Regional Update EW 38, 2012

Influenza

(October 2nd, 2012 - 17 h GMT; 12 h EST)

PAHO interactive influenza data: http://ais.paho.org/phip/viz/ed_flu.asp
Influenza Regional Reports: www.paho.org/influenzareports

The information presented in this update is based on data provided by Ministries of Health and National Influenza Centers of Member States to the Pan American Health Organization (PAHO) or from updates on the Member States' Ministry of Health web pages.

- In North America, influenza activity remains low. In the U.S., from July 12 through September 27, 2012, a total of 306 infections with influenza A (H3N2) variant (H3N2v) viruses have been reported in 10 states, with one death reported, without evidence of ongoing human-to-human transmission. Also one case with influenza A(H1N1) variant (H1N1v) and 3 cases with influenza A(H1N2) variant (H1N2v) were reported in the same country, since July 2012.
- In Central America and the Caribbean, respiratory disease activity remained low. Co-circulation of different respiratory viruses was reported. Among the influenza viruses, influenza B predominated (Costa Rica, Cuba, Jamaica, Nicaragua), with co-circulation of influenza A(H3N2) (Costa Rica, Nicaragua) and Influenza A(H1N1)pdm09 (Costa Rica and Cuba). Among other respiratory viruses, RSV was reported in several countries of the region.
- In South America, severe acute respiratory disease continued to decrease (Argentina, Bolivia, Brazil and Chile). Co-circulation of influenza viruses was observed: influenza A(H1N1)pdm09 (Argentina and Bolivia), influenza B (Argentina, Chile, Paraguay and Peru) and influenza A(H3N2) (Brazil). Among the other respiratory viruses RSV (Chile, and Paraguay) and Parainfluenza (Argentina and Chile) predominated.

Epidemiologic and virologic influenza update

North America

In Canada[1], in epidemiological weeks (EW) 37 and 38, 2012, influenza activity remained low. In EWs 37 and 38, the influenza-like illness (ILI) consultation rate was within the expected levels for this time of year. In EWs 37 and 38, among the total samples analyzed, the proportion of samples positive for influenza (0.3% and 0.4% respectively) was low. In EWs 37 and 38, of the total cases positive for influenza, all were positive for influenza A. Concerning other respiratory viruses, the percent positive for rhinovirus remained the highest (EW 38:23.7%) as compared to other respiratory viruses. Among the samples tested for resistance to oseltamivir (n=1,478), no resistant cases have been detected.

In the United States[2], in EW 38, nationally, the proportion of ILI consultations (1.0%) was below the baseline (2.4%). Nationally, the proportion of deaths attributed to pneumonia and influenza for EW 38 (6.2%) was below the epidemic threshold for this time of year (6.5%). In EW 38, no pediatric deaths associated with influenza were reported. Among all samples tested during EW 37 (n=2,160), the percentage of samples positive for influenza (2.41%) decreased slightly as compared to the previous week. Nationally, among the positive samples, 63.5% were influenza B. From July 12 through September 27, 2012, a total of 306 infections with influenza A (H3N2) variant (H3N2v) viruses have been reported in ten states (Hawaii [1], Illinois [4], Indiana [138], Maryland [12], Michigan [6], Minnesota[4], Ohio [107], Pennsylvania [11], West Virginia [3], and Wisconsin [20]). So far during the current outbreaks, 16 confirmed cases have been hospitalized as a result of their illness; one death has occurred. The vast majority of cases have been associated with swine exposure though likely instances of human-to-human transmission have been identified. At this time no ongoing human-to-human transmission has been identified. Public health and agriculture officials are investigating the extent of disease among humans and swine, and additional cases are likely to be identified as the investigation continues. One infection with influenza A (H1N1) variant (H1N1v) virus has been detected and three infections with influenza A(H1N2) variant (H1N2v) virus have been detected since July 2012.

Update:

Influenza A (H3N2) Variant Virus-Related Hospitalizations — Ohio, 2012

Caribbean

CAREC, in EW 38, received epidemiological information from 7 countries: Barbados, Belize, Dominica, Jamaica, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago. The proportion of severe acute respiratory infection (SARI) hospitalizations was 1.8% which was slightly higher than what was seen in the prior week (1.0%). The highest rate of SARI was among children 6 months to 4 years (4.8%). No SARI-related deaths were reported in EW 37. In the last 4 weeks (EW 35 to 38) the following viruses have been laboratory confirmed in CAREC member countries: influenza B (Barbados & Jamaica), unsubtyped influenza A (Barbados) and respiratory syncytial virus (BarbadosTo date in 2012, the overall percentage positivity for samples tested is 35.6%, with a 18.6% positivity for influenza.

In Cuba, according to laboratory data from EW 38, among the samples analysed (n=83), the percent positivity for respiratory viruses was 65,1% and the percent positivity for influenza was 12% among all samples analysed. RSV, influenza B, influenza A(H1N1)pdm09, and other respiratory viruses were detected.

In Jamaica for EW 38, the proportion of consultations for acute respiratory infection (ARI) was 6.1% (1.5% higher than the previous EW). The proportion of admissions due to SARI was 1.5% (1.2% increase when compared to the EW before). There were no SARI deaths reported for EW 38. According to laboratory data from EW 38, the percent positivity for respiratory viruses was 33.3% among the samples analysed (n=9) with the same percent positivity for influenza because only influenza B was detected among positive samples.

In the Dominican Republic, according to laboratory data from EW 39, among the samples analyzed (n=22), the percent positivity for respiratory viruses was 31,8% with no influenza viruses detected among all samples analysed. RSV and adenovirus were detected.

Central America

In Costa Rica, in EW 38, according to laboratory data, among all samples tested (n=111), the percentage of positive samples for respiratory viruses increased to 45.1%. The predominant virus in the last EWs were RSV, adenovirus and influenza B,followed by influenza A(H3N2) and influenza A(H1N1)pdm09 to a lesser extent.

