

# Two influenza seasons in one year: The Viral Watch Sentinel Influenza Surveillance programme 2009

Jo McAnerney  
Surveillance Unit  
Epidemiology Division  
NICD

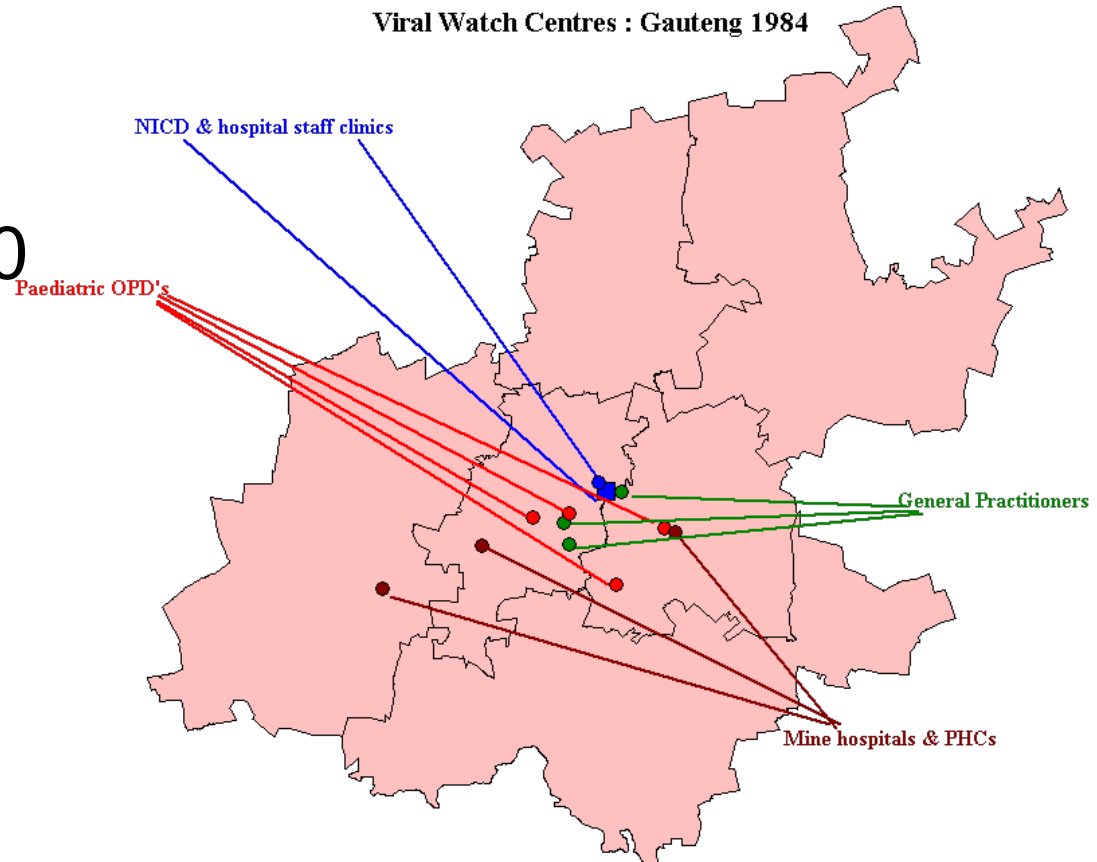
# Influenza surveillance

- Worldwide based on sentinel general practitioner networks
  - ILI/ARI activity reporting
  - Respiratory specimens from a subset of patients
- School absenteeism
- Hospitalization data
- Mortality data

# The South African Viral Watch



- Surveillance programme started in 1984 when 10 centres were enrolled

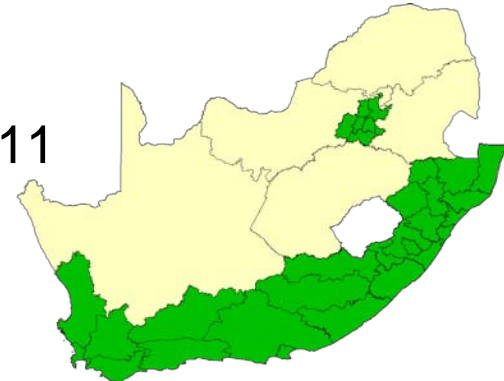


# The expansion of the Viral Watch

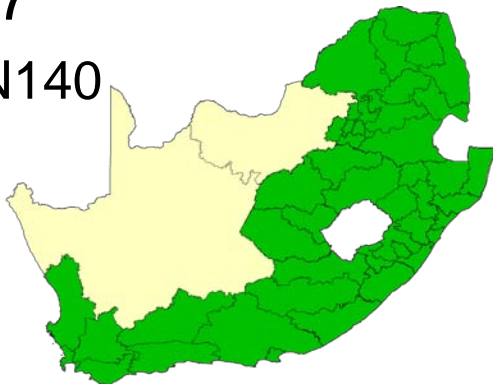
- 2005  
– N85



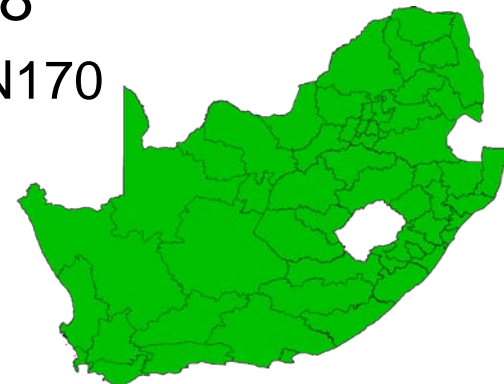
- 2006  
– N111



- 2007  
– N140



- 2008  
– N170



# Total Viral Watch centres 2009

- Eastern Cape : 2
- Free State : 9
- Gauteng : 104
- KwaZulu-Natal : 20
- Limpopo : 19
- Mpumalanga : 5
- Northern Cape : 12
- North West : 7
- Western Cape : 65
- Total : 243

NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES					
Of the NATIONAL HEALTH LABORATORY SERVICE (NHLS)					
Tel: + 27 11 386 6229		Cell: 082 807 6770		Private Bag X4	
Fax: + 27 11 882 9979		Internet : http://www.nicd.ac.za		2131 Sandringham	
E-mail: jomca@nicd.ac.za				SOUTH AFRICA	
VIRAL WATCH SPECIMEN (Throat/nasal swab)FOR RESPIRATORY VIRUS					
PATIENT DETAILS		DOCTOR DETAILS		FOR LABORATORY USE ONLY	
SURNAME:		DR NO BODY			
FIRST NAME:		1 JONES ST			
AGE/DOB:		SMITHVILLE			
GENDER:		TEL 011 012 3456			
DATE COLLECTED:		FAX 011 012 6789			
CLINICAL DETAILS					
DATE OF ONSET		COUGH		OTHER (including travel history & contact with birds)	
SUDDEN ONSET		SORE THROAT			
FEVER		RECEIVED FLU VACCINE			
HEADACHE		Vaccination date			
MYALGIA					
				Kindly continue overleaf if appropriate	

## Objectives

- Determine type & pattern of influenza detection
- Provide objective information to the Health Care System
- Provide data on influenza strains for the Southern hemisphere vaccine

## Methods



- Respiratory specimens from patients of all age groups with ILI of recent onset without obvious bacterial cause
- Patient & clinical details to be completed on VW form
- Specimen sent in viral transport medium

# Viral Watch ILI definition

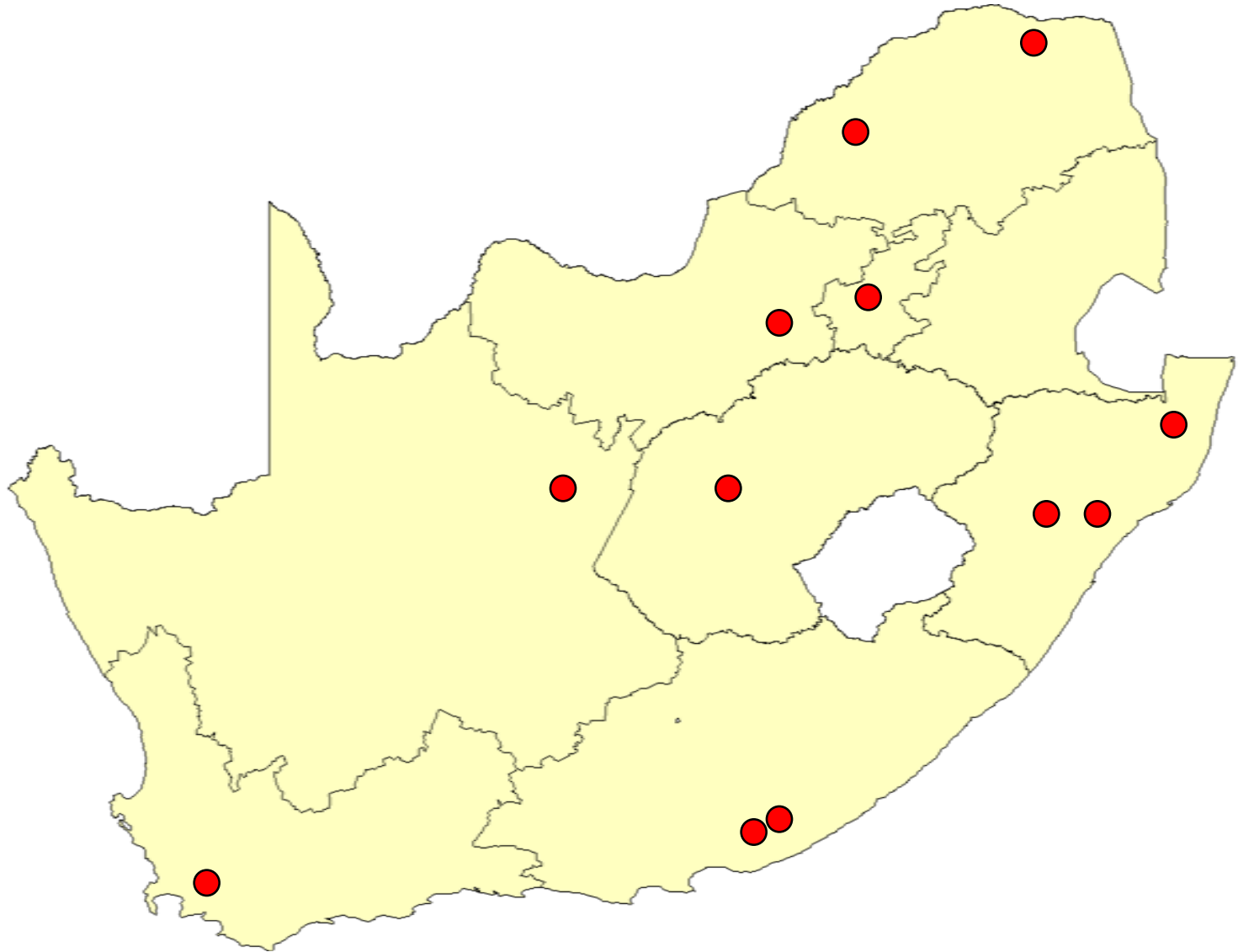
- Patients of all age groups, with acute respiratory tract infections of recent onset (within 72 hours), who present with sudden onset of fever and two or more of headache, myalgia, cough, and sore throat.

# Enhanced Viral Watch

- Respiratory specimens from patients of all age groups admitted to hospital with LRTI/pneumonia
- Patient & clinical details to be completed on Enhanced VW form
- Specimen sent in viral transport medium

 <b>NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES</b> Of the NATIONAL HEALTH LABORATORY SERVICE (NHLS) 														
Private Bag X4   2131 Sandringham   South Africa														
Tel: + 27 11 386 6229   Fax: + 27 11 882 9979   Hotline: 082 883 9920   E-mail: <a href="mailto:jomca@nicd.ac.za">jomca@nicd.ac.za</a>   Internet: <a href="http://www.nicd.ac.za">http://www.nicd.ac.za</a>														
SPECIMEN FOR RESPIRATORY VIRUS 2009: Throat swab <input type="checkbox"/> Nasal swab <input type="checkbox"/>														
PATIENT DETAILS				DOCTOR'S NAME				FOR LABORATORY USE ONLY						
PATIENT HOSPITAL NO:				DR N O BODY										
SURNAME:														
FIRST NAME:														
AGE/DOB:														
GENDER:				HOSPITAL NAME										
DATE COLLECTED:				DATE OF ONSET:				ST ELSEWHERE						
UNDERLYING FACTORS						TREATMENT								
Tuberculosis (TB)		Y	N	Obesity		Y	N							
Asthma	Y	N	Diabetes	Y	N	HIV	Y	N	Tamiflu	Y	N	Steroids	Y	N
Pregnancy	Y	N	COPD	Y	N	Other			Ventilation	Y	N			
Flu Vaccine				CXR Findings.....				Wee total		Diff N/L%				
Y	N	RESULTS		.....				.....		.....				

