



# Influenza A(H1N1)v Surveillance in Lebanon

Republic of Lebanon  
Ministry of Public Health  
Epidemiological Surveillance Program  
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24<sup>th</sup> October 2009

# Outlines

1. Epidemiological terms
2. Surveillance objectives
3. Case definition
4. National statistics
5. Worldwide statistics
6. Containment versus mitigation
7. Inpatients
8. Outpatients
9. School absenteeism
10. Hospital facilities

# 1. Epidemic or pandemic / فاشية أم جائحة

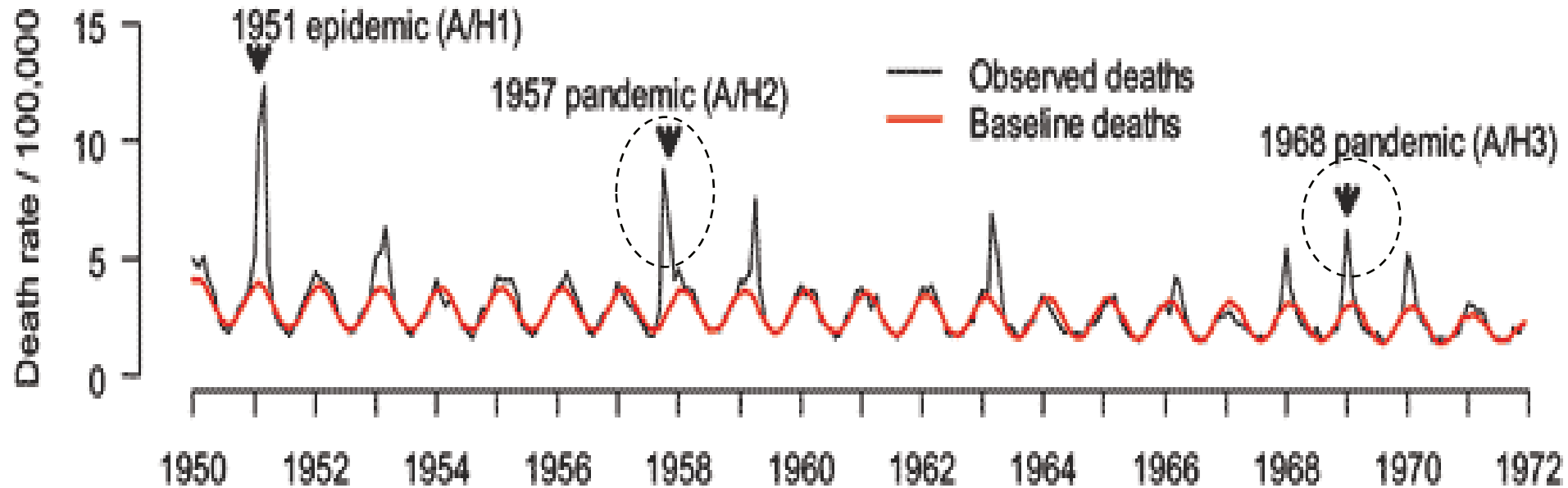
## Epidemiology Terms

- Endemic / مستوطن :
  - A disease that occurs at an expected level in a population in a given time and place
- Epidemic / فاشية :
  - When the number of cases of a disease exceeds what is normally expected for that time and place
- Pandemic / جائحة :
  - An epidemic that occurs over a large geographic area, or across the whole world

# Epidemic or pandemic / فاشية أم جائحة

## Historical examples of Epidemics and Pandemics

أمثال من التاريخ عن الجائحات والفاشيات



Source: Cécile Viboud, et al. Emerg Infect Dis [serial on the Internet]. 2006 Apr. Available from

<http://www.cdc.gov/ncidod/EID/vol12no04/05-0695-G2.htm>

## 2. Surveillance / التردد

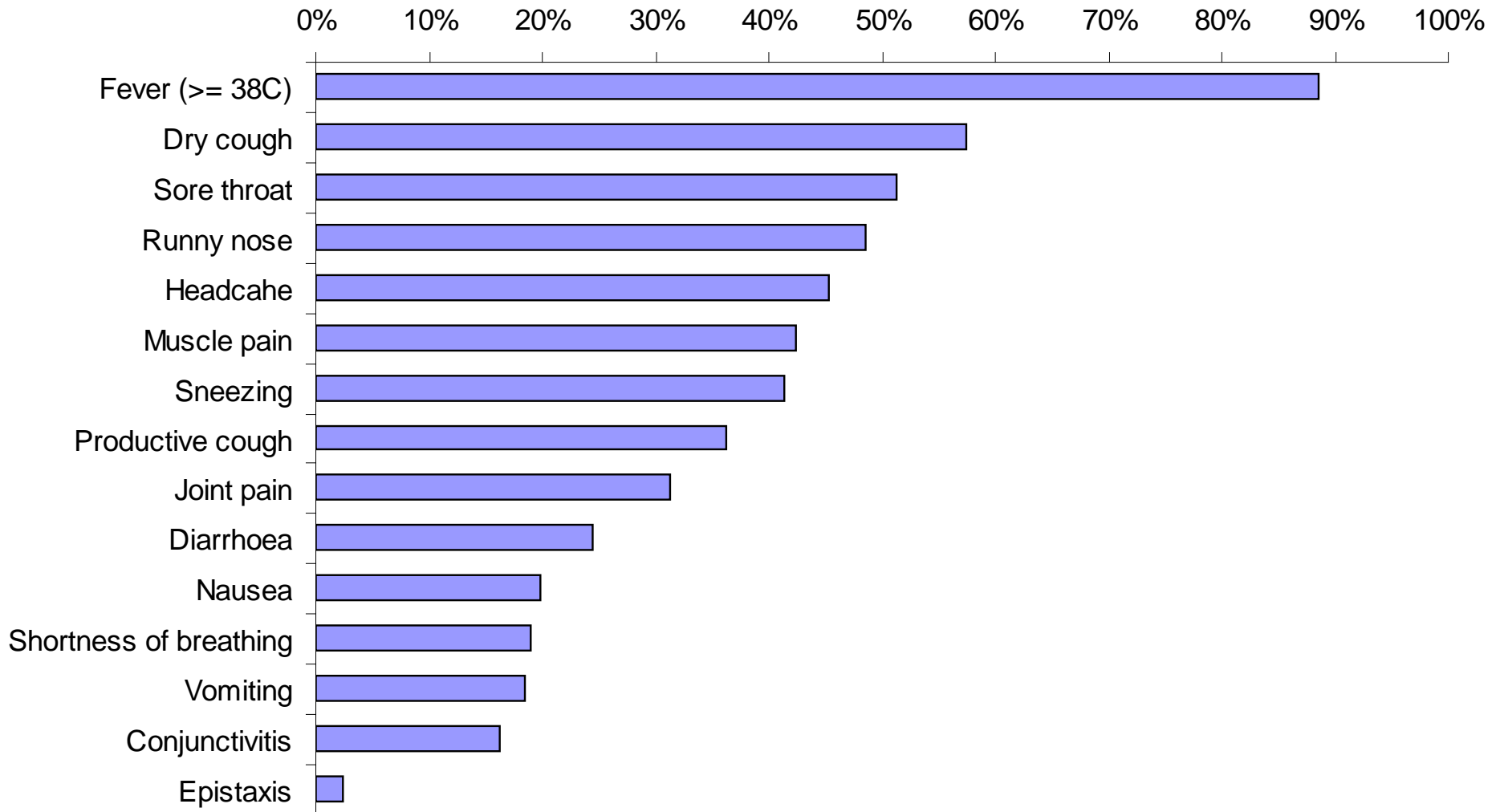
- Surveillance:
  - Systematic collection of data on health events, compilation, verification, analysis and communication for public health purpose.
- Objectives:
  1. Detect first cases
  2. Monitor the spread of the Influenza virus by time and place
  3. Collect data on disease severity

# 3. Case definition

A person with acute febrile respiratory illness ( $>38^{\circ}\text{C}$ ) :	
Confirmed	Laboratory confirmation by PCR-RT or virological culture
Probable	Positive rapid test for influenza A and negative/unsubtypable virus as tested by reagents used for seasonal influenza virus
Suspected	Virus exposure: <ul style="list-style-type: none"><li>- <b>Resides in affected area,</b></li><li>- or close contact with confirmed case,</li><li>- or travel to affected countries</li></ul>