In Guatemala, according to laboratory data, in EW 37, among all samples tested (n=8), three samples were positive for RSV. No influenza viruses were detected this EW.

In Nicaragua, in EW 38, according to laboratory data, among all samples tested (n=68), the percentage of positive samples for respiratory viruses was 31%, which was similar to the previous EW. Influenza B continued to be the predominant virus reported, followed by influenza A(H3N2) and RSV.

In Panama, in EW 38, according to laboratory data, among all samples tested (n=37), the percentage of positive samples for respiratory viruses was 78%, with RSV predominating. This week, no influenza viruses were detected.

South America – Andean

In Santa Cruz, Bolivia. According to data from CENETROP in EW 38, only one positive sample (influenza A H1N1pdm2009) was reported among the 17 tested samples. In the Department of Santa Cruz, the proportion of SARI hospitalizations (6%) showed a decrease as compared with the previous EW. No SARI-deaths were reported in this EW. In the Department of La Paz, viral circulation in EW 38, showed a percent positivity of 25% among the 20 tested samples, with a predominance of parainfluenza virus (3/5). The proportion of SARI–hospitalizations reached 2.7%, which was lower as compared to the previous EW. No SARI-deaths were reported in this EW.

In Colombia, at the national level, in EW 38 the proportion of consultations and SARI hospitalizations remained unchanged with respect to last 6 EWs. According to laboratory data from the national laboratory (INS) which includes data from the Departments of Antioquia, Bogota and Nariño, in EW 38, the percent positivity for respiratory viruses was low (7.1%) among the tested samples (n=8)

In Ecuador, according to laboratory data at the national level and in EW 38, the positivity remained low (4%) among the 25 tested samples for respiratory viruses with only 1 tested sample being reported as positive for

parainfluenza. In the same EW, according to the SARI surveillance system from sentinel units, all the 14 samples tested for respiratory viruses were negative. The proportion of hospitalizations (2%) in EW 38 showed no significant changes with respect to previous EWs and no SARI-deaths were reported in this EW.

In Peru, at the national level and in EW 37, the cumulative number of pneumonias in children under 5 years reached a rate of 83.2/10,000 population. At the subnational level, reports of this event in the same EW in Loreto and San Martin reached alarm zone in endemic channel for these departments. According to laboratory data, in EW 38, the percentage of positive samples for respiratory viruses among samples tested (n=60) was 11,7%, which was lower than previous EW, with a predominance of influenza B virus (3/7).

South America –Southern Cone

In Argentina[3], at the national level, the endemic channel showed that the estimated number of cases of pneumonias for EW 38 continued to decrease and remained in the safety zone. The SARI surveillance estimation of cases for the same EW remained between reported values for 2010 and 2011. According to laboratory data in EW 38, percentage of positive samples for respiratory viruses was lower than the previous EW, reaching 17.9% among the analyzed samples (n=429) with a predominance of parainfluenza (20%), influenza A(H1N1)pdm09(16%) and influenza B (16%) among the positive samples.

In Brasil[4], in EW 38, the number of SARI cases continued to decrease since peaking in EW 26. 21% of all SARI cases for the present year (n=18105) were confirmed for influenza virus, of which 67% were subtyped as influenza A(H1N1)pdm09. The SARI-mortality rate in EW 37 was 0.82/100,000 pop. (0.21/100000 pop. of mortality rate for influenza virus). In 2012, (EW 01- EW 38) 1559 SARI-deaths have been reported (26% associated with influenza, of which 82% were influenza A(H1N1)pdm09). For tEW 38, the percentage of positive samples for influenza viruses was of 5.6% among the tested samples (n=143), with a predominance of influenza A(H3) virus (8/8).

En Chile, in EW 38, at the national level, ILI activity reached a rate of 8/100,000 population, with no change as compared to the previous EW and remained in safety zone of the endemic cannel. According to laboratory data, at the national level and in EW 38, the percentage positivity for respiratory viruses was 18.3% among the tested samples (n=627), which was lower compared with previous EW, and RSV (35%), influenza B (22%), and parainfluenza (21%) continued to predominate. According to the SARI surveillance system, in the current EW, 21 samples were tested and a percent of positive samples for respiratory viruses of 38% was observed with RSV, parainfluenza, influenza B and unsubtyped influenza A proportionally distributed among the positive samples. From the beginning of the year through EW 38, a predominance of RSV was observed among the SARI-tested samples, while predominance of influenza A(H3N2) was observed among SARI-deaths tested samples.

In Paraguay[5], at the national level, in EW 38, the national ILI rate (121/100,000 population) and the proportion of ILI consultations (7%) in sentinel units showed no significant changes as compared to the previous EW. According to laboratory data in EW 38 at the national level, 29 samples were tested for respiratory viruses with a percent of positive samples of 17.2% with a predominance of influenza B virus (4/5) among the positive samples. In the SARI surveillance system, the proportion of hospitalizations (5.9%) and deaths (12.8%) showed no significant changes as compared to the previous EW, while the ICU admission proportion (34.4%) showed a gradual increase since EW 36. Since the beginning of the year, a total of 221 SARI-deaths were reported of which 18 were due to influenza A(H1N1)pdm09, 10 due to RSV and 3 due to other viruses For EW 38, 10 samples were analyzed from SARI cases, with one positive sample for RSV and one for influenza B virus.

In Uruguay[6], at the national level, in EW 39, in the SARI surveillance system, the proportion of hospitalizations and ICU admissions did not show significant changes with respect to prior EW. No SARI-deaths were reported in the same EW. According to laboratory data, at the national level in EW 38, no positive results were reported for respiratory viruses among tested samples (n=6).

