



URBAN PUBLIC HEALTH NETWORK
RÉSEAU POUR LA SANTÉ PUBLIQUE URBAIN

Solutions to Increase Youth HPV Immunization in Canada: A National Quality Improvement Project

Thilina Bandara,
Mika Rathwell

Urban Public Health Network

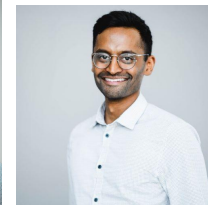
- Who we are
- What is HPV?
- HPV & Cancer
- The HPV Vaccine
- HPV Immunization Rates Across Canada (2017-2018)
- CPAC's ECC Action Plan
- UPHN/CPAC Partnership
- Project Objectives
- Project Methods
- Preliminary Findings

UPHN



URBAN PUBLIC HEALTH NETWORK RÉSEAU POUR LA SANTÉ PUBLIQUE URBAIN

- Member-based non-profit; www.uphn.ca
- 23 large cities; “Urban”
 - Vancouver Coastal Health to Nova Scotia Health Authority
- Local Medical Officers of Health (MD specialty)
- Cory Neudorf, President
- Thilina Bandara, Assistant Director
- Mika Rathwell, Project Officer



What is HPV?

- Human papillomavirus (HPV) is a common sexually transmitted viral infection
- There are more than 100 varieties of HPV (over 30 are transmitted sexually)
- Upwards of 75% of people in Canada will have at least one HPV infection in their lifetime
- Most people show no signs or symptoms, but HPV can cause skin or mucous membrane growths (warts)

HPV & Cancer

- If HPV is contracted, it may clear on its own without intervention. However, if infection persists, it can lead to cancer
- Almost all cases of cervical cancer are caused by HPV
 - Every year, 1,350 people in Canada are diagnosed with and 410 die from cervical cancer
 - Highest incidence in individuals aged 30-59
- HPV is also associated with throat, anal, penal, vaginal, vulvar, and head and neck cancers
- The ComPARE study suggests that 5,300 cancer cases in Canada can be prevented by 2042 with increased uptake of the HPV vaccine

The HPV Vaccine

- Across Canada, the HPV vaccine was first introduced between 2007-2009 for school-aged girls and between 2013-2017 for school-aged boys
- Each vaccine protects against HPV types 16 and 18 which are associated with 70% of all cervical cancers
- It is recommended that girls and boys are vaccinated before they become sexually active (grades 4-7)



