

# Pandemic Influenza: Observations of a Medical Officer of Health

TARRANT Annual Meeting

April 9, 2010

Dr. Judy MacDonald

Medical Officer of Health – Calgary Zone

Travel the world-  
check out pH1N1  
posters!



# Outline

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- The Beginning – Who knew that many people went to Mexico for a spring break?
- The Middle – I thought influenza took holidays in the southern hemisphere during our summer!
- The Fall – Yikes – where did all those outbreaks come from?
- The Future – Looking into the crystal ball?

# The Beginning

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- April 17 – PHAC notified by Mexico of clusters of SRI; NML support requested by Mexico to identify agent
- April 18 – CDC identifies 2 cases of human swine influenza in southern California
- April 20 – PHAC advises of situation in Mexico and US through CIOSC posting
- April 21 – SRI alerts circulated to EDs in Alberta by MOHs
- April 23 – 7 cases in US; PHAC issues travel advisory for Mexico

## April 23/24 – Calgary's 1<sup>st</sup> case??

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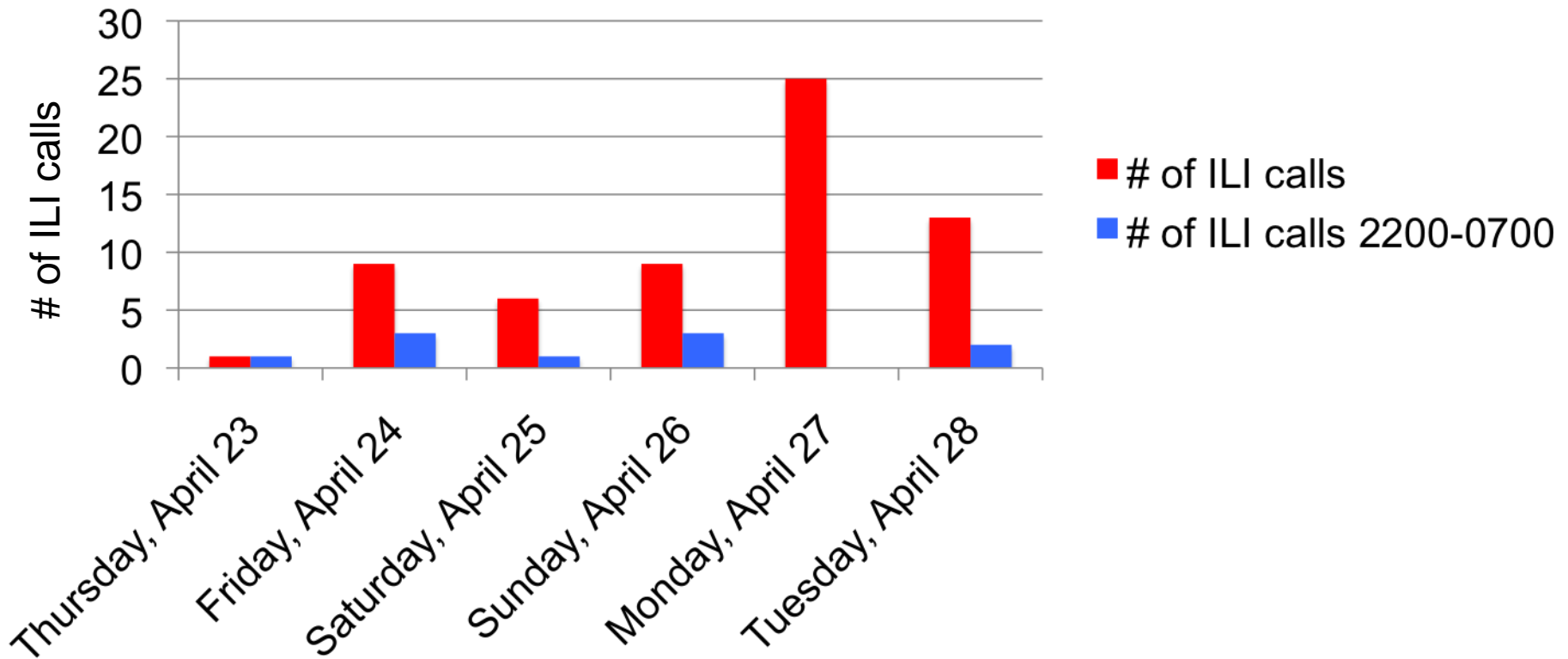
- At **2145** - MOH receives call from QO at Calgary airport – has detained 23 yr old Mexican male passenger with **fever and cough** who has just arrived from Mexico City
- Student on 6 day holiday to Calgary – limited funds
- Symptoms started on flight but no exposure to ill persons in Guadalajara, Mexico
- Transported to PLC ED – NP (and throat) swab, CXR
- **2400** - MOH calls ProvLab MOC – urgent NP swab testing required; tech called in at 0100 to run test
  - **DFA –ve**      **RVP - pending**

## April 24-26 Pandemonium

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- SRI Communication sent to community physicians
- MOH on Call – unprecedented busyness!
  - April 24 – 11 SRI calls
  - April 24 – RVP result on Mexican student – Flu A –ve [Flu B +ve reported on April 25]
  - April 25 – 8 SRI calls
  - April 26 – first NAT +ve for Flu A (non-typeable)
  - April 26 – 9 SRI calls
- Decisions, decisions, decisions!!