Identification of the virus of influenza A(H3N2)v

The virus of **influenza A(H3N2)v** is the result of the incorporation of gene M of virus A(H1N1) pdm09 in the swine-origin triple reassortant influenza A(H3N2) virus. For the detection of the circulation of this virus it is necessary to test the influenza samples according to the following algorithm:

- Use the kit of the CDC for the typing of influenza viruses A/B (CDC Influenza Virus rRT-PCR TO/B typing panel (RUO) CDC # FluRUO-01).

- Evaluate all the positive samples for influenza A with the kits of the CDC for subtyping of influenza A, using the primers/probes with its controls for H1 and H3 seasonal, InfApdm and H1pdm for the virus of the pandemic of 2009, respectively (CDC Influenza Virus rRT-PCR A subtyping panel (RUO) CDC # FluRUO-04 & Pooled Influenza Positive Control (RUO) CDC# VA2716).

Interpretation of results:

CASE	Inf A	Inf A pdm	H3	H1	H1pdm	B	RESULT
1	+	-	+	_	_	-	Influenza A(H3N2)
2	+	+	+	-	-	-	Influenza A(H3N2)v[1]
3	+	+	-	-	+	-	Influenza A (H1N1)pdm09
4	+	_	-	+	_	-	Influenza A(H1N1)
5	+	-	-	-	-	-	No subtype available[1]

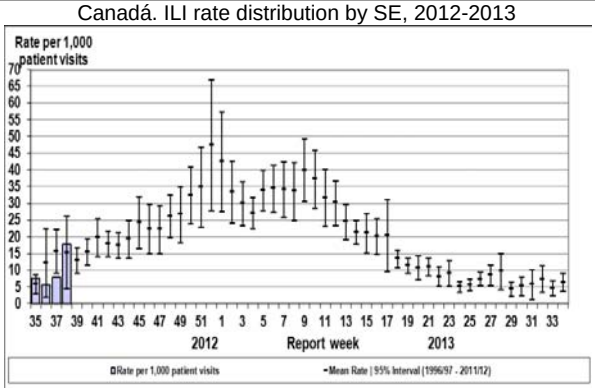
[1] Send sample to CDC

Graphs

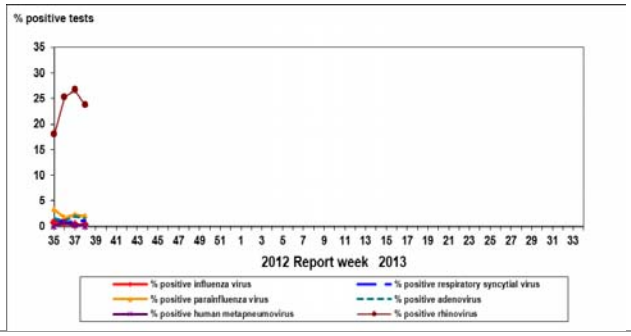
North America

Canadá

Canadá. ILI rate distribution by SE, 2012-2013

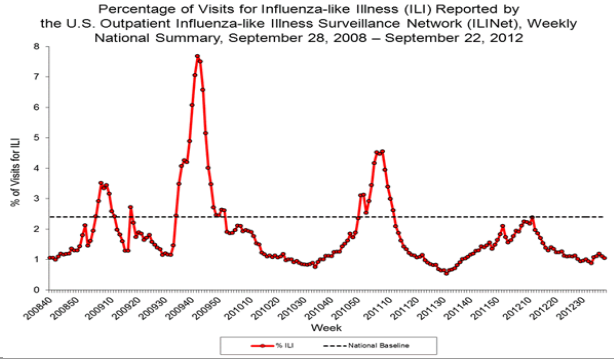


Canadá. Positive samples for respiratory viruses by SE, 2011-12 2012-2013

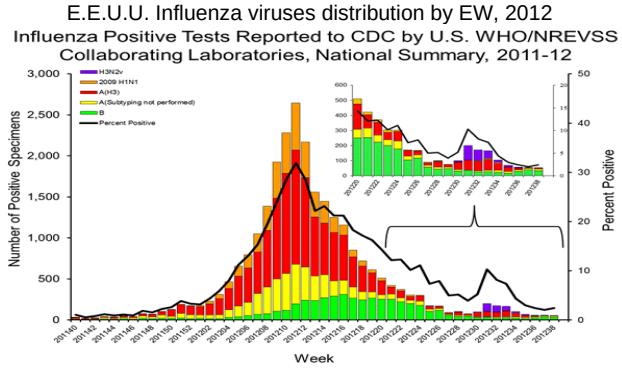


United States

E.E.U.U. ILI Distribution (%) by EW, 2012

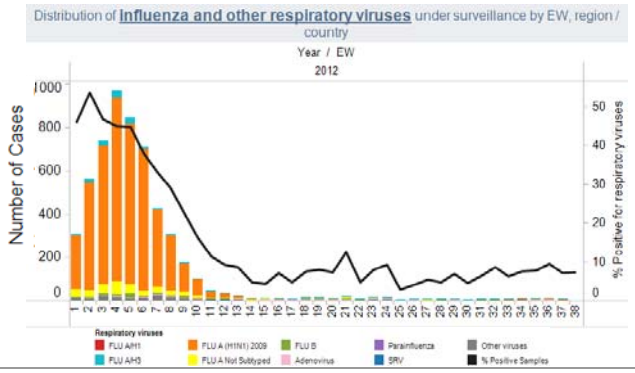


E.E.U.U. Influenza viruses distribution by EW, 2012



Mexico

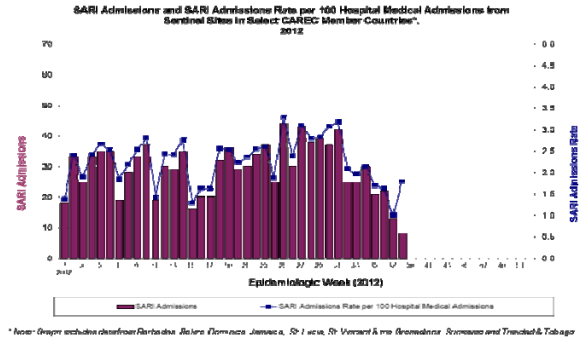
Mexico. Respiratory viruses distribution by SE, 2012