# Enhanced Viral Watch sites: 2009

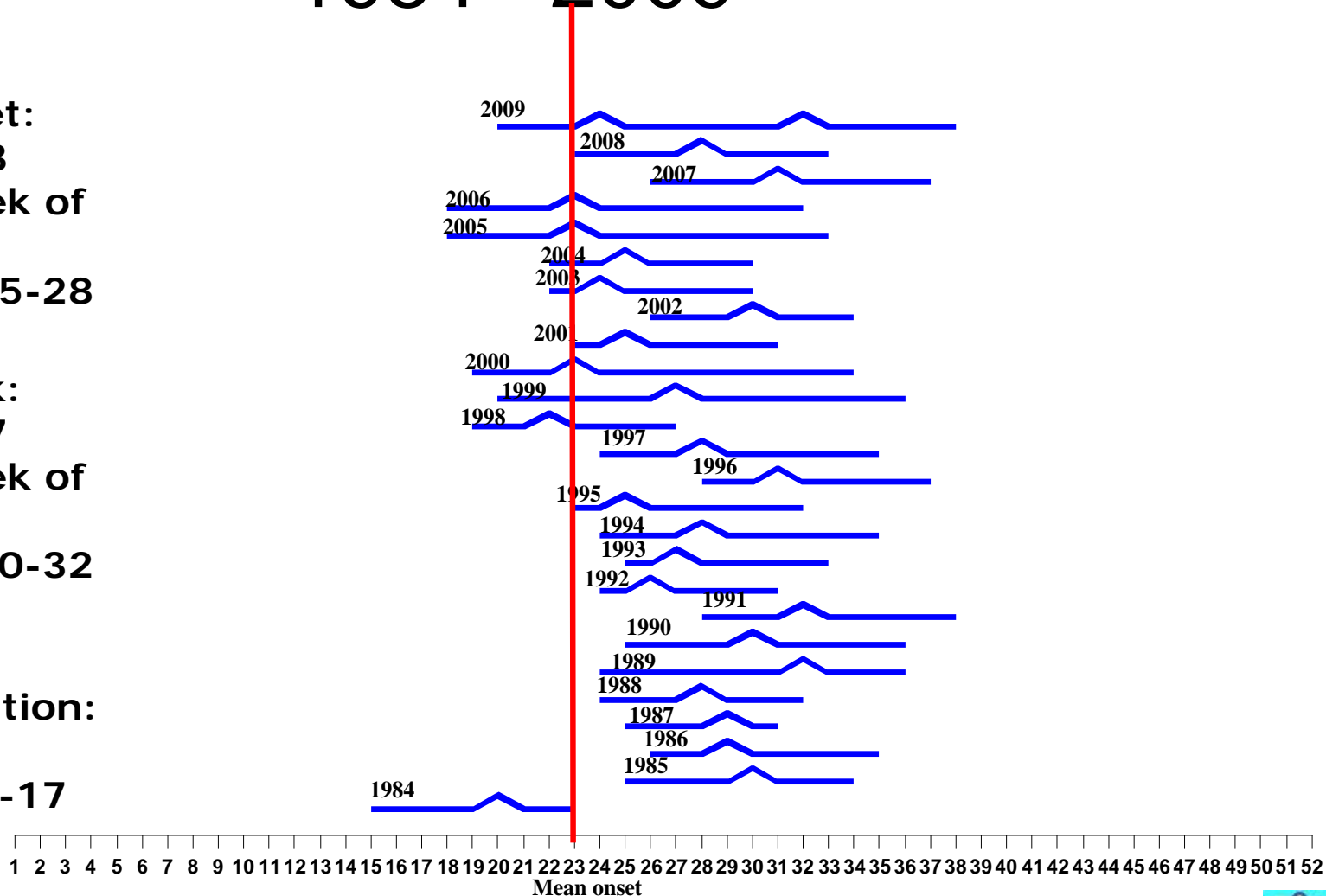


# Onset & duration of influenza season: 1984 - 2009

**Median onset:**  
**Week 23**  
 (2<sup>nd</sup> week of  
 June)  
**Range 15-28**

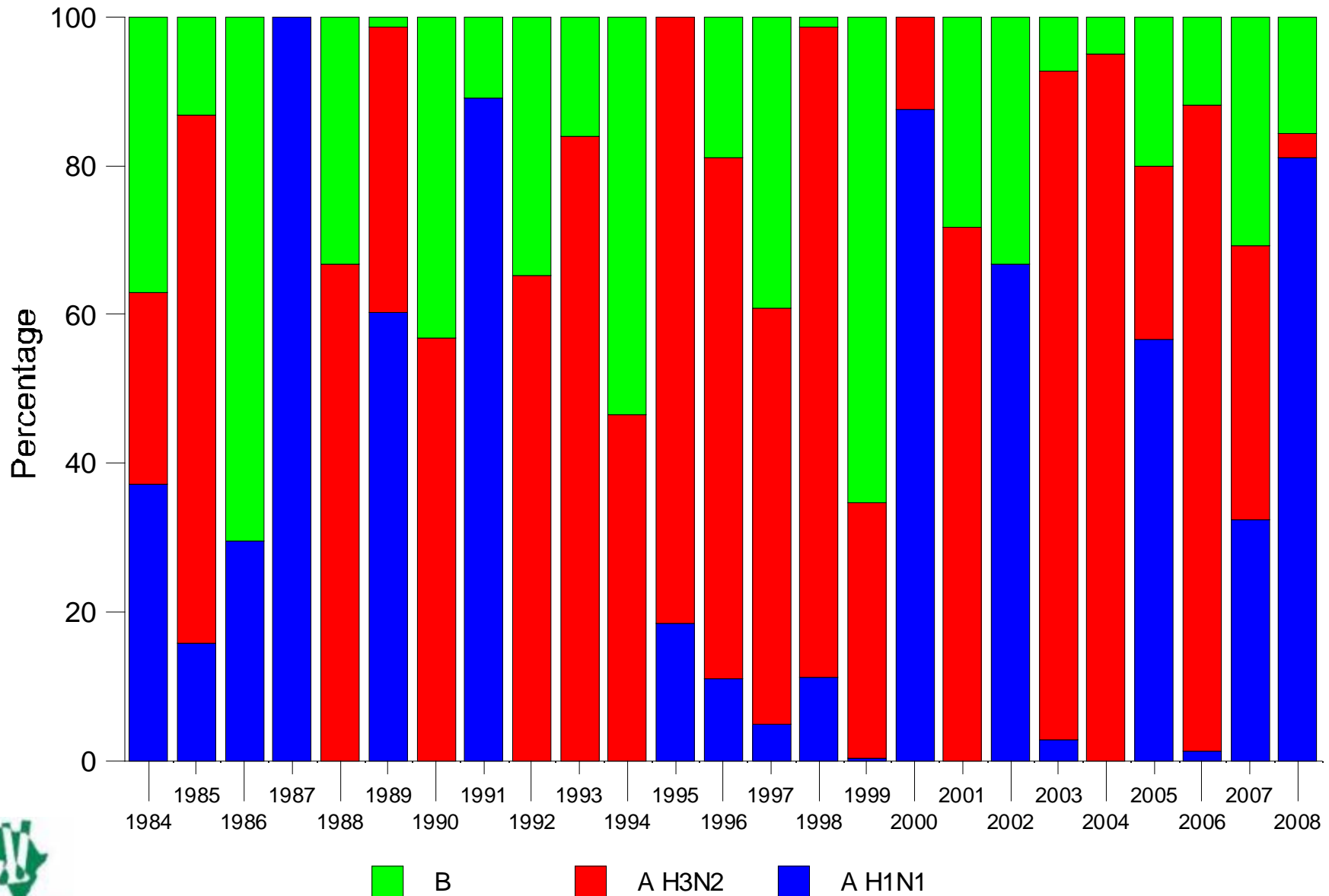
**Median peak:**  
**Week 27**  
 (2<sup>nd</sup> week of  
 July)  
**Range 20-32**