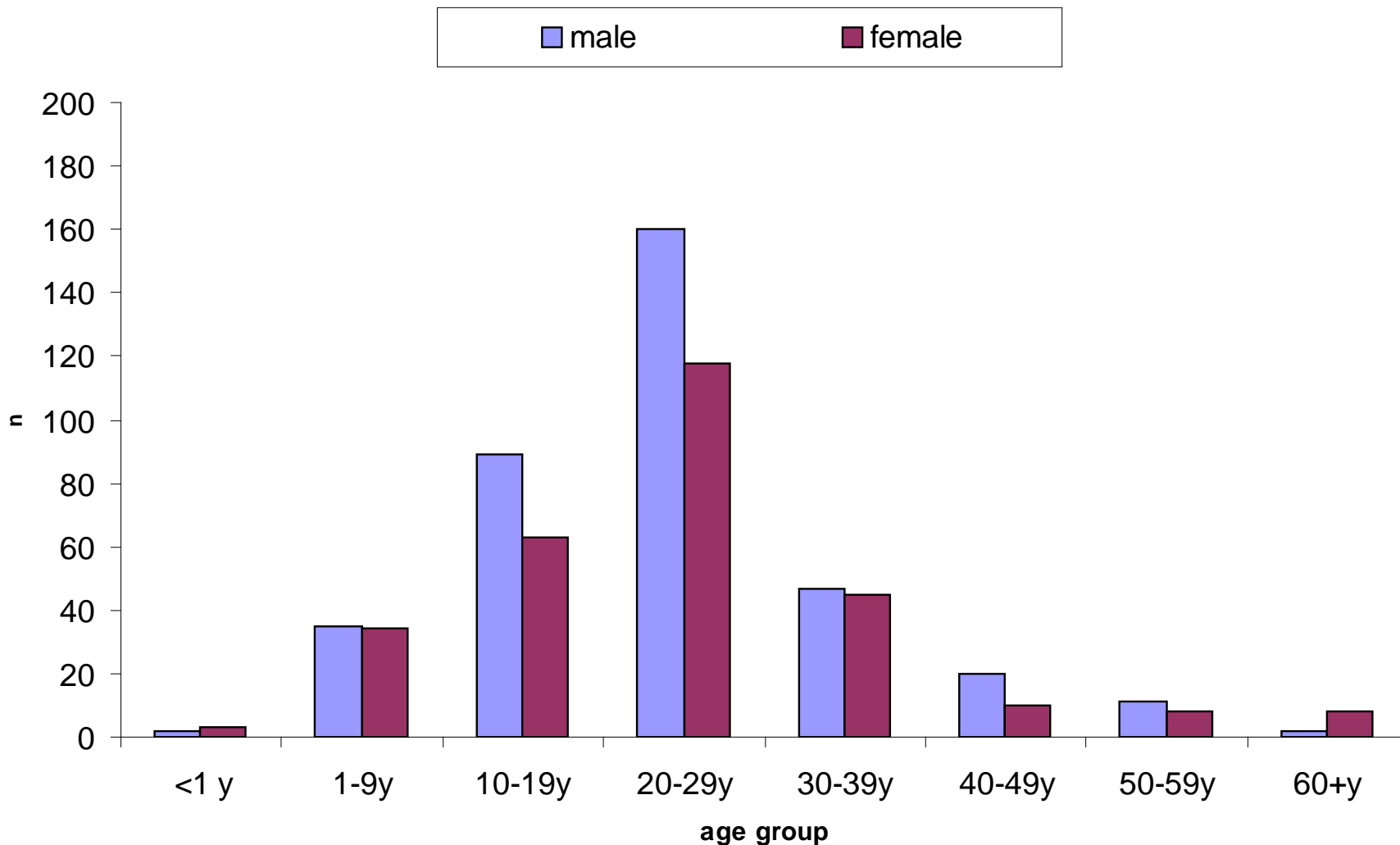
# 4.1 Cases by clinical symptoms

**Lebanon : Documented confirmed cases of Influenza A(H1N1)v infection by clinical symptoms, as of 28 August 2009 (n=260)**



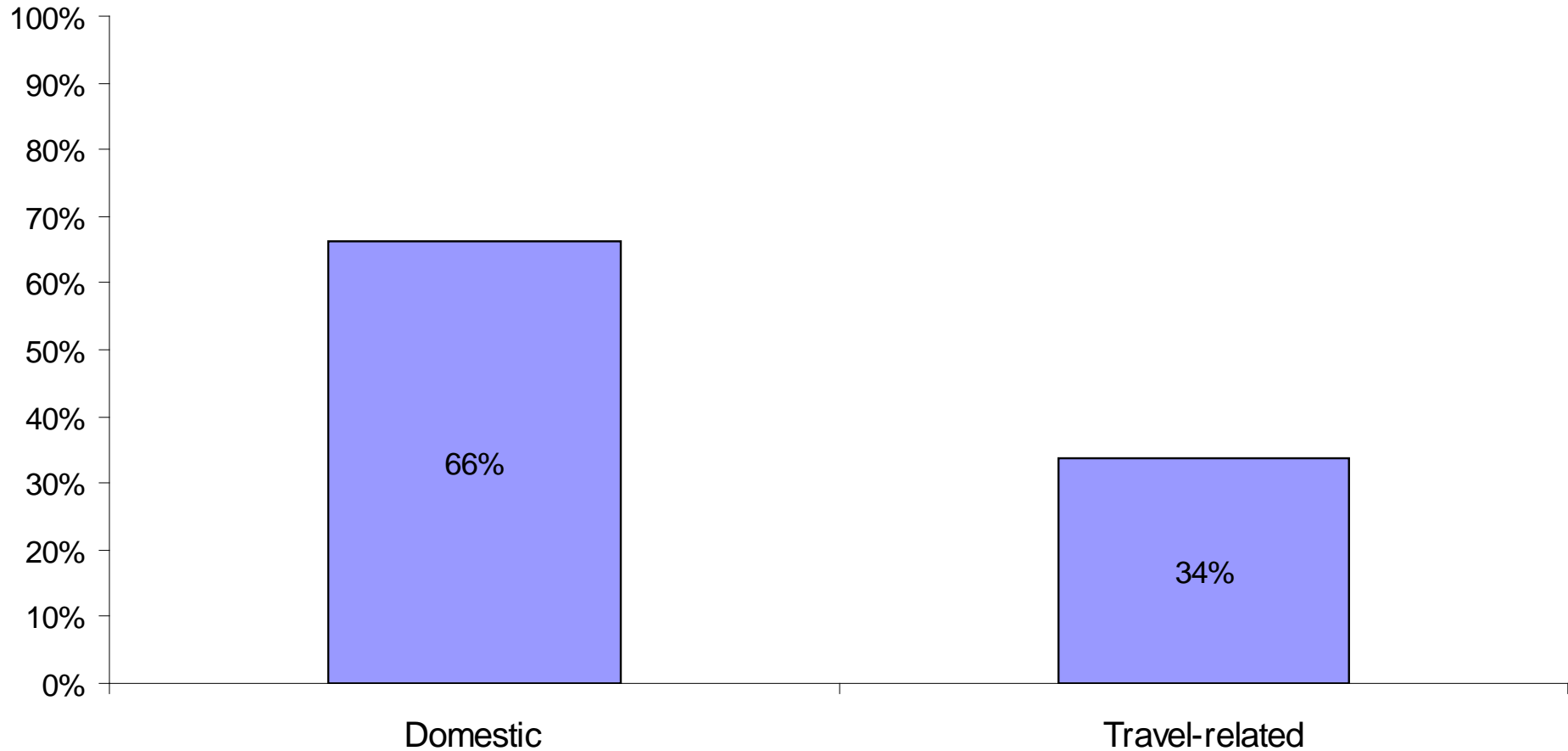
# 4.2 Cases by age group & gender

**Lebanon: Distribution of confirmed cases of Influenza A(H1N1)v infection by age group and gender, as of 28 Aug 2009 (n=655)**



