Regional Update EW 36, 2012
Influenza
(September 18, 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 13, 2012, a total of 305 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) was reported in Missouri. In Mexico, 2 cases of conjunctivitis (from July 2012), associated with highly pathogenic avian influenza A(H7N3) fully recovered were reported.
- 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), influenza A(H1N1)pdm09 (Honduras). 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 and Brazil). In Peru, an unusual increase in pneumonias was observed in the department of Loreto. Co-circulation of influenza viruses was observed: influenza A(H1N1)pdm09 (Argentina), influenza B (Chile and Peru) and influenza A(H3N2) (Chile). Among the other respiratory viruses RSV predominated (Chile and Paraguay).

Epidemiologic and virologic influenza update

North America

In Canada[1], in epidemiological weeks (EW) 35 and 36, 2012, influenza activity remained low. In EWs 35 and 36, the influenza-like illness (ILI) consultation rate was within the expected levels for this time of year. In EWs 35 and 36, among the total samples analyzed, the proportion of samples positive for influenza was low (0.9% and 0.6%, respectively); of the influenza cases, 82.4% were influenza A (50% influenza A(H3) and 50% influenza A not subtyped). Concerning other respiratory viruses, the percent positive for rhinovirus remained the highest (EW 36: 23,1%) as compared to other respiratory viruses. Among the samples tested for resistance to oseltamivir (n=1,479), no resistant cases have been detected.

In the United States[2], in EW 36, nationally, the proportion of ILI consultations (1.1%) was below the baseline (2.4%). Nationally, the proportion of deaths attributed to pneumonia and influenza for EW 36 (6.0%) was below the epidemic threshold for this time of year (6.5%). In EW 36, no pediatric deaths associated with influenza were reported. Among all samples tested during EW 36 (n=1838), the percentage of samples positive for influenza (2.01%) decreased as compared to the previous week. Nationally, among the positive samples, 62.2% were influenza A [among the subtyped influenza A viruses, influenza A(H3) and influenza A(H3N2v)]. From July 12 through September 13, 2012, a total of 305 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 [106], 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 in Missouri in a patient who became ill after contact with swine and recovered from their illness. Confirmatory testing at CDC identified H1N1v with the matrix gene from the 2009 H1N1 influenza virus in specimens collected from the patient. Cases of H1N1v have been detected previously, and the current case marks the second report of H1N1v with the matrix gene from the 2009 H1N1 virus.

In Mexico, according to laboratory data, in EW 36, of the samples analyzed (n=20), no respiratory viruses were detected. During June through August 2012, Mexico reported outbreaks[3] of highly pathogenic avian influenza (HPAI) A (H7N3) in poultry farms in the state of Jalisco. Two human cases of H7N3, presenting with conjunctivitis, were detected among persons working on the affected farms, with symptom onset at the beginning of July. Both cases recovered fully and no additional human cases have been reported.

Caribbean

CAREC, in EW 36, received epidemiological information from 6 countries: Belize, Dominica, Jamaica, St. Lucia, St. Vincent & the Grenadines and Trinidad and Tobago. SARI cases were identified in two countries (Belize and Jamaica). In EW 36, the proportion of severe acute respiratory infection (SARI) hospitalizations was 1.2% which is lower than what was seen in the prior week (1.7%). The highest rate of SARI was among children 6 months to 4 years (2.5%). No SARI-related deaths were reported in EW 36. In the last 4 weeks (EW 33 to 36) the following viruses have been laboratory confirmed in CAREC member countries: influenza B (Barbados, Dominica & Jamaica), and respiratory syncytial virus (Barbados). To date in 2012, the overall percentage positivity for samples tested is 37%, with a 19% positivity for influenza.

In Cuba, according to laboratory data from EW 36, among the samples analysed (n=51), the percent positivity for respiratory viruses was 49% and the percent positivity for influenza was 7.8% among all samples analysed. RSV, influenza B, influenza A(H1N1)pdm09, and other respiratory viruses were detected.

In Jamaica in EW 36, the proportion of consultations for ARI was 4.1% (0.6% higher than the previous EW). The proportion of admissions due to SARI was 0.6% (0.2% decrease when compared to the EW before). There was no SARI-deaths reported for EW 36. No influenza viruses were identified in EW 36.

In the Dominican Republic, according to laboratory data from EW 37, among the samples analyzed (n=18), the percent positivity for respiratory viruses was 55,6% and the percent positivity for influenza was 11%, among all samples analysed. RSV and influenza B virus were detected.

Central America

In Costa Rica, in EW 36, according to laboratory data, among all samples tested (n=77), the percentage of positive samples for respiratory viruses increased to 45,4% as compared to the previous week (27%). RSV and influenza B were the most prevalent viruses, followed by influenza A(H3N2), adenovirus and parainfluenza.

In El Salvador[4], according to data provided by the Ministry of Health, in EW 36, the numbers of ARI and pneumonia cases were slightly higher than the previous EW and remained within the expected level for this time of year. According to laboratory data, through EW 36, of the total samples analyzed (n=76), the percentage of positive samples for respiratory viruses was 25.3%, with influenza B being the predominant virus, followed by parainfluenza and adenovirus.

In Guatemala, according to laboratory data, in EW 36, among all samples tested (n=22), the percentage of positive samples for respiratory viruses was of 22.7%, which was slightly lower than previous week, with predominance of adenovirus. No influenza viruses were detected this EW.

In Nicaragua, in EW 36, according to laboratory data, the percentage of positive samples for respiratory viruses was 39%, which was higher than the previous weeks. The predominant virus reported was influenza B, followed by RSV and influenza A(H3N2).

In Panama, in EW 36, according to laboratory data, among all samples tested (n=18), the percentage of positive samples for respiratory viruses was 78%, with RSV predominating. This week, no influenza viruses were detected. Influenza B has been decreasing since its peak in EW 30.

