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## **The Cost-Consequence of Budesonide/Formoterol Plus As-Needed Saba As Treatment for 6-12 Years Old Pediatric Asthma Patients in China: Based on Real-World Data**

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### **OBJECTIVES:**

To evaluate the cost-effectiveness of budesonide/formoterol versus salmeterol/fluticasone as maintenance plus as-needed SABA for 6-12 years old patients.

### **METHODS:**

A long-term Markov model was built from the societal perspective. The model structure comprised three health states: non-exacerbation, exacerbation, and death. Exacerbation was defined as the need for outpatient (mild exacerbation) or hospitalization (moderate-to-severe exacerbation). Exacerbation rates and the proportion of hospitalization were calculated based on real-world data from a large sample of Chinese pediatric asthma patients. The time horizon of model was defined as the longest follow-up time (3 years). The costs of exacerbation include the expenses associated with SASA and outpatient or inpatient treatment. The model was not considered the costs and disutility of death related to asthma and intensive care unit events because there is no record associated to them. Medical resource utilizations and all utility values were sourced from published literature. Both one-way and probabilistic sensitivity analyses were conducted.

### **RESULTS:**

Over a 3-year time horizon, budesonide/formoterol led to a slightly higher total cost of ¥551.96 with quality-adjusted life years (QALY) gains of 0.0025. Compared to salmeterol/fluticasone as maintenance budesonide/formoterol as maintenance reduce 69.07% probabilities of hospitalization events (0.006 Vs 0.0194 events, respectively), probabilities of 15.87% outpatient events (2.184 Vs 2.596 events, respectively), as well as less hospitalization expenses (¥80.81/ person) and outpatient expenses (¥103.54/ person). The base case incremental cost-effectiveness ratio was ¥221,593.464 per QALY gained, lower than a willingness-to-pay of ¥257,904/QALY (3-times of Cina GDP-per-capita). According to sensitivity analyses, the model was the most sensitive to the prescription drug price.

### **CONCLUSIONS:**

This study indicates that budesonide/formoterol was a superior initial therapy compared to salmeterol/fluticasone as maintenance plus as needed SABA with better clinical outcomes and a slightly higher cost, from the Chinese societal perspective, is likely to be a cost-effective option for 6-12 years old patients.

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137604

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**Program Selection:**

Research

**Preferred Presentation Format:**

Either poster or podium

**Research Study Approach:**

Research

**Main Topic/Taxonomy:**

Economic Evaluation

**Subtopics:**

Clinical Outcomes: Relating Intermediate to Long-term Outcomes

Economic Evaluation: Cost-comparison/effectiveness/utility/benefit Analysis

Methodological &amp; Statistical Research: Modeling &amp; Simulation

**Primary Specific Diseases & Cond./Specialized Treatment Areas:**

STA: Drugs

**Additional Diseases & Conditions/Specialized Treatment Areas:**

SDC: Respiratory-Related Disorders (Allergy, Asthma, Smoking, Other Respiratory) STA: Drugs

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