Blood Institute National Asthma Education and Prevention Program (NAEPP) Expert Panel Review-3 (EPR-3) guidelines definition of asthma control (*Section 3, Component 1: Measures of Asthma Assessment and Monitoring, EPR-3, pg 55–56).* Patients who are classified **Not Well Controlled** should be referred for home visitation according to the EPR-3 guidelines in *Section 3, Component 1: Measures of Asthma Assessment and Monitoring, EPR-3, pg 75–78 at* *https://www.nhlbi.nih.gov/files/docs/guidelines/04_sec3_comp.pdf*). Referral criteria vary by age:

- *Children 0–4 years of age:* symptoms >2 days/week; nighttime awakenings >1x/month; some limitation of normal activity; use of SABA>2 days/week; exacerbations requiring oral systemic corticosteroids 2-3/year; Urgent Care/Emergency Department visit for asthma >2x/year; hospitalization for asthma.
- *Children 5–11 years of age:* symptoms >2 days/week or multiple times on ≥2 days/week; nighttime awakenings ≥2x/month; some limitation of normal activity; use of SABA >2 days/week; FEV1/peak flow=60-80% predicted or FEV1/FVC+75-80%; exacerbations requiring oral systemic corticosteroids >2/year; Urgent Care/Emergency Department visit for asthma >2x/year; hospitalization for asthma.
- *Adults and children greater 12 years of age and older*: symptoms >2 days/week; nighttime awakenings 1-3x/week; some limitation of normal activity; use of SABA >2 days/week; FEV1/peak flow=60-80% predicted; validated questionnaires (ATAQ/1-2, ACQ/>1.5; ACT16-19); exacerbations >2/year; Urgent Care/Emergency Department visit for asthma >2x/year; hospitalization for asthma.

Home Visit Staff

The interdisciplinary team should consist of members with expertise in asthma and a deep understanding of culturally appropriate behaviors for the population they are serving and be culturally representative of the community. Team members should include those who are trained on relevant climate and housing issues that may influence the efficacy of the home based strategy. Evidence based/focused care coordination is encouraged.

The interdisciplinary team should include:

- Registered Nurse (RN) or Respiratory Therapist (RT)
- Environmental assessors such as Registered Sanitarians (RS) or Healthy Homes Specialist (HHS)
- (Optional) Licensed Social Worker (LSW/LISW)
- (Optional) Health educator such as a CHES
- (Optional) Certified Community Health Worker

- (Optional) Licensed Practical Nurse (LPN) in accordance with the Ohio Nurse Practice Act

Home Visit Format

Components of the Home Visiting program must include:

- At least one staff member. An RN/RT and RS/HHS each must visit at least once in the series of visits
- Length of visit will vary according to patients needs
- A minimum of three visits (including one *Initial Visit* and one or more *Follow Up Visits* as needed) over a 12 month period

The following activities must be included in the three visit series:

- Determination if the patient has an established medical home. If the patient has a medical home, this clinician should be included in all communication regarding the home visiting process. If the patient does not have an established medical home, efforts must be made to link the patient to one
- Determination of what other home visiting and/or case management services are being provided to the patient and family to identify potential partners, enhance care coordination and decrease visitor burden to the family. Initiate this process before the home visit, if possible
- Multidimensional assessments should be conducted using evidence-based tools, including:
    - Walk through of entire home to conduct comprehensive environmental assessment (examples of tools include EPA Asthma Home Environment Checklist; Healthy Homes Assessment; King's County Home Environment Checklist)
    - A health risk factor assessment (examples of tools include Caregiver QOL; Pediatric Environmental Health Assessment)
    - Social Determinants of Health assessment (examples of tools include Health Watch Survey; Health Leads)
    - Assessment of behavioral health risk factors (examples of tools include Self-Sufficiency Matrix; National Social Life, Health, and Aging Project Data Collection Project)
- Self-management Education—including review of asthma, the Asthma Action Plan, medications, trigger control and avoidance—using an evidence-based program such as Open Airways. If the patient does not have an Asthma Action Plan, communicate with the medical home to obtain/create the plan
- Review of current medication (including storage of medication, fill and expiration dates, inhaler counter, proper methods of administration including return demonstration, barriers to access, etc.)
- Based on the results of the assessments, all identified risk factors and gaps in care are confirmed and shared with the primary care provider/PCMH, referral source and payor. Referrals and provision of resources will be documented and reviewed at each visit, including any barriers to accessing resources. Referrals for resources should include:
    - HEPA vacuum (with bag is recommended), dust mite/allergen mattress and pillow covers, low/no VOC cleaning supplies and instructions
    - Referral to Insurance Navigator, PCMH and/or case manager as needed
    - Referral for assistance with environmental remediation as needed

  - Referral for smoking cessation and/or substance abuse counseling program as needed
  - Referral for behavioral health consultation as needed
  - Strategies to work with school/child care provider/employer as needed
  - Referral to social services, housing, transportation, legal aid, medical specialists (e.g., allergists, pulmonologist), and others as needed
- *If a child spends time in two different residences (separated parents, kinship care, etc.), a similar visit may be done at a second location with additional family members*
- Follow up visits must include:
  - Limited walk through of the home to assess remediation or control of any environmental and behavioral issues identified at initial visit such as use of cleaning materials and smoking behavior
  - Continuation/reinforcement of self-management education
  - Review of risk factors and documentation of resources needed, ability to access resources and access of those resources by the patient/family
  - Follow up communication with primary care provider/PCMH and referral source documented with each visit

Evaluation

Measures are used to evaluate the effectiveness of care delivered as part of the treatment plan as well as patient outcomes. Below are some measures* utilized by the Ohio Department of Medicaid (ODM):

- Measure #444 (NQF 1799): Healthcare Effectiveness Data and Information Set (HEDIS): Medication Management for People With Asthma [1]
- Pediatric Quality Indicator (PDI) 14: Asthma Admission Rate (2-17)[2]
- Other quality metrics associated with ODM's episode-based payments:
  - Percent of episodes with a follow-up visit within 30 days
  - Percent of episodes with filled prescription for controller medication
  - Percent of episodes with a repeat exacerbation within 30 days
  - Percent of episodes in IP vs. ED/Obs treatment setting
  - Chest x-ray utilization rate
  - Percent of episodes with smoking cessation counseling
  - Percent of episodes with a follow-up visit within 7 days[3]

*These measures are subject to change.

[1] http://www.medicaid.ohio.gov/PROVIDERS/ManagedCare/ProgramResourceLibrary/CombinedProviderAgreement.aspx
[2] http://www.medicaid.ohio.gov/PROVIDERS/ManagedCare/ProgramResourceLibrary/CombinedProviderAgreement.aspx
[3] http://www.medicaid.ohio.gov/PROVIDERS/PaymentInnovation/Episodes.aspx

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