**Median duration:**  
**9 weeks**  
**Range 7-17**



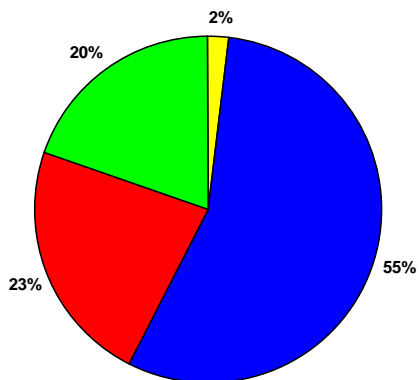
Epidemiological week

# Influenza strains detected: South Africa 1984 - 2008

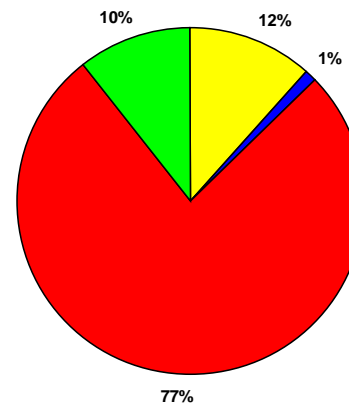


# Viral Watch South Africa 2005 - 2008: Influenza results by type & subtype

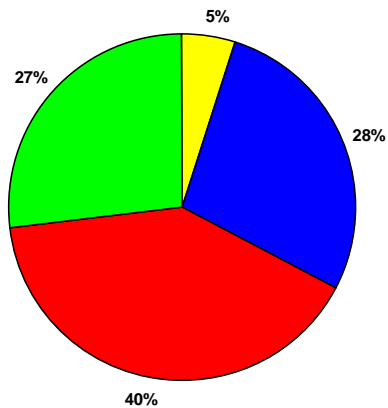
2005: N=580



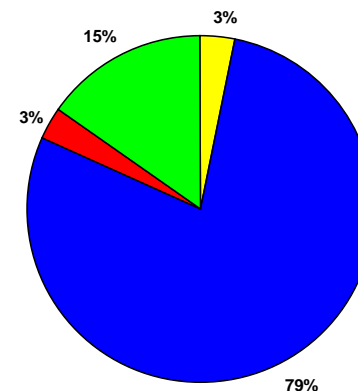
2006: N=554



2007: N=533



2008: N=441

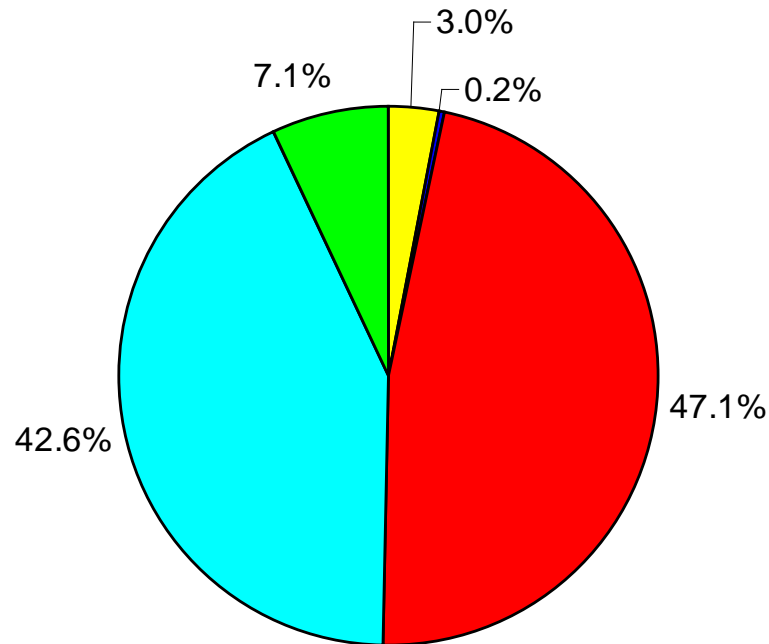


Influenza A untyped
  Influenza A H1N1
  Influenza A H3N2
  Influenza B



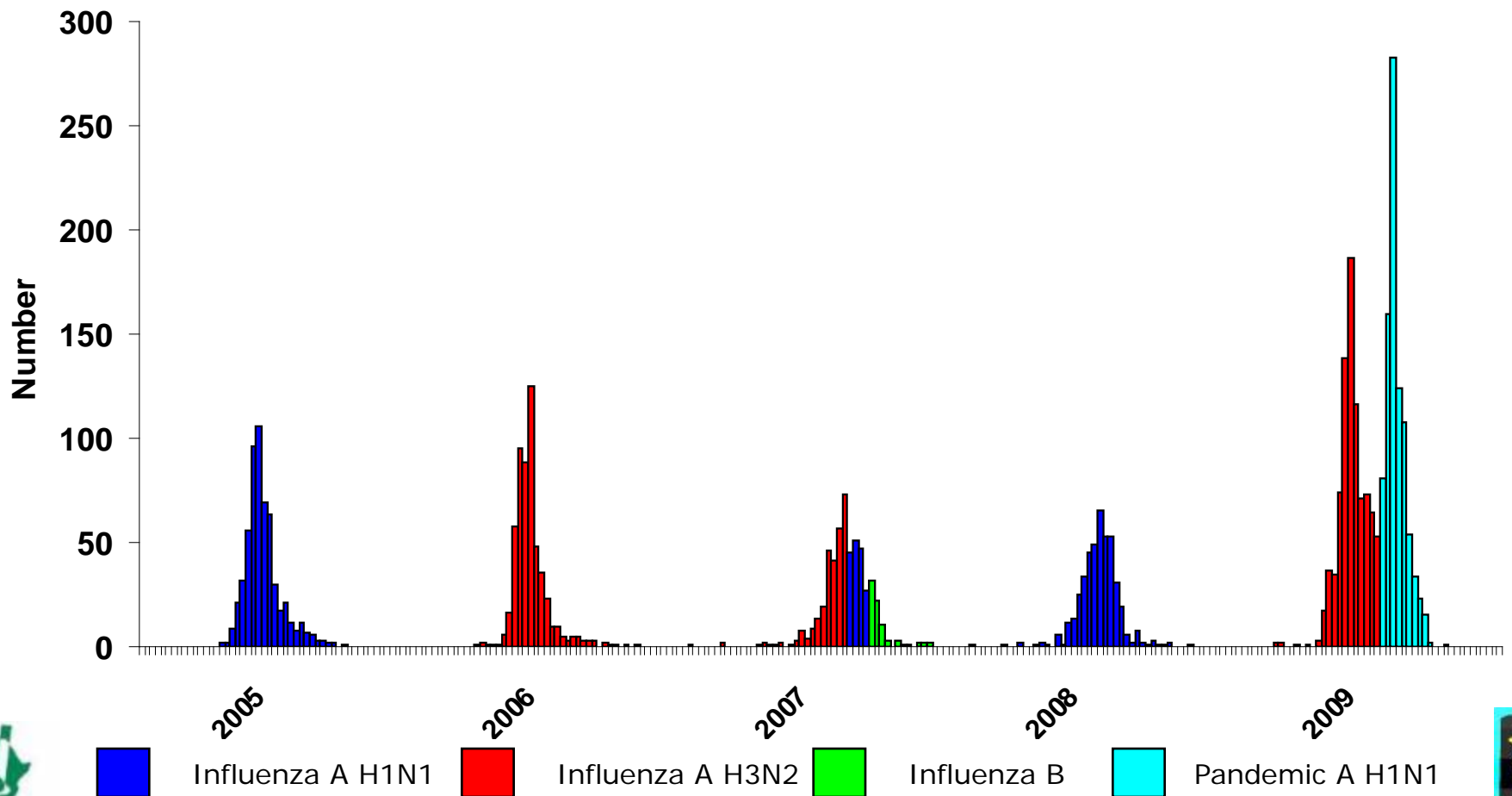
# Viral Watch South Africa 2009: Positive samples by types and subtypes

