



IMPACT, Canada's Immunization Monitoring Program ACTive, is a national surveillance initiative managed by the Canadian Paediatric Society (CPS) and carried out by the IMPACT network of infectious disease specialists and nurse monitors. Surveillance is supported primarily by the Public Health Agency of Canada (PHAC). The information collected complements existing national surveillance systems; supports public health action; informs policy dialogue with federal, provincial and territorial governments and other national stakeholders; and assists in meeting Canada's international immunization commitments. Please share this newsletter. You can also subscribe at www.cps.ca/en/impact.

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Surveillance update

The Canadian Paediatric Surveillance Program (CPSP) continues to document cases of Acute Flaccid Paralysis (AFP) in Canada as part of global efforts for polio eradication and continued verification of eradication in this country. Polio still continues to be a concern in Canada due to travel and possible importation of the disease.

CPSP receives reports of cases from community and hospital-based paediatricians, as well as the network of 12 IMPACT centres. Although Canada was certified as polio-free in 1994, continued surveillance for poliomyelitis is essential due to the risk of wild poliovirus importation from polio-endemic regions, and vaccine-driven poliomyelitis from countries still using the oral polio vaccine (OPV).

Based on WHO recommendations under the Global Polio Eradication Program (1), Canada conducts AFP surveillance in children less than 15 years and reports on three quality assurance targets:

- Detection of ≥ 1 non-polio AFP per 100,000 children under 15 years of age annually



- Collection of two stool samples within 14 days of paralysis onset (tested for poliovirus at the National Microbiology lab in Winnipeg), in ≥80% of AFP cases
- Follow-up examinations 60 days after paralysis onset in ≥80% of AFP cases

(1) <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2015-41/ccdr-volume-41-10-october-1-2015-vaccines/ccdr-volume-41-10-october-1-2015-vaccines-2.html>.

Further information can be found at <http://www.cpsp.cps.ca/surveillance/study-etude/acute-flaccid-paralysis>.

To ensure compliance with provincial notifiable disease and conditions reporting guidelines, IMPACT centres are encouraged to report AFP cases to local and/or provincial public health services (where the patient resides) using local or provincial notifiable disease and conditions reporting forms. The information IMPACT can provide in addition to what is requested on the provincial reporting form may be limited by specific data sharing and ethics agreements with the hospital where the IMPACT centre is located. Public health should consult with the patient's family doctor, paediatrician or neurologist for further case information if required.

IMPACT Goes “Down Under”: Report from the PAEDS 10 Year Anniversary Showcase and Australian Communicable Disease Conference

Karina Top, MD, MS

PAEDS Paediatric Active Enhanced Disease Surveillance



<http://paeds.edu.au/assets/Uploads/PAEDS-10Year-Showcase-Agenda-Provisional-07062107.pdf>

In June, I was privileged to attend the Paediatric Active Enhanced Disease Surveillance (PAEDS) 10 Year Anniversary Showcase in Melbourne to share IMPACT's experience in vaccine-preventable disease (VPD) and adverse events following immunization (AEFI) surveillance with the PAEDS team, and to learn about their work and accomplishments. On the way to Melbourne, I spent three days in Sydney where I visited the National Centre for Immunisation Research and Surveillance (NCIRS), the data center for the PAEDS network. I was warmly welcomed by PAEDS investigators Drs. Kristine Macartney and Nick Wood, and the local PAEDS nurses. I toured NCIRS, attended their specialized immunization clinic, and met the AusVaxSafety team, which conducts real-time active vaccine safety surveillance similar to the CIRN Canadian National Vaccine Safety Network. After a day of sightseeing in beautiful Sydney, I headed on to Melbourne for the PAEDS showcase and the Australian Communicable Diseases Conference.

At the PAEDS showcase, I presented highlights from IMPACT's 25-year history and participated in a panel on what the next 10 years of PAEDS should look like. There was a lot of interest in the work IMPACT is doing and how some of our approaches could be applied to address new challenges: for example, enhancing AEFI surveillance for a new maternal immunization program.