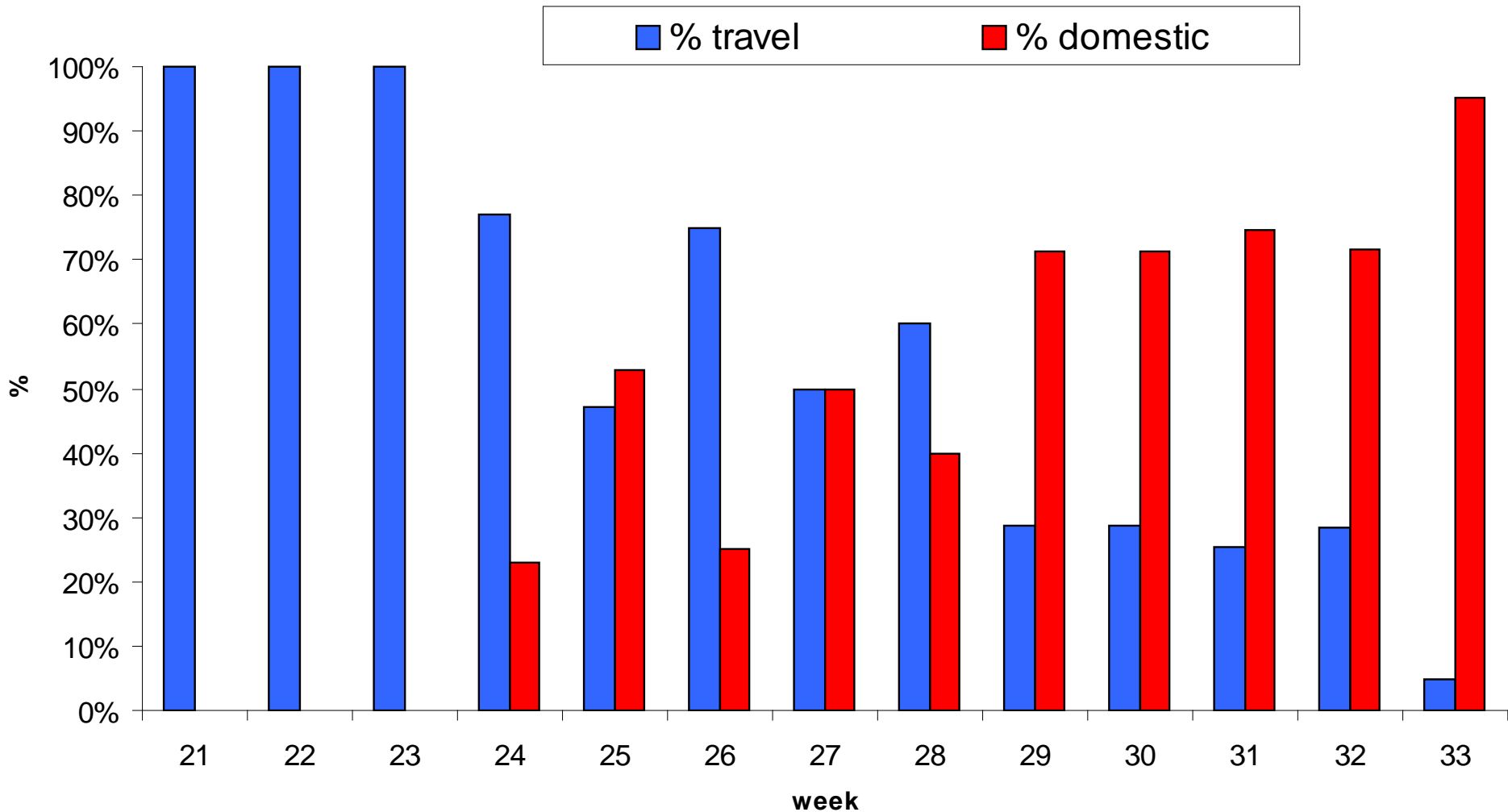
# 4.3 Cases by source of infection

**Lebanon: distribution of confirmed cases of Influenza A(H1N1)v infection by source of infection, as of 28 Aug 2009 (nb documented cases= 353)**



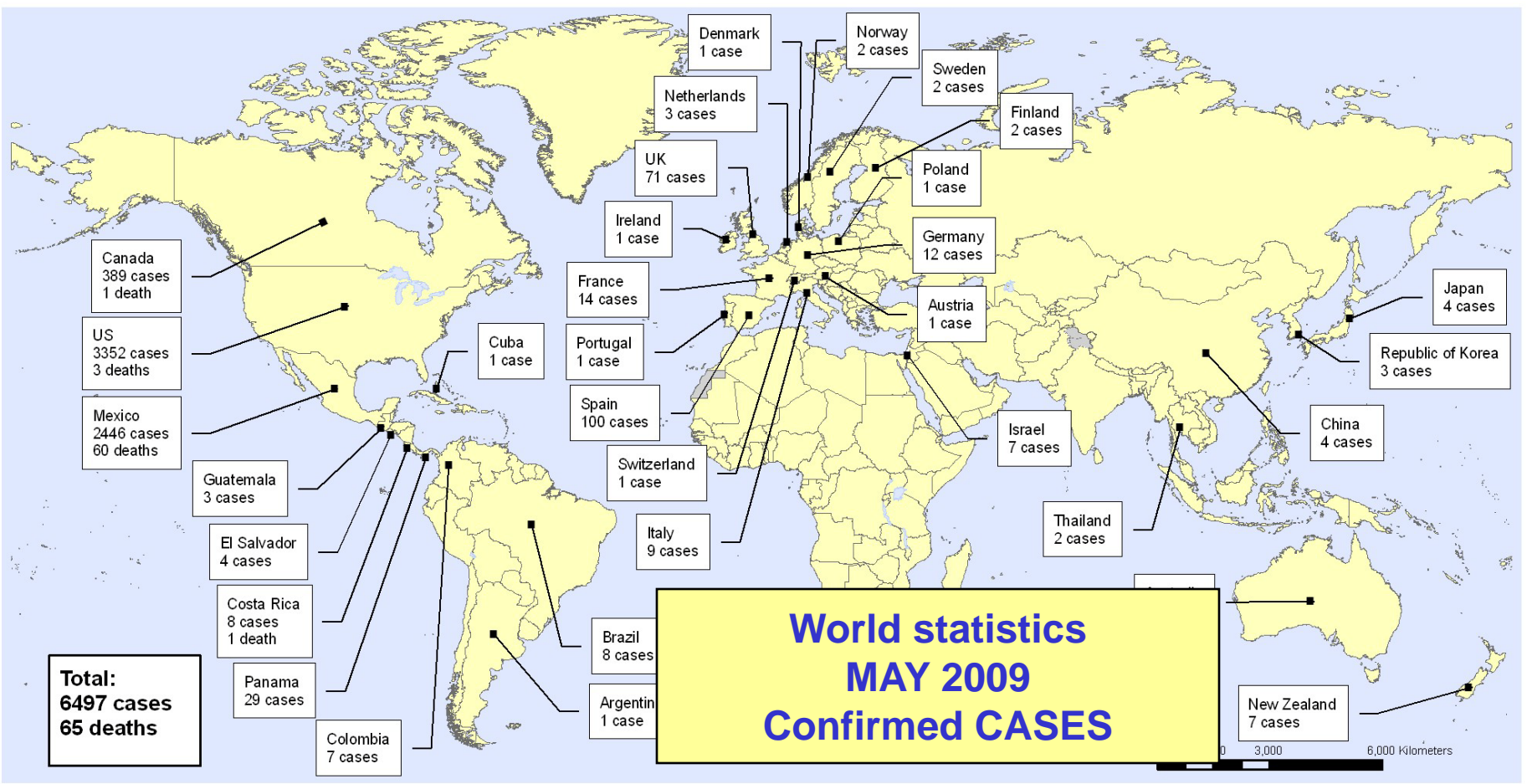
# 4.4 Cases by source of infection

Lebanon: Distribution of confirmed cases of Influenza A(H1N1)v by week and source of infection, as of 28 August 2009 (n=333)



# 5.1 World: Cumulative Number of Confirmed of Influenza A(H1N1)v in the World

New Influenza A (H1N1),  
 Number of laboratory confirmed cases and deaths as reported to WHO Status as of 14 May 2009  
 08:00 GMT



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



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Map produced: 14 May 2009 08:00 GMT