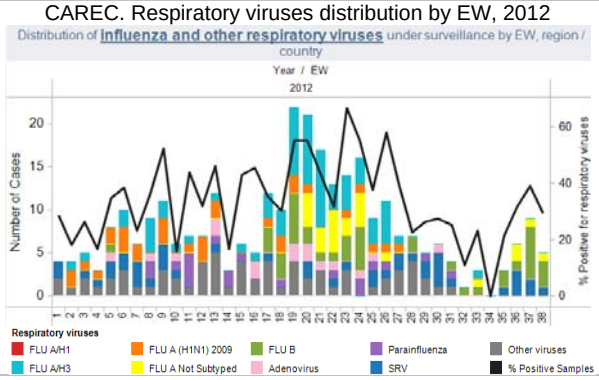
Caribbean

CAREC

CAREC. % SARI Hospitalizations by EW, 2012

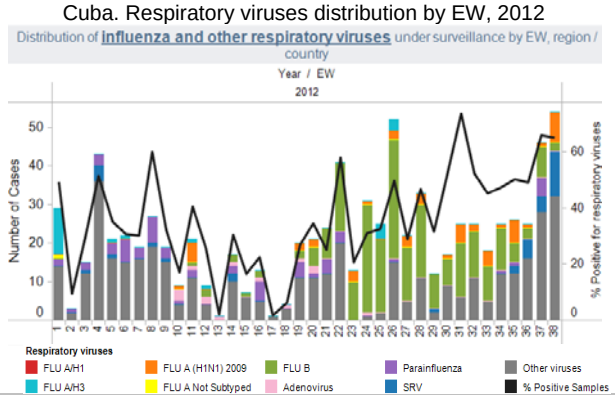


CAREC. Respiratory viruses distribution by EW, 2012



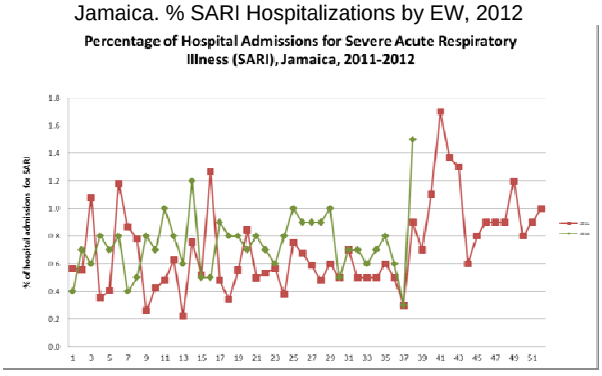
Cuba

Cuba. Respiratory viruses distribution by EW, 2012

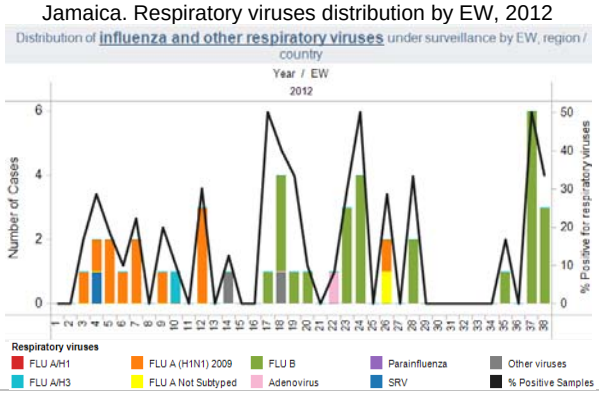


Jamaica

Jamaica. % SARI Hospitalizations by EW, 2012

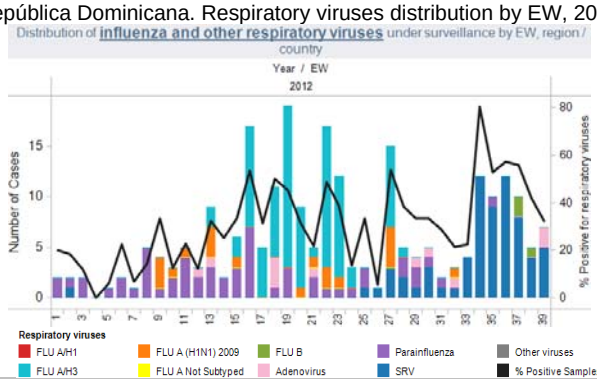


Jamaica. Respiratory viruses distribution by EW, 2012



República Dominicana

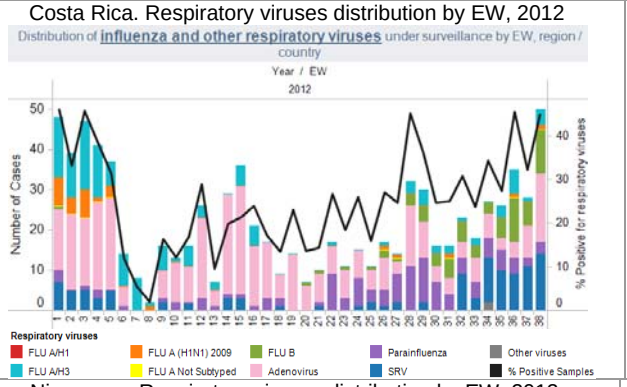
República Dominicana. Respiratory viruses distribution by EW, 2012