N=1779

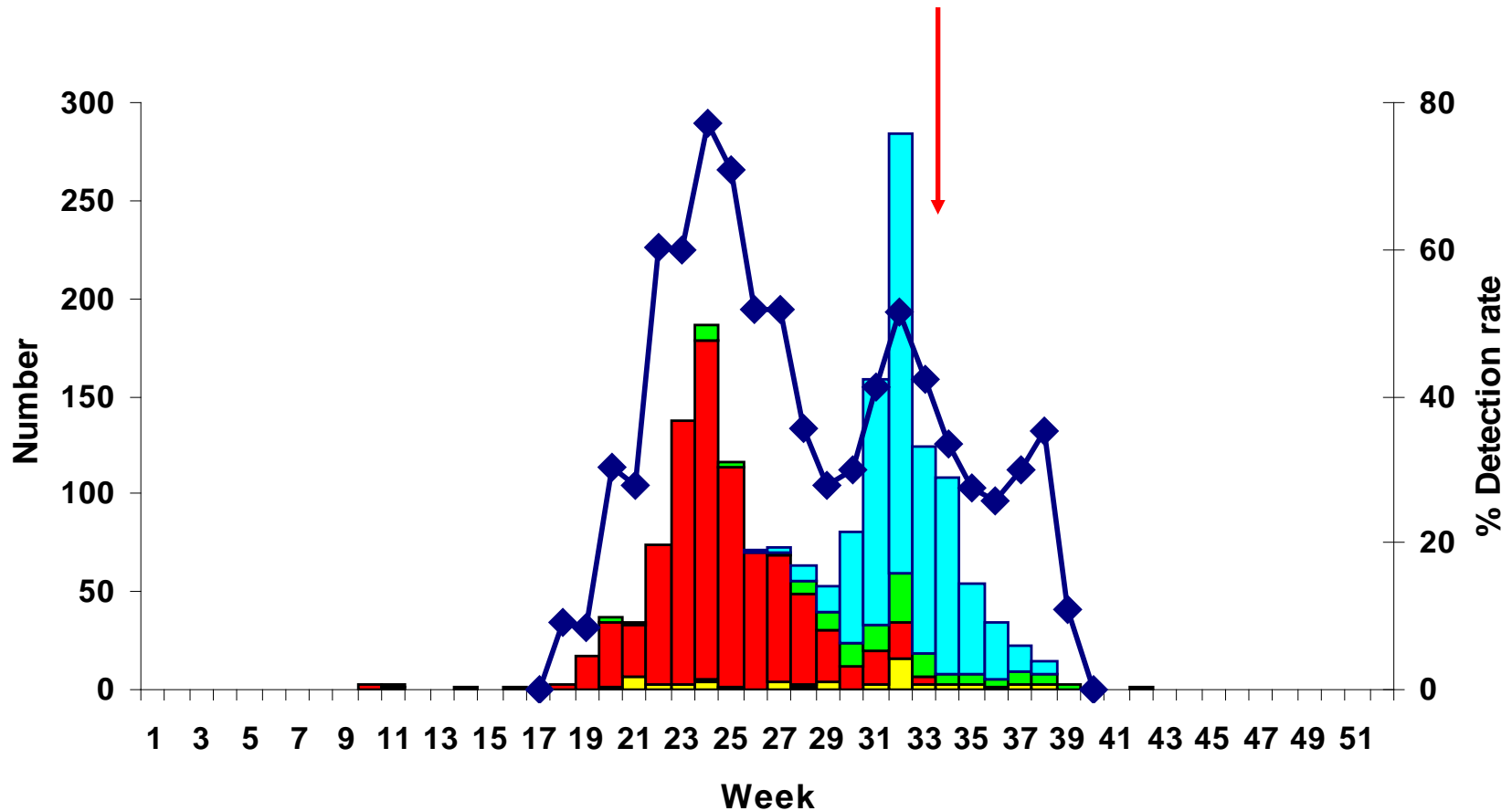


■ A awaiting typing ■ A H1N1 (seasonal) ■ A H3N2 ■ A H1N1 (pandemic) ■ B