# MOH On Call



## April 27 – order starts to emerge

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- Regular Teleconferences – AHW, AHS MOHs, others
  - Agreement on reporting of cases
  - Communications plans
  - Lab algorithms
- IPC issues – N95 respirators? Surgical masks?
- Partial activation of Emergency Operations Centres – PHAC, AHW, AHS
- CBC calling my office for information – 4 times!!!

# Decision making with little to go on!

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## Schools

- Closure if confirmed case(s)? No
- Advise if confirmed case? Yes, with letter to go to parents of students (not done in Fall 2009)

## Public Health follow-up of cases and contacts

- Modelled after SRI follow-up from 2003
- Discontinued except for hospitalized cases in late June

## Recommendations for swabbing – who? What PPE?

# Pandemic Influenza - Transmission

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# Summer 2009

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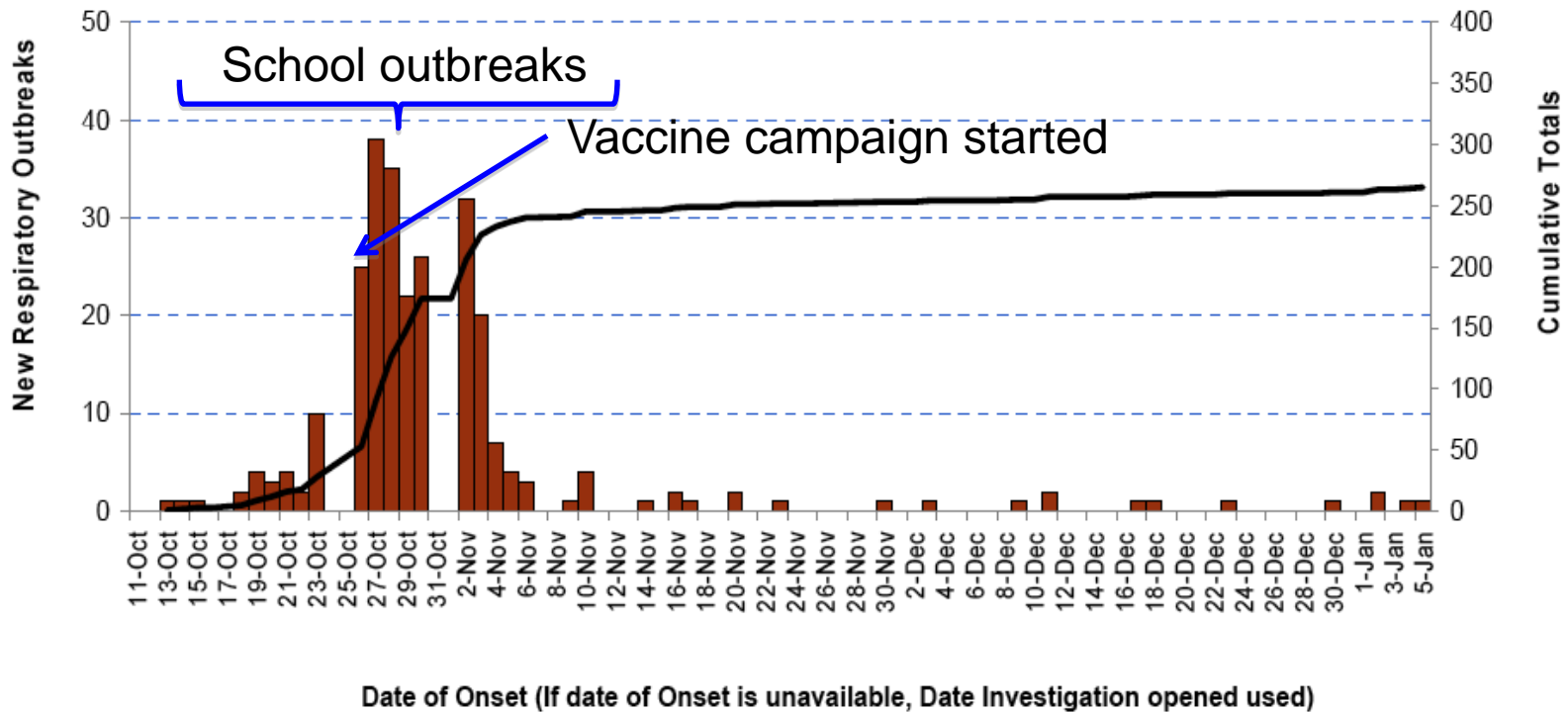
- Time to regroup and get ready for the fall
- Virus continues to circulate:
  - Summer camps
  - Outbreaks in acute care units – peds, BMT
  - Emergence of oseltamivir-resistance – BMT patient on prolonged treatment course

# Highlights of Fall 2009

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- Little pH1N1 activity in September – a few cases transferred from SE BC with severe pH1N1
- School outbreaks – Calgary zone
  - 8 pH1N1 confirmed outbreaks – first 2 weeks of October
  - Sudden rapid increase in reporting of outbreaks – PH not able to respond so testing discontinued
  - 234 ILI outbreaks from ~Oct 19 – mid-November – assumed to be pH1N1