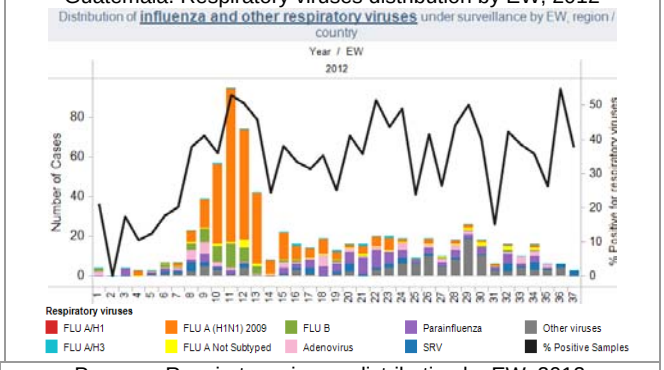
Central America

Costa Rica, Guatemala, Nicaragua and Panama

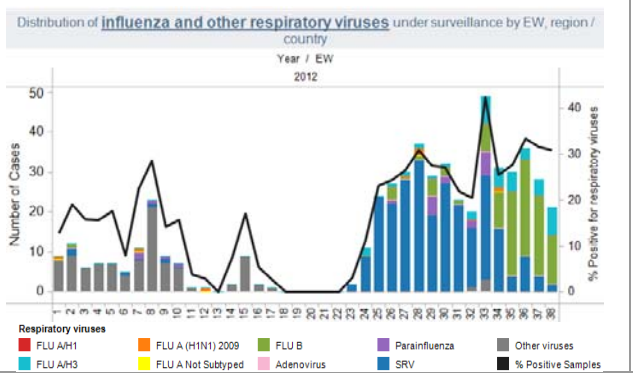
Costa Rica. Respiratory viruses distribution by EW, 2012



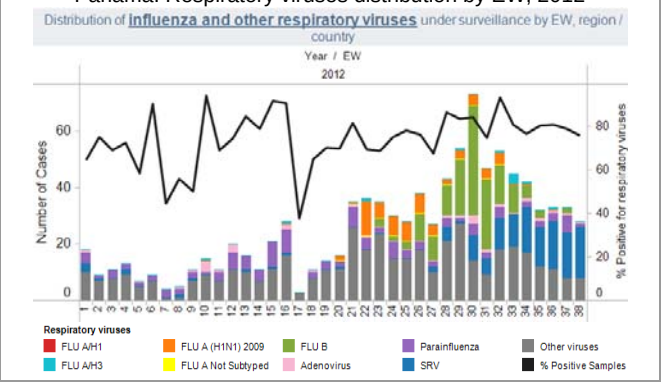
Guatemala. Respiratory viruses distribution by EW, 2012



Nicaragua. Respiratory viruses distribution by EW, 2012



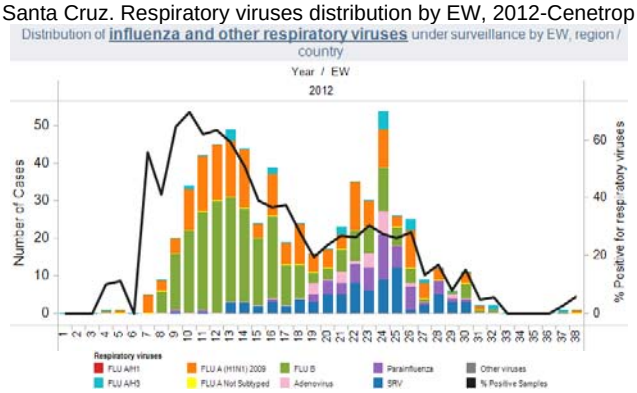
Panama. Respiratory viruses distribution by EW, 2012



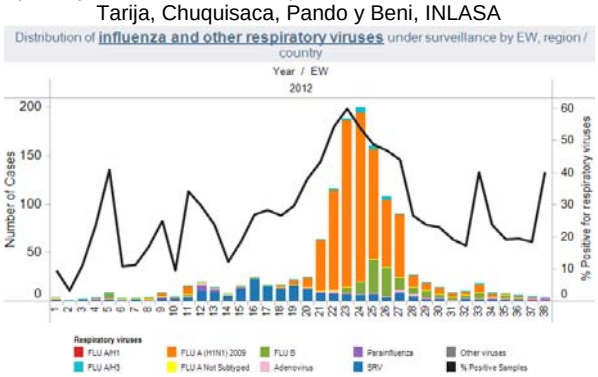
South America - Andean

Bolivia

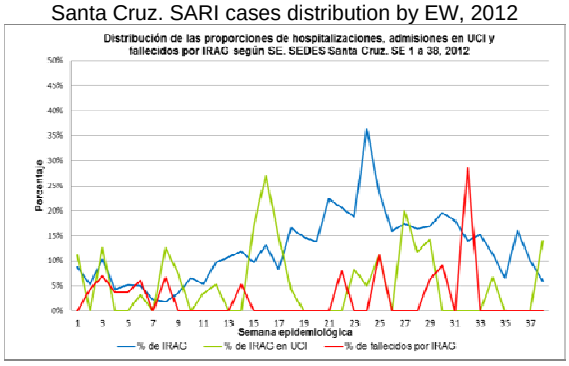
Santa Cruz. Respiratory viruses distribution by EW, 2012-Cenetrop



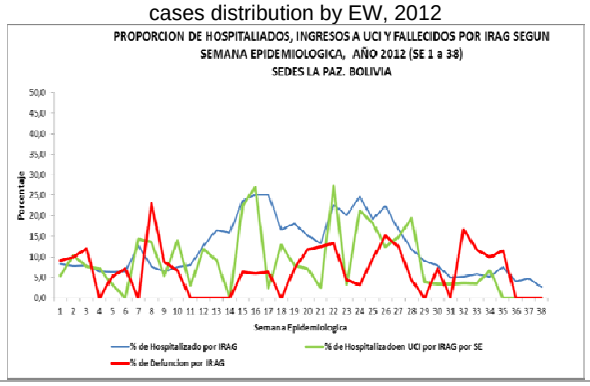
Respiratory viruses distribution by EW, 2012-La Paz, Oruro, Potosí, Tarija, Chuquisaca, Pando y Beni, INLASA



