

## Expansion of cervical cancer protection through HPV vaccine in BC

**H**uman papillomavirus (HPV) vaccines are safe and highly effective for the prevention of cervical cancer caused by HPV types 16 and 18, which account for about 70% of this disease. Until recently, young women born prior to 1994 had not been eligible for the publicly funded program in BC. One-time resources for vaccine purchase became available in the 2011–2012 fiscal year, and BC took the opportunity to expand the program to young women born in the years of 1991 through 1993 using the bivalent vaccine. A program for young women up to age 26 was introduced in Australia with uptake ranging from 30% to 50% for series completion in women age 20 to 26 years.<sup>1</sup> A recently published economic analysis using a Markov model to estimate age-specific health benefits and cost savings for women aged 12 to 50 years in the Netherlands indicated that HPV vaccination is highly cost effective for girls up to age 16, and that cost effectiveness is acceptable and declines slowly up to age 25, beyond which it rapidly declines.<sup>2</sup> Both of the two vaccines approved for use in Canada (quadrivalent Gardasil, Merck Canada Inc., and bivalent Cervarix, Glaxo-SmithKline Inc.) were deemed acceptable for cervical cancer protection by the BC HPV Scientific Advisory Group. The National Advisory Committee on Immunization has recommended use of either vaccine for cervical cancer protection, highlighting that the quadrivalent vaccine also offers protection from genital warts.<sup>3</sup>

The expanded program is being delivered through a variety of providers, including physicians, pharma-

cists, sexual health and youth clinics, and college/university student health services. Public health nurses offer immunization in youth and adult clinics. A vaccine receipt record for submission to the immunization registry has been created for the program. This record is important for program evaluation as well as a permanent record for future clinical management. The

**...found no statistically significant associations for Guillain-Barré syndrome, stroke, venous thromboembolism, appendicitis, seizures, syncope, allergic reactions, and anaphylaxis.**

province will be undertaking a promotion and advertising initiative in the fall of 2012. The campaign will include a creative approach to reach a target audience that is young, media savvy, and who may be suspicious of messages from authorities. The campaign will also take into account diverse ethnicities, literacy levels, underserved populations, and urban/rural settings and be flexible enough to adapt at the local level. Additional details are available at [www.immunizebc.ca](http://www.immunizebc.ca).

In September 2008 BC introduced HPV vaccination for girls in grades 6 and 9, with the grade 9 program ending after 3 years. By June 2012 girls to the end of grade 12 (born in 1994 and later) were covered by the program and continue to be eligible for the vaccine if unvaccinated or incompletely vaccinated. Uptake has increased by about 5% each year, and in year 3 of the program HPV coverage was 68.2% for grade 6 and 61.7% for grade 9. A

survey of parents of grade 6 girls in the first year of the BC program indicated that among parents who declined the vaccine for their daughter, 29% cited concerns about vaccine safety, 16% preferred to wait until their daughter was older, and 13% felt they did not have enough information on which to base an informed decision.<sup>4</sup>

Safety data have accumulated for both vaccines. Safety is monitored through a global network reporting to the World Health Organization Collaborating Centre for International Drug Monitoring. Reporting of adverse events in the post-marketing period have been consistent with events reported in clinical trials.<sup>5,6</sup> Results from a study of quadrivalent vaccine safety using data from a large managed care population found no statistically significant associations for Guillain-Barré syndrome, stroke, venous thromboembolism, appendicitis, seizures, syncope, allergic reactions, and anaphylaxis.<sup>7</sup> Non-statistically significant increases of venous thromboembolism seen in both this study and an earlier analysis of US Vaccine Adverse Event Reporting System data appear to be attributable to concurrent use of oral contraceptives among vaccine recipients and are a well-known risk associated with these drugs.<sup>7,8</sup> Results of studies showing lack of association with autoimmune diseases are also available.<sup>9,10</sup> Both of these vaccines now have excellent safety profiles. Studies are being undertaken to evaluate long-term protection against cervical neoplasia.