South America – Andean

In Santa Cruz, Bolivia, according to data from CENETROP laboratory, in EW 36, no positive samples were reported for respiratory viruses among the 29 tested samples. In Santa Cruz, proportion of hospitalizations (16%) showed an increase with respect to the previous week. No SARI-deaths were reported. According to INLASA laboratory, viral circulation from La Paz, Oruro, Potosí, Tarija, Pando, Beni and Chuquisaca showed a percentage of positive samples of 23.8% in EW 35 among the 21 tested samples, with a predominance of influenza B (3/5) among the positive samples. In La Paz, in EW 36, the proportion of SARI hospitalizations reached 3.7% with no significant changes in the last 6 weeks. No SARI-deaths were reported this week.

In Colombia, according to laboratory data, in EW 36, just one sample was tested from a SARI case, and it was negative.

In Peru, at the national level and in EW 36, pneumonia notifications in children under 5 years reached a rate of 82/10,000 children, which was higher than what was observed in the previous week, remaining in the safety zone in endemic channel. At sub-national level, the department with the highest rate was Loreto (212/10.000), showing a significant and unusual increase for this period in EW 36. According to laboratory data, in EW 36, the percentage of positive samples for respiratory viruses among samples tested (n=46) was 17.4%, which was lower than previous EW, with predominance of influenza B virus (6/8).

South America –Southern Cone

In Argentina[5], at the national level, endemic channels showed that the number of ILI and pneumonia cases in EW 36 continued to show a decreasing trend but remaining within the safety zone. The number of SARI cases in EW 36 was lower than the observed in 2010 and 2011. At the sub-national level, Tucuman (Norwestern region), Santa Cruz and Río Negro (Southern region) continued to report higher SARI rates than what is expected for this time of the year. According to laboratory data, since EW 25 a marked decreasing trend of RSV frequency was observed, and influenza A(H1N1)pdm09 circulation was detected. In EW 36 the percentage of positive samples for respiratory viruses was higher than the previous EW, reaching 40.8% among the analyzed samples (n=287) with a predominance of influenza A(H1N1)pdm09 (31%) and influenza A unsubtyped (24%) among the positive samples. At the sub-national level, Santa Fe was the province with the most reported cases of influenza in the last four weeks.

Update:
WHO recommendations for the viruses to be used in the 2012 Southern Hemisphere Influenza Vaccine: epidemiology, antigenic and genetic characteristics of influenza A(H1N1)pdm09, A(H3N2) and B influenza viruses collected from February to September 2011." *http://dx.doi.org/10.1016/j.vaccine.2012.07.089*

In Brasil[6], in EWs 35 and 36, the number of SARI continued to decrease since the peak in EW 26. 21% of overall cases for the present year (n=17318) were confirmed for influenza virus, of which 68% were subtyped as influenza A(H1N1)pdm09. For the current EW, the percentage of positive samples for influenza viruses was of 10.6% among the tested samples (n=123), with a predominance of influenza A(H3) virus (11/13). In 2012, (EW 01- EW 36) 1549 SARI-deaths have been reported (26% associated to influenza, of which 81% were influenza A(H1N1)pdm09). Circulation of the influenza virus was mainly detected in the South and Southeast regions, with peak in EW 25, and showing a decreasing trend since then through EW 36.

In Chile, according to laboratory data, at the national level and in EW 36, the positivity percentage for respiratory viruses was of 27.6% among the tested samples (n=916), with no significant changes with respect to the previous week and continuing with a predominance of RSV (53%) among the positive samples. According to the SARI surveillance system, in the current EW, 22 samples were tested showing a positivity of respiratory viruses of 81% with a predominance of RSV (10/18) and influenza virus A(H3N2) (5/18) among the positive samples. The proportion of SARI hospitalizations reached a value of 4.1% in EW 35 with no significant changes with respect to the previous week. Since the beginning of the year, in SARI surveillance centers, 99 SARI-deaths have been reported with viral etiology confirmed in 14.2% with predominance of influenza A(H3N2) virus (9/14) among the positive samples.

In Paraguay[7], at the national level, in EW 36, the proportion of ILI consultations (7.6%) in sentinel units showed no significant changes with respect to previous 6 weeks. The ILI rate (148.2/100,000 population), on the other hand, was higher than observed in previous EW. According to lab data, at the national level in EW 35 the percentage of positive samples to respiratory viruses was 21.6% among all the samples tested (n=51), with no significant changes as compared to the prior EW and with predominance of RSV (7/11) among the positive samples. In the SARI surveillance system, the proportion of hospitalizations (5%, 95/1885) continued to show a decreasing trend. Since the beginning of the year, a total of 197 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 36, 8 samples were analyzed from SARI cases, with a predominance of RSV(3/3) among the positive samples.

In Uruguay[8], at the national level, in EW 37, 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 observed in the current EW. According to laboratory data, at the national level and in EW 35, percentage of positive samples for respiratory viruses was of 20% among tested samples (n=20), with 50% being influenza B and 50% parainfluenza virus, among the positive samples.