# Viral Watch South Africa: Influenza detections per week 2005 - 2009

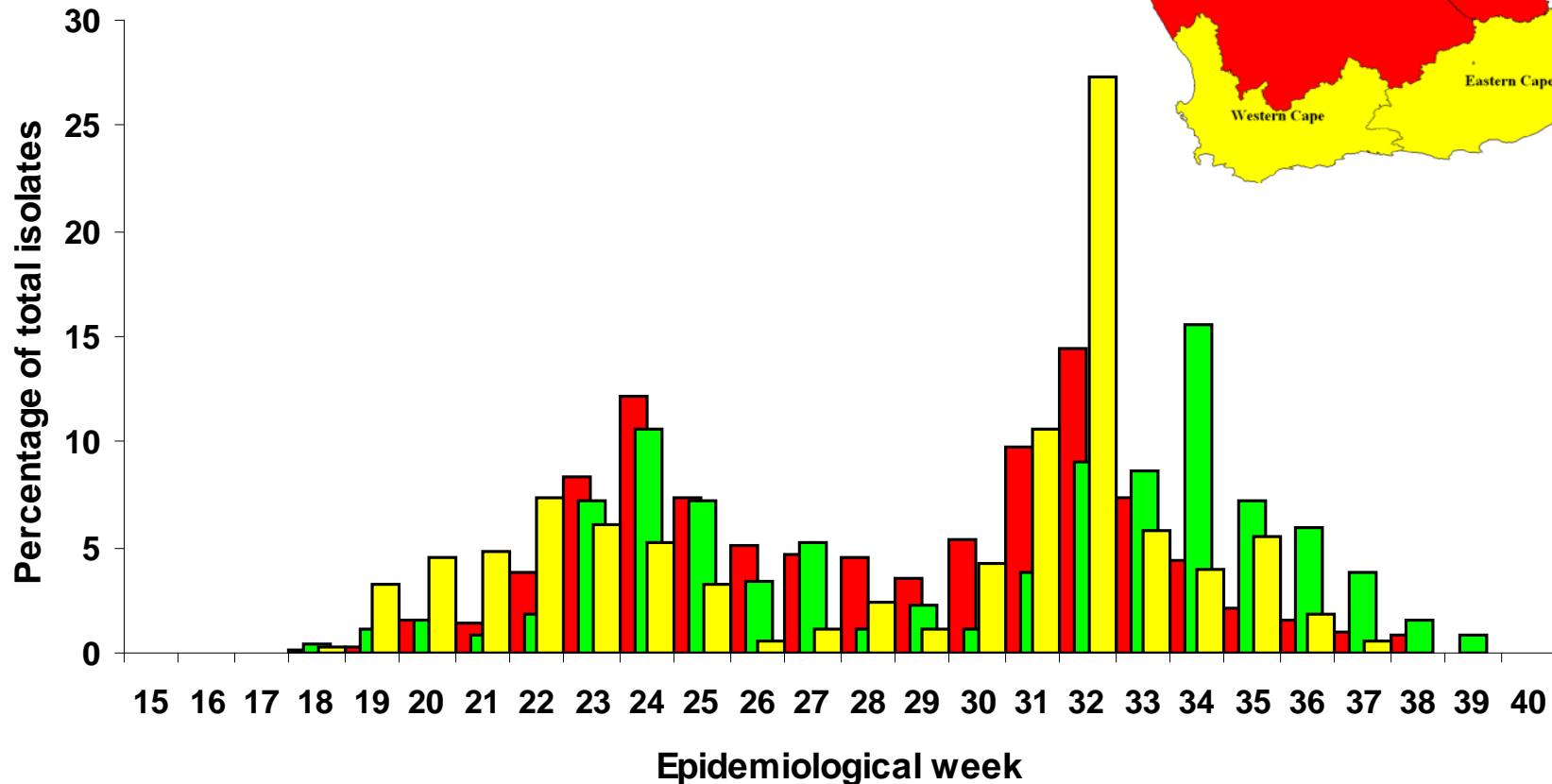
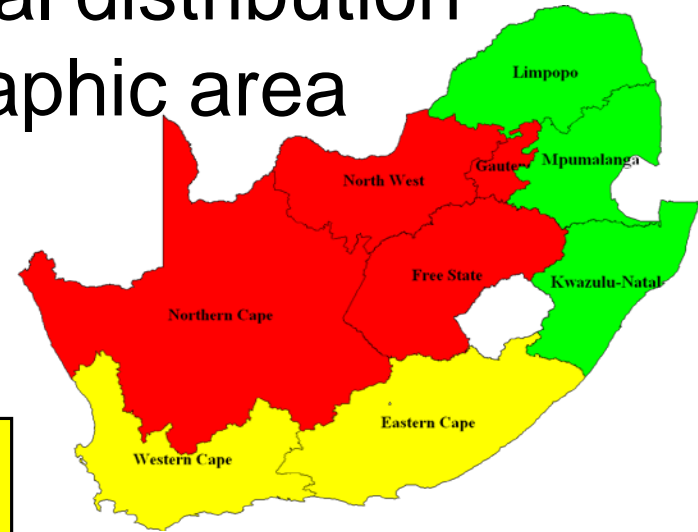