**Figure G4: New Respiratory Outbreaks in Calgary since Oct. 11, 2009**



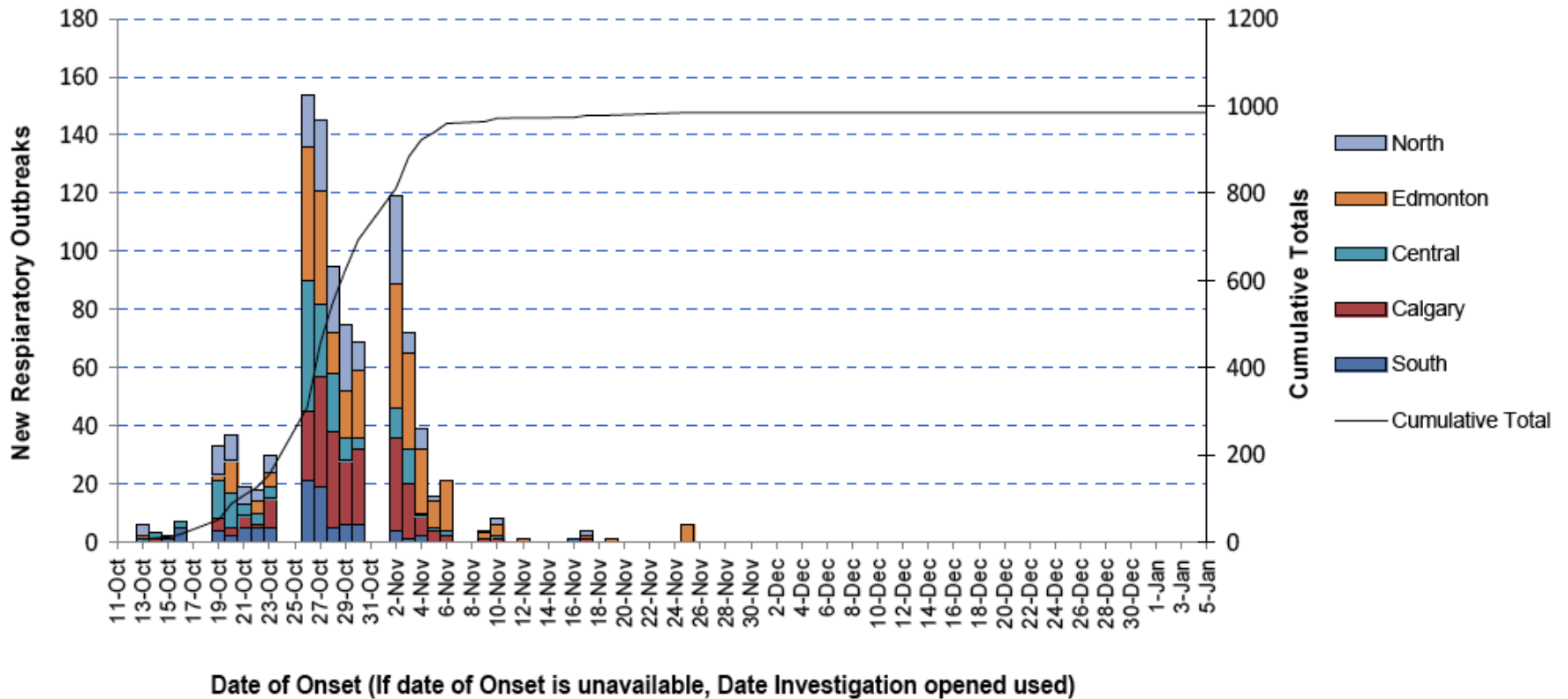
Source: Alberta Health Services Fillable PDF Forms from All Zones from Oct 11 to Jan 5, 2010

Outbreaks are reported in 'closed' facilities. A closed facility has a fixed population.

There may be delays in receiving reports so data are preliminary and may change.

Due to graphing by date of onset, lower levels at the tail ends of the graph do not necessarily reflect a downward trend.

**Figure G1: New Respiratory Outbreaks in Schools since Oct 11, 2009, by Zone**



Source: Alberta Health Services Fillable PDF Forms from All Zones from Oct 11 to Jan 5, 2010

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# Highlights of Fall 2009

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- Vaccine – uncertainty about arrival balanced against need to be all ready to implement program as soon as it arrived
- Alberta – public H1N1 clinics started on Monday, October 26 when the virus activity was high
- Initial interest in vaccine beyond our wildest expectations
  - Long line-ups throughout Alberta
  - Higher risk groups targeted but no one turned away [translates to long line-ups]
  - Intense media attention

So .... did we over-react?

Wasn't pH1N1 less severe than expected? Less severe than seasonal influenza?

Where did all the seasonal flu go?