Information for the National Influenza Centers:

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]

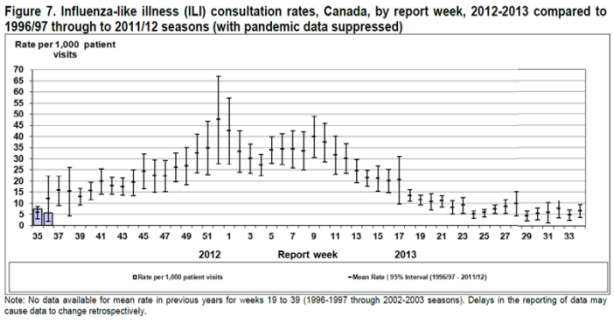
[1] Send sample to CDC

Graphs

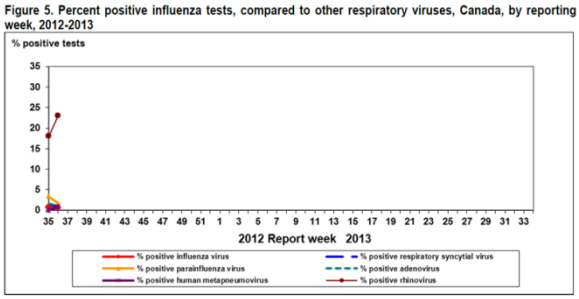
North America

Canada

Canadá. ILI rate distribution by SE, 2012-2013

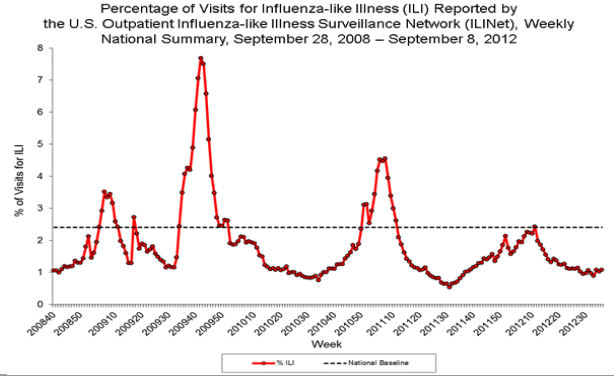


Canadá. Positive samples for respiratory viruses by SE, 2011-12 2012-2013

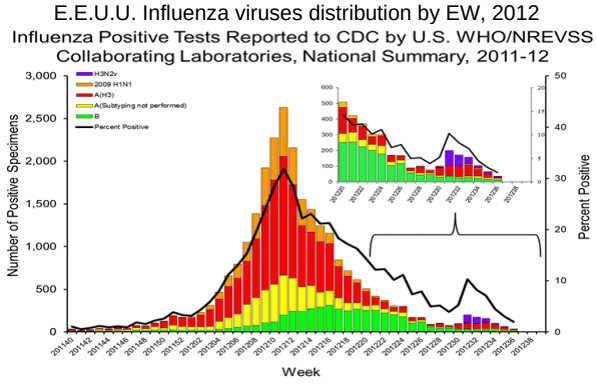


United States

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

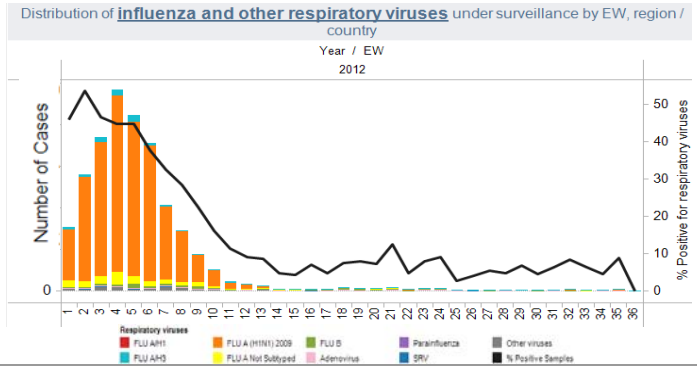


E.E.U.U. Influenza viruses distribution by EW, 2012



Mexico

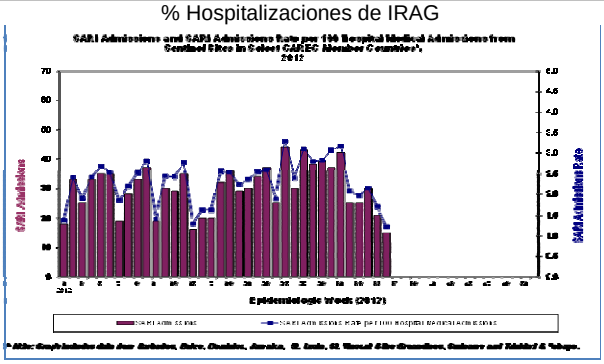
Mexico. Respiratory viruses distribution by SE, 2012



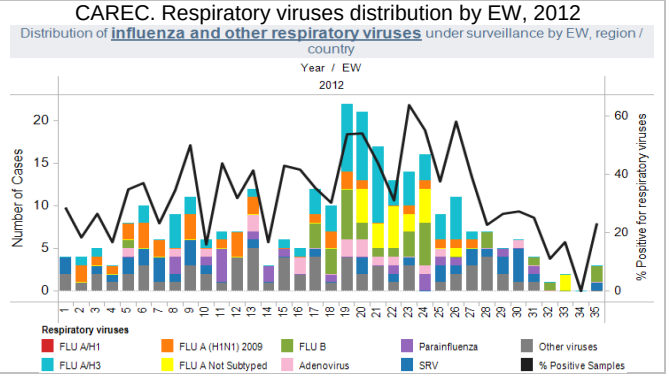
Caribbean

CAREC

% Hospitalizaciones de IRAG

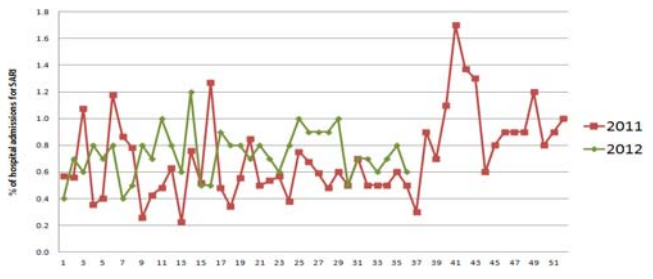


CAREC. Respiratory viruses distribution by EW, 2012

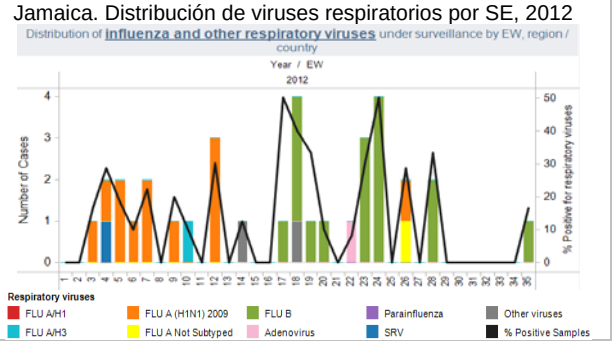


Jamaica

Percentage of Hospital Admissions for Severe Acute Respiratory Illness (SARI), Jamaica, 2011-2012

