The Impact of a Publicly Funded Herpes Zoster Immunization Program in Ontario, Canada

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Background

- Herpes zoster, commonly known as shingles, affects almost 1 in 3 adults during their lifetime. The main symptoms are burning pain and rash, and the illness can result in severe complications.
- Vaccination is an important preventative strategy for herpes zoster.
- In September 2009, a live attenuated herpes zoster vaccine (ZVL) became available in Canada for out-of-pocket purchase.
- In September 2016, ZVL was made available free of charge to all Ontario residents, aged 65 to 70, through a publicly funded immunization program.
- Although several studies have demonstrated that ZVL reduces cases of herpes zoster in clinical practice, the impact of a population-level immunization program is unknown.

What are we investigating?

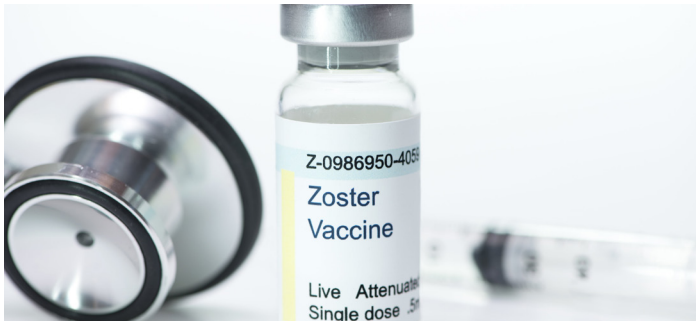
The impact of both the ZVL availability and the introduction of a publicly funded immunization program on the burden of herpes zoster among Ontario residents aged 65 to 70 years.

How was the study conducted?

- We conducted a population-based time series analysis of all Ontario residents aged 65 to 70 years between January 2005 and September 2018.
- In our primary analysis, we examined the monthly rate of new cases of medically treated herpes zoster.
- In a secondary analysis, we examined more severe herpes zoster cases, defined as any related emergency department visits or hospitalizations.

What did we find?

- Between January 2005 and September 2018, there were 50,740 new cases of medically treated herpes zoster among Ontario residents between the ages of 65 and 70.
- There was no association between ZVL market availability in Canada (September 2009) and the monthly rate of new cases of herpes zoster.
- Ontario's ZVL immunization program was found to significantly reduce the monthly rate of new cases of herpes zoster in the eligible population by 19% in the following 2 years (from 4.8 to 3.8 cases per 10,000 population, between August 2016 and September 2018). These findings were consistent by sex (male, female), neighbourhood income (low, middle, high), and urban or rural residence.
- In our secondary analysis, we found that the market availability of ZVL had no impact on rates of herpes zoster-related hospital visits, while Ontario's immunization program was associated with a 38% reduction in the monthly rate of herpes zoster-related hospital visits in the following 2 years (from 1.7 to 1.0 visits per population, between August 2016 and September 2018).



Key points

- Ontario's publicly funded immunization program for herpes zoster (shingles) significantly reduced the rate of new herpes zoster cases among residents eligible for the program.
- The reduction of herpes zoster-related hospital visits following Ontario's immunization program demonstrates the program's effectiveness in reducing severe cases of herpes zoster.
- There was no association between the private market availability of ZVL and the rate of new cases of herpes zoster or associated health services use.

Recommendations

Policymakers

- The introduction of a publicly funded herpes zoster immunization program was associated with a reduction in herpes zoster incidence and serious illness among those eligible for the program (adults aged 65-70).
- Policymakers should consider expanding the immunization program coverage to include the newer non-live recombinant vaccine (Shingrix), recommended for adults aged 50 years and older, which can optimize the programs' public health impact.

Patients

- If you are between the ages of 65 and 70, speak to your doctor to learn more about the publicly funded herpes zoster (shingles) vaccine available.
- If you are over the age of 50, speak to your doctor to learn more about the benefits and risks of the two vaccines currently available for herpes zoster (shingles).

Health care providers

- Health care providers should discuss the benefits and risks of the publicly funded herpes vaccine (Zostavax) with their patients aged 65 to 70, given the reduction in burden of disease in the population following the launch of the immunization program.
- Health care providers should also discuss the available vaccines for herpes zoster (i.e. Shingrix, Zostavax) with their patients over the age of 50.

For more information: www.odprn.ca @ODPRN_Research @ODPRNResearch

Diana Martins, Daniel McCormack, Mina Tadrous, Tara Gomes, Jeffrey C Kwong, Muhammad M Mamdani, Sarah A Buchan, Tony Antoniou, Impact of a publicly funded herpes zoster immunization program on the burden of disease in Ontario, Canada: a population-based study, Clinical Infectious Diseases, ciaa014, https://doi.org/10.1093/cid/ciaa014