Santa Cruz. SARI cases distribution by EW, 2012

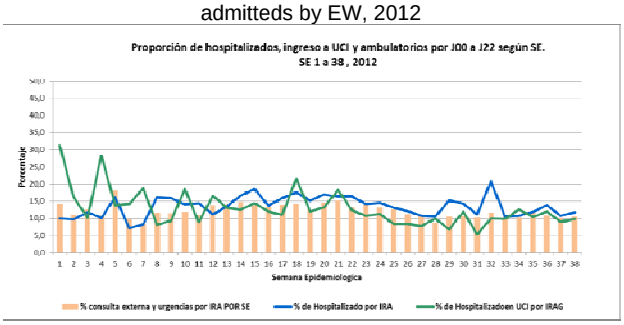


La Paz, Oruro, Potosí, Tarija, Chuquisaca, Pando y Beni. SARI cases distribution by EW, 2012

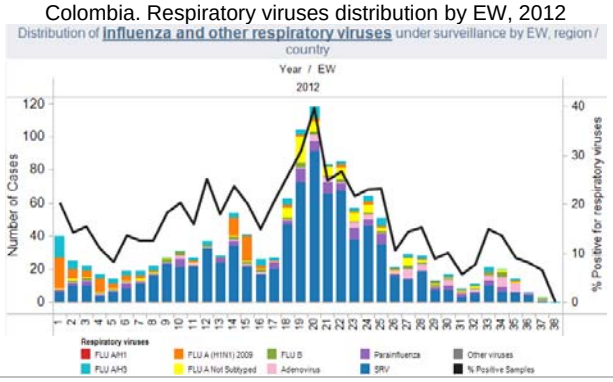


Colombia

Colombia. Proportion of ambulatory, Hospitalizations and ICU admitteds by EW, 2012

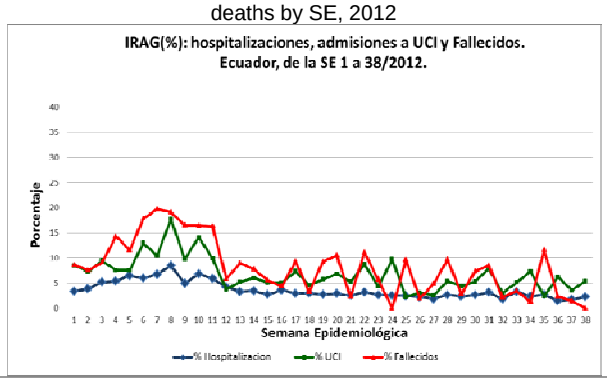


Colombia. Respiratory viruses distribution by EW, 2012

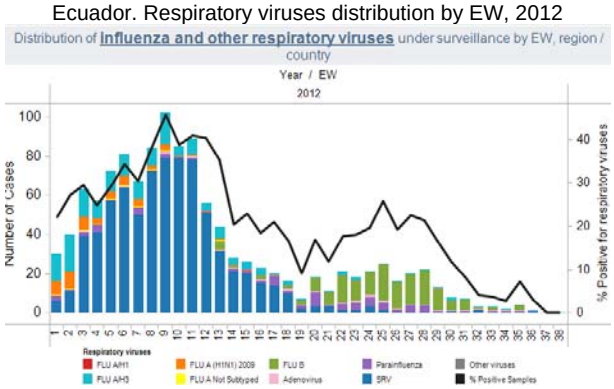


Ecuador

Ecuador. Proportion of SARi Hospitalizations, ICU admitteds and deaths by SE, 2012

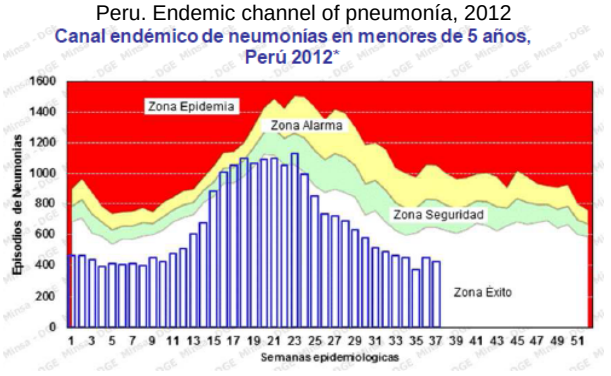


Ecuador. Respiratory viruses distribution by EW, 2012

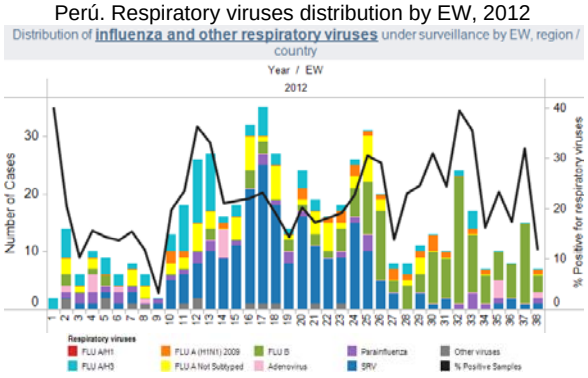


Peru

Peru. Endemic channel of pneumonía, 2012



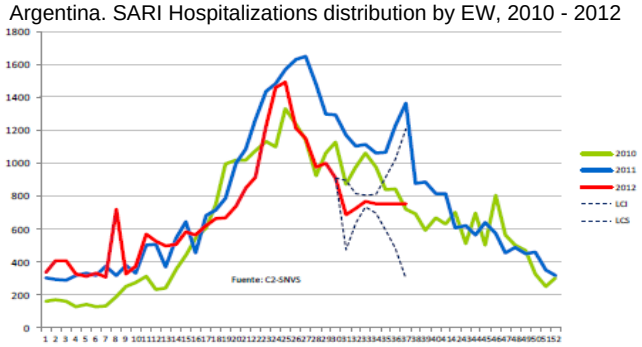
Perú. Respiratory viruses distribution by EW, 2012



