



Pan American  
Health  
Organization



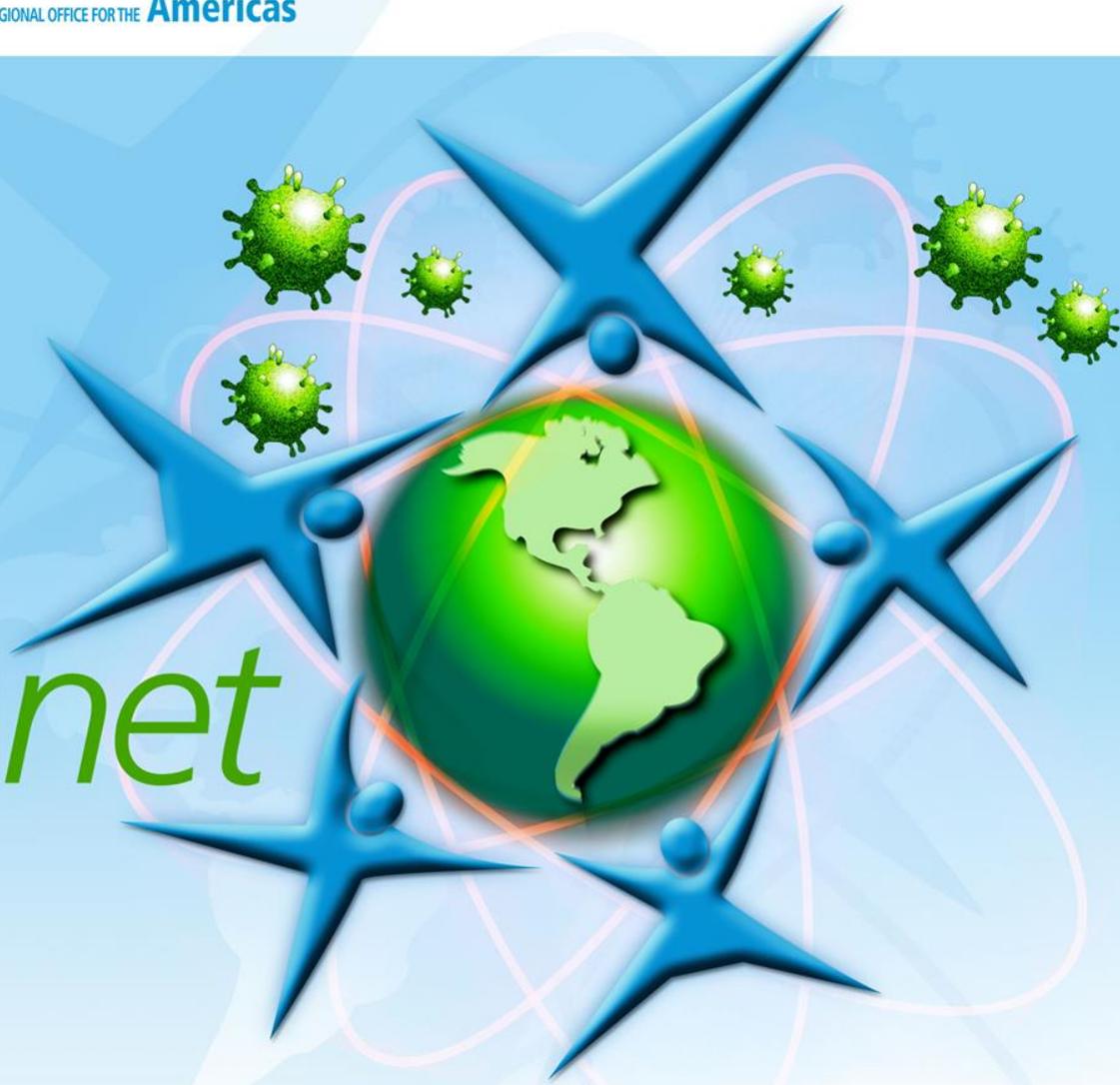
World Health  
Organization

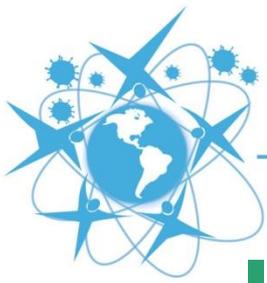
REGIONAL OFFICE FOR THE  
Americas

**SARInet**

Severe Acute Respiratory Infections network

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# Identifying unusual cases and information sharing

**PAHO Influenza Team  
Laboratory track**

**Punta Cana, 25 May 2017**



# Objectives

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**At the conclusion of this session, the participants will be able to:**

1. Describe the goals of surveillance for unusual respiratory events-Define an unusual respiratory event
2. Know steps involved in laboratory detection and case investigation
3. Follow the notification procedures



# Unusual Respiratory Events (URE)

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Definition?

What are “public health risks?”

When are they reportable?



# Unusual Respiratory Events (URE)

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Individual case

Cluster/Outbreak

Increase in disease trends

- Epidemiological
- Laboratory
- Pharmacological
- Other



# Goals of Surveillance

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Surveillance generates information for action

The overarching goal of... surveillance is to minimize the impact of the disease by providing useful information to public health authorities

Surveillance can:

- monitor and clarify the epidemiology of health problems, to allow priorities to be set and to inform public health policy and strategies;
- document the impact of an intervention, or track progress towards specified goals; and
- serve as an early warning system for impending public health emergencies



# Public Health Risk

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The International Health Regulations (IHR) in 2005 defined a public health risk as “a likelihood of an event that may affect adversely the health of human populations, with an emphasis on one which may spread internationally or may present a serious and direct danger.”