[Google.org home](#)

Flu Trends

[Home](#)

Canada   
 National

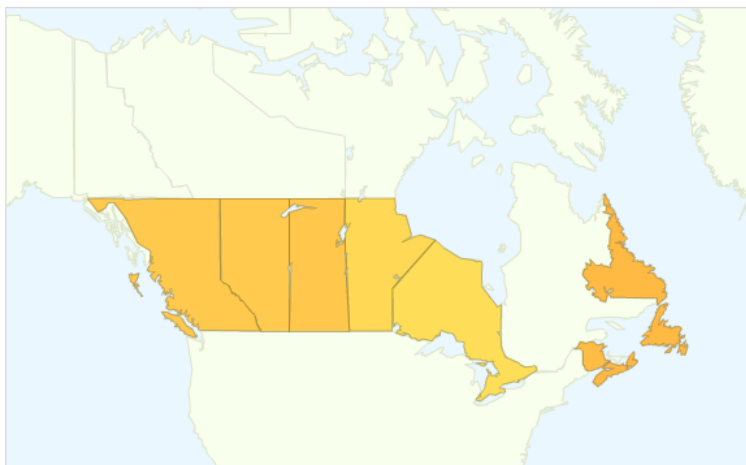
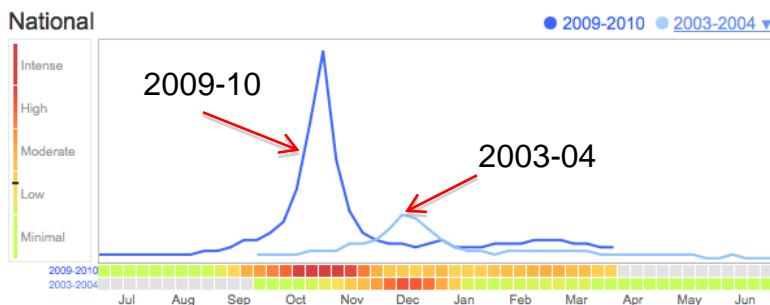
[Download data](#)

[How does this work?](#)

[FAQ](#)

## Explore flu trends - Canada

We've found that certain search terms are good indicators of flu activity. Google Flu Trends uses aggregated Google search data to estimate flu activity. [Learn more »](#)



Estimates were made using a model that proved accurate when compared to historic official flu activity data. Data current through April 6, 2010.

## Flu symptoms?

If you have flu-like symptoms, stay home and rest until they are gone. If you get flu-like symptoms and are pregnant, have underlying health problems, or if they get worse, contact your healthcare provider.

Flu symptoms include:

- Almost always: cough, fever
- Common: fatigue, muscle aches, sore throat, headache, decreased appetite, runny nose
- Sometimes: nausea, vomiting, diarrhea

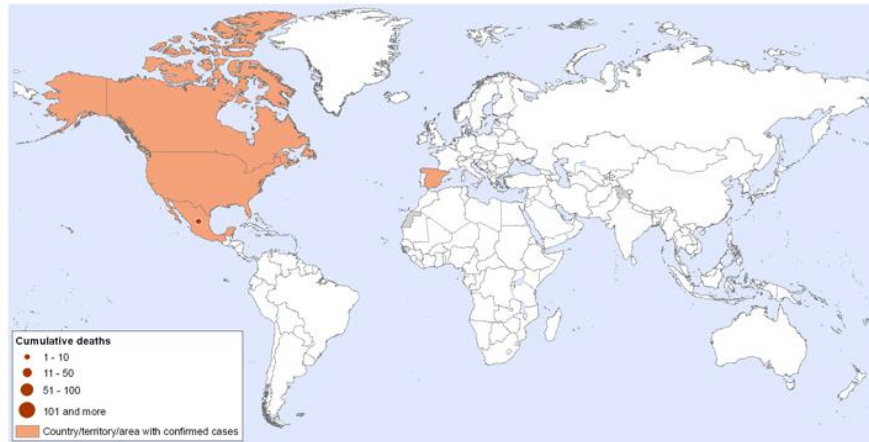
More official info: [www.fightflu.ca](http://www.fightflu.ca)