—**Monika Naus, MD,**  
**MHSc, FRCPC, FACPM**  
**Medical Director, Immunization**  
**Programs and Vaccine**  
**Preventable Diseases Service**  
**BC Centre for Disease Control**

*References on page 362*

---

*This article is the opinion of the BC Centre for Disease Control and has not been peer reviewed by the BCMJ Editorial Board.*

Continued from page 346

**References**

1. Brotherton JM, Fridman M, May CL, et al. Early effect of the HPV vaccination programme on cervical abnormalities in Victoria, Australia: An ecological study. *Lancet* 2011;377(9783): 2085-2092.
2. Westra TA, Rozenbaum MH, Rogoza RM, et al. Until which age should women be vaccinated against HPV infection? Recommendation based on cost-effectiveness analyses. *J Infect Dis.* 2011;204:377-384.
3. National Advisory Committee on Immunization (NACI). Update on Human Papillomavirus (HPV) Vaccines. An Advisory Committee Statement (ACS). *Canada Communicable Disease Report.* January 2012;38(ACS-1):1-62. Accessed 7 August 2012. [www.phac-aspc.gc.ca/publicat/ccdr-rmtc/12vol38/acs-dcc-1/index-eng.php](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/12vol38/acs-dcc-1/index-eng.php).
4. Ogilvie G, Anderson M, Marra F, et al. A population-based evaluation of a publicly funded, school-based HPV vaccine program in British Columbia, Canada: Parental factors associated with HPV vaccine receipt. *PLoS Med* 2010;7:e1000270.
5. Labadie J. Postlicensure safety evaluation of human papilloma virus vaccines. *Int J Risk Saf Med* 2011;23:103-112.
6. Descamps D, Hardt K, Spiessens B, et al. Safety of human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine for cervical cancer prevention: A pooled analysis of 11 clinical trials. *Hum Vaccin* 2009;5:332-340.
7. Gee J, Naleway A, Shui I, et al. Monitoring the safety of quadrivalent human papillomavirus vaccine: Findings from the Vaccine Safety Datalink. *Vaccine* 2011;29:8279-8284.
8. Slade BA, Leidel L, Vellozzi C, et al. Postlicensure safety surveillance for quadrivalent human papillomavirus recombinant vaccine. *JAMA* 2009;302:750-757.
9. Verstraeten T, Descamps D, David MP, et al. Analysis of adverse events of potential autoimmune aetiology in a large integrated safety database of AS04 adjuvanted vaccines. *Vaccine* 2008;26:6630-6638.
10. Velicer C. Post-licensure safety study of quadrivalent human papillomavirus vaccine among 189 629 females. Presentation to the Advisory Committee on Immunization Practices, October 2011, Atlanta, GA. Accessed 30 July 2012. [www.cdc.gov/vaccines/recs/acip/slides-oct11.htm#hpv](http://www.cdc.gov/vaccines/recs/acip/slides-oct11.htm#hpv).

*For more information please visit [www.immunizebc.ca](http://www.immunizebc.ca)*

WINNER  
2012  
**APEX**<sup>®</sup>  
AWARDS FOR  
PUBLICATION EXCELLENCE

**BCMJ wins  
two Apex Awards**

The *BC Medical Journal* has won two Apex Awards for Publication Excellence, in the categories of Magazines and Journals—Electronic, and Magazine Series.

Our May 2011 theme issue on mitochondrial disease won an Award of Excellence for graphic design, editorial content, and success in achieving overall communications effectiveness and excellence.

Our website, BCMJ.org, won an Award of Excellence for its content, structure, and planning. Our 2010 redesign focused on elements like a regularly refreshed home page, advanced access to content, and unique content from our blog and daily news headline postings. We also improved access to our archived content by allowing readers to search in a variety of ways—our keyword archive, cover archive, and author archive.

Thank you to all our readers for your continued support both in print and online!



# ARTHROSCOPY OUR SPECIALTY

**NEW!**  
SPECIALIST REFERRAL CLINIC - NEW WESTMINSTER

Call **604.737.7464**  
or toll-free **1.866.737.7460**  
[specialistclinic.ca](http://specialistclinic.ca)

**CAMBIE**  
SURGERY CENTRE



SPECIALIST  
REFERRAL  
CLINIC

KNEE • SHOULDER • HIP • FOOT & ANKLE • HAND • ELBOW & WRIST • SPINE