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.

WEEKLY SUMMARY

- **North America**: Influenza activity remained low, although some indicators in Canada and Mexico showed slight increasing trends. Among circulating influenza viruses, influenza A predominated.

- **The Caribbean and Central America**: RSV continued circulating in many countries in the region (Cuba, Costa Rica, Guatemala and Nicaragua). Among influenza viruses, influenza B predominated in Cuba and Dominican Republic while influenza A predominated in Costa Rica, El Salvador, Guatemala, Jamaica and Nicaragua.

- **South America – Andean Countries**: Acute respiratory virus activity remained low in most countries in the region. Among circulating respiratory viruses, parainfluenza (Colombia, Ecuador), RSV (Colombia, Peru) and influenza B (Peru) were detected.

- **South America - South Cone and Brazil**: Acute respiratory virus activity was low and within the expected level for this time of year. Parainfluenza continued to circulate in the region (Argentina, Chile, Paraguay) and influenza B continued to predominate in Paraguay.

Influenza circulation by region. 2013

![Distribution of influenza viruses by region, 2013](http://ais.paho.org/phip/viz/ed_flu.asp)
Respiratory syncytial virus (RSV) circulation by region. 2013

Respiratory Syncytial Virus by region, 2013

Year / EW
2013

Caribbean
RSV

Central America
RSV

Andean
RSV

South Cone
RSV

ACRONYMS

ARI  Acute respiratory infection
CARPHA  Caribbean Public Health Agency
CENETROP  Centro de Enfermedades Tropicales (Santa Cruz, Bolivia)
EW  Epidemiological Week
ILI  Influenza-like illness
INLASA  Instituto Nacional de Laboratorios de Salud (La Paz, Bolivia)
INS  Instituto Nacional de Salud
ORV  Other respiratory viruses
SARI  Severe acute respiratory infection
SEDES  Servicio Departamental de Salud (Bolivia)
ICU  Intensive Care Unit
RSV  Respiratory Syncytial Virus

EPIDEMIOLOGIC AND VIROLOGIC UPDATE OF INFLUENZA & OTHER RESPIRATORY VIRUSES BY COUNTRY

North America:
In Canada, during EW 47 influenza activity continued its increasing trend. The national influenza-like illness (ILI) consultation rate was 24.3 per 1,000 patient visits, an increase compared to the previous week. To date this season, 35 influenza-associated hospitalizations have been reported (19 pediatric and 16 adult), of which three required ICU admission (2 pediatric and 1 adult). No influenza-associated deaths were reported. Based on laboratory data for EW 47, the overall percentage of positive influenza tests was 2.2% (N=63), an increase compared to the previous week. Among the positive tests, 82.5% were influenza A, of which 55.8% were influenza A(H1N1)pdm09. Among other respiratory viruses, rhinovirus and parainfluenza continued to predominate.

In the United States\(^2\) during EW 47, influenza activity increased slightly, with 1.7% of outpatient visits associated with ILI and 5.8% of deaths associated with pneumonia and influenza. No influenza-associated pediatric deaths were reported during EW 47. According to laboratory data for EW 47, 4,996 samples were analyzed, of which 7.9% were positive for influenza. Among the positive samples, 87.7% were influenza A (60.3% were A(H1N1)pdm09) and 12.3% were influenza B. Based on antiviral resistance testing, 2.8% (6/217) of the influenza A(H1N1)pdm09 samples tested were oseltamivir resistant.

\(^2\) USA: CDC FluView report. EW 47. Available at: [http://www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)
In Mexico\textsuperscript{3}, during EW 46 the number of ARI and pneumonia cases decreased by 2.0\% and 6.1\%, respectively, from the previous week. The highest levels of ARI activity were reported in Aguascalientes, Zacatecas and Colima, and the highest levels of pneumonia activity were reported in Nayarit, Sonora and Jalisco. According to laboratory data from EW 43-46, 1,006 samples were tested, of which 12.7\% were positive for a respiratory virus and 9.5\% for influenza. Among the positive influenza samples, 71.9\% were influenza A (60.9\% were A(H1N1)pdm09 and 37.7\% were A(H3N2)) and 28.1\% were influenza B. Among other respiratory viruses, RSV predominated (17.2\% of positive samples).

**Mexico**

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Mexico-ARI-Pneumonia-cases-by-EW.png}
\caption{Mexico: ARI and Pneumonia cases (n) by EW, 2013-14}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Mexico-ARI-Rates-by-State-EW.png}
\caption{Mexico: ARI Rates by State, EW 46}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Mexico-Pneumonia-Rates-by-State-EW.png}
\caption{Mexico: Pneumonia Rates by State, EW 46}
\end{figure}

**Caribbean**

In Cuba during EW 47, the number of SARI-associated hospitalizations increased slightly compared to the previous EW, but has shown a decreasing trend since peaking in EW 39. Children 1 to 4 years of age comprised the largest proportion of these cases. Two SARI-associated deaths were reported during this period, of which one tested positive for a respiratory virus. According to national laboratory data for EW 44-47, 277 samples were analyzed, of which 52.3\% were positive for a respiratory virus and 19.5\% were positive for influenza. RSV remained the predominant circulating virus (44.1\% of the positives), and among influenza viruses, influenza B predominated.