US Flu Activity Influenza estimate ■ Google Flu Trends estimate ■ US data

Status as of: 27 April 2009

4 countries, 73 cases, 7 deaths

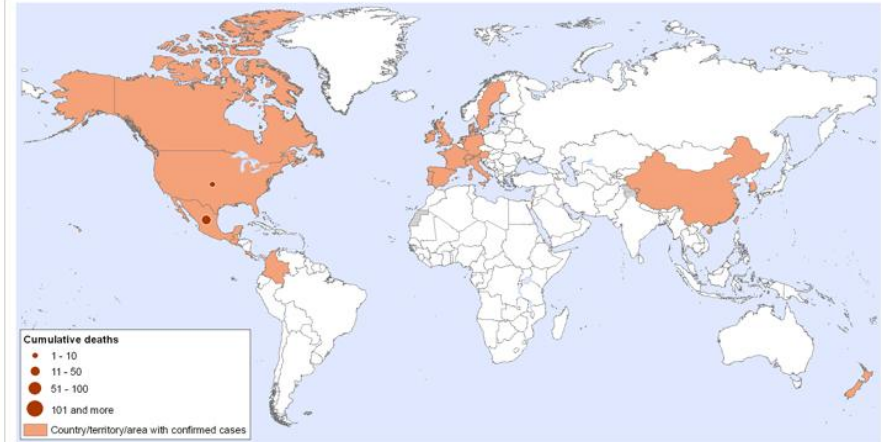


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Status as of: 06 May 2009

23 countries, 1893 cases, 31 deaths

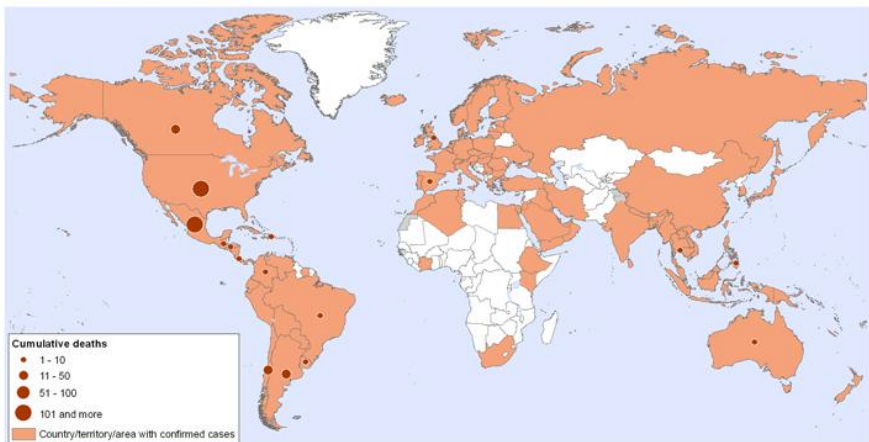


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Status as of: 01 July 2009

120 countries, 77,201 cases, 332 deaths

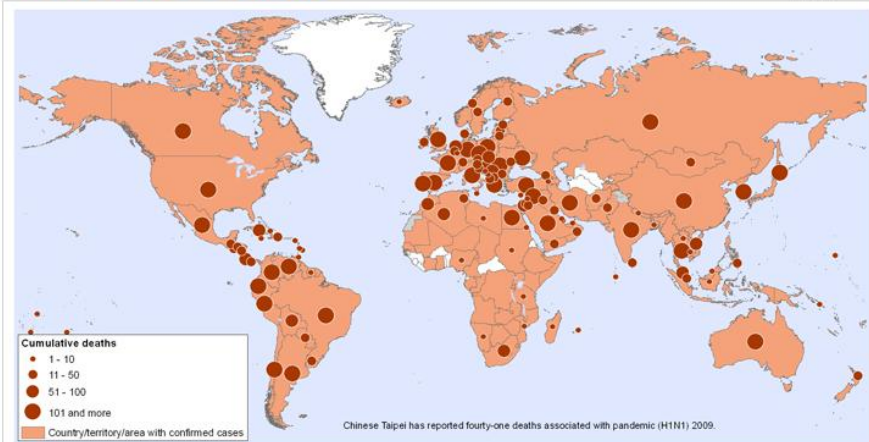


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Status as of: 28 March 2010

>213 countries, >17,483 deaths



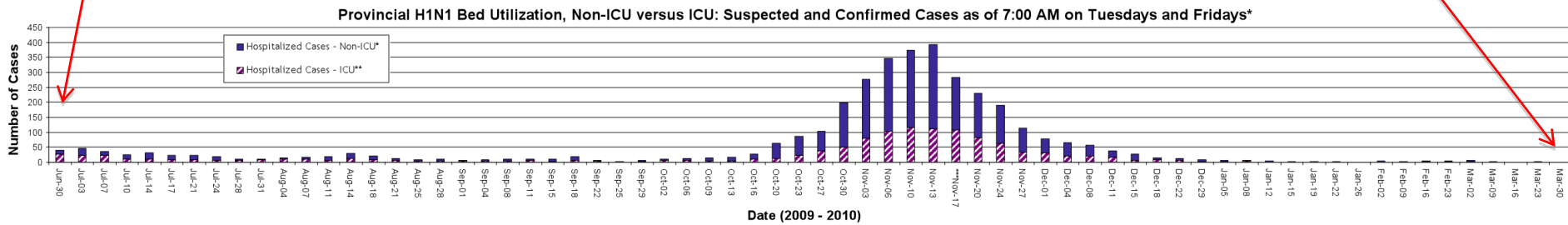
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# Alberta Epi Curve – hospitalized cases

June 30, 2009

March 30, 2010



\* Non-ICU Cases include:

- 1) Confirmed Cases admitted to Non-ICU Units in Tertiary, Metropolitan, and Regional Acute Care Sites (Suspected Cases admitted to Non-ICU Units are not reported)
- 2) Confirmed and Suspected Cases admitted to Zone Hospitals

\*\* ICU Cases include:

