

Assessing Person-Centered Health Outcomes in Children and Adolescents with Asthma

These recommendations are offered as a starting point for consideration. They are not necessarily the best choices for every application and do not substitute for a comprehensive literature review.

Key Domains to Consider in Pediatric Asthma

Asthma is one of the most prevalent chronic conditions among children and adolescents (use of the term “children” in subsequent sections represents individuals less than 18 years of age). Achieving good asthma control is the ultimate goal of asthma management. Children with inadequately-controlled status have a higher frequency of emergency room visits and hospitalizations than children with adequately-controlled status. Inadequately-controlled asthma significantly impacts a child’s functional status and quality of life.

Asthma Impact should be considered as the primary domain for clinical research, and **Pain Interference**, **Fatigue**, **Depressive Symptoms**, **Anger**, **Mobility**, **Upper Extremity**, and **Peer Relationships** scales should be considered as secondary domains.

Suggested HealthMeasures for Primary Domains in Pediatric Asthma

PROMIS Asthma Impact assesses symptoms and the impacts of asthma disease and/or treatments. The concepts of this measure include trouble breathing, chest tightness, wheeziness, and physical limitations due to asthma. The Asthma Impact measure can be administered by two forms: pediatric self-report (ages 8-17) and parental proxy-report (youth ages 5-17). In addition, short forms (8 items), an item bank (17 items), and a computerized adaptive test (CAT) are available for use. CAT administration is based on the selection of a subset of items from the item bank, which may reduce respondent burden. However, CAT administration relies on access to an active web-based platform. Short forms may be used in paper or electronic form.

Suggested HealthMeasures for Secondary Domains in Pediatric Asthma

HealthMeasures provide an assessment for generic PROs that are important to children with asthma: PROMIS Pain Interference, Fatigue, Depressive Symptoms, Mobility, and Peer Relationships. These scales quantify the impact of asthma disease and/or treatments on the child’s daily activities and allow for PRO comparisons between children with asthma and those with other health conditions. These scales can be administered by two forms: pediatric self-report (ages 8-17) and parental proxy-report (ages 5-17).

Summary

- Recommended primary domains include Pediatric Asthma Impact and Proxy Asthma Impact. On average, this would involve administration of about 17 questions, requiring 4-5 minutes to complete.
- HealthMeasures offers brief, psychometrically sound measures for these domains.
- Evaluating patients regularly using the PROMIS Asthma Impact measure can help clinicians capture the extent to which symptoms disturb a patient’s functional status.

Short form, item bank, and computerized adaptive test (CAT) versions are also available for use. The descriptions of these generic scales can be found in the table below.

Secondary HealthMeasures	Description
PROMIS Pediatric - Pain Interference CAT or Short Form 8a	Assess the impact of pain on one's daily activities. This includes the extent to which pain hinders engagement with school, cognitive, emotional, physical, and recreational activities. This scale also incorporates items probing sleep and enjoyment in life, though the item bank only contains one sleep item
PROMIS Pediatric - Fatigue CAT or Short Form 10a	Assess symptoms, from mild subjective feelings of tiredness to an overwhelming, debilitating, and sustained sense of exhaustion that likely decreases one's ability to execute daily activities and function normally
PROMIS Pediatric - Depressive Symptoms CAT or Short Form 6b	Assess negative mood (sadness), social cognition (loneliness), decreased positive affect, and engagement (loss of fun). Somatic symptoms (changes in appetite, sleeping patterns) are not included.
PROMIS Pediatric –Mobility CAT or Short Form 8a	Assess activities of physical mobility such as moving legs and getting up from the floor to the activities such as playing sports.
PROMIS Pediatric - Peer relationships CAT or Short Form 8a	Assesses the quality of relationships with friends and other acquaintances such as feeling accepted by other kids.

Primary HealthMeasures for Pediatric Asthma Patients

- PROMIS Pediatric Short Form v1.0 – Asthma Impact 8a
- PROMIS Parent Proxy Short Form v1.0 – Asthma Impact 8a *Item Bank*
- PROMIS Pediatric – Asthma Impact CAT
- PROMIS Parent Proxy – Asthma Impact CAT

Learn More!

You can read about CATs and watch a video tutorial at the HealthMeasures.net website [here!](http://www.healthmeasures.net)

Assessment Times

Although asthma is a chronic condition, different factors (e.g., sociodemographic, psycho-behavioral, and environmental) may cause frequent asthma flares, which in turn lead to changes in functional status and other PROs. Time windows to evaluate PROs for asthmatic children may differ depending on the desired use of the measures. Changes in asthma control or asthma flares do lead to changes in these PROs. For clinical practice, we recommend that the asthma-specific PROs (Asthma Impact scale) be assessed on a regular-basis (e.g., once per month or quarterly depending on the stability of the patient) to help clinicians monitor the extent to which asthma symptoms disturb one's functional status. Generic PROs such as Pain Interference, Fatigue, Depressive Symptoms, Mobility, and Peer Relationships should be assessed as needed. Establishing baseline PROs for each asthmatic child is important to determine whether daily functional status has returned to normal after asthma flares.

Additional Information

The www.healthmeasures.net website includes more information about selecting measures, data collection tools, scoring, and interpretation. A site forum allows for questions and responses from the HealthMeasures community. The HealthMeasures team is also available for collaboration or consultation in clinical research, clinical practice, and information technology via help@healthmeasures.net.