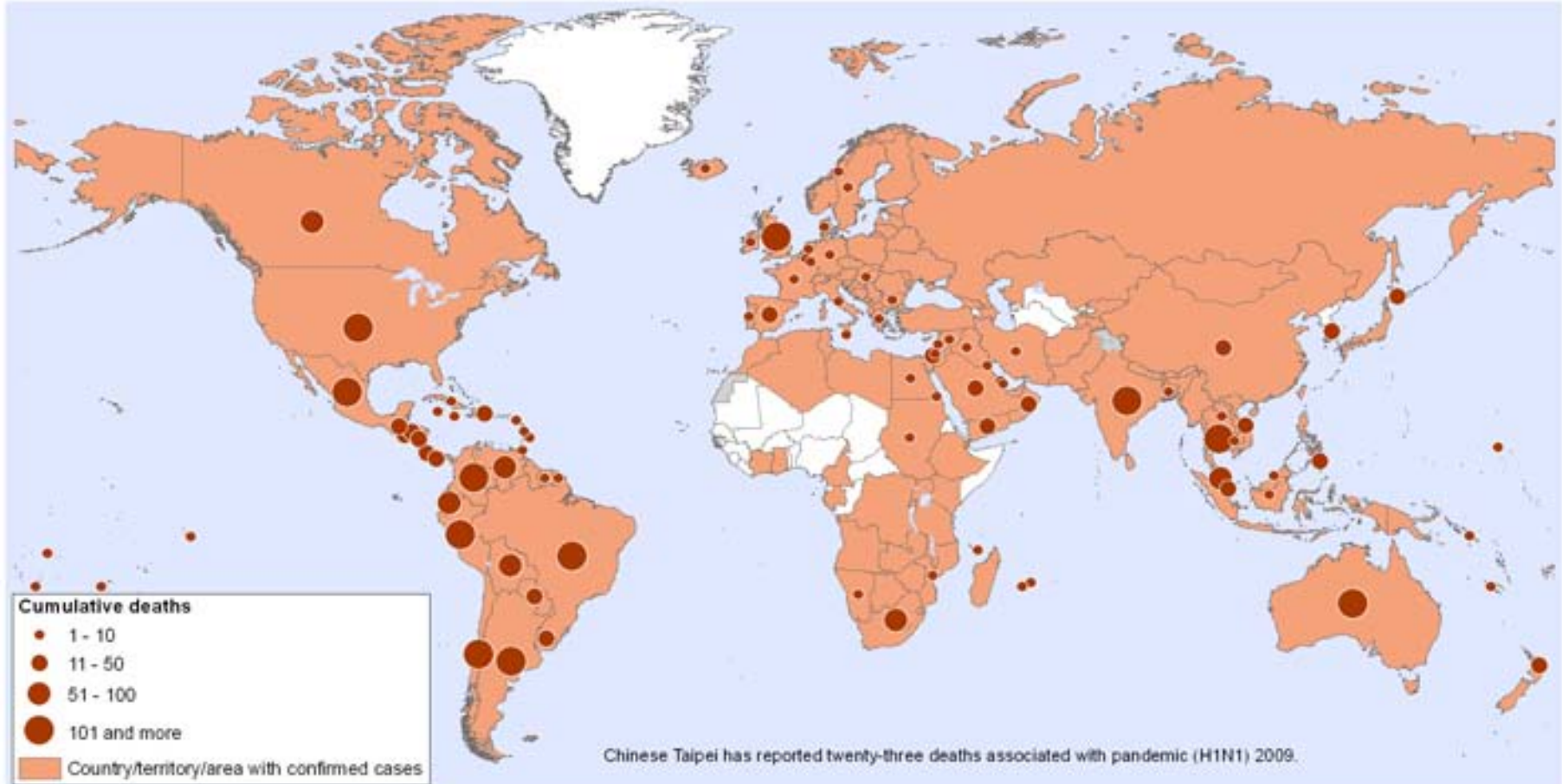
## 5.2 World: Cumulative Deaths Number of Confirmed Influenza A(H1N1)v in the World



Timeline (22 July 2009 onwards)  
Pandemic (H1N1) 2009 laboratory confirmed cases  
And number of deaths as reported to WHO

Status as of: 18 October 2009

◀  
Previous



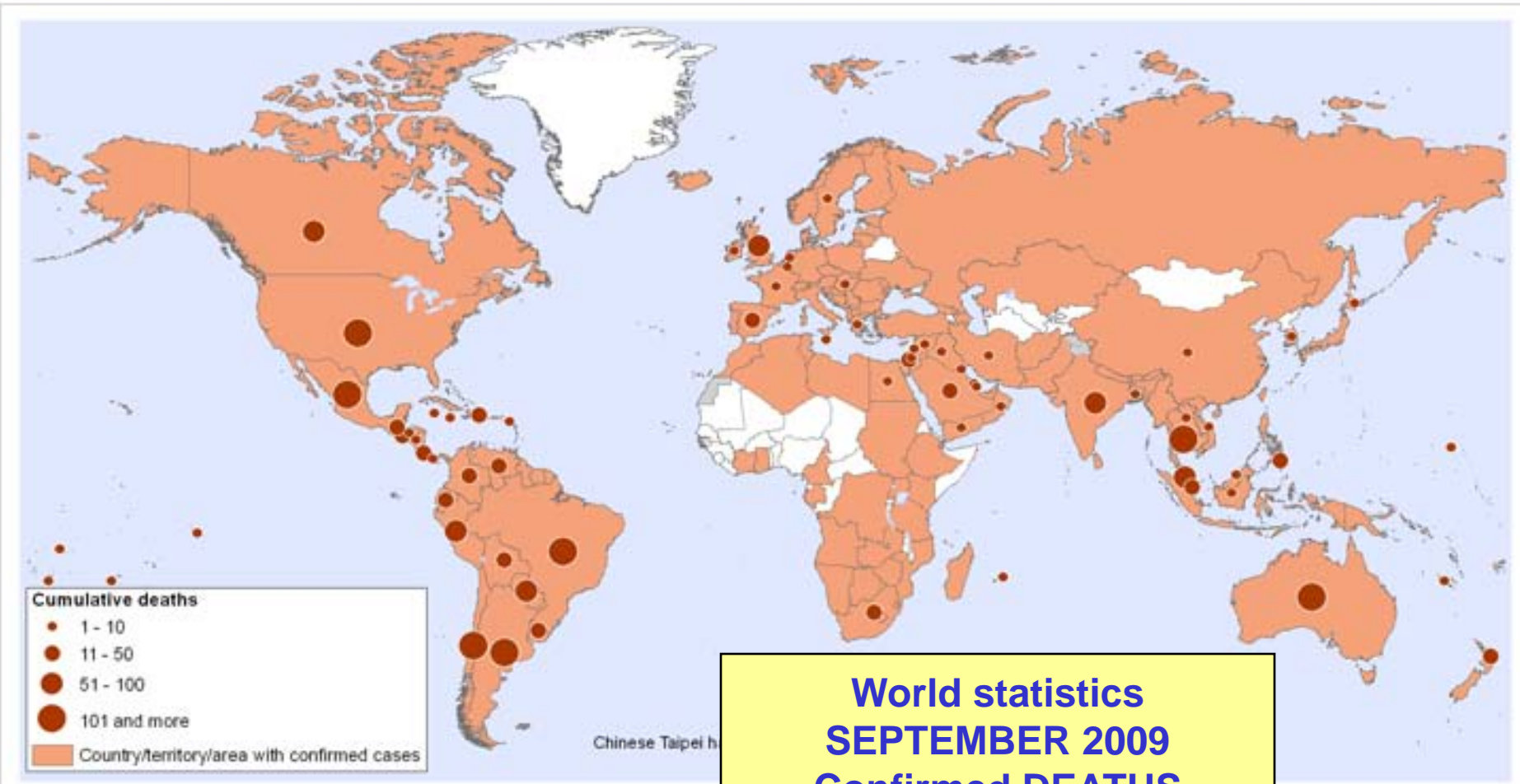
# 5.3 World: Cumulative Deaths Number of Confirmed Influenza A(H1N1)v in the World



Timeline (22 July 2009 onwards)  
Pandemic (H1N1) 2009 laboratory confirmed cases  
And number of deaths as reported to WHO

Status as of: 06 September 2009

◀ Previous



World statistics  
**SEPTEMBER 2009**  
Confirmed **DEATHS**

# 6.1 Mitigation or Containment

	Mitigation	Containment/Delaying
Objectives	<ul style="list-style-type: none"><li>- Reduce overall number of deaths and cases</li><li>- Ensure health care for cases</li><li>- Maximize care for cases</li><li>- Reduce transmission</li><li>- Protect the vulnerable ones</li></ul>	<p>Attempt to prevent the spread of the virus:</p> <ul style="list-style-type: none"><li>- Case-finding: detecting imported cases and first generation transmission</li><li>- Contact tracing and care: identification, treatment, quarantine/isolation</li></ul>
WHO phases	Phases 5 and 6	Phases 3 and 4