- 1) Confirmed and Suspected Cases admitted to ICU

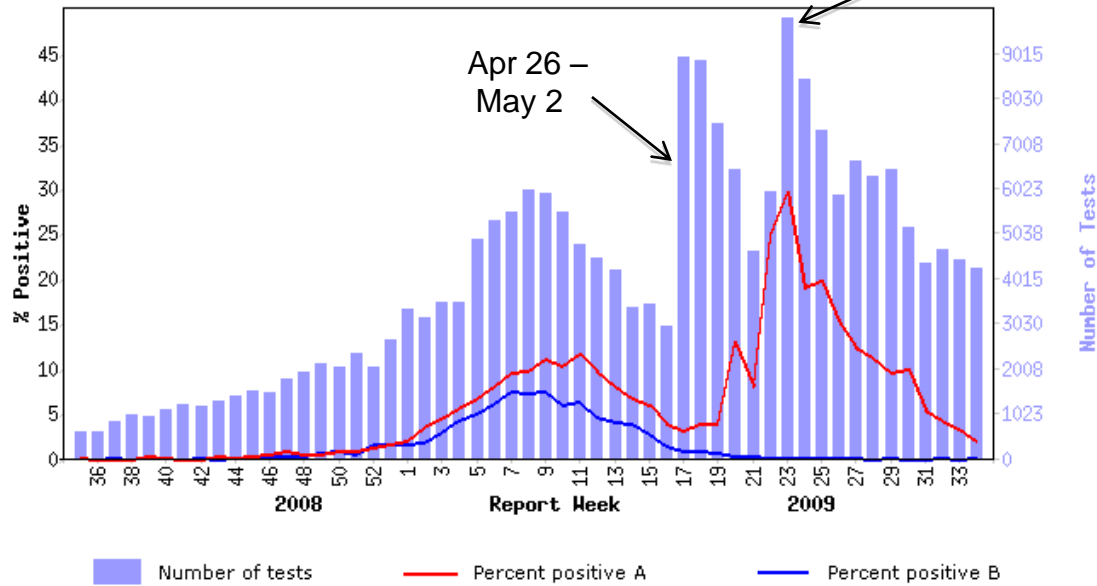
\*\*\*17Nov09 - Admission status of Zonal Hospital cases actively verified

Bed usage peaked at just under 400 beds in the week of November 13, 2009

**Influenza tests reported and percentage of tests positive, Canada, by report week, 2008-2009**

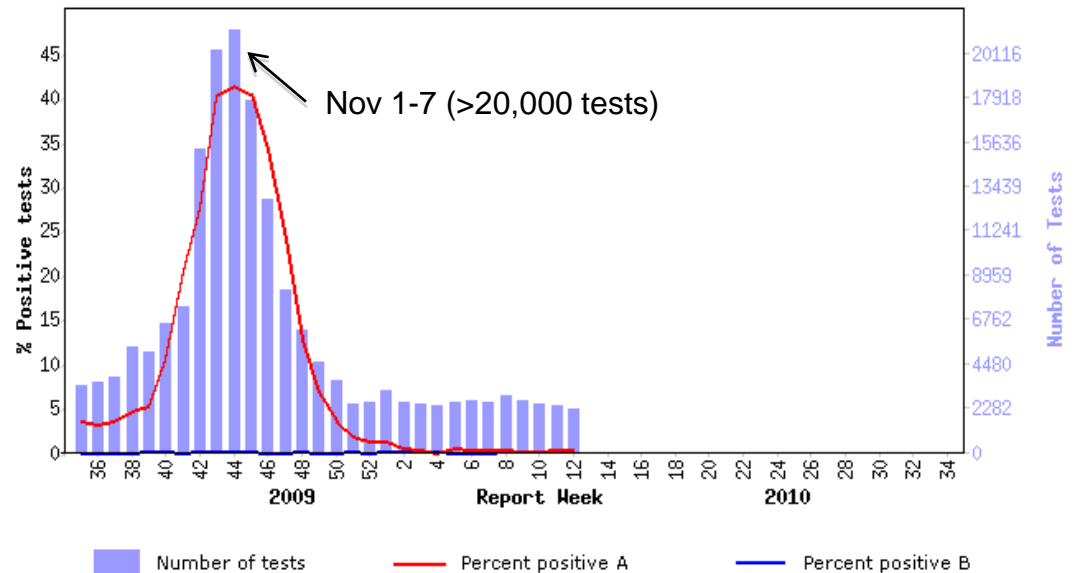
Jun 7-13 (>9000 tests)

Aug 24, 2008 – Aug 29, 2009



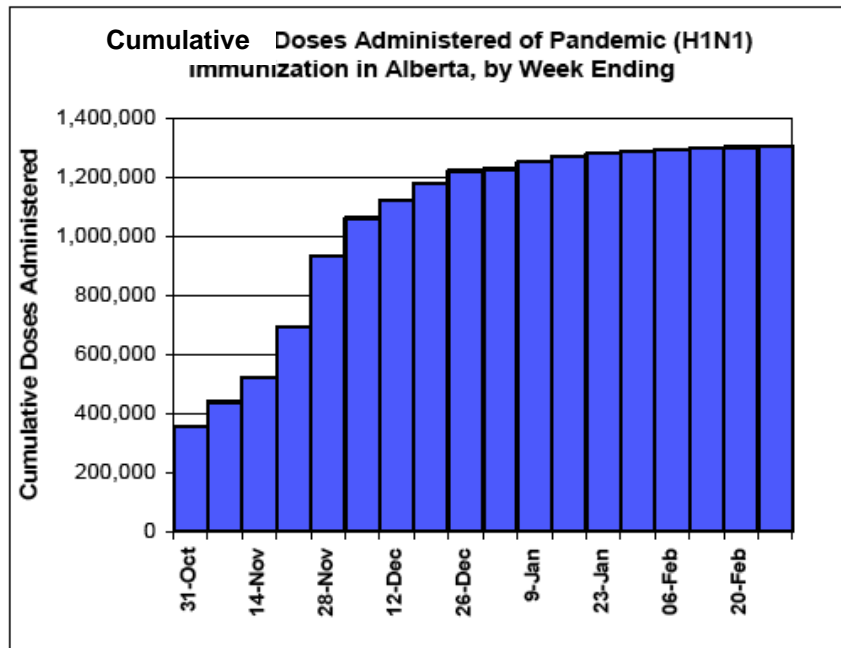
**Influenza tests reported and percentage of tests positive, Canada, by report week, 2009-2010**

