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Maintaining measles elimination: Key Challenges for Canada

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Disclosure Statement



- I have no affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

History of measles in Canada

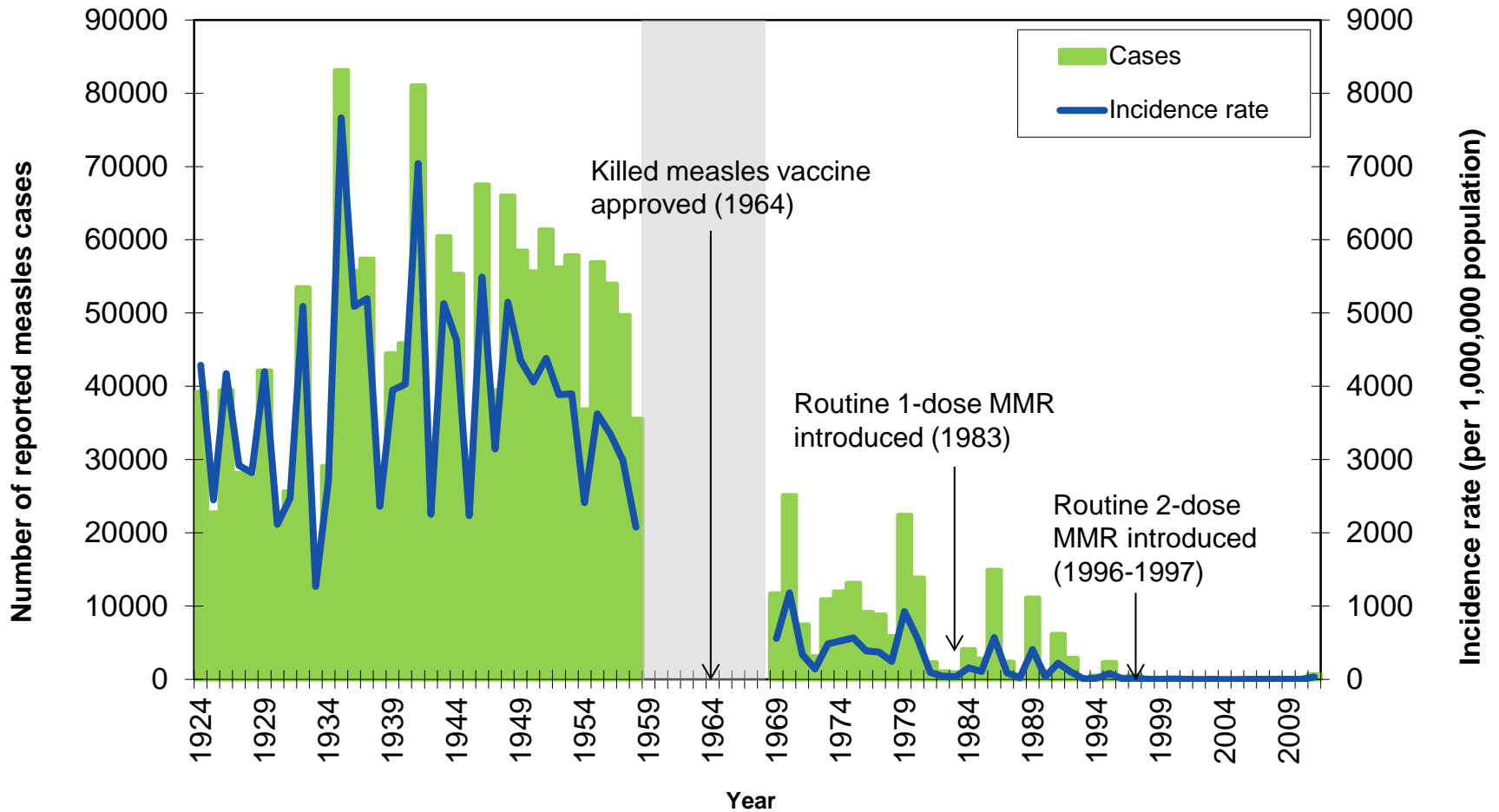


Figure 1. Frequency and incidence of measles in Canada, 1924-2009

Canadian outbreaks in post-elimination era

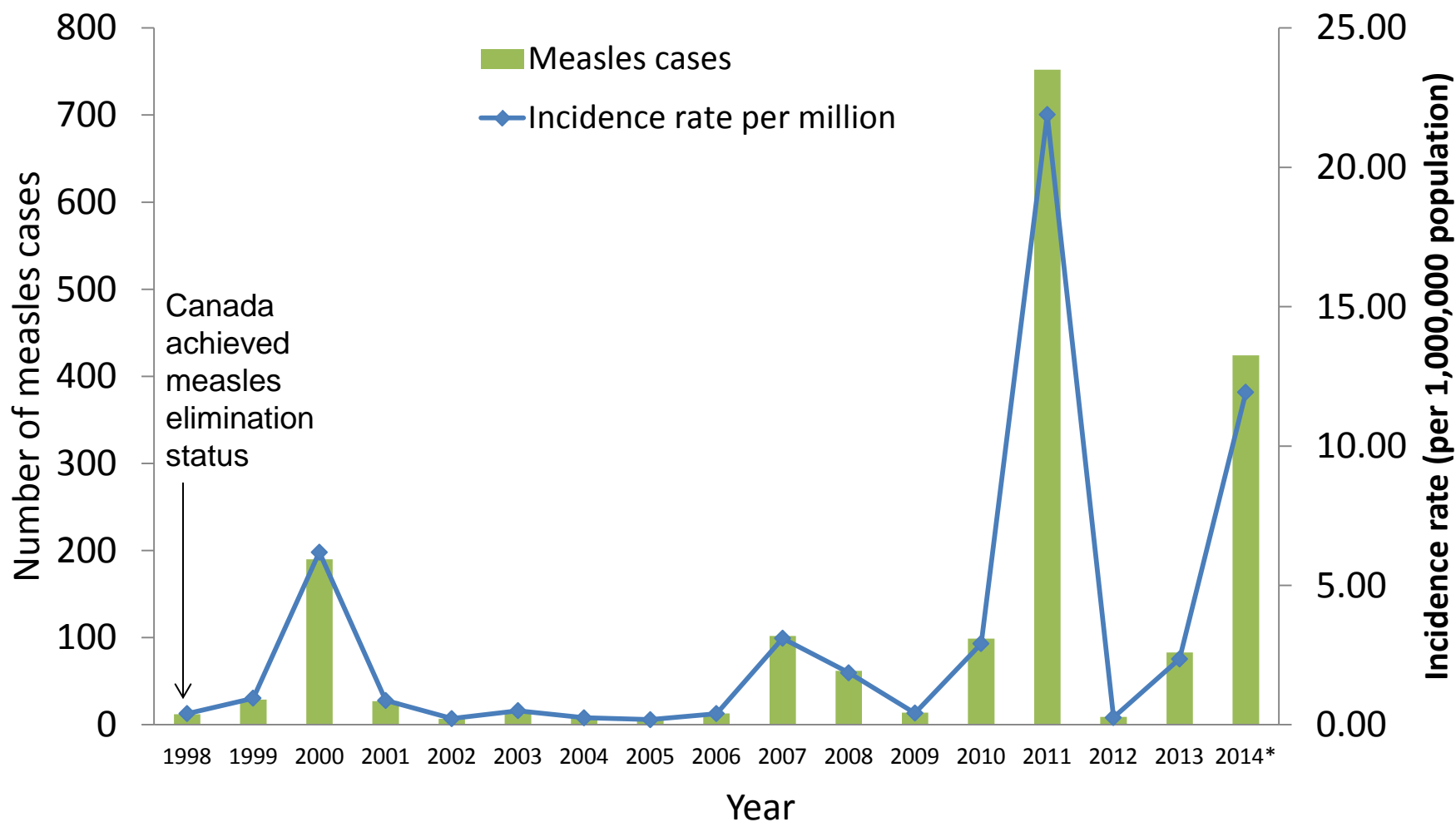
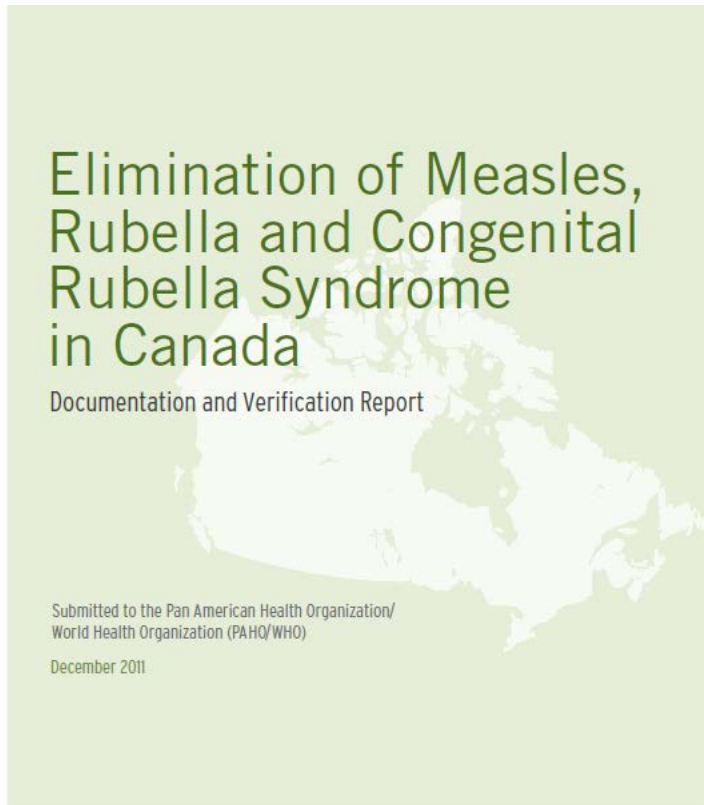