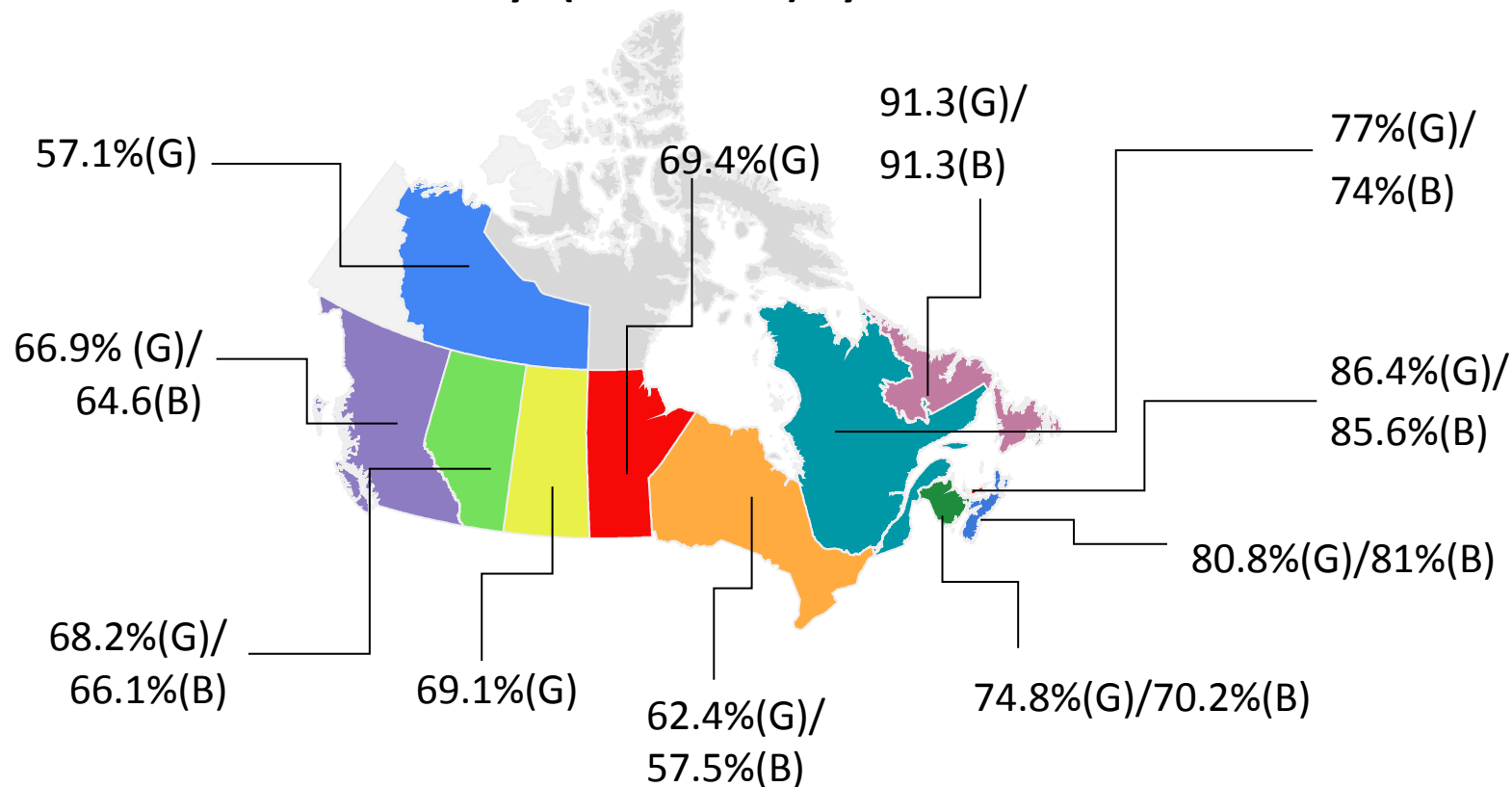
TABLE 6. SCHOOL-BASED IMMUNIZATION

Jurisdiction	Date of Implementation of Immunization Program for Girls	Date of Implementation of Immunization Program for Boys	School Grade of Immunization
YT	2009	2017	Grade 6
NT	2009	2017	Grade 4–6
NU	2013	2017	Grade 6
BC	2008	2017	Grade 6
AB	2008	2014	Grade 6
SK	2008	2017	Grade 6
MB	2008	2016	Grade 6
ON	2007	2016	Grade 7
QC	2008	2016	Grade 4
NB	2008	2017	Grade 7
NS	2007	2015	Grade 7
PE	2007	2013	Grade 6
NL	2007	2017	Grade 6

TABLE 7. NACI RECOMMENDATIONS FOR THE HPV IMMUNIZATION SCHEDULE²⁶

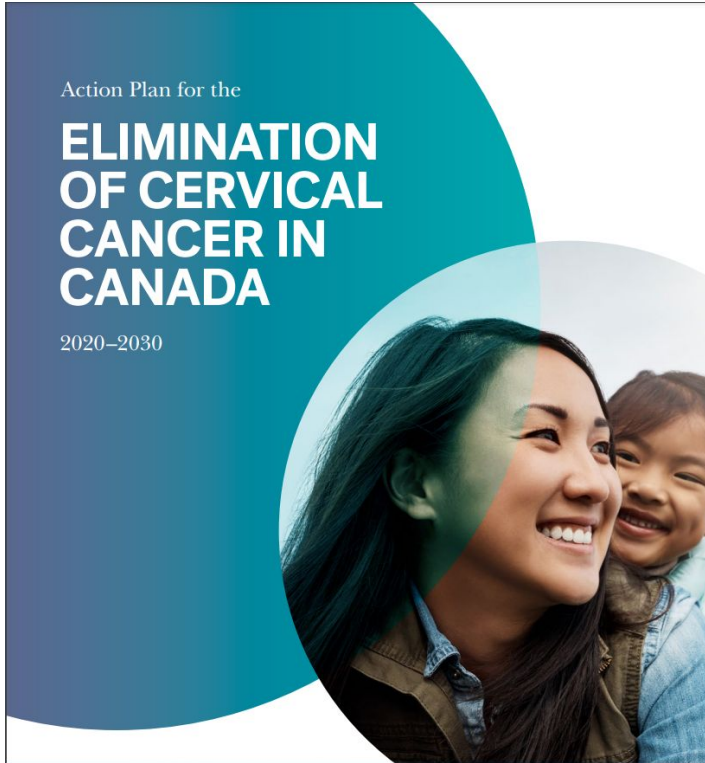
Recommended Groups	Recommended Immunization Schedule
Healthy (immunocompetent, non-HIV infected) Females 9–14 years of age (and healthy females ≥15 years of age in whom the first dose was administered between 9–14 years of age)	2- or 3-dose schedule
Healthy (immunocompetent, non-HIV infected) Females ≥15 years of age	3-dose schedule
Healthy (immunocompetent, non-HIV infected) Males 9–14 years of age (and healthy males ≥15 years of age in whom the first dose was administered between 9–14 years of age)	2- or 3-dose schedule
Healthy (immunocompetent, non-HIV infected) Males ≥15 years of age	3-dose schedule
Immunocompromised individuals and immunocompetent HIV-infected individuals	3-dose schedule