# Viral Watch South Africa 2009: Positive samples by type and subtype & detection rate



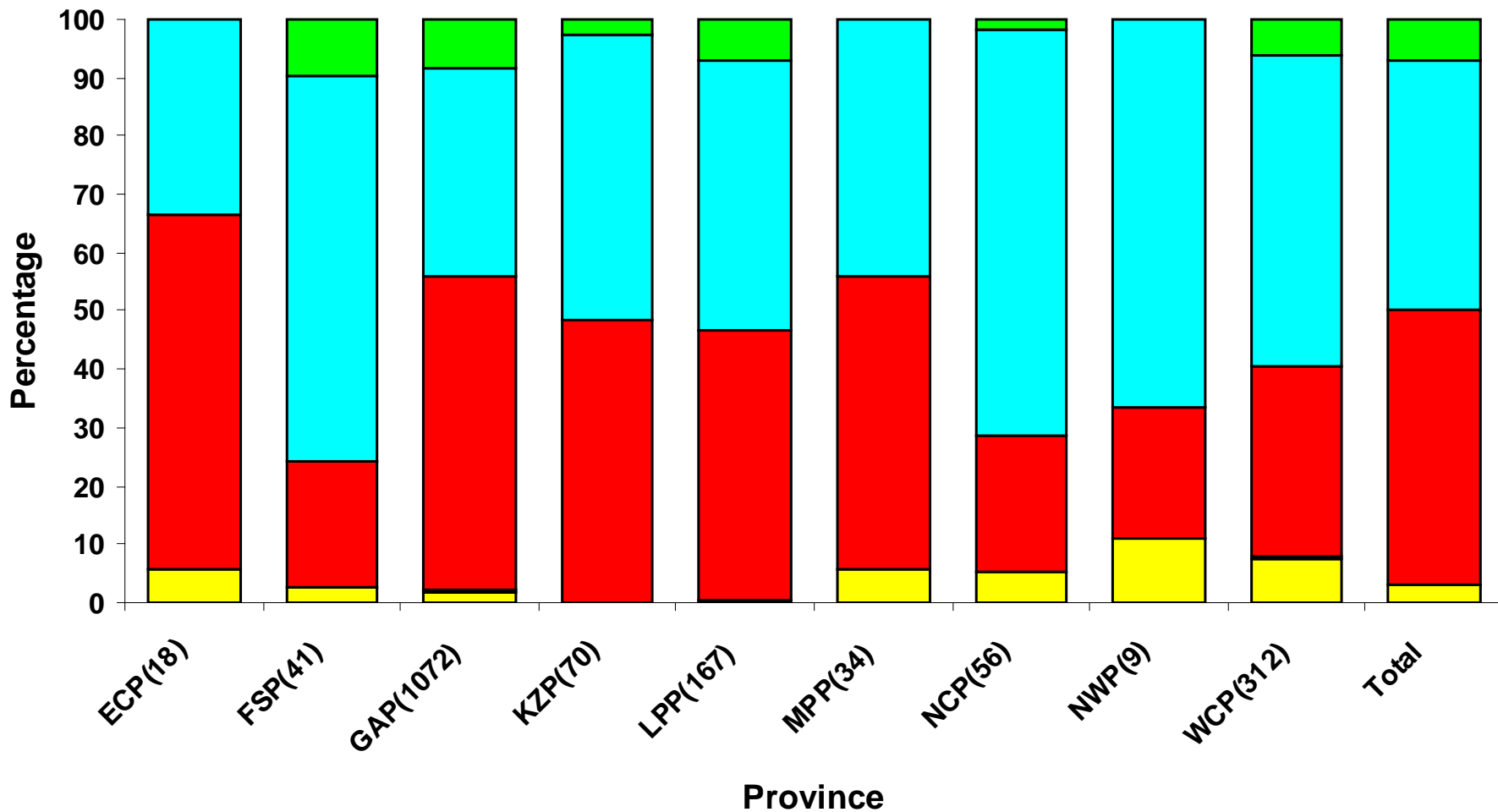
A awaiting typing
  Seasonal A (H1N1)
  A H3N2
  B
  Pandemic A(H1N1)
  Detection rate

# Viral Watch2009: Seasonal distribution of influenza per geographic area



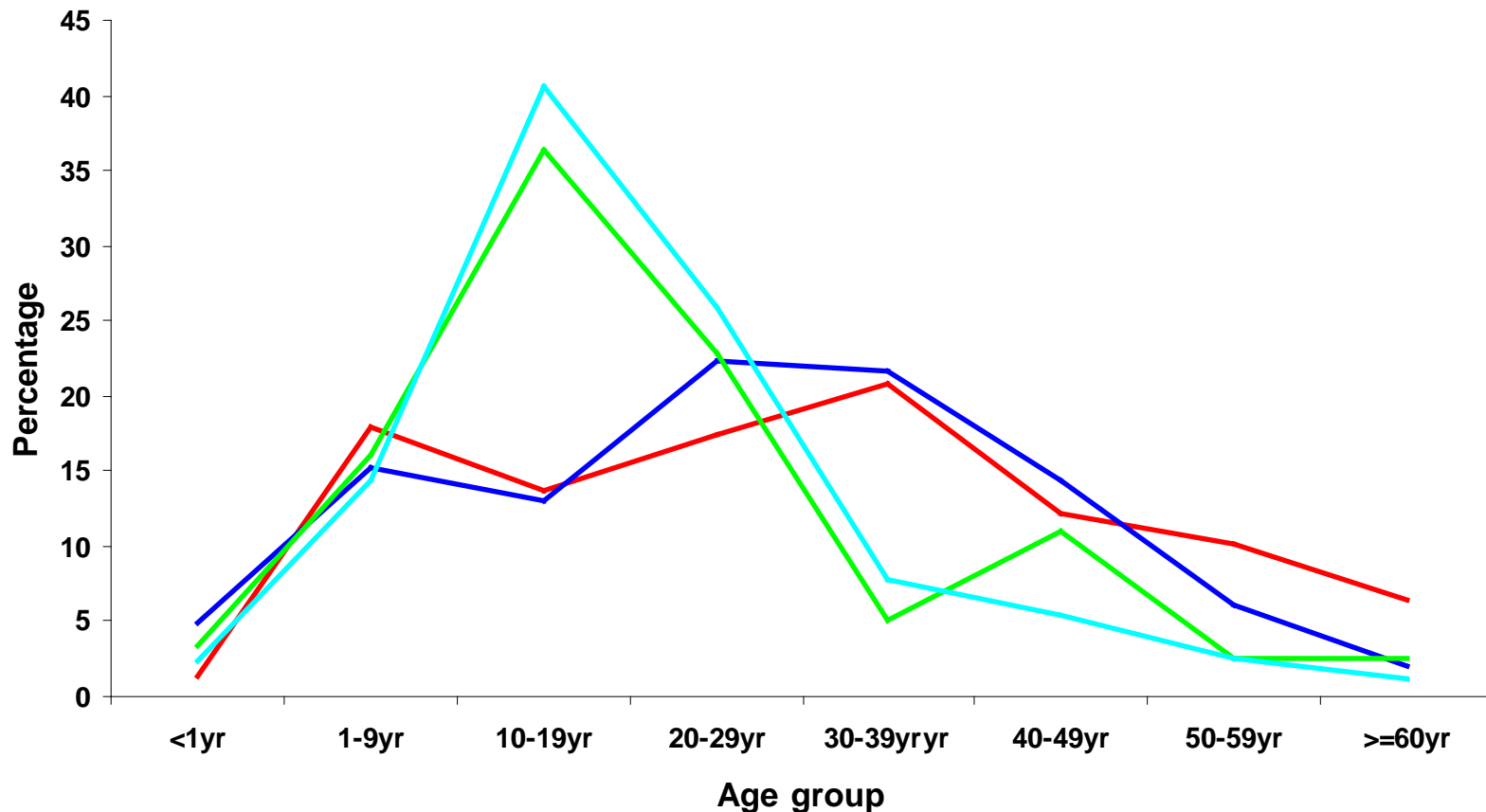
■ Central Plateau ■ North East subtropical ■ Southern Coastal