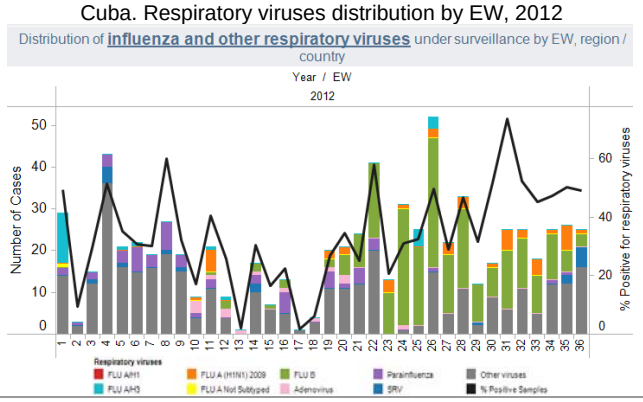


Jamaica. Distribución de viruses respiratorios por SE, 2012

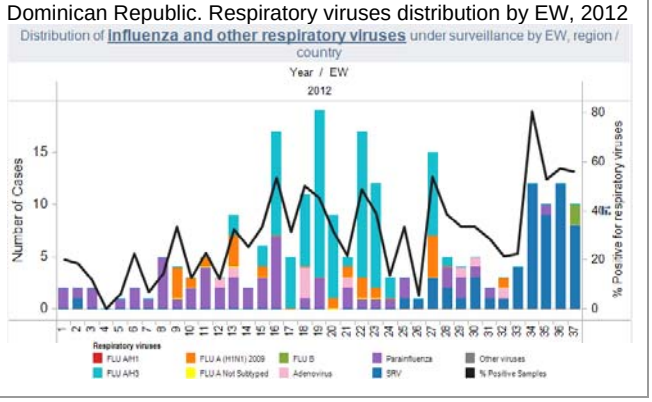


Cuba and Dominican Republic

Cuba. Respiratory viruses distribution by EW, 2012

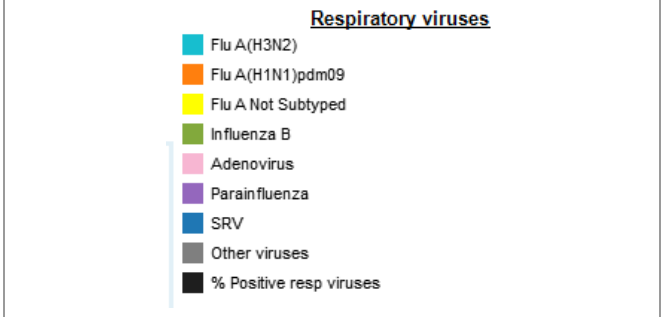


Dominican Republic. Respiratory viruses distribution by EW, 2012

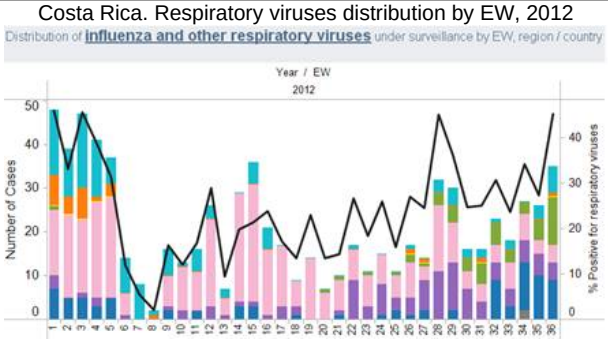


Central America

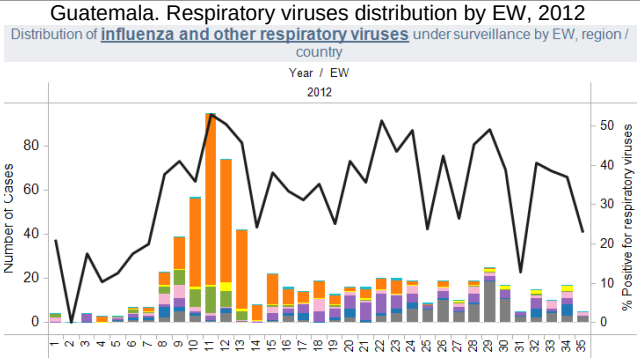
Costa Rica, Guatemala, Honduras, Nicaragua and Panama



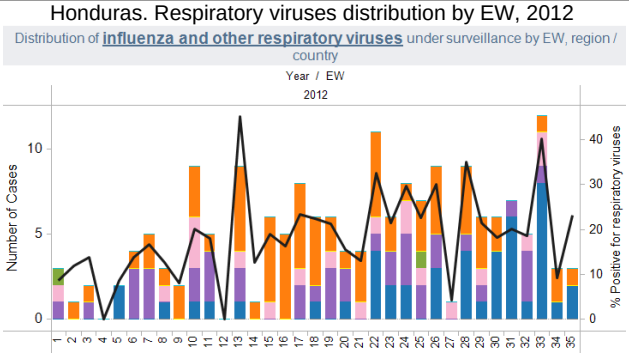
Costa Rica. Respiratory viruses distribution by EW, 2012