- Examples: SARS, pandemic influenza, MERS-CoV

IHR requires that all Member States have the ability to identify and respond to a public health risk

- Requires immediate notification of PAHO/WHO of the public health risk, even if not laboratory confirmed



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<http://www.who.int/inr/about/en/>



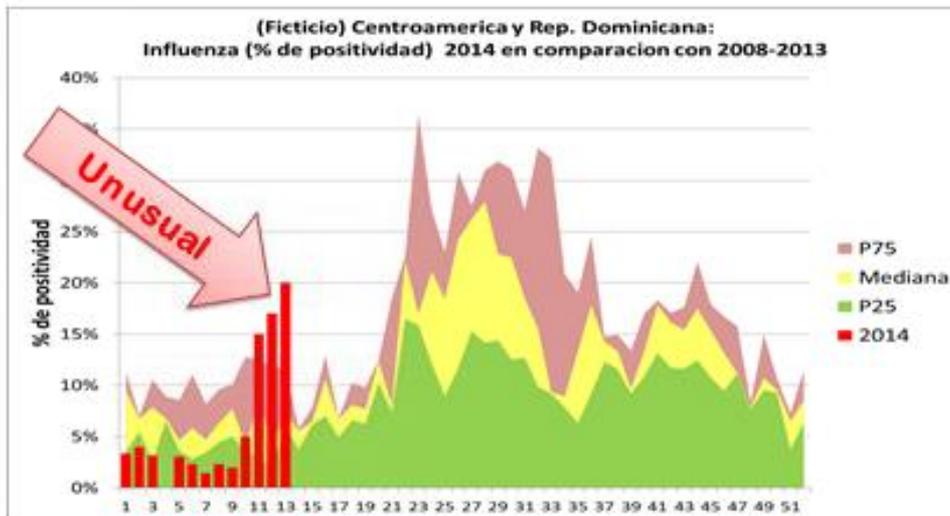
# Surveillance for Unusual Events

Sensitive

Timely

Universal (covering the whole country)

Combines Indicator Based Surveillance and Event Based Surveillance



## Gripe AH1N1 deja 38 muertos en Chile y Ecuador este año

Ambos países han mostrado 480 casos de contagios, aunque se consideran que los brotes de influenza están controlados. **En el Perú ha habido dos muertos**



Los casos en nuestros países vecinos causan preocupación. Foto referencial. (AP)



# Steps of an URE Investigation

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1. Establish the existence of an URE
2. Construct a working case definition
3. Find cases systematically and record information
4. Perform descriptive epidemiology
5. Develop hypotheses
6. Evaluate hypotheses epidemiologically
7. Verify the diagnosis
8. Implement control and prevention measures
9. Initiate or maintain surveillance
10. Communicate findings



# Case investigation

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## Confirmed or suspected:

1. A thorough epidemiologic investigation of history of exposure to animals, of travel, and of ill contacts should be conducted
2. The epidemiologic investigation should include early identification of unusual respiratory events that could signal person-to-person transmission of the novel virus
3. Clinical samples collected from the time and place that the case occurred should be tested and sent to a WHO CC



# Laboratory detection

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- U.S. CDC kits for the real-time PCR detection of influenza viruses can be used to identify novel influenza A viruses, including the currently-circulating North American swine-origin influenza A(H3N2) viruses
- If using the CDC-kits for the detection of influenza A (H3N2)v in human specimens, all curves of the real-time RT-PCR assay must present the standard typology with a logarithmic phase and a plateau crossing the threshold line within 38 cycles ( $Ct < 38$ ) for the markers RP, InfA, H3 and pdmInfA, and be negative pdmH1, in the case of a single virus infection



# Laboratory detection

<u>InfA</u>	H3	<u>pdmInfA</u>	pdmH1	RP	Results
+	+	+	-	+/-	Influenza A detected, Presumptive positive for influenza A(H3N2)v

➤ Other novel influenza A viruses can be presumptively detected as unsubtypeable when the InfA marker crosses the threshold line within 38 cycles ( $Ct < 38$ ) and there is no amplification of any of the subtypes or only one of the influenza A(H1N1)pdm09 subtype markers amplifies



# Laboratory detection

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- Any time an influenza virus with pandemic potential is suspected, including unsubtypeable or presumptive-positive variant viruses, a sample should be **sent immediately** to a WHO CC
- **The sample should be shipped as soon as an unusual real-time RT-PCR pattern is detected and should not be delayed even if additional testing in the country is planned**



# Notification

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- Human infection caused by a **confirmed** novel influenza virus with pandemic potential, *including a variant virus*, should be **reported immediately via two channels** —the WHO International Health Regulations (IHR) Regional Contact Point (via the IHR National Focal Point) and the Global Influenza Surveillance and Response System (GISRS)



# Notification (2)

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- Any human infection with a **suspected** novel influenza virus with pandemic potential, including a variant virus, should be **reported immediately to GISRS** and information about the suspect case should be shared with the IHR country National Focal Point, based upon the fact that this is an unusual event



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# Thank you!!

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