Figure 2. Frequency and incidence of measles in Canada, 1998-2014

(*number of cases reported as of October 20, 2014)

Maintaining elimination status

- 2011 Measles Elimination Report recommendations:
 - » Immunization programs and coverage monitoring
 - » Surveillance and outbreak activities
 - » Laboratory capacity



Perspective
OCTOBER 30, 2014

Challenges in a post-elimination era: Vaccination coverage

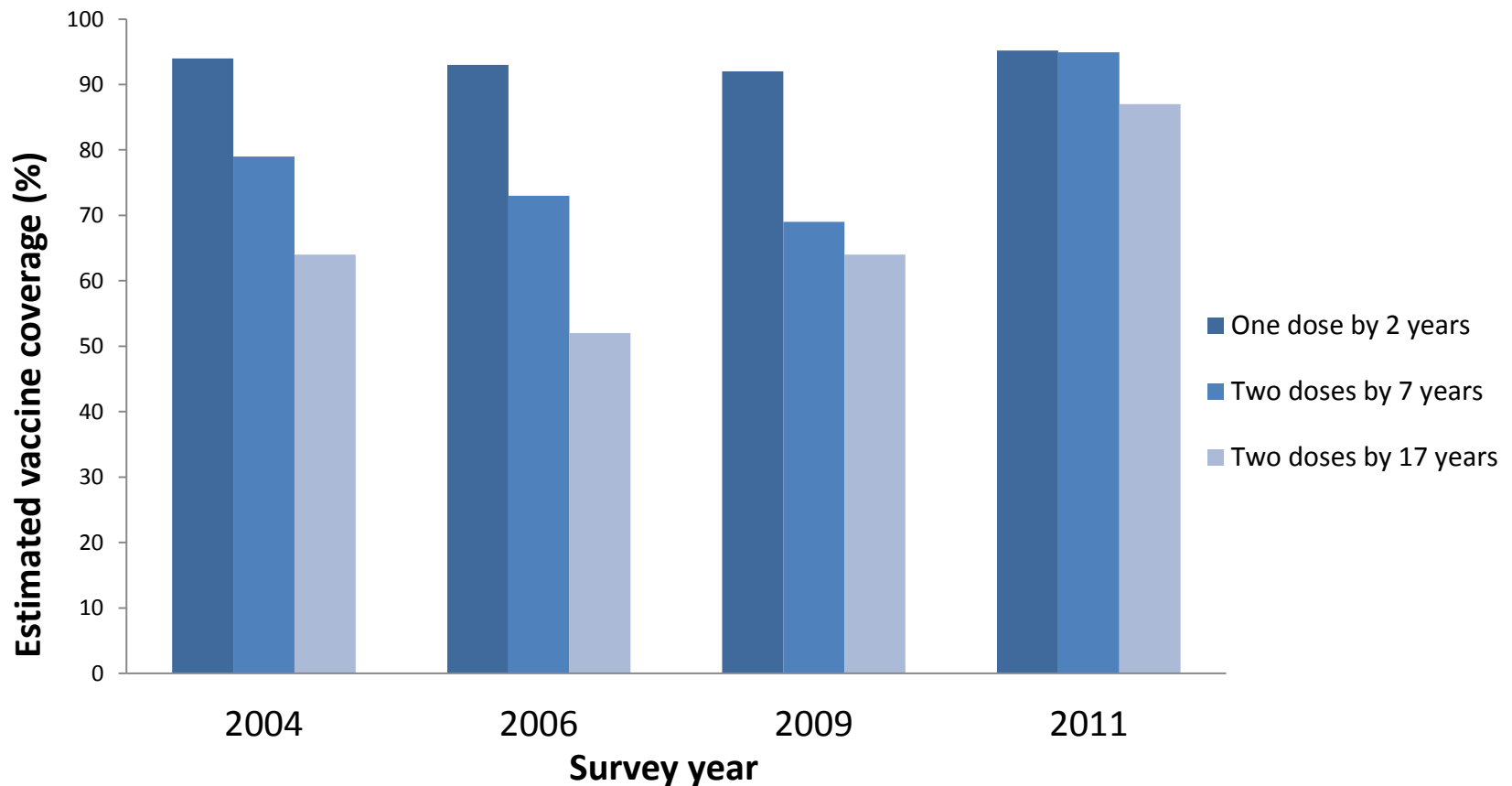


Figure 3. Estimated coverage for measles-containing vaccine from the Childhood National Immunization Coverage Surveys, Canada, 2004-2011.