**Cuba**

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Cuba-SARI-cases-by-age-group-by-EW.png}
\caption{Cuba. SARI cases by age group, by EW, 2013}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Cuba-Respiratory-viruses-distribution-by-EW.png}
\caption{Cuba. Respiratory viruses distribution by EW, 2013}
\end{figure}

\textsuperscript{3} México. Dirección General de Epidemiología. Información epidemiológica. SE 46.
In the Dominican Republic\(^4\), the cumulative ILI rate for EW 1-46 was 1,874 per 10,000 inhabitants, and is 13% less than what was reported this period last year. Additionally, during this period 1,570 SARI cases were reported through sentinel surveillance, of which 9 were reported during EW 46. Two SARI-associated deaths in children less than two years of age were reported during EW 46. According to laboratory data for EW 45-48, 69 samples were analyzed, of which 21.7% were positive for a respiratory virus and 8.7% were positive for influenza. Among positive influenza samples, 83.3% were influenza B and 16.7% were influenza A (all influenza A(H3N2)). Among other respiratory viruses, RSV (46.7% of positive samples) predominated.

**Dominican Republic**

In Jamaica, based on sentinel surveillance data for EW 47, the proportion of ARI-associated consultations (7.2%) increased slightly compared to the previous week while the proportion of SARI-associated hospitalizations (0.8%) decreased. No SARI-associated deaths were reported during this period. Based on laboratory data from EW 47, 12 samples were tested, of which 16.7% were positive for influenza A.

**Jamaica**

In Puerto Rico\(^5\) during EW 46, the number of influenza cases (n=40) continued a decreasing trend since peaking in EW 37. Of these, 70% were associated with influenza A. Since the beginning of June, 11,527 influenza cases have been reported and children aged 0-14 years accounted for 44% of those cases. Since June, 715 influenza-associated hospitalizations and 16 influenza-associated deaths have been reported.

**Puerto Rico**

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**Central America**

In Costa Rica, based on national laboratory data from EW 44-47, 253 samples were analyzed, of which 39.1% were positive for a respiratory virus and 12.3% were positive for influenza. Among influenza positive samples, 96.8% were influenza A (96.7% were A(H1N1)pdm09). Among other respiratory viruses, RSV predominated (45.5% of positive samples).

**Costa Rica**

![Costa Rica: Respiratory viruses distribution by EW, 2013](image)

In El Salvador during EW 47 respiratory activity remained low and similar to what was observed in previous years. Based on national laboratory data from EW 44-47, 119 samples were analyzed, of which 23.5% were positive for a respiratory virus and 17.6% were positive for influenza. Among influenza positive samples, 95.2% were influenza A (100% A(H1N1)pdm09). Among other respiratory viruses, adenovirus and RSV were detected.

**El Salvador**

![El Salvador: Respiratory virus distribution by EW, 2013](image)

In Guatemala, based on laboratory data from EW 44-47, 93 samples were analyzed, of which 46.2% were positive for a respiratory virus and 9.7% were positive for influenza. Among influenza positive samples, 100% were influenza A (77.8% were A(H1N1)pdm09). Among the other respiratory viruses, RSV predominated (55.8% of positive samples).

**Guatemala**

![Guatemala: Respiratory viruses distribution by EW, 2013](image)

In Nicaragua, based on national laboratory data from EW 44-47, 692 samples were analyzed of which 19.2% were positive for a respiratory virus (increasing positivity has been observed since EW 39) and 7.1% were positive for influenza. Among influenza positive samples, 95.9% were influenza A (57.4% were A(H1N1) and 42.6% were A(H3N2)). Among other respiratory viruses, RSV predominated (57.1% of positive samples) and has been increasing for the last several weeks.

**Nicaragua**

![Nicaragua: Respiratory virus distribution by EW, 2013](image)
South America – Andean countries

In Colombia, nationally during EW 47, the proportions of hospitalizations (10.2%), ICU admissions (9.6%) and deaths (9.4%) with ARI-associated ICD-10 codes (J00 to J22) remained at low levels. Based on INS national laboratory data from EW 45-48, 621 samples were analyzed, of which 8.9% were positive for a respiratory virus and 1.0% were positive for influenza. Among the positive samples, RSV (27.3%) and parainfluenza (25.5%) predominated.

