

# High-dose influenza vaccine is expected to provide cost savings and better outcomes

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Seasonal influenza is a global public health concern. The World Health Organization estimates 3-5 million cases of severe infection annually, resulting in up to half a million deaths. In industrialized countries, people aged 65 years or older are most vulnerable, and influenza vaccine is less effective in this age group due to the age-related weakening of the immune system.

To improve [vaccine efficacy](#) in the elderly, a high dose formulation of the commonly used trivalent inactivated influenza vaccine (IIV) was tested in a large-scale Phase 3 clinical trial dubbed FIM12. The high-dose vaccine was shown to be 24% more effective in preventing influenza in seniors compared to the standard-dose injection.

Using data from the FIM12 trial, a study published in *Human Vaccines & Immunotherapeutics* now shows that immunizing the elderly population with high-dose vaccine is also cost-saving. "Total healthcare payer costs, which included vaccine costs, were about 47 Canadian dollars less per person who received high-dose IIV," says co-senior author Dr. Ayman Chit of Sanofi Pasteur, Swiftwater, PA. When non-prescription drug and productivity costs were added to the public payer medical costs, savings increased to \$60 per vaccine recipient.

The team performed the cost-effectiveness analysis in the Canadian healthcare context, thereby extending their previous results, which had shown that high-dose IIV is cost-effective in the U.S. setting as well.

"The original study, FIM12, was a double-blind, randomized, active-controlled, multi-center trial, conducted during the 2011-12 and 2012-13 influenza seasons in 126 research centers in the United States and Canada," says Dr. Chit. "In the efficacy trial, a total of 31,989 adults 65 years of age and older were randomly assigned in a 1:1 ratio to receive either high-dose or standard-dose IIV and followed for six to eight months post-vaccination for the occurrence of influenza, serious adverse events and medical encounters."

In addition to lower medical expenditures, the high-dose cohort had slightly higher estimated quality-adjusted life-years, a measure of survival adjusted for quality of life experienced during that survival. Taken together, the high-dose IIV provided more health benefit at lower costs.

"As such, these findings are relevant to Canadian healthcare beneficiaries, providers, payers and recommending bodies, especially those looking to improve outcomes while containing costs," says Dr. Chit.

These studies show that high-dose IIV could increase health and quality of life in the elderly. "The heightened susceptibility of seniors to complications is due in large part to natural and progressive weakening of the immune system over time. This phenomenon, known as immunosenescence, renders seniors less responsive to standard dose influenza vaccine. High-dose IIV, with 60 µg hemagglutinin per viral strain, was designed to improve efficacy by increasing vaccine antigen content. It is the only licensed [influenza vaccine](#) for seniors shown in a randomized, head to head, efficacy study to improve clinical outcomes when compared to the standard-dose vaccine," concludes Dr. Chit.

**More information:** Debbie L. Becker et al. High-Dose Inactivated Influenza Vaccine is Associated with Cost Savings and Better Outcomes

Compared to Standard-Dose Inactivated Influenza Vaccine in Canadian Seniors, *Human Vaccines & Immunotherapeutics* (2016). DOI: [10.1080/21645515.2016.1215395](https://doi.org/10.1080/21645515.2016.1215395)

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