Challenges in a post-elimination era: Vaccine coverage

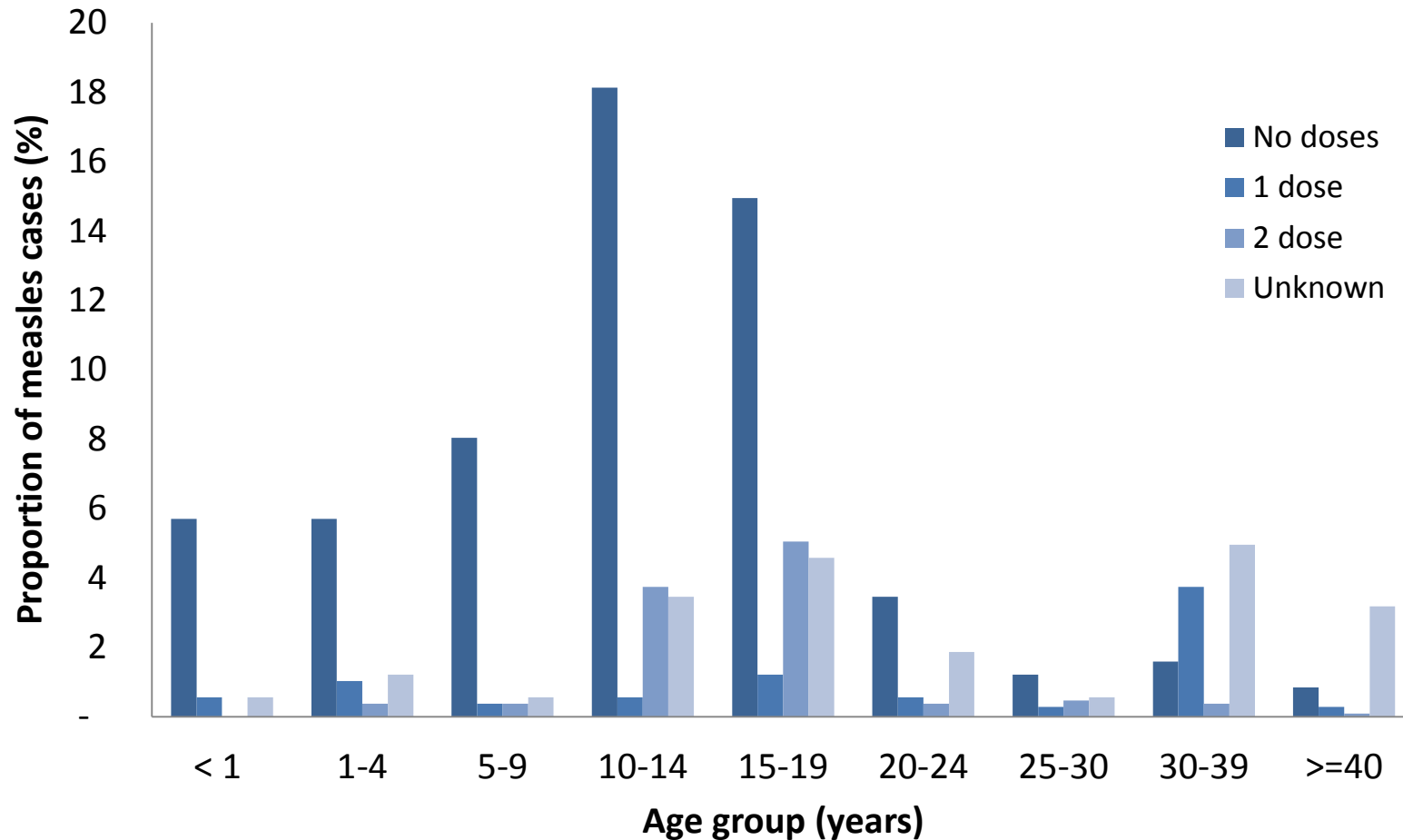


Figure 4. Proportion of measles cases by age group and