## 6.2 Surveillance:

### Moving to community transmission

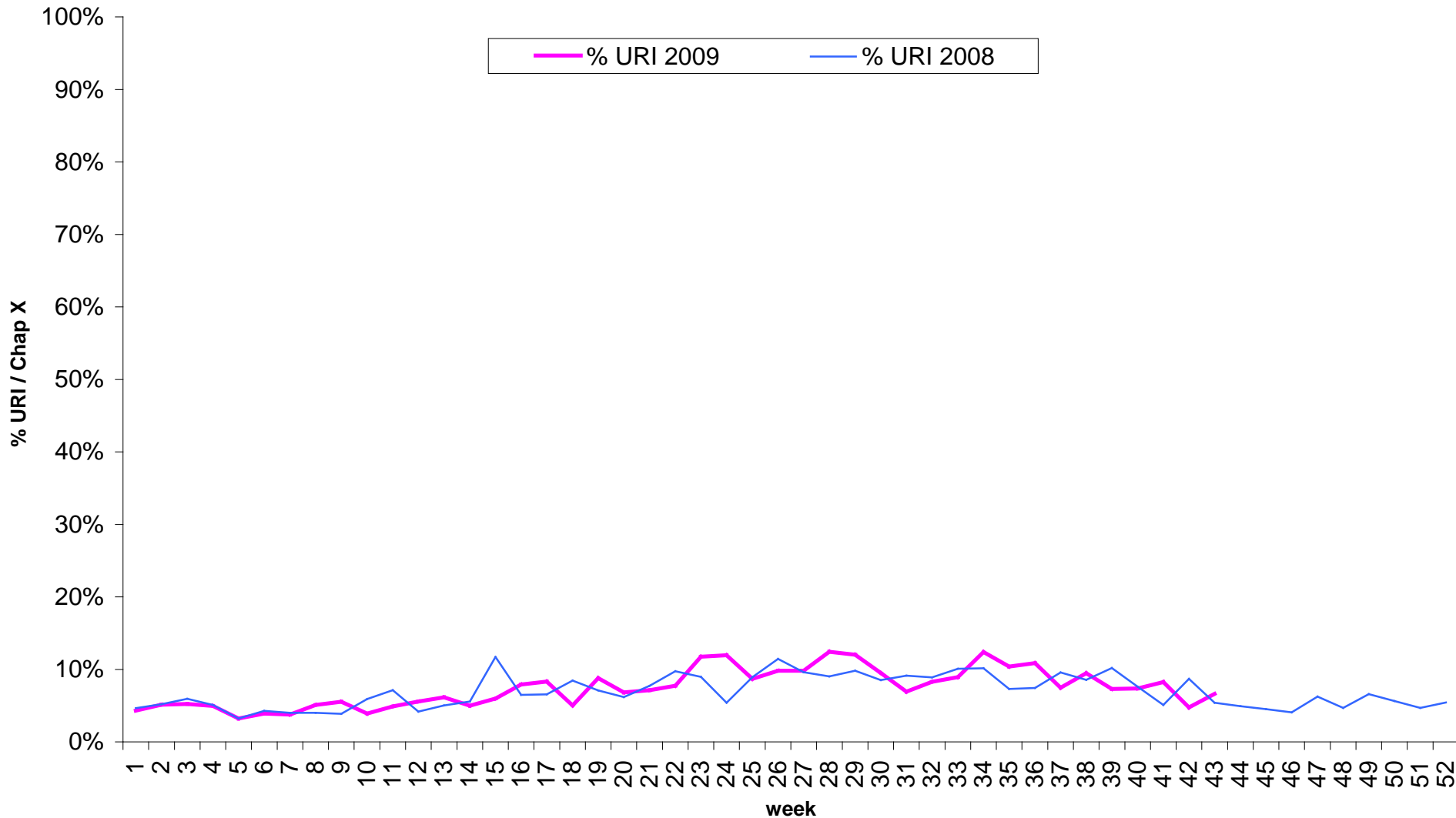
- Surveillance
  - Deaths
  - Inpatients
    - Pneumoniae
    - Acute Respiratory Distress
    - Causes of death at hospital setting
  - Outpatients
    - Data collection on acute respiratory infection through sentinel surveillance system
    - Virological surveillance
      - Sentinel sites for specimen collection
  - Monitor school absenteeism
- Health care
  - Monitoring beds, ICU, ventilator availability across country

## 6.3 Surveillance:

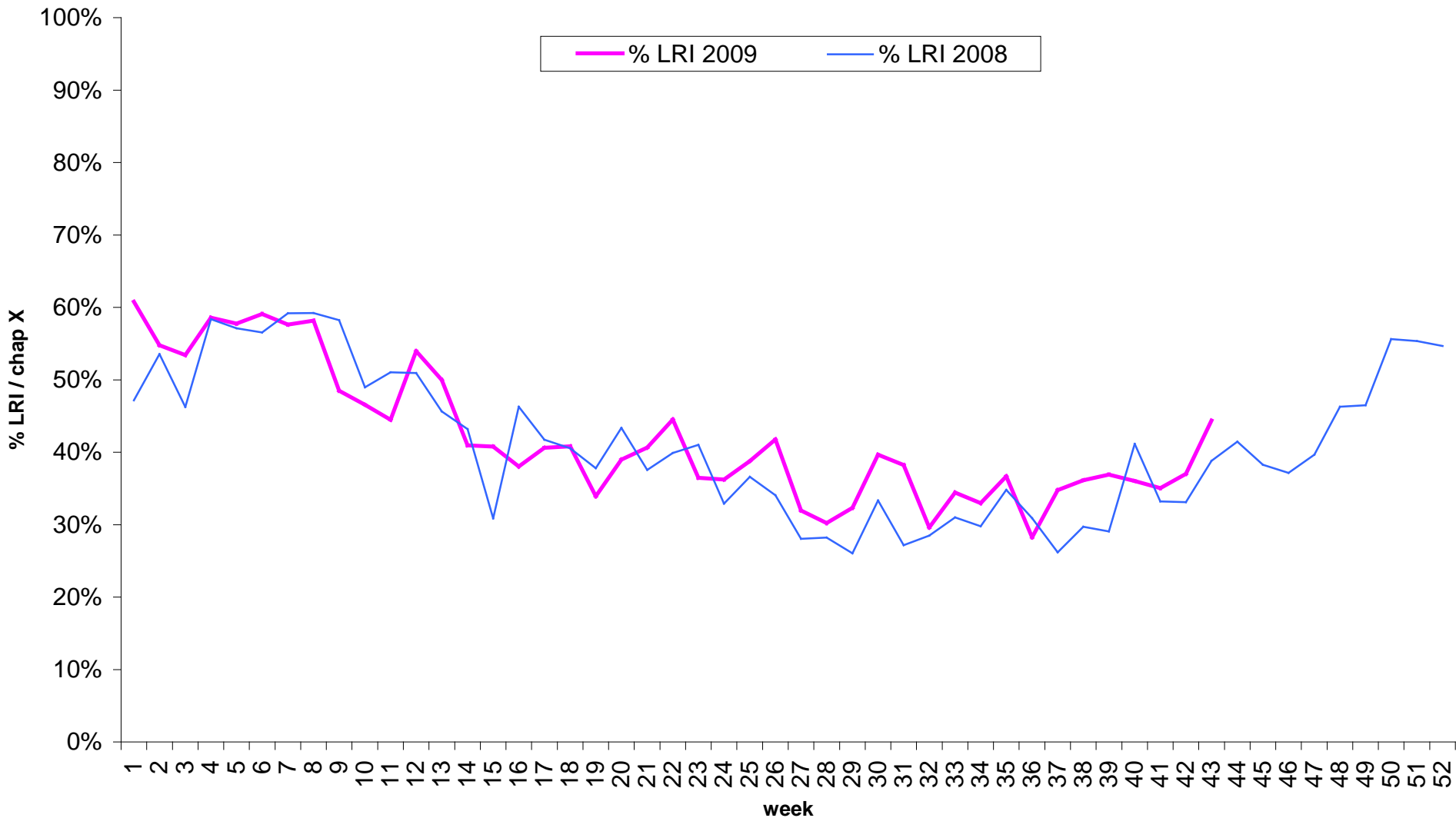
### Moving to community transmission

- Indications for laboratory testing ([MOPH circular 2009](#))
  - Patients with pneumonia
  - Patients with acute respiratory distress
  - Patients with complications
  - Patient with underlying health condition
  - Pregnant women

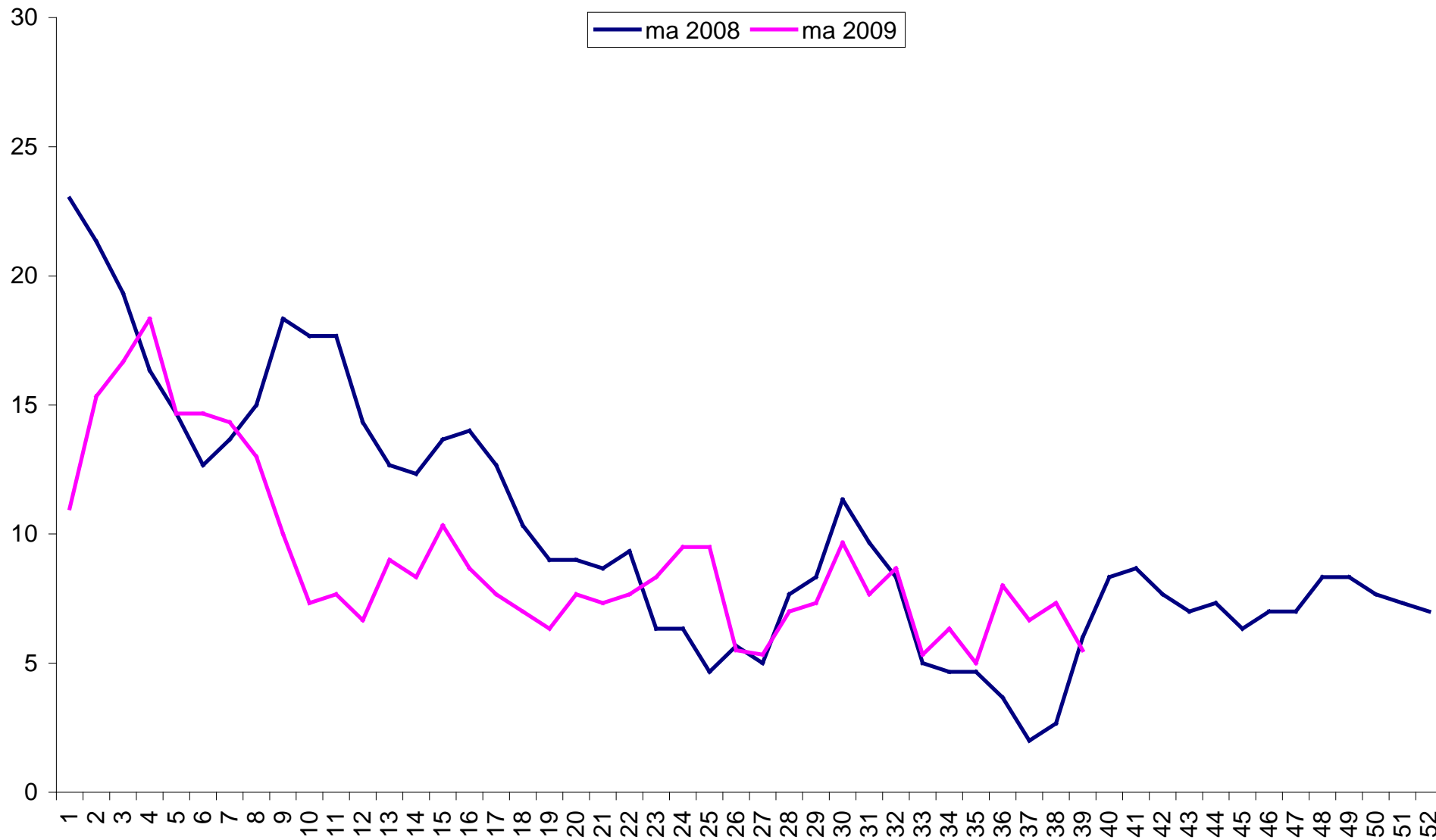
# 7.1 Inpatients: MOPH hospital admission for Upper Respiratory Infection / admissions for respiratory diseases, by week, Lebanon, 2008W01-2009W43



