

Economic Framework: School-Based Asthma Self-Management Interventions

This is the analytic framework for the economic review.

The pathways in the effectiveness analytical framework are diagrammed on the top part of the slide.

School-based asthma self-management interventions are delivered to students with asthma ages 5 to 18 years. Interventions aim to improve asthma knowledge, behaviors, and skills (i.e., asthma knowledge, self-efficacy, adherence to medical regimen, avoidance of risk behaviors/exposure). It is postulated this will improve asthma control, which will lead to fewer missed school days and reduced morbidity and mortality.

The associated economic consequences and impacts are diagrammed along the bottom of the slide.

Intervention cost is the cost of asthma self-management support at school. Cost components include labor (i.e., staff resources), asthma medical supplies where provided, educational materials, and parent time. The costs of labor and asthma medical supplies are the drivers contributing substantially to the magnitude of the estimate.

Potential modifiers include family involvement, whether interventions are delivered to groups or individuals, students' age or grade level, and students' socio-economic status, race, and/or ethnicity.

Improved asthma control and outcomes are expected to lead to reduced use of healthcare and fewer missed school days. This would lead to economic benefits such as averted healthcare costs (i.e., costs associated with emergency department visits, inpatient stays, outpatient visits, and medication) and increased productivity (i.e., through improved student academics and parent time saved). Within healthcare, the drivers of the magnitude of change are expected to be emergency department visits, inpatient stays, and medications. Improved health and reduced school absences also mean that productivity is a driver of benefit when parents avoid loss of workdays caring for children with asthma exacerbations and school systems avoid loss of revenue from reduced attendance.

Measures that compare costs and benefits of the intervention are summarized in cost-benefit outcomes. Improved health would be expected to increase quality and disability adjusted life years (i.e., QALY and DALY) which translate to cost-effectiveness outcomes summarized in the cost per QALY gained and cost per DALY averted.