measles-containing vaccine doses, Canada, 2010 -2014 (n=1070*)

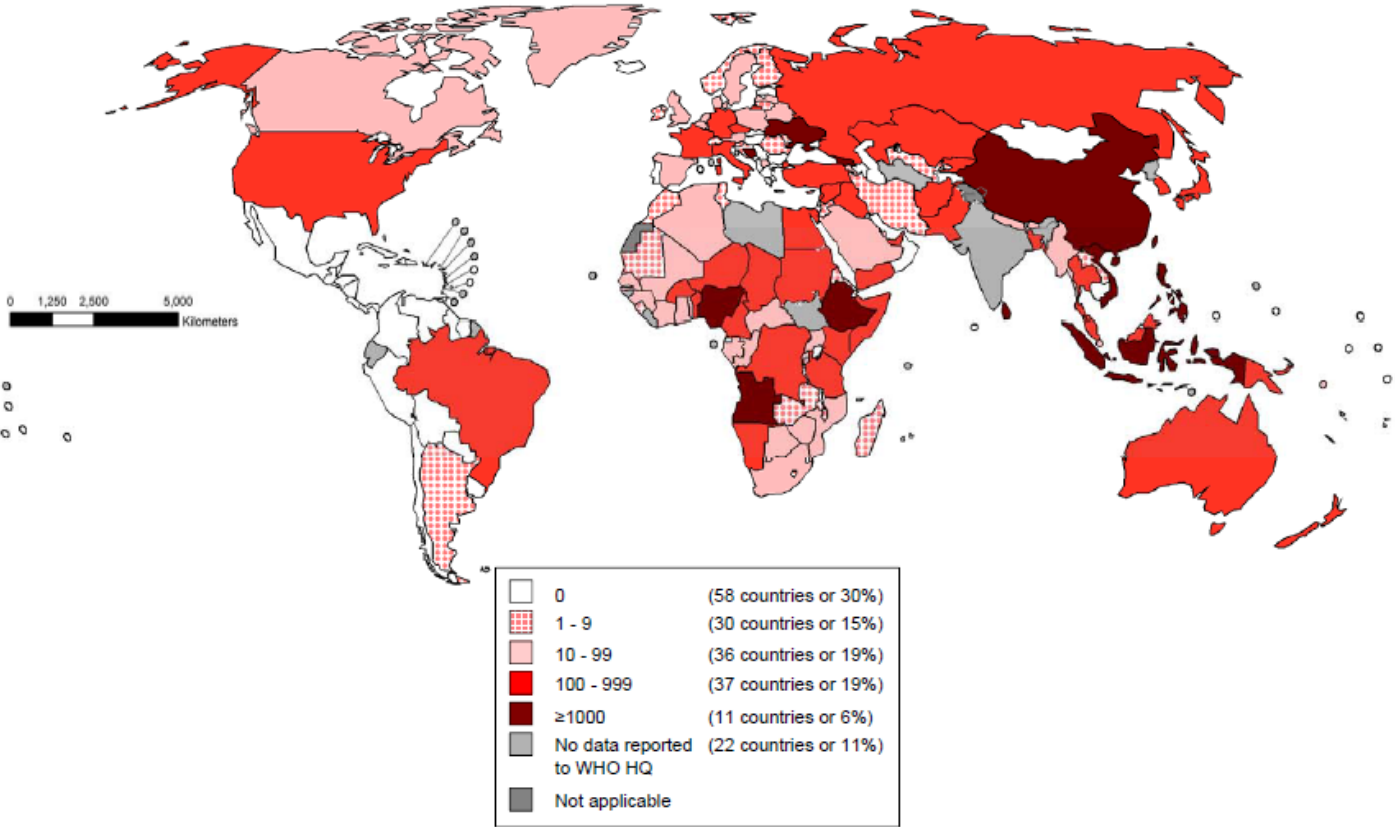
(*number of cases reported with vaccine info as of Oct 20, 2014)