HPV Final Dose Uptake Rate for Girls and Boys (2017-2018) by Canadian Province



Disparities in HPV Immunization Rates

- Lack of standardized data impact efforts to increase immunization rates across the country
 - Differences in data reporting across provinces/territories prevent comparison
- Little data has been collected on HPV immunization rates by demographic/socioeconomic data
- Unique barriers faced by Indigenous, immigrant and refugee, and low income and minority populations must be addressed



- **Priority 1: Improve HPV Immunization Rates**
- Priority 2: Implement HPV Primary Screening
- Priority 3: Improve follow-up of abnormal screening results

CANADIAN **PARTNERSHIP**
AGAINST **CANCER**

PARTENARIAT CANADIEN
CONTRE LE **CANCER**



URBAN PUBLIC HEALTH NETWORK

RÉSEAU POUR LA SANTÉ PUBLIQUE URBAIN

Urban Public Health Network:

Represents 23 urban-based Medical
Officers of Health; 60% of the
Canadian population of Canada

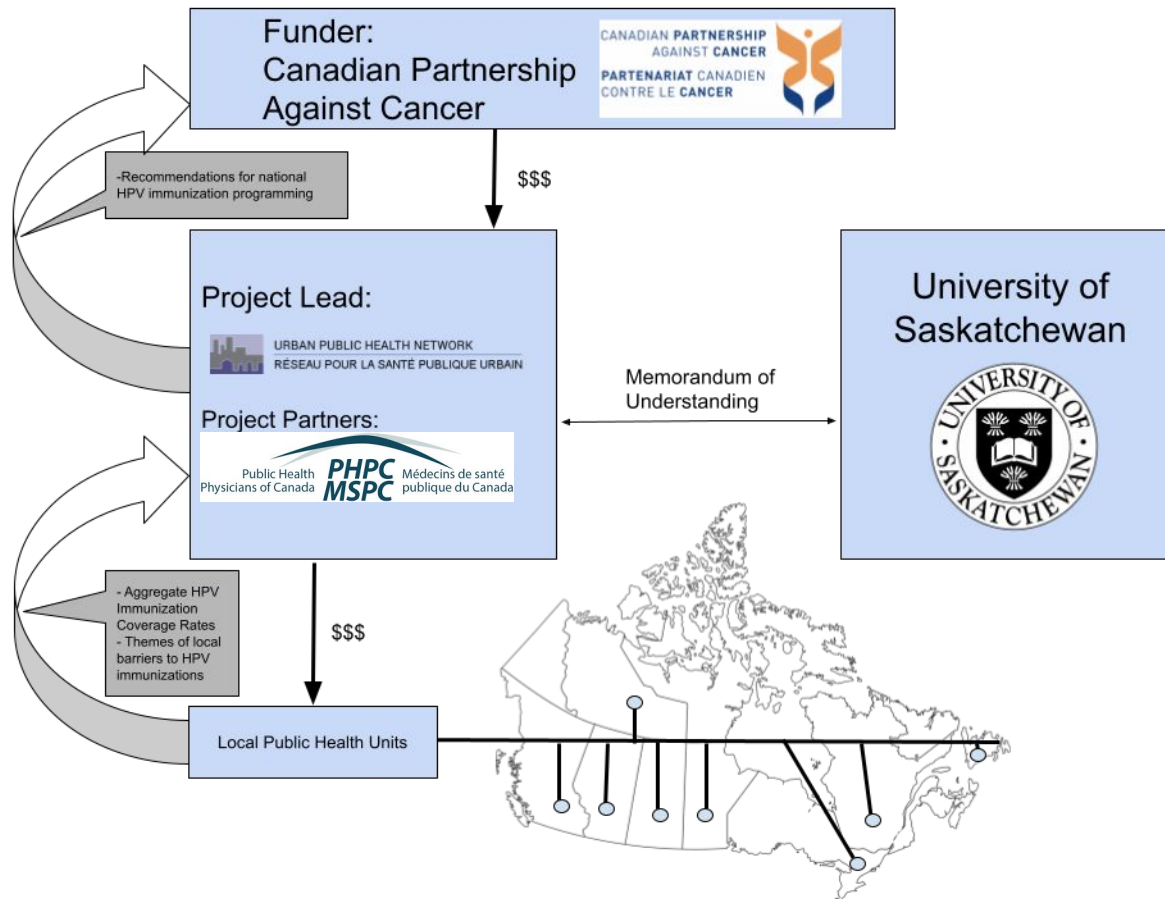


Public Health Physicians of Canada:

Represents many-hundreds of
Public Health Physicians across
Canada

Project Objectives:

- a. Confirm HPV immunization data collection capacity, processes, sources, indicators and variables across Canada and identify variation in HPV vaccination coverage rates and groups that are under-immunized.
- b. Identify and assess interventions/innovative approaches and opportunities to increase HPV immunization in school-based programs.



Challenge:

- COVID and capacity drain

Opportunity:

- Some regions were ready
- Huge amount of interest among FN/I/M organizations

Collect HPV Immunization Data	Identify Under-Immunized Groups	Determine Barriers & Facilitators to Immunization
<p>-Place analysts in local public health units to extract HPV immunization data at sub-provincial/postal code/school level (where we can)</p> <p>-Work closely with FN/M/I organizations to determine data availability for FN/M/I Peoples</p>	<p>-Use local level data to identify un-immunized families</p> <p>-Recruit caregivers of un-immunized children to take part in surveys/focus groups</p> <p>-Work closely with FN/M/I organizations to identify communities to engage with for survey/focus group/interviews</p>	<p>-Use survey, focus group and interview methods to determine barriers and facilitators at a local, sub-population level</p> <p>-Identify and assess interventions and innovative approaches to increase HPV immunization uptake</p> <p>-Provide report with recommendations for increasing uptake to CPAC</p>

Preliminary Findings:

1). Defining Public Health Structures

- Highly variable public health regimes across the country:
 - Capacity
 - Analytic and health care personnel
 - Urban/Rural
 - Practice
 - Program configurations
 - Level of integration with primary care
 - Governance
 - Health authority? Government? Municipality?
 - Leadership
 - MOH? Administrative dyad?
 - Public Health Acts

Solutions to Increase Youth HPV Immunizations in Canada: Summary of HPV Resources

This document contains a summary scan of selected HPV resources available from each of the Canadian provinces and territories (P/T). This resource is part of the *Solutions to Increase Youth HPV Immunizations in Canada* project led by Urban Public Health Network (UPHN) and Public Health Physicians of Canada (PHPC), and funded by the Canadian Partnership Against Cancer (CPAC).