Aug 30, 2009 – Mar 27, 2010



# H1N1 Vaccine – Doses Given in Alberta

Total doses given in AB: 1,280,260 (Apr 8)



	Vaccine Count	2009 Estimated Population	Estimated % Population that received vaccination
<b>6 months - 4 years</b>	149,465		
(Dose #1 only)	112,893	216,407	52%
<b>5-9 years</b>	87,295		
(Dose #1 only)	81,495	218,385	37%
<b>10-18 year</b>	113,997	422,821	27%
<b>19-64 years</b>	728,246	2,345,705	31%
<b>65 years and older</b>	201,257	388,223	52%
	<b>1,237,888</b>	<b>3,591,541</b>	<b>34%</b>
<b>1,280,260</b>			

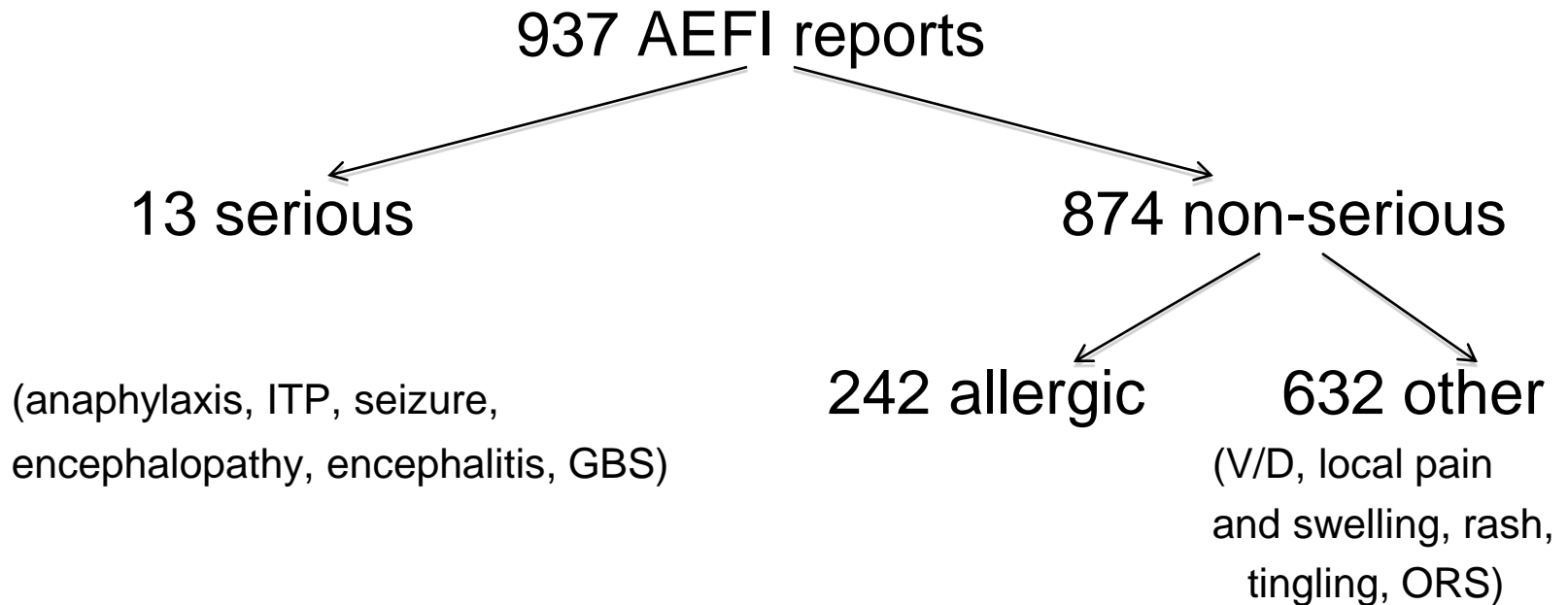
Calgary zone doses (Mar 15):

Public health	516,054
Physicians	14,845
Pharmacists	18,888
Care centres	3,644
<b>TOTAL</b>	<b>553,431</b>

