

# Sustaining RSV Surveillance beyond 2018

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# Story of RSV..

- Limited country-surveillance
  - Limited understanding of seasonality and changes in seasonality over time
  - Limited understanding of the molecular epidemiology of the virus
  - Limited ascertainment of the medical burden, especially among older children and adults
  - Limited understanding of the economic costs of ambulatory and hospital visits

# Story of RSV..

- Without RSV surveillance, we cannot...
  - Respond to clinicians about when best to administer palivizumab
  - Answer the media reporter who asks, “what is likely causing all these pediatric visits to the ED for breathing problems since you say it is not influenza”
  - Respond to hospital administrators who ask when they should prepare the ICUs for possible increasing numbers of pediatric hospitalizations
  - Make the case for use of the (eventual) vaccine

# Story of RSV in the PAHO Region



PAHO/HDM/CD/V/411/06  
Original: English

PAHO-CDC Generic Protocol for Influenza Surveillance (DRAFT)

15 December 2006

## PAHO-CDC Generic Protocol for Influenza Surveillance

PAHO Health Surveillance and Disease Management  
Area  
Communicable Disease Unit  
Viral Disease Team

PAHO Headquarters  
Washington, DC  
15 December 2006

### 5.5. Specific Objectives

- Determine, on a weekly basis and by age category, the proportion of outpatient clinic visits that are attributable to ILI, and the proportion of confirmed positive cases of influenza and other selected respiratory viruses among ILI case-patients.
- Determine, on a weekly basis and by age category, the proportion of hospitalizations attributable to SARI and the proportion of confirmed positive cases of influenza and other selected respiratory viruses among SARI case-patients.
- Provide epidemiologic and clinical characteristics of confirmed influenza cases among ambulatory patients with ILI and among hospitalized patients with SARI.
- Describe the frequency, temporal trends, and geographic distribution of disease caused by laboratory diagnosed influenza and other respiratory viruses (Respiratory Syncytial Virus, Adenovirus, and Parainfluenza) among specimens obtained from patients with ILI and SARI.
- Determine the proportion of SARI-associated deaths among all hospitalizations and among all hospitalized deaths.
- Isolate and antigenically characterize influenza viruses within the National Reference Laboratory to inform vaccine selection and to identify new influenza subtypes
- Rapidly identify strains that cannot be subtyped or that are of avian subtypes and immediately send isolates to the WHO Collaborating Center for further confirmation and testing.