# 7.2 Inpatients: MOPH hospital admission for Lower Respiratory Infection / admissions for respiratory diseases, by week, Lebanon, 2008W01-2009W43



# 7.3 Inpatients: Reported new admissions of acute respiratory distress to ICU, Lebanon, 2008W01-2009W39

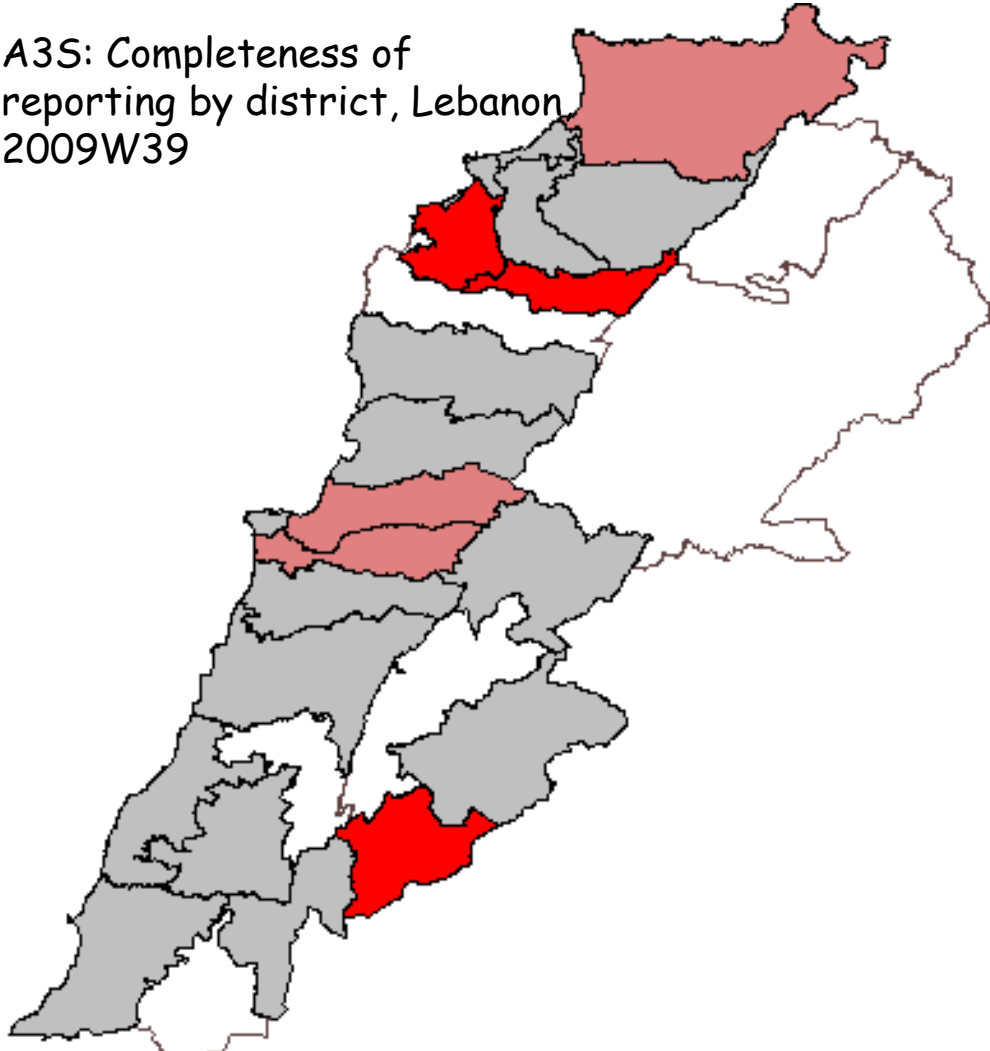


# 8.1 Outpatients: A3S – Ambulatory surveillance system

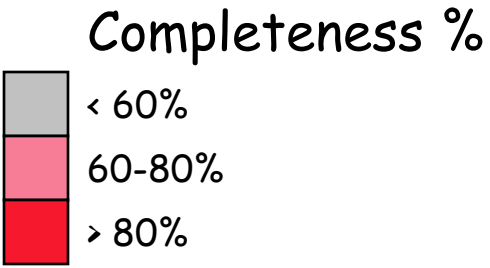
- December 2008:
  - Network of GPs, family medicine, pediatricians
  - Collection of data: # of cases with acute respiratory infection
- August 2009:
  - Collection of specimens (nasal swabs) for influenza virus testing
  - Influenza viruses: B, A, A(H1) seasonal, A(H1N1)v pandemic, A(H3), A(H5)
  - Physicians:
    - Initially: 1 site per mohafaza,
    - Later: 1 site per caza
  - Per site: 3 specimens per week, 3 first patients with ILI
  - Tested at Research lab. of RHUH

# 8.2 Outpatients: A3S, completeness of reporting of the sentinel surveillance system by caza, Lebanon, 2009W39

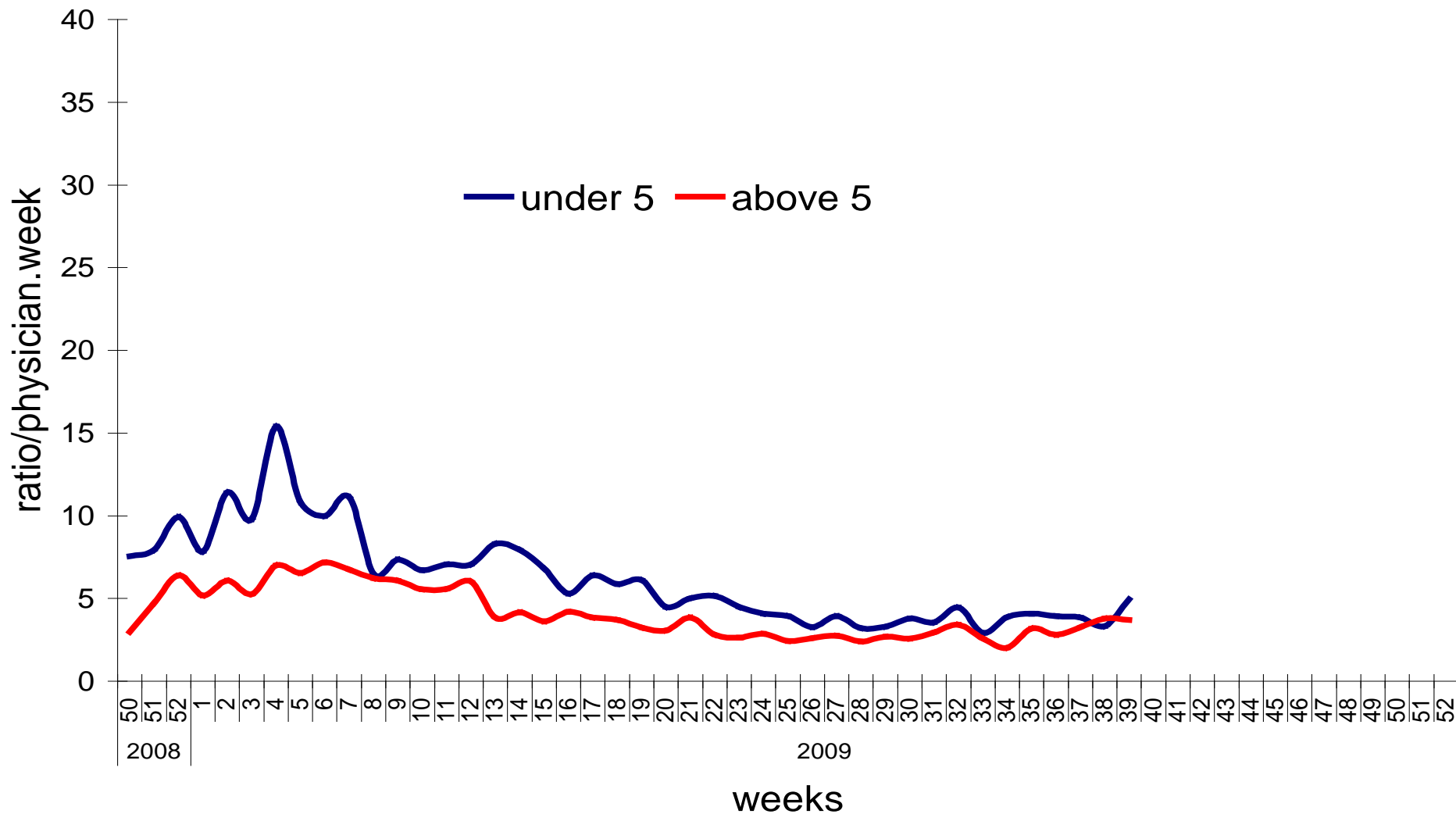
A3S: Completeness of reporting by district, Lebanon 2009W39



