

Recommended Metrics for Asthma Programs with Environmental Management Services

Recommendations for Evaluation Metrics for Asthma Home Visiting Programs Measuring Environmental Management & Health Outcomes

Background Environmental health education, assessment, and remediation of asthma triggers in the home environment are necessary to provide equitable comprehensive asthma care management. Research evidence has shown that home-based, multi-trigger, multicomponent interventions with an environmental component are both economically viable and effective in improving outcomes. The movement to address social determinants of health has led to increased willingness among State Medicaid and managed care plans to innovate to pay for services that can be linked to positive health outcomes.

Purpose Given the importance of controlling asthma triggers in the home environment which is known to reduce exposure, exacerbations, and episodes of potentially avoidable hospitalizations, there is a need for health care to finance upstream public health interventions to improve health outcomes. While research has shown the health benefits of environmental management services to prevent asthma exacerbations, these home-based services (in-home environmental health education, environmental assessment, and remediation of asthma triggers) are not typically paid for by health insurance plans. To support the reimbursement of in-home environmental health services, there is a need to clearly define the core, supplemental, and emerging health measures for rigorous evaluation of asthma home-visiting programs.

Results The Environmental Management and Health Outcomes Metrics for Evaluation (EMHOME) Work Group convened a representative group of national stakeholders from different sectors and organizations to offer their input and guidance on which measures to include for recommendation. The goal was to produce a standard set of measures that providers, health systems, managed care organizations, and public health departments can utilize to link health outcomes to program intervention measures representing the four components of asthma care management, as well as measures of care coordination with a focus on achieving health equity.

This publication produces a recommended list of measures that are designated as core, supplemental, and emerging measures that cover the four components of comprehensive asthma care, care coordination, and outcomes – all of which are integral to the evaluation of a home visiting program both in terms of efficacy and cost-effectiveness. This final report of the Work Group presents a set of 28 measures that covers the multiple components of comprehensive asthma care.

Core Metrics

Outcomes	
Domain	Metric
Healthcare Utilization	Reduce hospitalizations for asthma; asthma hospitalization rate
	Reduce emergency department (ED) visits for asthma; asthma emergency department (ED) visits
Quality Improvement	Asthma Medication Ratio (AMR)
	Medication Management for Asthma (MMA)
Assessment & Monitoring of Asthma Severity and Control	
Composite Measures	Asthma Control
	Asthma Severity
Control of Environmental Factors and Co-morbid Conditions that Affect Asthma	
Tobacco Use	Reduce the proportion of nonsmokers exposed to secondhand smoke
	Increase the proportion of smoke-free homes
Education for a Partnership in Care/Patient Self-Management Education	
Healthcare Quality	Increase the proportion of persons with current asthma who receive formal patient education
	Asthma Action Plan
Medication Adherence	
Medication Utilization	Increase the proportion of persons with current asthma with prescribed inhalers who receive instruction on their use
	Increase the proportion of persons with current asthma who do not use more than one canister of short-acting inhaled beta agonist per month
Care Coordination	
Primary Care Connection	Increase the proportion of persons with current asthma who have had at least one routine follow-up visit in the past 12 months
	Primary Care Connection after Emergency Department Visits for Asthma

Supplemental Metrics

Outcomes	
Domain	Metric
Healthcare Costs	Asthma-specific cost of care
	Total Cost of Care
Quality of Life – Productivity Loss	Reduce the proportion of persons with asthma who miss school or work days; missed school/work days due to asthma

Quality of Life – Composite	Quality of Life – Patient
	Quality of Life - Caregiver
Assessment & Monitoring of Severity & Control	
Composite Measures	Optimal Asthma Control
Care Coordination	
Maternal, Infant, and Child Health	Increase in the proportion of children with special health care needs who receive care in family-centered, comprehensive, and coordinated systems

Emerging Metrics

Control of Environmental Factors and Co-morbid Conditions that Affect Asthma	
Domain	Metric
Environmental Health	Environmental remediation (minor vs. moderate/major)
	Environmental health assessment
	Environmental control supplies
Composite Measures	Environmental Scoring System
Education for a Partnership in Care/Patient Self-Management Education	
Self-Management Strategies	Environmental health education in the home setting
	Duration of environmental health education
	Proportion of home visits completed by type of educator (nurse, respiratory therapist, community health worker. Etc)