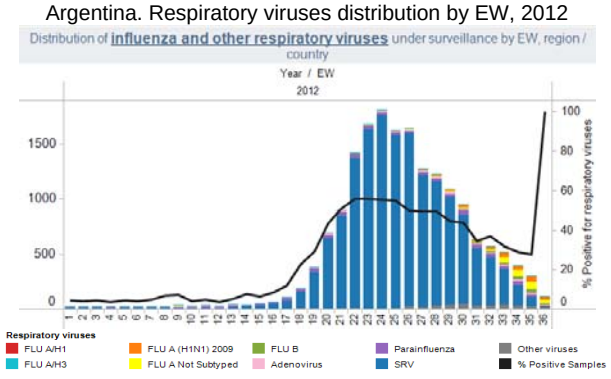
South America, Southern cone

Argentina

Argentina. SARI Hospitalizations distribution by EW, 2010 - 2012

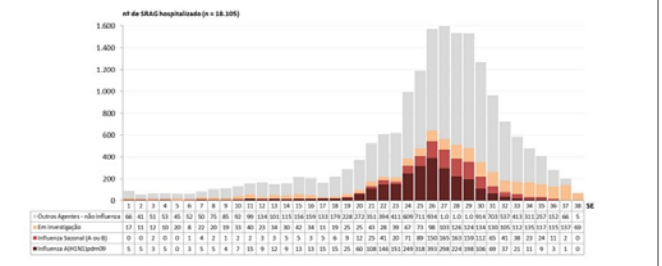


Argentina. Respiratory viruses distribution by EW, 2012

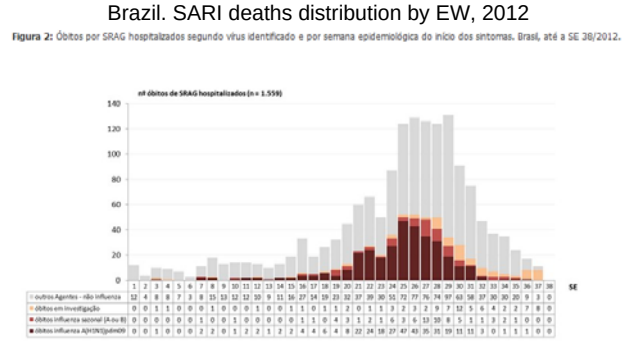


Brazil

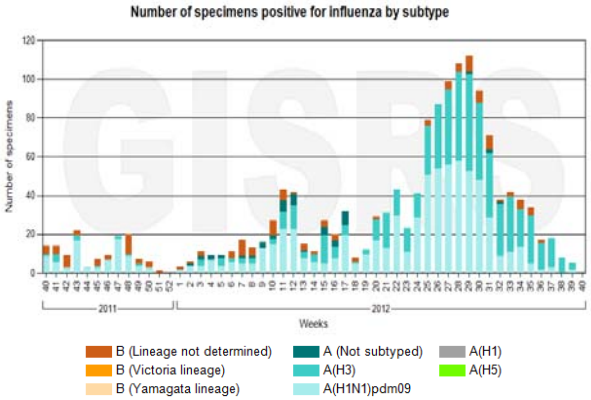
Brazil. SARI hospitalization distribution by EW, 2012