### Colombia

![Columbia: Percent Outpatient Visits, Hosps and ICU Admissions with J00 to J20 codes, by EW 2012-13](image)

![Colombia: Influenza and ORV distribution by EW, 2013](image)

In Ecuador, based on national reference laboratory data from EW 43-46, 286 SARI samples were analyzed, of which 14.3% were positive for a respiratory virus and 7.7% were positive for influenza. Among the positive samples, influenza A(H1N1)pdm09 (53.7%) and parainfluenza (36.6%) predominated.

In Peru based on national laboratory data from EW 44-47, 201 samples were analyzed, of which 19.9% were positive for a respiratory virus and 8.5% were positive for influenza. Among the positive samples, influenza B predominated (32.5%), followed by RSV (22.5%) and metapneumovirus (20.0%).

### Ecuador y Peru

![Ecuador. Respiratory virus distribution by EW, 2013](image)

![Perú. Respiratory viruses distribution by EW, 2013](image)

In Venezuela during EW 47, ARI and pneumonia activity decreased by 1.5% and 4.7%, respectively, compared to the previous EW. Both were within the expected values for this time of year. During EW 47, 158 SARI-associated hospitalizations were reported, with children less than 1 year of age comprising the largest proportion of cases. Based on virologic data from EW 1-47, 5,287 samples were analyzed from suspected influenza cases, of which 52.5% were positive for influenza. Among the positive samples, 91.9% were influenza A(H1N1)pdm09.

### Venezuela

![Venezuela: ARI endemic channel](image)

![Venezuela: Pneumonia endemic channel](image)

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**South America – Southern Cone and Brazil**

In Argentina\(^7\), according to reports and calculated estimations, national ILI activity during EW 45 was within the success zone of the endemic channel and continued a decreasing trend since its peak in EW 26. The proportion of SARI-associated hospitalizations was within the epidemic zone of the endemic channel, but also showed a decreasing trend since EW 26. Based on laboratory data from EW 44-47, 1,289 samples were analyzed, of which 10.2% were positive for a respiratory virus and 2.3% for influenza. Among positive samples, RSV (25.8%), parainfluenza (25.8%) and adenovirus (15.9%) were detected.

### Argentina

In Brazil\(^8\), according to ILI sentinel surveillance data through EW 46, 15,137 samples have been analyzed, of which 21.8% were positive for influenza or another respiratory virus. Positivity has decreased since EW 27 and among positives samples during EW 46, adenovirus and influenza A (not subtyped) were detected. Based on universal SARI surveillance data during this same period, 34,671 SARI cases were reported and 16.9% were positive for influenza. Of these positive samples, influenza A(H1N1)pdm09 predominated (63.4%), followed by influenza B (22.3%) and A(H3N2) (10.9%). Additionally, in 2013, 4,069 SARI-associated deaths have been reported of which 23.3% were positive for influenza, and of these, 80.5% were associated with influenza A(H1N1)pdm09.

### Brazil

In Chile\(^9\) ILI activity during EW 47 (rate; 2.6 per 100,000 inhabitants) remained low and was within the success zone of the endemic channel. The proportion of ILI-associated hospital emergency consultations was 0.5%, and also maintained a low and stable level. Based on laboratory data from EW 46-47, 1,244 samples were tested, of which 13.4% were positive for a respiratory virus and 2.3% were positive for

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\(^7\) Argentina. Boletín integrado de vigilancia. SE 45.


\(^9\) Chile. Informe de situación. EW 47. Available at: [http://epi.minsal.cl/](http://epi.minsal.cl/)
influenza. Among the positive samples, parainfluenza (40.7%), adenovirus (24.0%) and metapneumovirus (10.2%) were detected.

Chile

In Paraguay during EW 47, the ILI consultation rate (119 per 100,000 inhabitants) decreased compared to the previous EW and bordered on the alert zone of the endemic channel. The proportion of SARI-associated hospitalizations (4.5%) was within the expected range for this time of year and children less than 5 years of age comprised the largest portion (56.0%) of these cases. Based on reference laboratory data from EW 44-47, 296 samples were analyzed, of which 24.3% were positive for a respiratory virus and 15.5% were positive for influenza. Among influenza samples, 89.1% were influenza B and 10.9% were influenza A (80.0% A(H3N2)). Among other respiratory viruses, parainfluenza (22.2% of positive samples) predominated, followed by metapneumovirus (11.1%).

Paraguay

In Uruguay\(^{11}\) during EW 47, the proportions of SARI-associated hospitalizations, ICU admissions and deaths were similar to the previous EW, and remained at low levels. Based on laboratory data from EW 44-47, 17 SARI samples were analyzed, of which none were positive for a respiratory virus.

**Uruguay**

\(^{11}\) Uruguay. Generador de gráficos de la división de epidemiología, Dirección General de Salud – Ministerio de Salud Pública