

## Correspondence

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### Secular trends in the epidemiology of shingles in Alberta

To the Editor:

Russell *et al.* [1] provide an informative paper on secular trends of shingles in Alberta (Canada). They find an increase of shingles rate occurring before the introduction of a varicella vaccination programme. According with these results they state that the increase of shingles rate cannot be attributed to vaccination. On the other hand it was suggested that exposure to varicella zoster virus through close contact with people with chickenpox could reduce the risk of herpes zoster by boosting specific immunity [2]. This theory matches with the situation of Alberta where decreasing chickenpox rates [3] and increasing shingles rates [1] were observed, both occurring before the vaccination programme was started (the reduced risk of exposure to the virus could contribute to the observed increase of shingles rate). The introduction of a varicella vaccination programme is expected to further reduce the circulation of varicella zoster virus and, consequently, to curtail the boost effect among persons who already had chickenpox.

Therefore, the possible contribution of vaccination in a future increase of shingles rates in Alberta cannot be ruled out.

### Declaration of Interest

None.

### References

1. Russell ML, *et al.* Secular trends in the epidemiology of shingles in Alberta. *Epidemiology and Infection* 2007; **135**: 908–913.
2. Brisson M, Edmunds WJ, Gay NJ. Varicella vaccination: impact of vaccine efficacy on the epidemiology of

VZV. *Journal of Medical Virology* 2003; **70** (Suppl. 1): S31–37.

3. Russell ML, *et al.* The changing epidemiology of chickenpox in Alberta. *Vaccine* 2005; **23**: 5398–5403.

CARLO GAGLIOTTI

Agenzia sanitaria regionale Emilia-Romagna – Area rischio infettivo, Viale aldo moro 21, Bologna 40127, Italy  
(Email: cgagliotti@regione.emilia-romagna.it)

### The authors reply:

Dr Gagliotti indicates that Russell *et al.* [1] found an increase in shingles rates occurring before the introduction of a varicella vaccination programme. In Alberta, publicly funded vaccination was introduced in 2001, although the vaccine was licensed in Canada in 1998. We have no data on the uptake of vaccine prior to the implementation of the publicly funded programme. The secular trend in shingles rates in Alberta showed an increase in all age groups that began prior to vaccine licensure, much less implementation of the publicly funded vaccination programme. Because of the lack of explicit temporality, the increase in shingles rates, most definitely for the period 1986–1997, cannot be attributed to a varicella vaccination programme.

Dr Gagliotti has correctly indicated that there is a hypothesis, as cited by Brisson and colleagues [2], that ‘exposure to varicella reduces the risk of reactivation by boosting specific immunity to the virus (exogenous boosting)’. However, Dr Gagliotti is not quite correct in his statement as to the findings of Russell and colleagues with respect to chickenpox in Alberta. The secular trend in chickenpox rates varied by age group: among those aged less than 5 years, chickenpox rates increased until 1997–1998, began to decrease among age groups 5–19 years prior to 1994, may have increased between 1986 and 1994 among those aged 20–24 years, showed a similar pattern among those aged 25–44 years with a decline beginning in 2002; and showed a slow and gradual increase

among those aged  $\geq 45$  years [3]. Shingles rates showed a secular trend of increase for all age groups over the same period [1]. Sex-specific changes in chickenpox rates were not observed, while there was a consistently higher and increasing rate of shingles among females over the period [1, 3]. Thus, we do not think it appropriate to say with any confidence that there was a consistent decrease in exposure to chickenpox virus at the same time as shingles rates were increasing. We think that alternate hypotheses must also be considered, including the hypothesis that the incidence or prevalence of immunosuppressive conditions may also have changed over the period.

We completely agree that continued observation of trends over time will be important, particularly if it becomes feasible to link disease data to vaccination records; and that such future observations will definitely permit an evaluation of any contribution of the

varicella vaccination programme to shingles incidence in Alberta.

### References

1. **Russell ML, et al.** Secular trends in the epidemiology of shingles in Alberta. *Epidemiology and Infection* 2007; **135**: 908–913.
2. **Brisson M, Edmunds WJ, Gay NJ.** Varicella vaccination: impact of vaccine efficacy on the epidemiology of VZV. *Journal of Medical Virology* 2003; **70** (Suppl. 1): S31–37.
3. **Russell ML, et al.** The changing epidemiology of chickenpox in Alberta. *Vaccine* 2005; **23**: 5398–5403.

MARGARET L. RUSSELL, M.D., Ph.D., FRCPC

*Department of Community Health Sciences,  
University of Calgary, 3330 Hospital Dr NW,  
Calgary T2N 4N1, Canada  
(Email: mlrussel@ucalgary.ca)*