Current activities on vaccine coverage and monitoring

- Vaccine acceptance and uptake
 - » Identifying barriers and facilitators in special populations
 - » National Immunization Strategy task group to address best practices for increasing immunization rates
- Coverage monitoring:
 - » Supporting select jurisdictions with establishing immunization registries
 - » Expansion of 2013-2014 childhood national immunization coverage survey
 - Larger sample size
 - Ability to provide estimate provincial and territorial level coverage
 - Continue with validation component

Challenges in post-elimination era: Risk of importations

Number of Reported Measles Cases with onset date from Apr 2014 to Sep 2014 (6M period)



Data source: surveillance DEF file
Data in HQ as of 11 November 2014

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Challenges in post-elimination era: Risk of importations

- From 2002-2014, 124 identified importations from 38 countries
 - » 49% of importations was limited to one case

Table 1. Most frequent country of importation among the imported measles cases in Canada, 2002-2014

Country	Measles Cases (%) (n=124)	Cases with virus strain identified	Virus Strain
United States	8 (6)	5	B3, D4, D8, D9
India	12 (10)	6	D4, D8, D8b
Pakistan	13 (10)	7	B3, D4
France	18 (15)	7	D4, D5
Philippines	21 (17)	17	B3, D9

- » Travel patterns (2012-2014): 82% of importations were Canadian travellers returning from other countries

Current activities on monitoring and mitigating risk of importations

- Enhanced surveillance systems
 - » Canadian Measles and Rubella Surveillance System
 - » Measles and Rubella Surveillance pilot
 - Real-time notification to linked epidemiological and laboratory data
- Laboratory capacity
 - » National Microbiology Laboratory: Genotyping of measles
 - » Distinguish between concurrent outbreaks
 - » Assist with epidemiological investigations
- International efforts towards to global eradication
 - » 2013: Pledged \$20 million to measles programme in developing countries
 - » \$500 million to support immunization in developing countries from 2016 – 2020

Conclusions

- Key challenges:
 - » Identify immunization coverage gaps
 - » Monitoring coverage at the national, regional and local levels
 - » Maintaining surveillance vigilance to monitor risk of importations
- PAHO request for a plan on how we will sustain our elimination status
 - » Review potential strategies to address challenges
 - » Consultations with stakeholders and experts

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