Regional Update
Pandemic (H1N1) 2009

(October 2, 2009 - 17 h GMT; 12 h EST)

The information in this report was obtained through the official sites of the Ministries of Health of the countries in the Region as well as official reports submitted by the International Health Regulation (2005) National Focal Points. It corresponds to the period of 18 April to 2 October 2009.

Summary of the situation reported during the last week

- **8,869 new confirmed cases (**146,016 cumulative cases in 35 countries).
- **158 new confirmed deaths** (3,292 confirmed deaths in 25 countries).
- **98.9%** of the influenza A viruses that were subtyped were pandemic (H1N1) 2009.
- **South America** experienced low intensity and a decrease or unchanged trend
- **North America** experienced an increasing trend despite low intensity of acute respiratory disease everywhere except for Mexico
- **Central America** experienced low or moderate intensity and a decreasing trend.
- **The Caribbean** experienced low or moderate intensity and an increasing trend.

I- Evolution of the pandemic by subregion

North America

The greatest increase in confirmed cases and deaths was reported in this sub-region during the past week. Mexico reported a large increase in activity of the pandemic (H1N1) 2009 virus during the month of September based on the number of confirmed cases.

In the United States, another increase was observed in the percentage of influenza like illness (ILI) consultations, which continues to be above the national baseline. A total of 26 states reported widespread geographic activity of the influenza virus.

In Canada, a large increase in the percentage of ILI consultations was also observed, above the range expected for this time of year. Two outbreaks of influenza were reported, one in a school and one in a long term care facility.

Central America

In Central America, an increase in the number of confirmed cases was observed, reaching a peak in the month of July. A gradual and slow decrease has since been observed. No changes in activity have been recorded since the previous week. The trend in El Salvador changed from decreasing in the previous week, to increasing. Belize is the only country that reported a high intensity of respiratory disease.

Caribbean

Some countries in the Caribbean are experiencing outbreaks in influenza as well as a general increase in activity. Cuba and Dominica changed their indicator for geographic spread (Cuba increased from regional to widespread geographic spread and Dominica, which was not experiencing activity, has reported localized distribution).

South America

In the tropical areas of South America, a peak in respiratory diseases was observed during the months of May and June, subsequently in the majority of the region. In general for the majority of these countries respiratory disease activity began in the capital cities before spreading to the rest of the country. Paraguay was experiencing an increase (EW 37) but is now experiencing a decrease in ILI as well as severe acute respiratory infections (SARI).

In the Southern Cone countries of South America, the epidemic is steadily decreasing after having peaked during epidemiological weeks 26 (Argentina, Chile and Uruguay) and 31 (Brazil).

II-Number of confirmed cases and deaths

Table 1. Distribution of confirmed cases and deaths of pandemic (H1N1) 2009 by country from South to North. Updated 2nd October 2009 (17 h GMT; 12h EST)

Sub region/Country	Number of confirmed cases since 18 of April		Number of confirmed cases since 25 of September	
	Cases	Deaths	Cases	Deaths
Sub region South America				
Countries of the Southern Cone				
Argentina	9.036	538	185	24
Chile	12.248	132	-	-
Uruguay*	550	20	-	-
Paraguay	639	42	116	0
Brazil**	9.249	899	-	-
Andean Countries				
Bolivia	2.171	54	225	13
Peru	8,305	143	159	10
Ecuador	1,872	64	71	4
Colombia	1,737	89	212	7
Venezuela	1,593	84	150	8
Sub Region Caribbean				
Guyana	12	0	-	-
Suriname	11	2	0	2
Trinidad and Tobago	97	0	-	-
Granada	3	0	-	-
Saint Vicent and the Grenadines	2	0	-	-
Barbados	96	1	12	1
Santa Lucia	13	0	-	-
Dominica	2	0	-	-
Antigua and Barbuda	3	0	-	-
Saint Kitts and Nevis	6	1	-	-
Bahamas	23	0	-	-
Dominican Republic	424	22	19	1
Haiti	5	0	-	-
Jamaica	97	4	-	-
Cuba	415	1	0	1
Sub region Central America				
Panama	774	11	13	0
Costa Rica	1,453	37	76	0
Nicaragua	2.059	11	62	2
Honduras	515	16	56	1
El Salvador	749	19	0	0
Belice	23	0	-	-
Guatemala	810	13	59	0
Sub region North America				
Mexico	32.950	236	5.865	16
United States***	47.918	775	1.589	68
Canada	10.156	78	-	0
TOTAL	146,.016	3,292	8,869	158

Source: Ministries of Health of the countries of the Region
*This country no longer updates on the total number of confirmed cases; only on the number of deaths.
**Brazil reports the number of cases of pandemic (H1N1) 2009 among cases of severe acute respiratory infections (SARI).
*** Since August 30th this includes laboratory confirmed hospitalized cases of pneumonia and influenza for all types of influenza

As of **2nd October 2009**, a total of **146,106 confirmed cases** have been reported in all **35 countries** in the Americas Region. A total of **3,292 deaths** have been reported among the confirmed cases in **25 countries** of the Region.