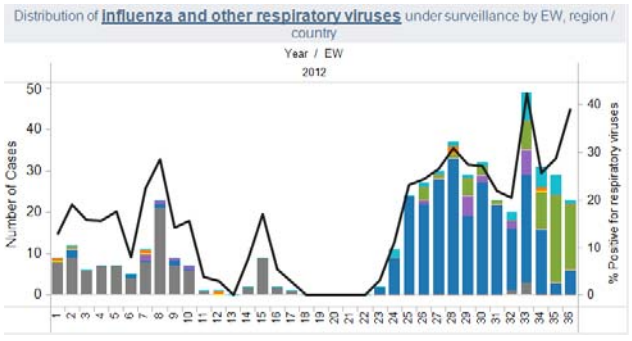
Guatemala. Respiratory viruses distribution by EW, 2012



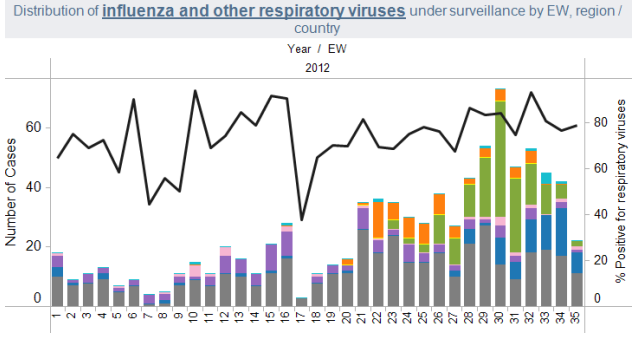
Honduras. Respiratory viruses distribution by EW, 2012

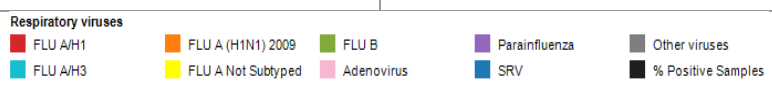


Nicaragua. Respiratory viruses distribution by EW, 2012



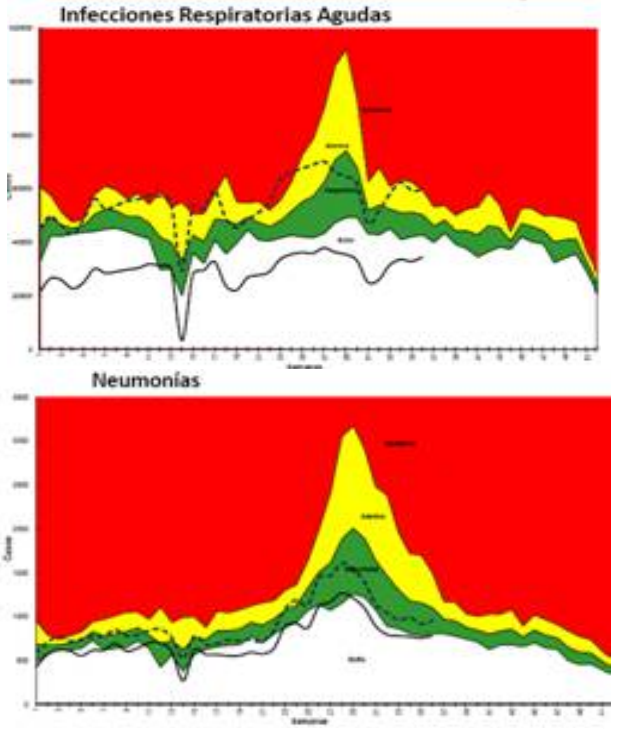
Panama. Respiratory viruses distribution by EW, 2012



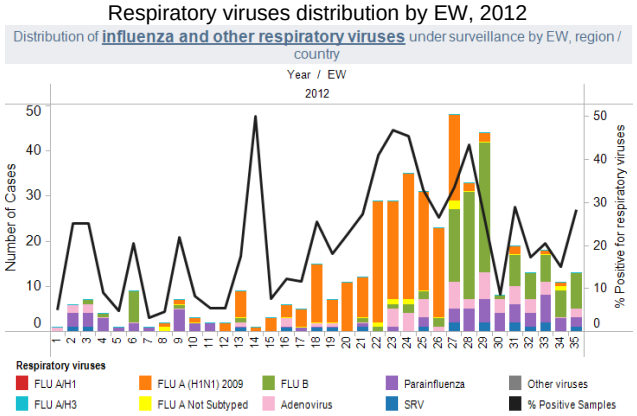


El Salvador

Endemic channel. ARI & pneumonia cases. El Salvador, per EW



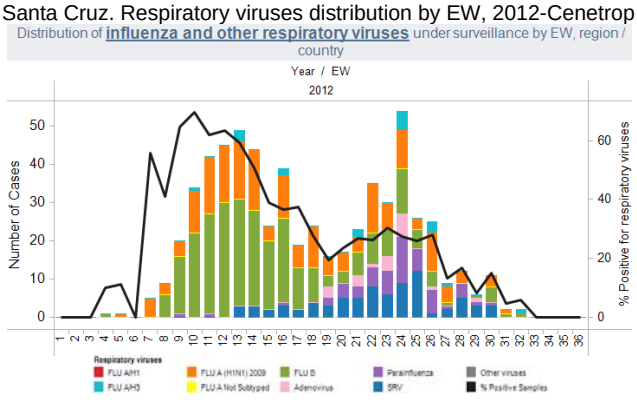
Respiratory viruses distribution by EW, 2012