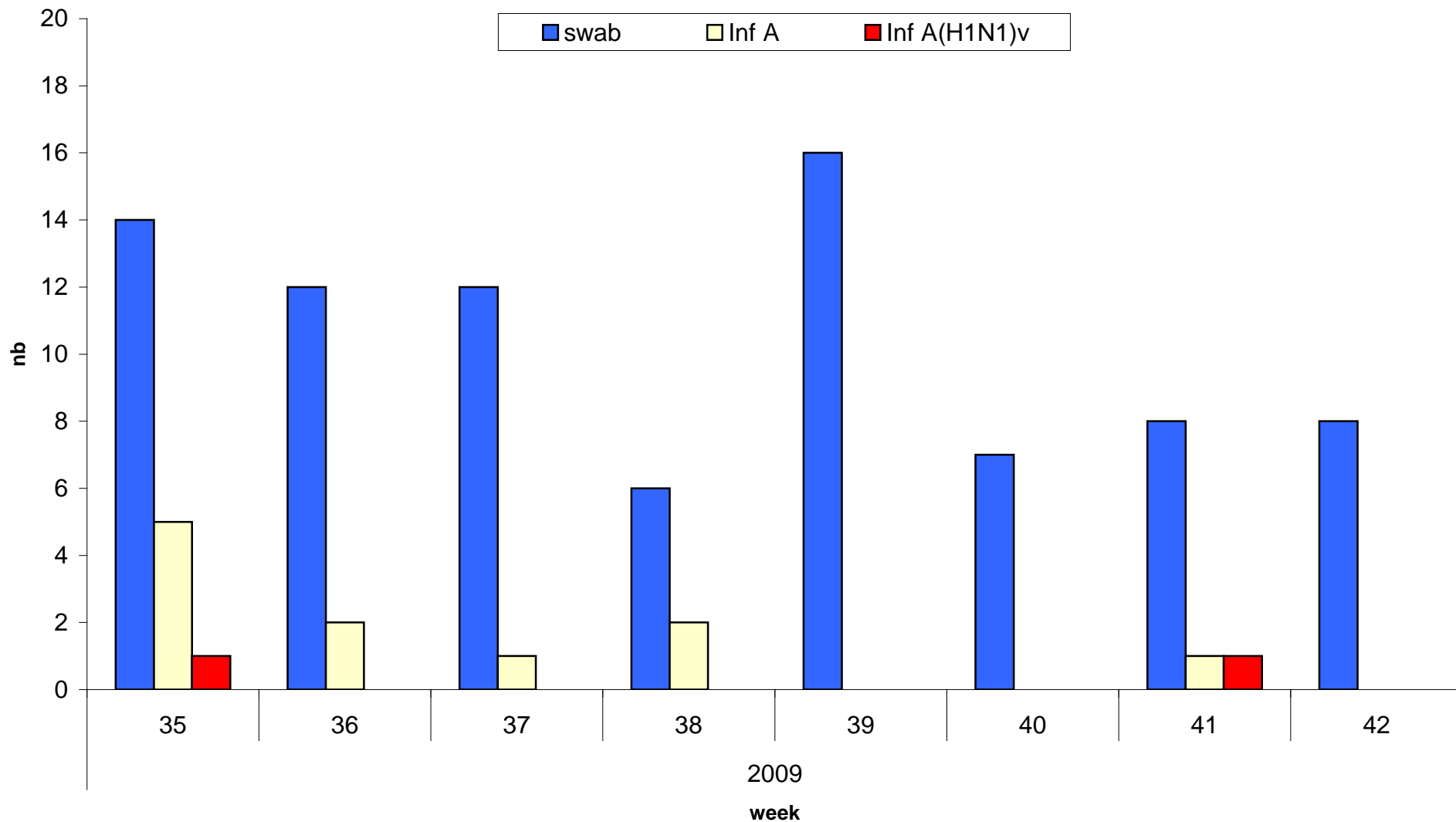
Regional disparities in completeness percentage



# 8.3 Outpatients: A3S - Ratio of acute respiratory infection by physician.week, Lebanon, 2008W50-2009W39



# 8.4 Outpatients: Influenza like illness serology, Lebanon, 2009W35-2009W42



## 9.1 School absenteeism monitoring: objective

- To monitor/measure weekly absenteeism proportions in schools in order to:
  - Detect alerts
  - Verify and confirm outbreaks of influenza A(H1N1)v and other diseases
  - Assist decision makers on proper control measures.

## 9.2 School absenteeism monitoring: materials & methods

- Data:

- Number of daily absents in schools
- Diseases reported in medical reports
- Completeness of data

- المعلومات:

- عدد الغياب اليومي
- الامراض سبب الغياب
- مدى استكمال استلام الاستمارات

- Forms:

- Weekly form on school absenteeism and reported diseases
- Weekly chart completeness (reception, missing data)

- النماذج

- الاستمارة الاسبوعية للغياب
- جدول استلام الاستمارات

## الاستمارة الأسبوعية الخاصة بإحصاءات الغياب

تعبأ الاستمارة من قبل المرشد الصحي في المدرسة وترسل إلى قسم الصحة العامة في القضاء

الأسبوع بدأ من الاثنين |-----|

الرقم الرسمي للمدرسة	اسم المرشد الصحي
اسم المدرسة	رقم الهاتف الثابت
البلدة	رقم الهاتف الخليوي
القضاء	التاريخ

### 1. إحصاءات الغياب

مجموع	عدد الغياب						
	الأتين	الثلاثاء	الأربعاء	الخميس	الجمعة	السبت	
							الروضات
							الحلقة الأولى
							الحلقة الثانية
							الحلقة الثالثة
							التنوي
							الموظفون