# Viral Watch South Africa 2009: Influenza results by subtype & province



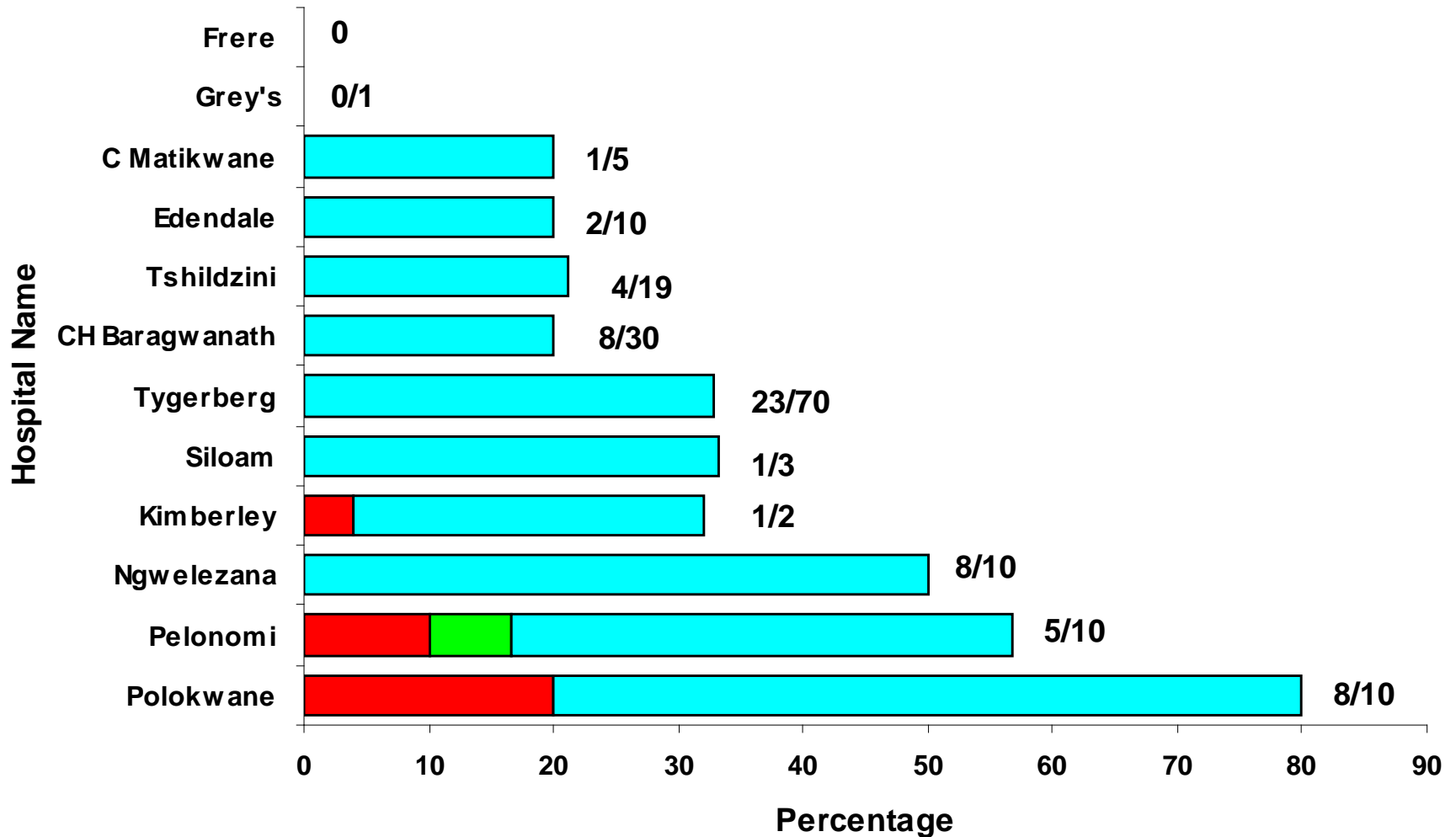
■ A Untyped 
 ■ Seasonal H1N1 
 ■ A H3N2 
 ■ Pandemic H1N1 
 ■ Influenza B

# Viral Watch 2009: Age distribution of patients with seasonal influenza and Pandemic H1N1



— H3N2: N=811 — Seasonal H1N1(2008): N=327 — B: N=118 — Pandemic H1N1: N=704

# Enhanced Viral Watch South Africa 2009: Influenza detections



■ A H3N2 ■ Influenza B ■ Pandemic H1N1

# Acknowledgements

- The Virus Isolation Unit
- The Cell Culture Unit
- The Respiratory Virus Unit
- The Epidemiology Division
- The influenza  
'watch-docs'