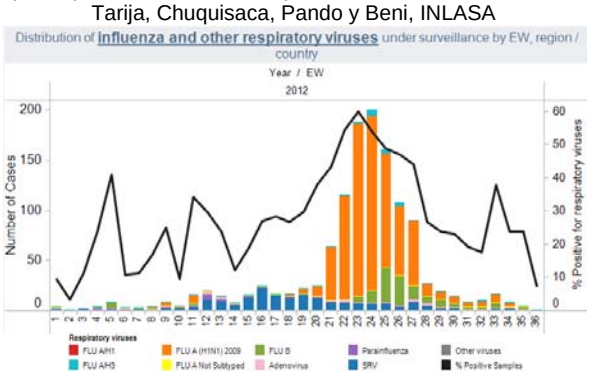
South America - Andean

Bolivia

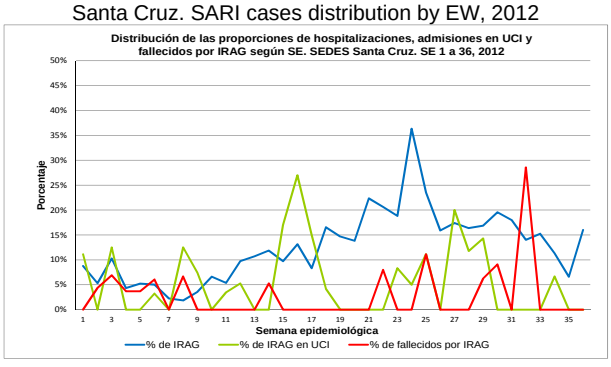
Santa Cruz. Respiratory viruses distribution by EW, 2012-Cenetrop



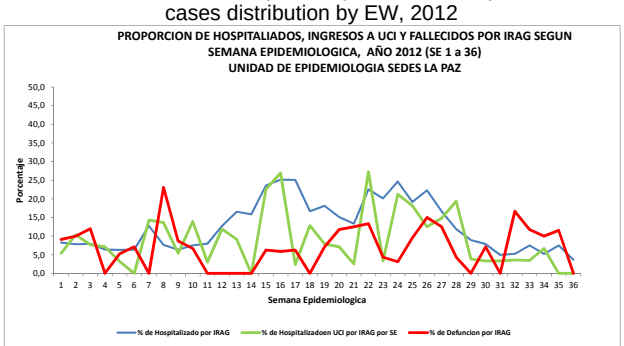
Respiratory viruses distribution by EW, 2012-La Paz, Oruro, Potosí, Tarija, Chuquisaca, Pando y Beni, INLASA



Santa Cruz. SARI cases distribution by EW, 2012

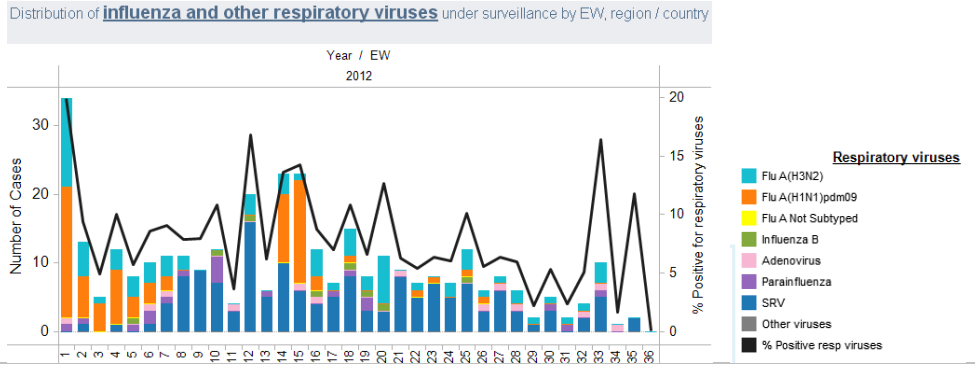


La Paz, Oruro, Potosí, Tarija, Chuquisaca, Pando y Beni. SARI cases distribution by EW, 2012



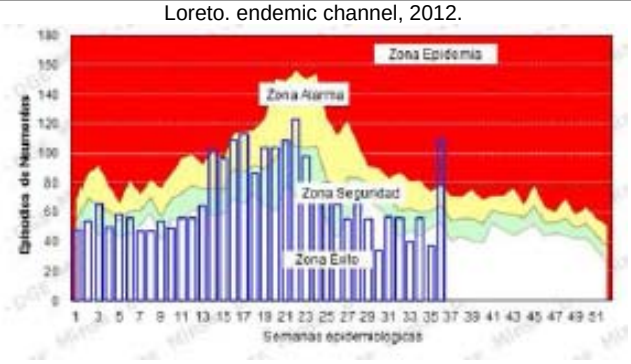
Colombia

Colombia. Respiratory viruses distribution by EW, 2012

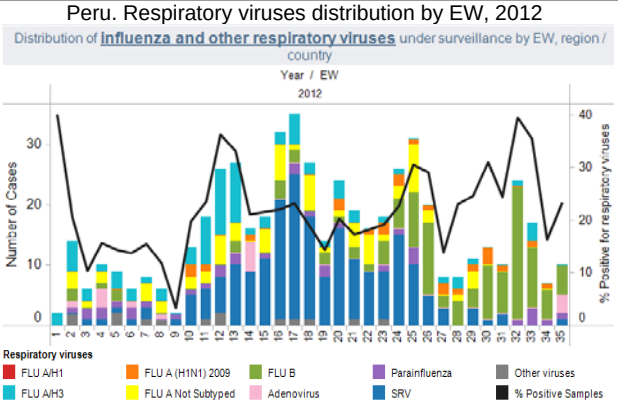


Peru

Loreto. endemic channel, 2012.