# Alberta – AEFI Reports

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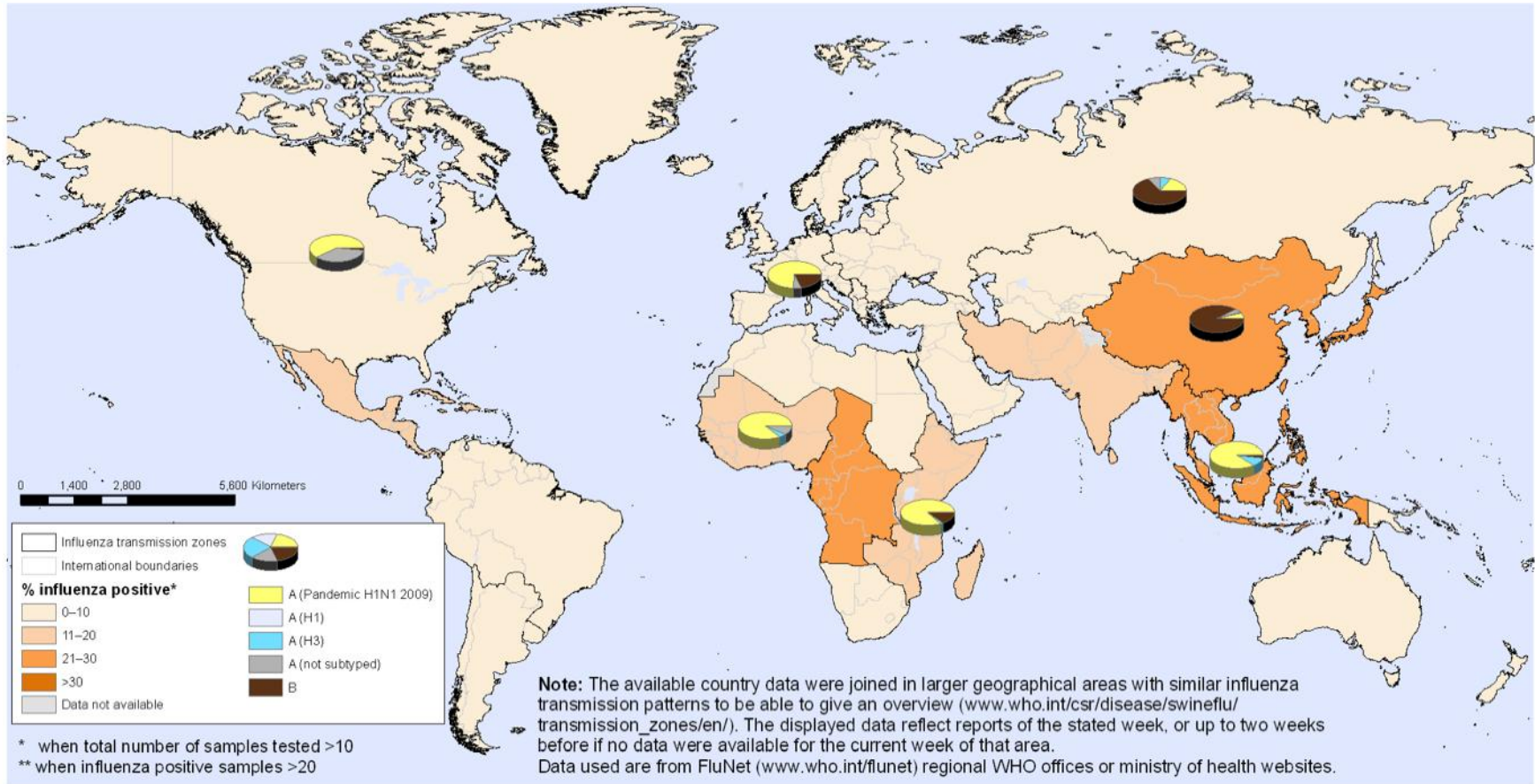
As of February 28:



RATE: serious AEFIs 1%

# Percentage of respiratory specimens that tested positive for influenza

Status as of week 11  
14–20 March 2010



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
Map Production: Public Health Information and Geographic Information Systems (GIS)  
World Health Organization



# Latest Alberta Stats – April 8

Indicator	Wave 1	Wave 2*	Total
Mortality	8	63	71
Hospitalized cases	171	1107	1278**
Laboratory – confirmed cases	1790	4842	6632
School Outbreaks – confirmed H1N1		25	
School Outbreaks – ILI only		960	

\* Started October 11

\*\* 2 new confirmed cases this week after >14 weeks with no new cases

# The Future - ??

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- We have not seen the last of the pH1N1 virus – third wave coming?
- More cases and deaths will be reported retrospectively
- Another pandemic virus will arise at some point – will our experience with H1N1 help?
- TARRANT sentinels will continue to provide valuable surveillance data on respiratory viruses circulating in our communities

# Resources

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- Alberta Health and Wellness  
[www.health.alberta.ca/health-info/alberta-top-doc.html](http://www.health.alberta.ca/health-info/alberta-top-doc.html)
- Alberta Health Services – link to surveillance update is on right [www.albertahealthservices.ca/660.asp](http://www.albertahealthservices.ca/660.asp)
- Public Health Agency of Canada  
[www.phac-aspc.gc.ca/alert-alerte/h1n1/index-eng.php](http://www.phac-aspc.gc.ca/alert-alerte/h1n1/index-eng.php)