In listening to the presentations by the PAEDS team, I was struck by the many similarities in our respective surveillance programs, as well as the notable differences. Like Canada, Australia is a federation and healthcare is administered at the state/territorial level. However, immunizations are funded nationally and there is one immunization schedule and a national registry, which facilitates PAEDS' data collection and analysis. PAEDS has seven sites across Australia. Similar to IMPACT, trained nurses conduct surveillance by screening hospital records, laboratory and radiology reports. However, PAEDS nurses must obtain consent from families to include their children in the study and this allows them to collect additional data and to enroll control subjects. PAEDS surveillance targets currently include acute flaccid paralysis, intussusception and varicella/herpes zoster, pertussis (since 2012), acute childhood encephalitis (since 2013), and influenza (since 2014).

PAEDS was the first in the world to report the small increased risk of intussusception associated with the currently used rotavirus vaccines. Importantly, continued surveillance shows that the benefits of rotavirus vaccination continue to outweigh the risks with over 6,500 rotavirus-related hospitalizations prevented over 10 years and 14 excess cases of intussusception. PAEDS also demonstrated that the risk of febrile seizure is not increased when MMRV is given as the second MMR dose at 18 months of age. The results of acute childhood encephalitis surveillance, presented by Dr. Phil Britton at the PAEDS showcase and Communicable Disease Conference, provide new insight into the clinical features and outcomes of enterovirus EV71, parechovirus, and mycoplasma encephalitis.

I ended my week in Australia with a visit to the Royal Children's Hospital in Melbourne, where I attended paediatric grand rounds given by Drs. Kristine Macartney and Nigel Crawford on PAEDS and AEFI-CAN, a network of specialized immunization clinics in Australia similar to the CIRN Special Immunization Clinic, and visited the hospital's resident meerkats! It was a pleasure to meet the PAEDS and AusVaxSafety teams and hear about their work, and I look forward to collaborating with them in the future.



L to R: Dr. Top, meerkat, Dr. Kristine Macartney at Royal Children's Hospital, Melbourne.
Photo credit: Dr. Nigel Crawford.

Resources

Canadian websites and recent updates

- IMPACT: www.cps.ca/en/impact
- Public Health Agency of Canada (PHAC): www.canada.ca/en/public-health/topics/immunization-vaccines.html
- Canadian Paediatric Society (CPS): www.cps.ca
- Canadian Paediatric Surveillance Program (CPSP): www.cpsp.cps.ca
- Immunize Canada: www.immunize.ca
- Canadian Association for Immunization Research and Evaluation (CAIRE): www.caire.ca
- Canadian Immunization Research Network: www.cirnetwork.ca

Medskl.com is a free, online medical curriculum produced by Queen's University faculty. The chapter on infant and child immunization was written by Dr. David Scheifele: medskl.com/module/index/infant-and-child-immunization

Immunization Guide and schedule updates can be found at <https://www.canada.ca/en/public-health/topics/immunization-vaccines.html>

Recent CPS Position statements and Practice Points:
<http://www.cps.ca/en/documents/statements-by-date>

Immunization and vaccine awareness materials:
<https://www.canada.ca/en/public-health/services/immunization-vaccine-awareness-materials.html>

Statement on influenza vaccine 2017-2018
www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2017-2018.html

FluWatch (<https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance/about-fluwatch.html>) provides Canadians with a weekly update of the status of the Canadian influenza season.

International

- United States: Centers for Disease Control and Prevention
www.cdc.gov/vaccines/index.html
- Immunization Action Coalition: www.immunize.org
- Australia:
 - National Centre for Immunisation Research and Surveillance:
www.ncirs.edu.au/
 - The Paediatric Enhanced Disease Surveillance (PAEDS): www.paeds.edu.au/

The Australian government has a similar influenza reporting system to Canada's FluWatch: <http://www.health.gov.au/flureport#current>

Australia has recently experienced higher-than-normal influenza cases in their influenza season, which could reflect what season Canada could potentially be facing in the coming months:
<http://www.ctvnews.ca/health/why-australia-s-rough-flu-season-could-be-bad-news-for-canada-1.3614057>

Interesting article: Immunization needs a technology boost
<https://www.nature.com/magazine-assets/d41586-017-05923-8/d41586-017-05923-8.pdf>

Stay protected

A few reminders of the importance of keeping vaccines up to date:

Travelling soon?