# How is RSV Surveillance Done in the PAHO Region?

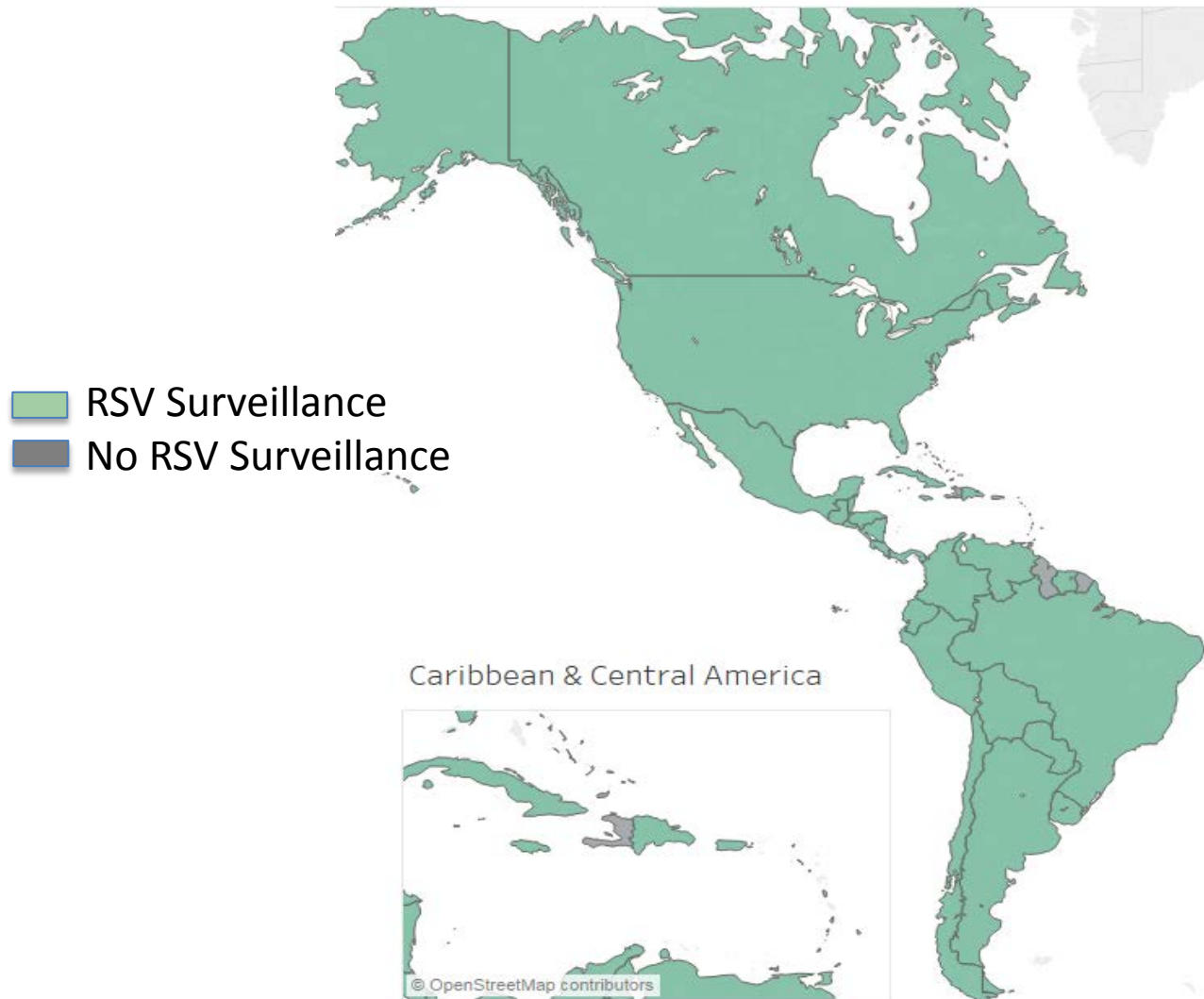
- Surveillance for influenza and RSV is on the same platform
  - ILI and SARI case definitions used to identify potential cases are the same
  - Laboratory diagnosis of RSV/influenza: IFA/ PCR or PCR/PCR
  - Reporting procedures are the same (weekly reporting to PAHO FluNet → WHO FluNet)
  - Year-round surveillance

