BACKGROUND: Acute sore throat and group A streptococcal (GAS) pharyngitis is common in Australian children with 36% and 12% of children less than 12 years experiencing a sore throat and GAS pharyngitis episode per year. Yet management of sore throat remains controversial in urban settings where the impact of antibiotics on symptom reduction is questionable and the incidence of acute rheumatic fever is low. Australian practitioners, and many North American and European practitioners, do not follow any sore throat guideline, preferring management based on clinical grounds alone.

OBJECTIVE: For the first time a cost-effectiveness analysis of the management of sore throat in Australian children has been conducted using accurate epidemiological data generated from recent Australian studies.

DESIGN/METHODS: A decision model was constructed to evaluate the short term cost-effectiveness of six strategies to manage sore throat using diagnosis and treatment of sore throat based on clinical grounds alone as the comparator. The other strategies were: 1) Treat none; 2) Treat all; 3) Culture alone; 4) Rapid antigen test with culture confirmation of negative tests and 5) Rapid antigen test alone. The analysis was performed from the health sector perspective and the model examined the potential outcomes of pharyngitis including the costs and consequences associated with each alternative.

RESULTS: The average cost-effectiveness for each strategy confirmed that the Treat-all strategy and all the strategies based on the use of diagnostic tests were more cost-effective than diagnosis on clinical grounds alone. Similarly, the incremental cost-effectiveness ratio (ICER) confirmed that the Treat-none strategy was dominated by clinical grounds and diagnosis and treatment based on rapid antigen test alone was the most cost-effective strategy. All other strategies were more cost-effective than current practice, costing marginally more per patient for a clear health gain.

CONCLUSIONS: The greater cost-effectiveness achieved by either culture or rapid antigen test would result in lower antibiotic use and reduced impact on the development of bacterial resistance than current Australian practice.