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Title **Economic evaluation of zanamivir for the treatment of influenza**

Agency **CCOHTA, Canadian Coordinating Office for Health Technology Assessment**

865 Carling Avenue, Suite 600, Ottawa, ON K1S 5S8, Canada;
Tel: 613-226-2553 Fax: 613-226-5392; http://www.ccohta.ca

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Aim

To assess the cost-effectiveness of zanamivir for treating patients with influenza, specifically:

- The general population (aged 12 years and older; presenting to a physician with an influenza-like illness within the recommended 48 hours of symptom onset), and;
- Those at-risk of developing complications related to influenza.

Results

From the perspective of a government healthcare payer base case results show an incremental cost per quality-adjusted life-year (QALY) gained of $195 000 to $235 000 ($194 to $234 per symptom day avoided) when the diagnostic rate is low (ie, 14%). When the diagnostic rate is higher (ie, 35%), the results are $77 000 to $95 000 per QALY ($77 to $93 per symptom day avoided). These results fall below $50 000 if hospitalization is significantly reduced due to treatment with zanamivir combined with a high rate of diagnostic accuracy. Most of the societal costs associated with influenza fall outside the healthcare system, ie, on those who are ill and their caregivers.

Conclusions

There is evidence that timely treatment with zanamivir can have a modest impact on health outcomes. However, the analysis suggests that it is not a cost-effective strategy for publicly funded drug plans to prescribe zanamivir for the treatment of influenza in those who are not at risk of influenza-related complications. Zanamivir could be cost-effective in high-risk groups if the accuracy of diagnosing influenza was relatively high and if significant hospitalizations could be prevented. However, the evidence for this is inconclusive. Major concerns include the impact on primary care of the demand for zanamivir and the potential for widespread unnecessary prescribing of the drug.

Methods

This economic evaluation uses a decision analytic model to derive the results on cost-effectiveness. Evidence on the efficacy and safety of zanamivir is reviewed and health outcomes, resource use, and costs associated with treating influenza using zanamivir are compared with using over-the-counter medications for symptom relief. Results of the model are presented in terms of incremental cost per symptom day avoided and quality-adjusted life-years gained. A number of sensitivities were performed. Data on the efficacy and safety of zanamivir are taken from a meta-analysis of clinical trial results that were provided by the National Institute of Clinical Excellence (NICE). Data for disease epidemiology, unit costs, and resource use are derived from published studies and databases and are based on estimates for Canada, where available.

Further research/reviews required

Further analysis may be warranted when additional data on the efficacy and effectiveness of the drug, particularly in high-risk groups, becomes available. Analysis using other antiviral agents as a comparator would also be useful.

Written by Brady B, McAuley L, Shukla VK, CCOHTA, Canada