# RSV Surveillance Objectives in the PAHO Region

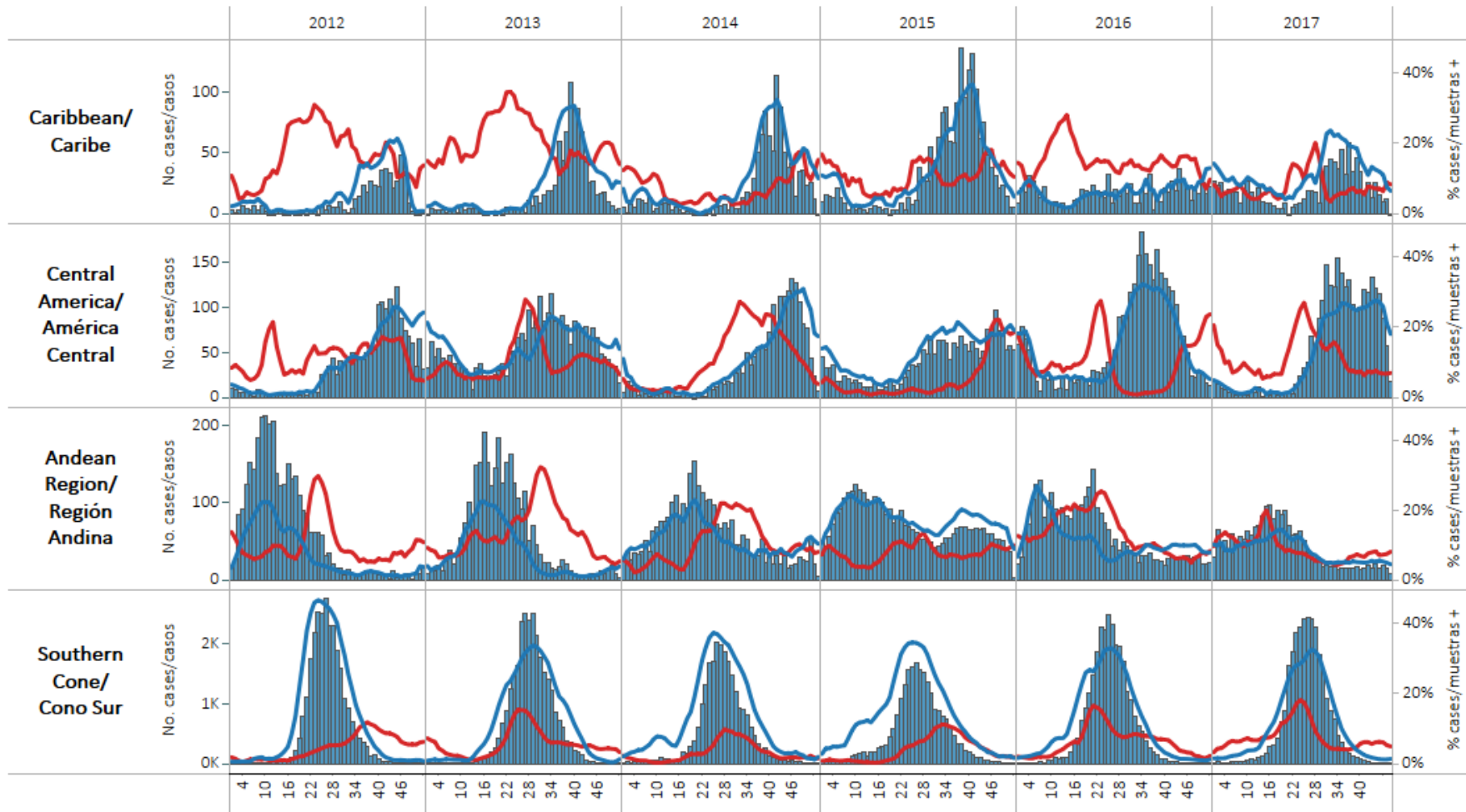
- Define seasonality
  - To guide public health action (e.g. health sector preparation, palivizumab administration)
  - To determine geographic patterns of circulation
- Monitor epidemiologic patterns among severe cases (i.e. SARI RSV cases)
- Where possible..
  - Monitor trends in subtypes and genotypes
  - Estimate disease burden