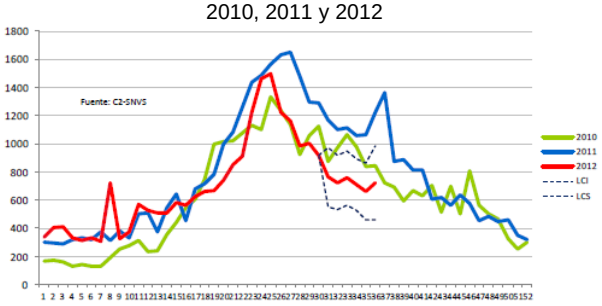
Peru. Respiratory viruses distribution by EW, 2012



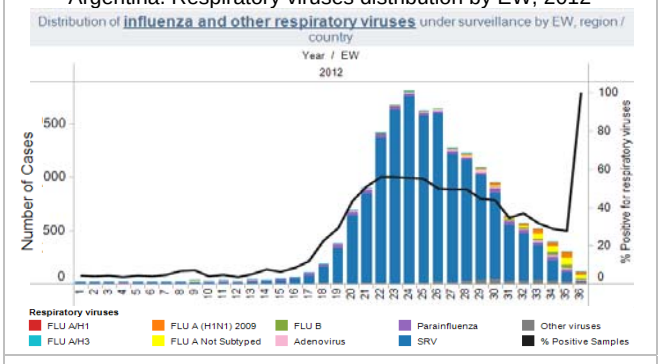
South America, Southern cone

Argentina

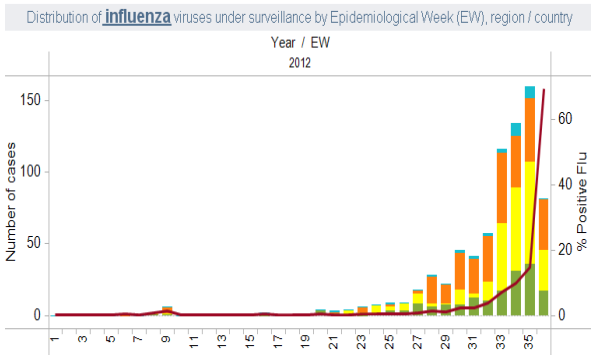
Argentina. SARI distribution by EW.
2010, 2011 y 2012



Argentina. Respiratory viruses distribution by EW, 2012

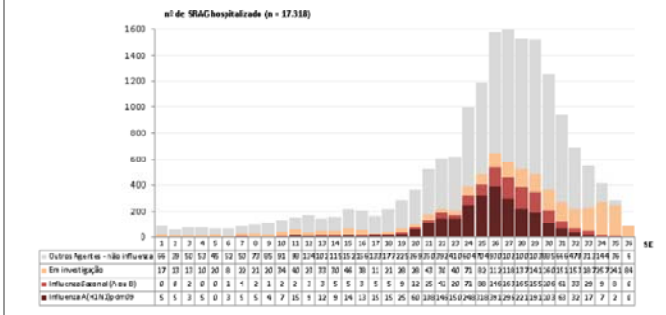


Argentina. Respiratory viruses positivity by EW, 2012

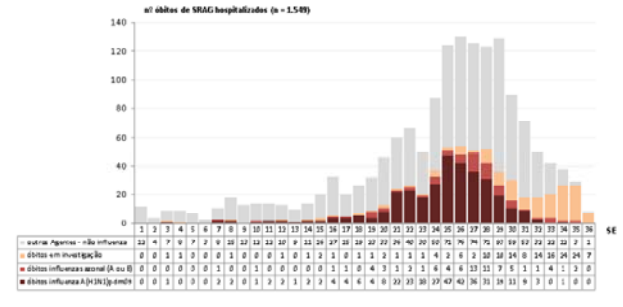


Brazil

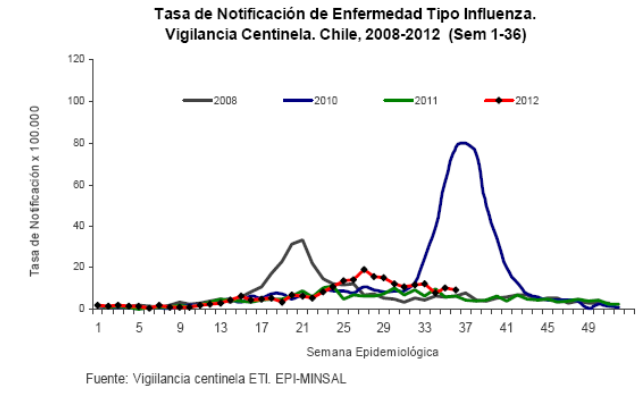
Brazil. SARI hospitalization distribution by EW, 2012



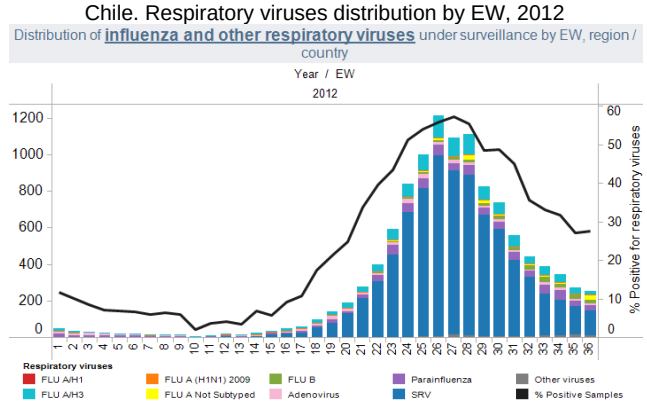
Brazil. SARI deaths distribution by EW, 2012