Brazil. SARI deaths distribution by EW, 2012

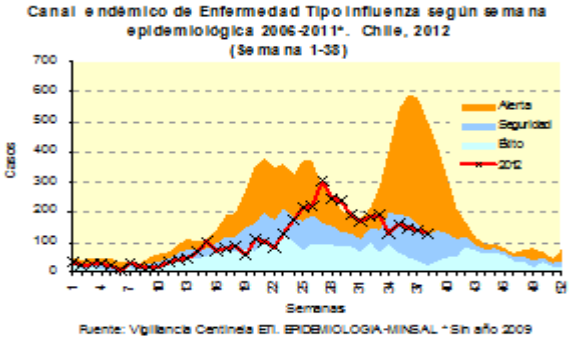


Brazil. Influenza viruses distribution by EW, 2011 - 2012

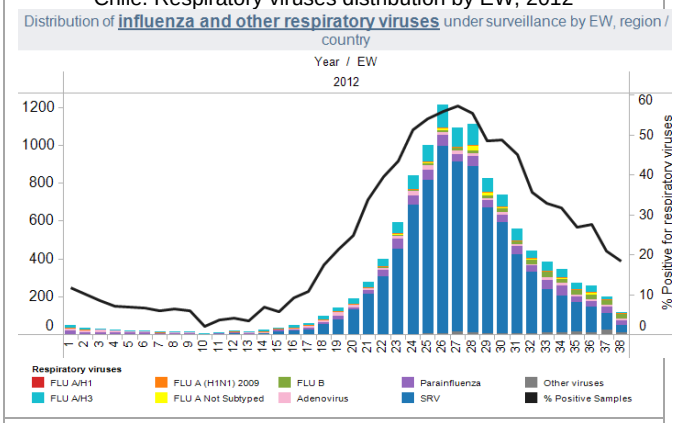


Chile

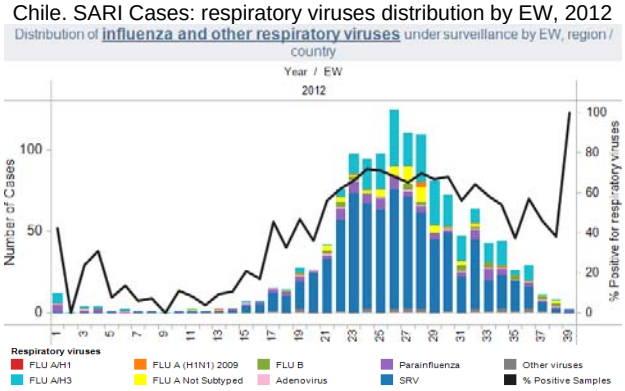
Chile. ETI endemic channel, 2012



Chile. Respiratory viruses distribution by EW, 2012

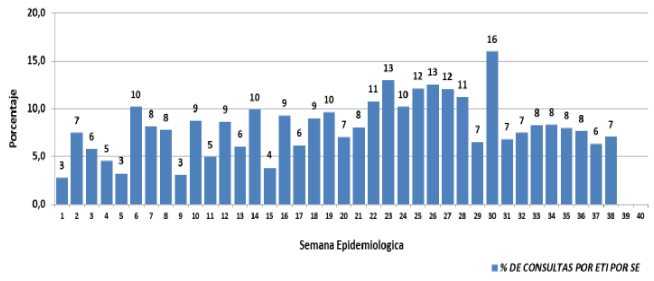


Chile. SARI Cases: respiratory viruses distribution by EW, 2012

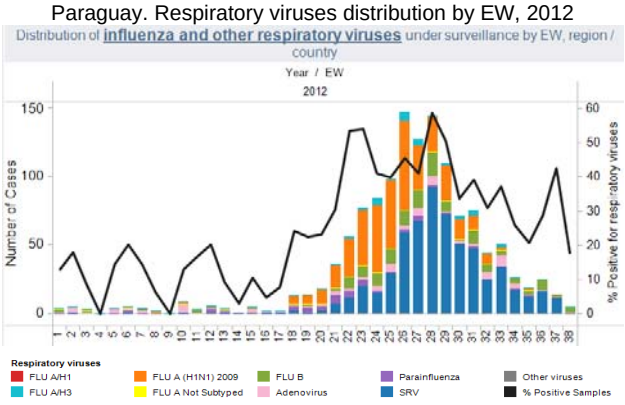


Paraguay

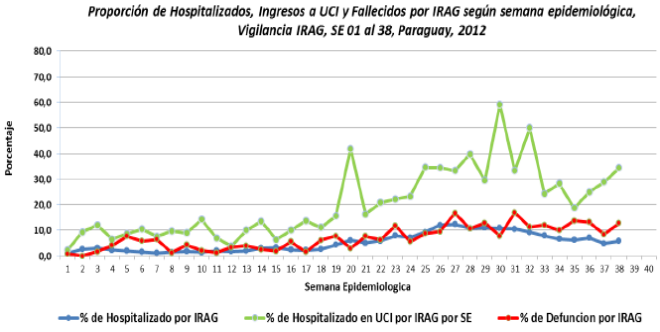
Paraguay. ILI consults (%) by EW, 2012



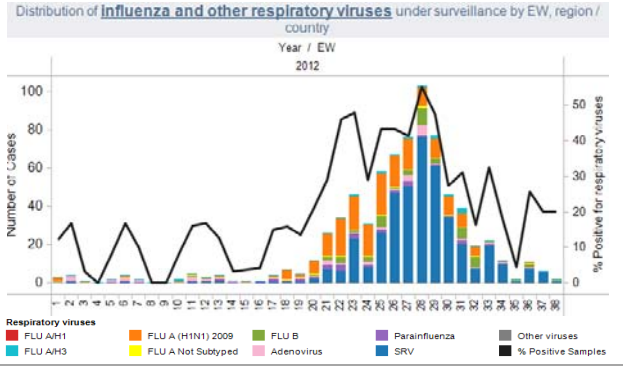
Paraguay. Respiratory viruses distribution by EW, 2012



Paraguay. SARI cases (%) by EW, 2012

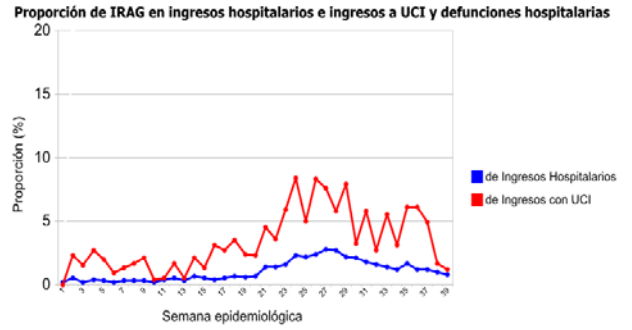


Paraguay. SARI Cases: Respiratory viruses distribution by EW, 2012



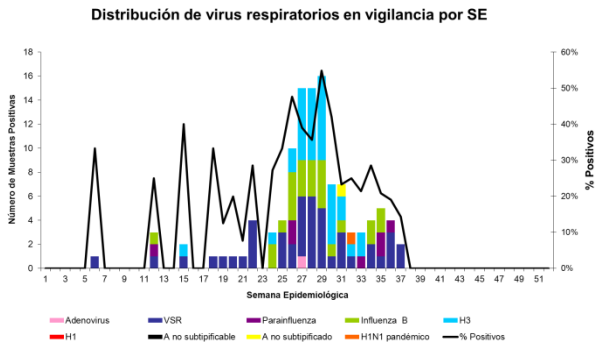
Uruguay

Uruguay, SARI hospitalizations and ICU admitted (%) by EW. 2012



Uruguay, SARI deaths distribution (%) by EW. 2012

Uruguay. Respiratory viruses distribution by EW, 2012



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2 US Surveillance Summary. EW 38. Centers for Disease Control and Prevention
3 Argentina. Actualización situación de enfermedades respiratorias 2012. SE 38.
4 Brasil. Boletim Informativo SE 38. http://portalsaude.saude.gov.br/portalsaude/noticia/6184/785/boletim-informativo-_-influenza.html
5 Paraguay. Boletín epidemiológico semanal SE 38. Available at: http://www.vigisalud.gov.py/index.php?option=com_phocadownload&view=category&id=18:vigilancia-eti-e-irag-ano-2011&Itemid=86
6 Uruguay. Generador de gráficos de la división de epidemiología, Dirección General de Salud – Ministerio de Salud Pública