# RSV Surveillance in the Americas

Countries conducting RSV surveillance



# RSV Surveillance in the Americas

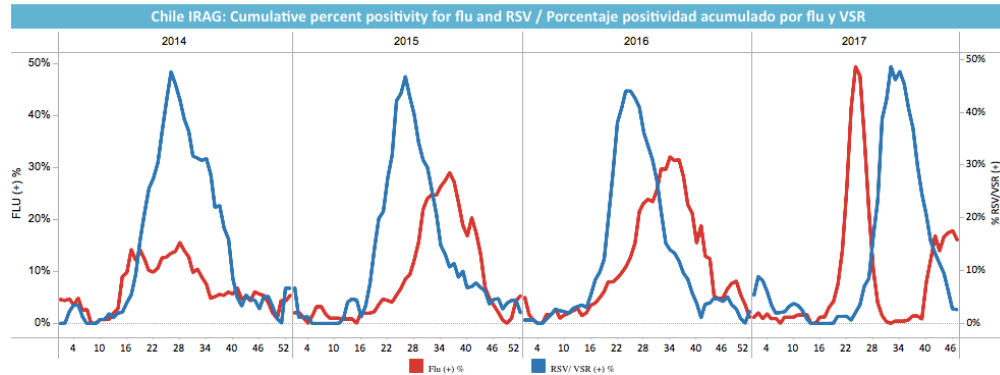
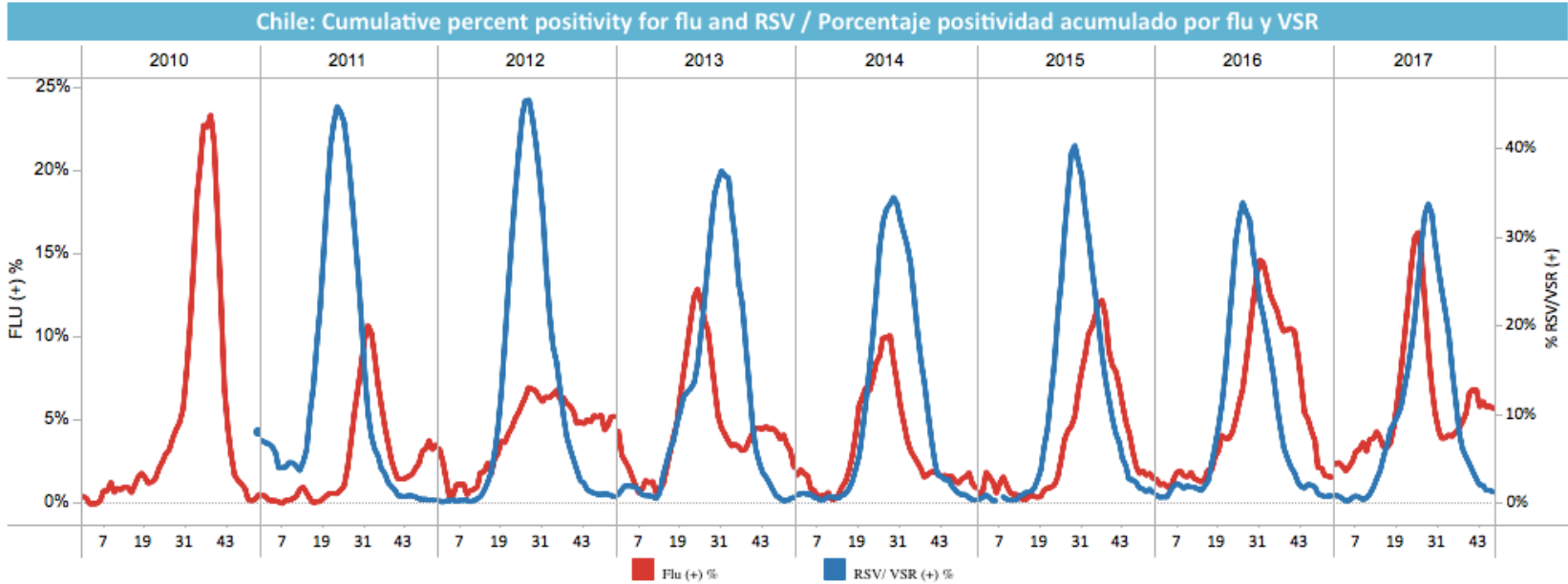


Please note that the flu and rsv (+) % line is computed with a 3 week average.

Tenga en cuenta que la línea de flu y vsr (+) % se calcula con un promedio de 3 semanas.