With specific travel vaccines requiring multiple dosing, remember to allow for plenty of time to obtain travel vaccines in the case that some vaccine clinics (pharmacies and hospitals included) might not have them in stock or available in time for your need.

Key message: Travel protected!

Vaccines up to date?

The risk of disease transmission is always higher when you congregate people, and even higher when outbreaks are already being experienced in evacuated and temporary housing areas. Such was the example this summer, when approximately 4,200 evacuees from Manitoba First Nations had to flee to Winnipeg for temporary shelter due to wildfires in their communities. A mumps outbreak in Manitoba has resulted in 100 times the norm (over 800 confirmed cases to the usual eight cases) between the months of September 2016 and August 2017 (CBC news: www.cbc.ca/news/canada/manitoba/manitoba-mumps-100-times-higher-than-average-1.4281385).

Key message: Know your immunization status and keep vaccines up to date.



The Can Immunize App has many resources available to help you track and give you further information: www.canimmunize.ca/en/home

Current Team IMPACT contacts

Centre	Lead/Backup Nurse Monitor	Investigator
IWK Health Centre Halifax, N.S.	Andrea Hudgin/Karen Branscombe Trish Smith	Dr. Karina Top Dr. Scott Halperin (Network Co-PI)
Le Centre Mère-Enfant Soleil Québec City, Que.	Lynn Poirier/Marie-France Nolin/Louise Gosselin	Dr. Roseline Thibeault
The Hospital for Sick Children Toronto, Ont.	Suganya Lee/Kim Simpson	Dr. Shaun Morris
Health Sciences Centre Winnipeg, Man.	Debbie Côté/Michelle Breton	Dr. Joanne Embree
B.C. Children’s Hospital Vancouver, B.C.	Karen Kroeker/Ivor Chee	Dr. Manish Sadarangani Dr. Laura Sauvé (Co-Inv)
Children’s Hospital of Eastern Ontario, Ottawa, Ont.	Chantal Bergeron/Jennifer Bowes	Dr. Nicole Le Saux
Alberta Children’s Hospital Calgary, Alta.	Shannon Pyra/Eileen Pyra	Dr. Taj Jadavji Dr. Rupesh Chawla (Co-Inv)
The Montreal Children’s Hospital, Montreal, Que.	Annick Audet/Lorraine Piché	Dr. Marie Astrid Lefebvre
Eastern Health Janeway St. John’s, NL	Debbie Harnum/Krista Rideout	Dr. Natalie Bridger
CHU Sainte-Justine Montreal, Que.	Sophie Bouchard/Marie-Hélène Lavergne	Dr. Marc Lebel
Stollery Children’s Hospital Edmonton, Alta.	Barb Neufeld/Chris Bon	Dr. Wendy Vaudry (Network Co-PI)
Royal University Hospital Saskatoon, Sask.	Chris Cadman/Brenda Andreychuk	Dr. Ben Tan (Lead) Dr. Athena McConnell (Co-Inv)

Other contacts:

Public Health Agency of Canada (PHAC)

Jennifer Pennock (Director, Vaccine and Immunization Program Surveillance Division); Kerri Watkins (Manager, Vaccine Safety); Christina Bancej (Chief, Surveillance, Assessment and Response Section); Susan Squires (Chief, Vaccine-Preventable Diseases)

Canadian Paediatric Society (CPS): Marie Adèle Davis (Executive Director); Melanie Laffin Thibodeau (Manager, Surveillance); Dominique Paré (French translator)

IMPACT Data Centre: Dr. Julie Bettinger (Epidemiologist & Data Centre Chief); Kim Marty (Data Manager); Emily Rousseau (Data Research Assistant); Sarah McCann (Data Nurse Scrutineer)

Canadian Center for Vaccinology (CCFV): Natalie Giorgis (newsletter formatting); Heather Samson (Nurse Monitor Liaison). *To connect with an IMPACT centre please contact Heather Samson by email at heather.samson@iwk.nshealth.ca*



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