2. عدد الأطفال الذين تم إعادتهم إلى المنزل بسبب التهاب تنفسي حاد |\_\_\_\_|

3. بعد قراءة التقارير الطبية المتوفرة للمتغيبين

عدد التقارير الطبية المتوفرة للمتغيبين: |\_\_\_\_|

عدد الأطفال الذين تغيبوا بسبب: - التهاب تنفسي حاد |\_\_\_\_|

- التهاب معوي حاد |\_\_\_\_|

التوقيع

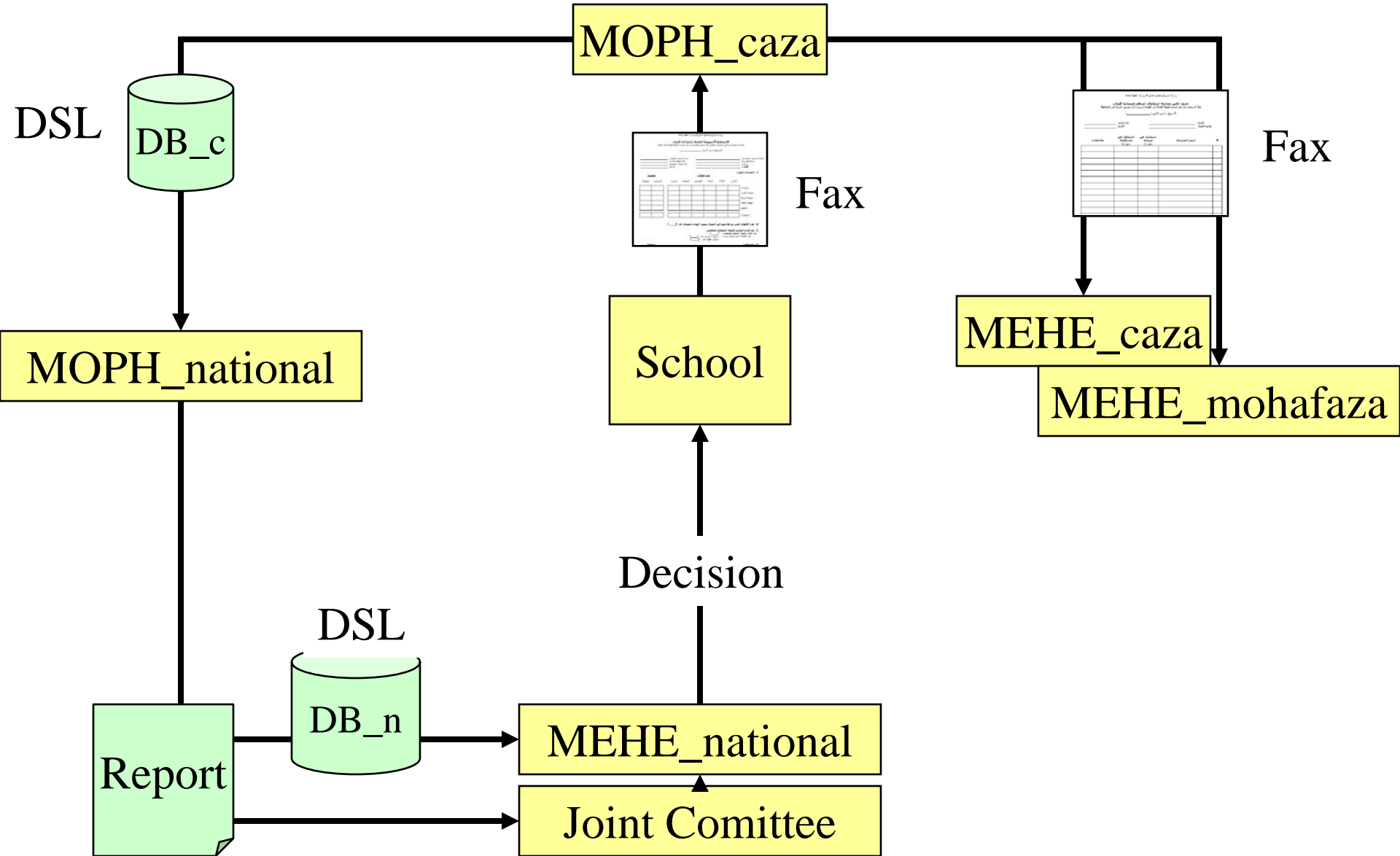
4. ملاحظات:

## 9.3 School absenteeism monitoring: human resources

<b>Organisation</b>	<b>Level</b>		<b>Added terms of reference</b>
<b>MEHE</b>	School	Health educator / nurse	Collect data, fill form on absenteeism, send form to MOPH_caza
	Caza	Health education coordinators	Follow up with non compliant schools
	Mohafaza		
	National	Health education unit	Supervise implementation Receive national DB from MOPH_national
<b>MOPH</b>	Caza	Caza public health	Receive forms from schools, data entry, send DB to MOPH_national Fill completeness charts and send them to MEHE_caza/Mohafaza
	Mohafaza	Surveillance	Assist MOPH_caza
	National	Surveillance	Receive DBs, merge them into national DB Analyse data, write report, forward & feedback
<b>Joint Committee</b>			Discuss report and actions

# 9.4 School absenteeism monitoring:

## data flow

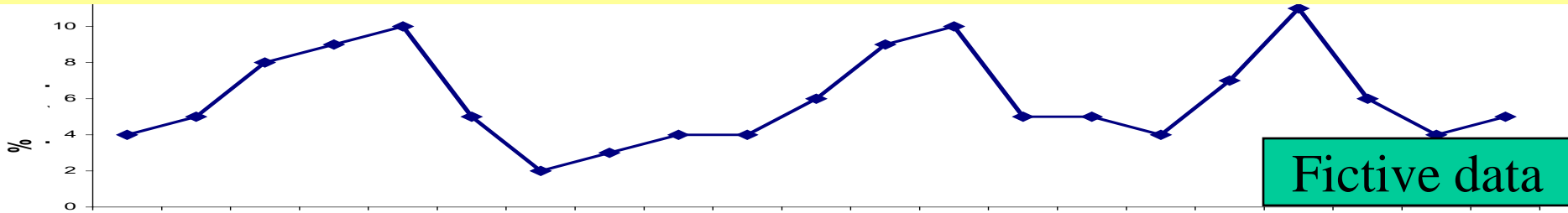


# 9.5 School absenteeism monitoring: schedule

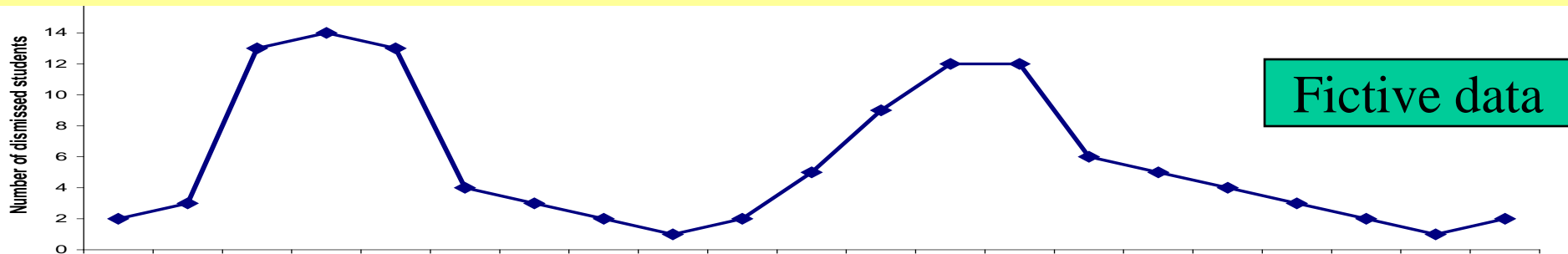
Week	Day	Main activities
Week(0)	Monday	
	Tuesday	
	Wednesday	
	Thursday	
	Friday	Absenteeism forms filled and sent
	Saturday	Completeness charts filled and sent
Week(1)	Monday	Follow up for compliance Data entry into caza DB
	Tuesday	Caza DB sent to National level
	Wednesday	Merging DB
	Thursday	Analysis and report generation
	Friday	Joint committee meeting
	Saturday	

# 9.6 School absenteeism monitoring: expected results

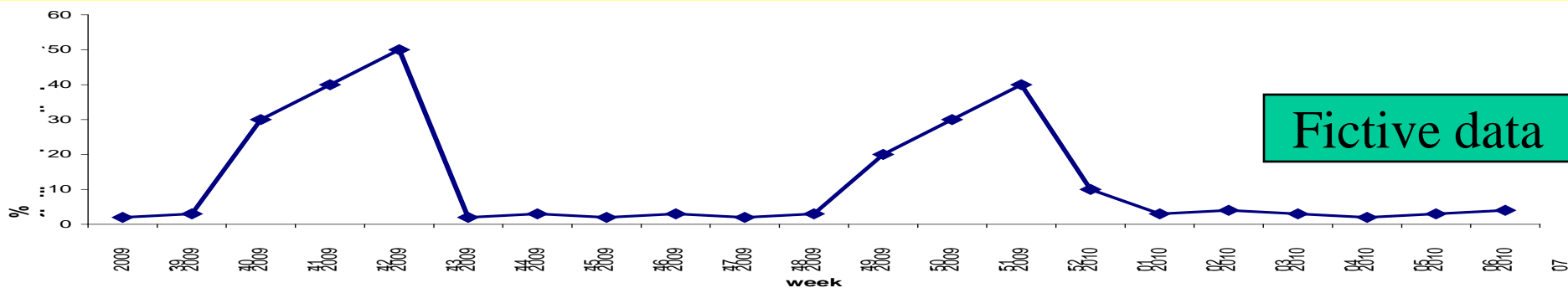
% of weekly Absenteeism / نسبة الغياب



Nb, Dismissal for flu / عدد الاطفال الذين أعيدوا الى المنزل



% of flu in medical reports / نسبة التقارير الطبية للمتغيبين الوارد فيها التهاب تنفسي حاد



# 10. Hospital facilities

- Objective:
  - To monitor bed, ICU occupancy for during influenza A(H1N1)v wave, by time and place
- Methods:
  - Web-based application
  - Designation of focal person at hospital level
  - Data collection & data entry on:
    - Occupancy of beds, ICU, ventilators
    - Number of cases suspected for Influenza A(H1N1)v infection

Thank you