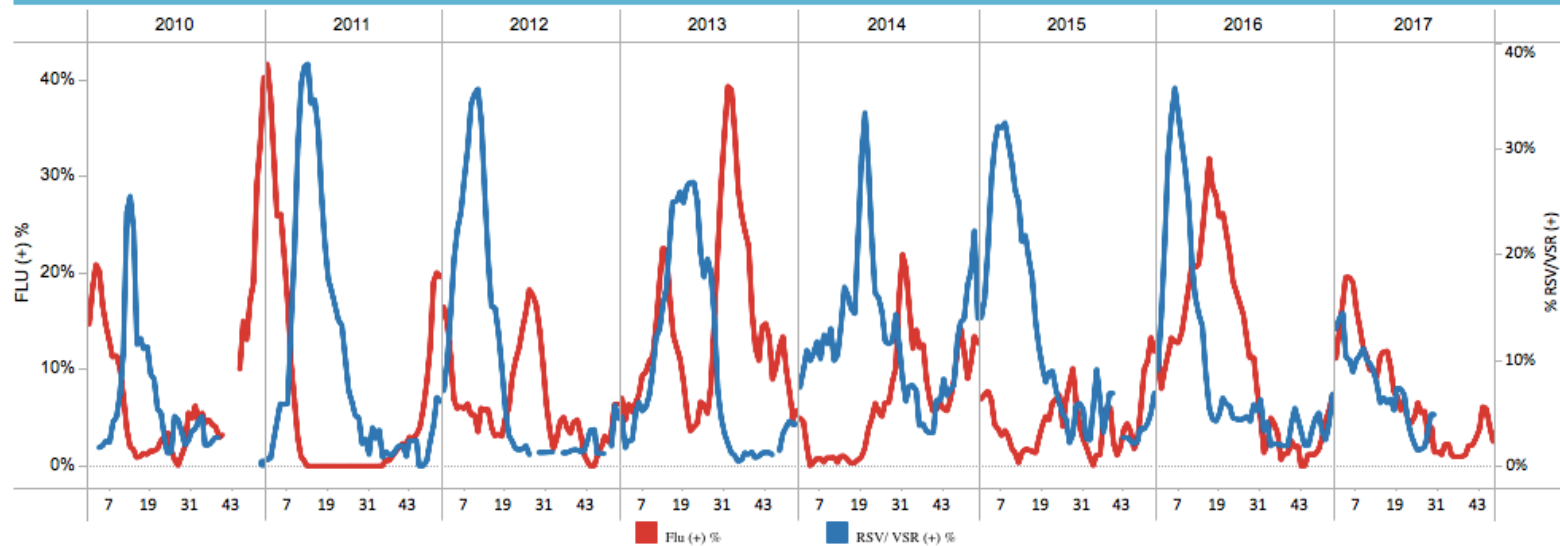


# RSV Surveillance in the Americas

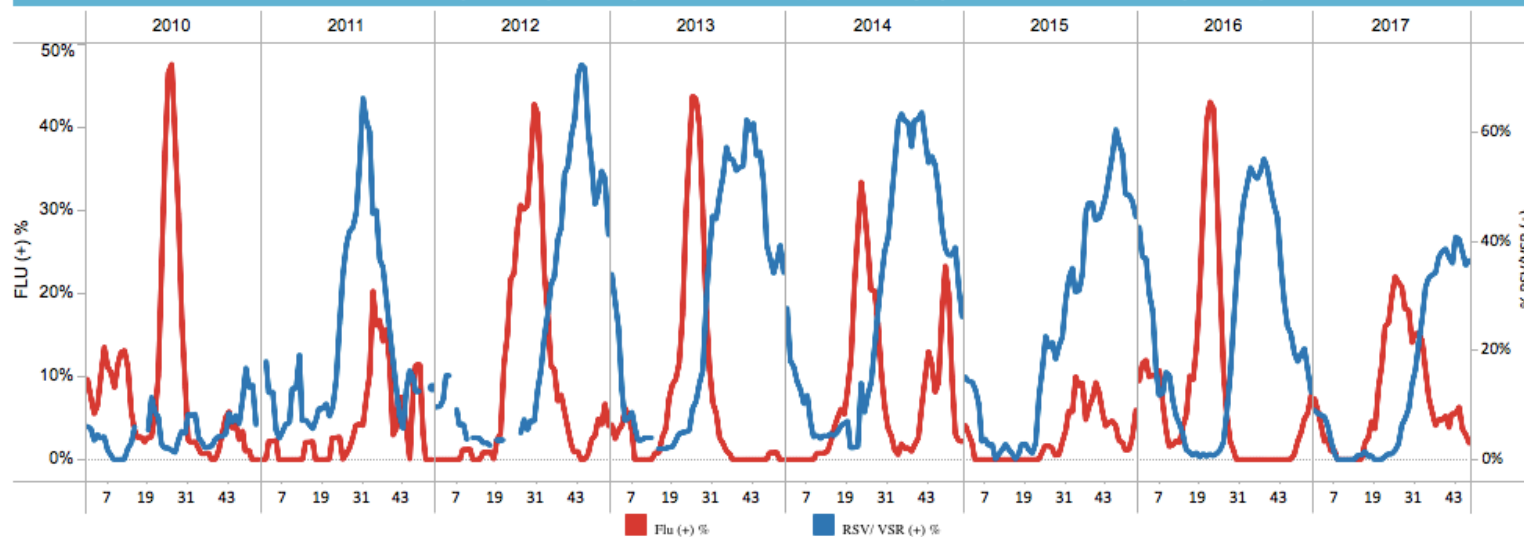


# RSV Surveillance in the Americas

Ecuador: Cumulative percent positivity for flu and RSV / Porcentaje positividad acumulado por flu y VSR



Panama: Cumulative percent positivity for flu and RSV / Porcentaje positividad acumulado por flu y VSR



# Pros and Cons of PAHO Region Approach

Surveillance system characteristic	CONS	PROS
Fever inclusion in SARI and ILI case definitions	might lead to under ascertainment of potential cases	easy for influenza sentinel sites to implement as no changes to established influenza surveillance protocols
IFA use	might lead to under detection of RSV especially in older children and adults	not as costly as PCR
Year-round surveillance	for temperate countries, surveillance costs during non-RSV seasons	detection of non-seasonal circulation in temperate countries & avoid stop-starting
Weekly data reporting	for temperate countries, surveillance costs during non-RSV seasons	descriptions of non-seasonal circulation in temperate countries & avoid stop-starting

# Is RSV Surveillance Sustainable if Using Influenza System?

## Sentinel sites

Pilot incremental cost if using influenza surveillance system	Post-pilot cost to the country if using influenza surveillance system (yes/no)
HR costs for identification of “expanded SARI cases (i.e. no fever, younger age groups)”	No if could use SARI and adjust for cases being missed but <b>Yes</b> if need to add peds surveillance or change case definition
HR costs for increased data abstraction from medical records	No because can reduce to minimum dataset
HR costs for database development	No because already developed
HR cost for data reporting	<b>Yes</b>