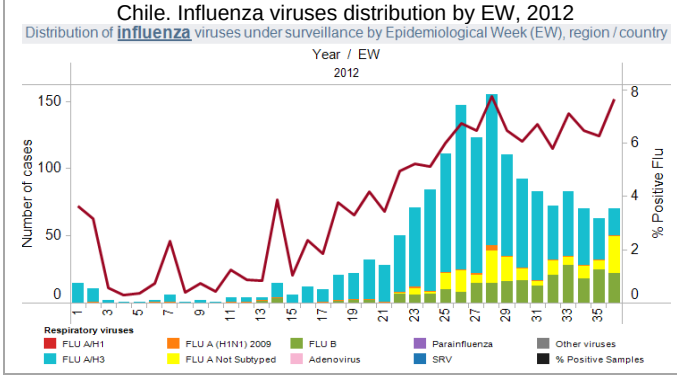
Chile



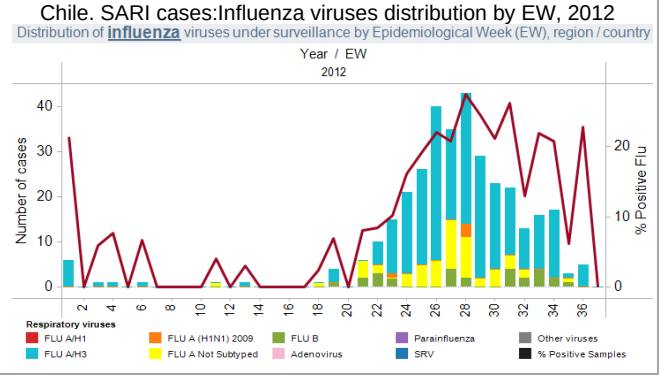
Chile. Respiratory viruses distribution by EW, 2012



Chile. Influenza viruses distribution by EW, 2012

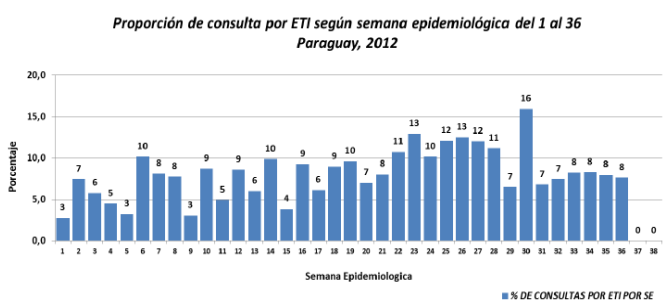


Chile. SARI cases:Influenza viruses distribution by EW, 2012

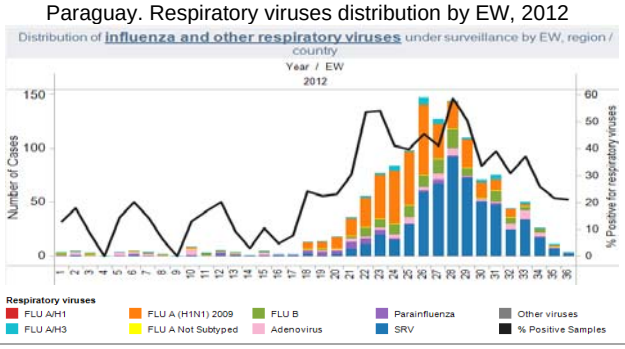


Paraguay

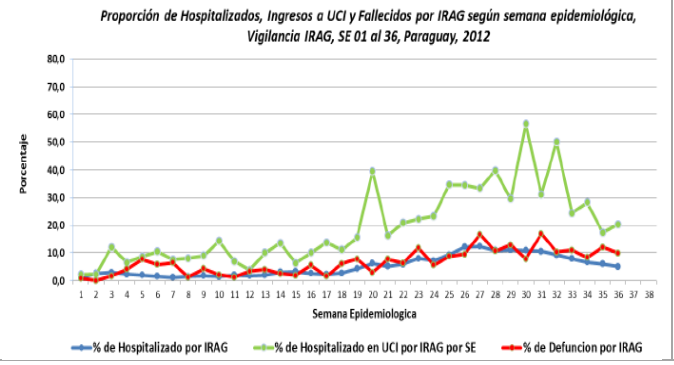
Paraguay. ILI consults (%) by EW, 2012



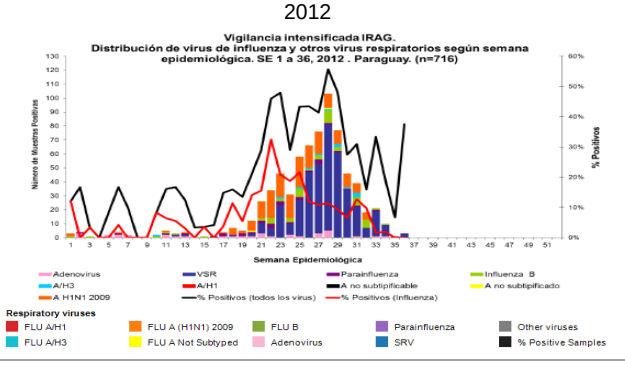
Paraguay. Respiratory viruses distribution by EW, 2012



Paraguay. SARI cases (%) by EW, 2012

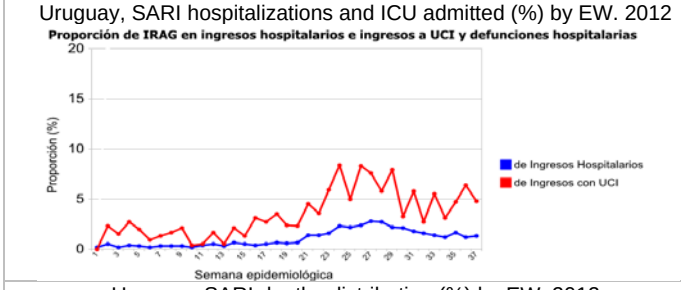


Paraguay. SARI Cases: Respiratory viruses distribution by EW, 2012



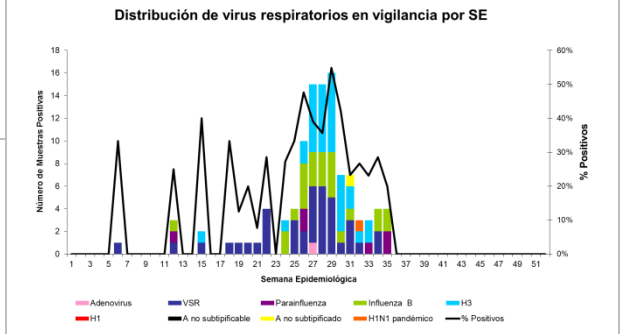
Uruguay

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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