Region	Organization	Type of Resource	Resource link
National	Action Canada for Sexual Health and Rights	HPV educational resource	HPV symptoms, prevention and treatment
	Canadian Cancer Society		All About HPV
	Canadian Partnership Against Cancer		Access to HPV immunization across Canada
	Caring for kids		HPV: What teens need to know
	Gardasil 9	Vaccine clinic finder	Provincially-funded vaccination programs
	Government of Canada	Vaccine schedule tool	Your child's vaccination schedule
	Health Canada	HPV educational resource	About HPV
	HPV Global Action		Free HPV Immunization Programs by Province/Territory
	Immunize Canada	Vaccine educational resource	Diseases and vaccines: HPV
	Public Health Agency of Canada	HPV Q & A resource	What Everyone Should Know About Human Papillomavirus (HPV): Questions and Answers
	The Society of Obstetricians and Gynaecologists of Canada	HPV educational resource	What is HPV?
	Vaccinfo	Vaccine educational resource	Routine Vaccination
Alberta	Alberta Health Services	HPV educational resource	Immunization: HPV
	Government of Alberta		Sexual and Reproductive Health: HPV
	Healthier Together	Vaccine educational resource	Get Immunized
		HPV decision-making tool	HPV Vaccine Decision Tool
British Columbia	BC Centre for Disease Control	HPV educational resource	About HPV
	BC Pharmacy Association	HPV Q & A resource	What is HPV?
	HealthLinkBC	HPV educational resource	HPV Vaccine

2.) Analyst findings

- HPV programming is dependent on population and geographic characteristics
- HPV data capture and availability is highly variable across the country
- Everyone is catching-up due to COVID-19
- High-touch interventions work well but are extremely expensive
- Community trust is key
- Paper-based consent is a barrier to participation
- Education is unanimously needed



3.Disruptions to HPV Immunizations During COVID-19 Roundtable

Barriers to HPV Immunization Prior to COVID-19

- “Moral” issues around HPV vaccine
- “Newness” of vaccine
- Inability to discuss vaccine with parents
- Number of doses
- Lack of resources
- Language issues
- Trust in Indigenous communities

HPV Immunization During COVID-19

- Missed cohorts due to school closures
- Public health capacity low/prioritizing of childhood immunizations
- Vaccine misinformation rampant

Opportunities to Catch-Up

- Focus on cancer prevention
- Build on lessons learned from COVID-19
- Personalized/electronic consent process
- Work with peer ambassadors/other health professionals
- Education sessions with parents

CIHR Operating Grant Updates: *Assessing the impacts of COVID-19 on routine school-based immunizations and investigating strategies to catch-up on missed immunization opportunities in Canada* (\$150,000)

Objectives: To document the scope of the disruption to routine school-based immunizations wrought by COVID-19 and its projected impacts on the long-term health of school-aged children under different levels of health system adjustment and response.

- Team includes researchers and knowledge users in Saskatchewan, Alberta and Quebec

Three pillars

1: Provincial level immunization rates (HPV, TdAP, Hep B) and prediction:

- Immunization rates from every province
- Test feasibility of models to model cancer, hepatitis and whooping cough outcomes with zero immunizations in one cohort

2: Survey of local public health practitioners describing disruptions and innovations regarding catching-up missed cohort (Roundtable+ and survey):

- Policy-based inquiry

3. In-depth case studies: Alberta, Quebec and Saskatchewan:

- Deeper policy and programming description
 - Policy timelines, provider perspectives, stakeholder analysis between public health and education sectors

What needs to happen to improve immunization rates?

- National immunization registry
- Better sharing of local practice innovations
- Clear adult catch-up guidelines in partnership between public health and primary care
- Cost control (\$800+ for full series out-of-pocket after eligibility)
- Lower-friction consent methods for parents/caregivers (electronic, personalized)
- Increased resources for school-based public health programs in general (eg. education, immunization)
- Other needs-based approaches
 - Consider legacy of residential schools in FN/I/M communities
 - Higher-touch education programs for cultural or language-based groups

References:

Canadian Partnership Against Cancer. HPV Immunization for the Prevention of Cervical Cancer. 2021. Available from:

<https://www.partnershipagainstcancer.ca/topics/hpv-immunization-policies/>

Canadian Population Attributable Risk of Cancer (ComPARE) study. Get vaccinated against HPV to reduce your cancer risk. 2020. Available from: <https://prevent.cancer.ca/>

Questions?



URBAN PUBLIC HEALTH NETWORK
RÉSEAU POUR LA SANTÉ PUBLIQUE URBAIN

To learn more and get involved, please contact:
Dr. Thilina Bandara (Project Lead) - thilina.bandara@usask.ca
Mika Rathwell (Project Officer) - mika.rathwell@usask.ca



URBAN PUBLIC HEALTH NETWORK
RÉSEAU POUR LA SANTÉ PUBLIQUE URBAIN