HR cost for year-round surveillance	<b>Yes</b> (likely more important for influenza)

# Is RSV Surveillance Sustainable if Using Influenza System?

## Laboratory

Pilot incremental cost if using influenza surveillance system	Post-pilot cost to the country if using influenza surveillance system (yes/no)
Proficiency panel testing costs (provided by CDC)	<b>Yes</b> or No if provided by CDC/WHO
Reagents, primers, probes costs (provided by CDC)	<b>Yes</b> or No if provided by CDC/WHO
Cost of transport of samples to NIC (CDC panel used here)	<b>Yes</b> (some countries no if samples are tested in local-level laboratory)
HR cost for molecular testing	<b>Yes</b>
HR cost for data reporting	<b>Yes</b>
HR cost for year-round surveillance	<b>Yes</b> (likely more important for influenza)

# Challenges to Sustainability in Post-pilot Period

- Costs of additional surveillance mainly if..
  - surveillance sites are added
  - big changes needed to case definition
  - CDC/WHO is unable to support primers/probes/PT panel
- Lack of recognition of RSV importance at higher political levels (i.e. stakeholders) and hence lack of political will to continue surveillance

# Solutions to Ensure Sustainability

- Collect high-quality data during pilot to answer all questions about feasibility and pros/cons of using influenza surveillance system as RSV platform
- Use existing surveillance systems when possible
- Use pilot data (richness of data) for advocacy with stakeholders now to ensure country investments for surveillance after pilot ends
- Collaborate with groups measuring burden to help fill-in knowledge gaps

# Thank you!/ Gracias!/Merci!/Obrigado!



Pan American Health Organization



World Health Organization

REGIONAL OFFICE FOR THE Americas