In addition to the figures displayed in **Table 1**,the following overseas territories have confirmed cases of pandemic (H1N1) 2009: American Samoa. U.S. Territory (8); Guam. U.S. Territory (1); Puerto Rico. U.S. Territory (20); Virgin Islands. U.S. Territory (49); Bermuda. UK Overseas Territory (1); Cayman Islands. UK Overseas Territory (14); British Virgin Islands. UK Overseas Territory (2); Turks and Caicos Islands (3); Martinique. French Overseas Community (44, 1 death); Guadeloupe. French Overseas Community (27); Guyane. French Overseas Community (29);Saint-Martin. French Overseas Community (18); Saint Bartholomew; French Oversease Community (2); Netherlands Antilles. Aruba (13); Netherlands Antilles. Bonaire (29); Netherlands Antilles. Curaçao (46)[1]; Netherlands Antilles. St. Eustatius (1); and Netherlands Antilles. St. Maarten (22).

The distribution of cases and deaths at the first sub-national level can be found in the interactive map available through the following link: http://new.paho.org/hq/images/atlas/en/atlas.html

III- Description of deaths among confirmed cases of pandemic (H1N1) 2009

The information presented in the following table was obtained from reports from the Ministries of Health of selected countries and the Public Health Agency of Canada.

In general, there were no differences observed in regards to gender in the hospitalized and deceased cases. In Canada, the proportion of women increased with the severity of illness. With respect to age, the hospitalized group most affected was young children, while amongst the deceased cases, the groups most affected were not in the extreme ages group.

The proportion of cases with comorbidities increased with the severity of illness. Overall, in Brazil and Canada, between 26 and 29 percent of the deaths were among fertile women.

Table 2: Description of hospitalizations among confirmed cases of pandemic (H1N1) 2009 in selected countries

	Country			
	Argentina*	**Canada**	**Chile**	**Paraguay**
Reporting period	Until SE 37	Until SE 37	Until SE 37	Until 09/25/09
Number of hospitalizations	10,306	1,467	1,562	113
Ratio of females to males	-	1.05	1.08	1.04
Age	Highest rate in the group <5 years of age	Median 23 years	Highest rate in group < 1 years	Median 23 years
Comorbidities	-	61.7%	55.0%	21.0%
Comorbidities most frequent	-	-	Asthma (17.3%), Arterial hypertension (9.2%), Diabetes Mellitus (8.2%) COPD (6.1%)	-
Pregnant	-	28.1[2]%	-	-

*Hospitalizations among all persons with severe acute respiratory illness

Table 3: Description of deaths among confirmed cases of pandemic (H1N1) 2009 in selected countries

	Country						
	Argentina	**Brazil**	**Canada**	**Chile**	**Costa Rica**	**Mexico**	**Paraguay**
Reporting period	Until EW 35	Until EW 36	Until EW 37	Until 09/22/09	Until 09/16/09	Until 09/29/09	Until 09/25/09
Number of confirmed deaths	514	899	78	132	37	231	42
Ratio of women to men	No differences	-	1,53	0,94	0,61	0,99	0,82
Age	Highest rate in the age group 50-59 y	-	Median 50 years	Median 49 years (range <1-89)	Median 41 years	Highest Lumber in age 40-49 years	Highest number in age group 20-39 years
Co-morbidities	-	-	81.7%	64.3%	84%	-	71.0%
Co-morbidities most frequently reported	-	Respiratory, metabolic, and cardiopathic conditions	-	Asthma(17,3%), arterial hypertension (9,2%), COPD (6,1%), diabetes mellitus (8,2%),	Obesity (35,1%), diabetes mellitus (18,9%), asthma (18,2%), arterial hypertension	Metabolic conditions (33,3%) smoking (24,2%) cardiopathies (15,6%)	-
Pregnant	-	25.9% [1] (91/352)	28.6%[2] (4/14)	-	21.4%[3]	-	-

[1] Deaths among women between the ages of 15 and 49 years
[2] Deaths among women between the ages of 15 and 44 years
[3] Deaths among all women

IV- Viral circulation

Virological data obtained from Ministry of Health websites, Ministry of Health reports sent to PAHO, and notifications from National Influenza Centers (NIC) are provided in Table 4. For the purpose of this analysis, only countries which reported data on influenza A subtypes were considered. We excluded from the calculations of the percentages, results from samples of influenza A that were not subtyped or were unsubtypeable.

When considering data for the latest EW available, the majority (median: 96.8%, range: 95.2%–100%) of circulating subtyped influenza A viruses were pandemic (H1N1) 2009 (Table 4). Pandemic (H1N1) 2009 virus is still the predominant strain circulating. However, it is important to note that there are many more positive specimens in the North American countries relative to those in South America.

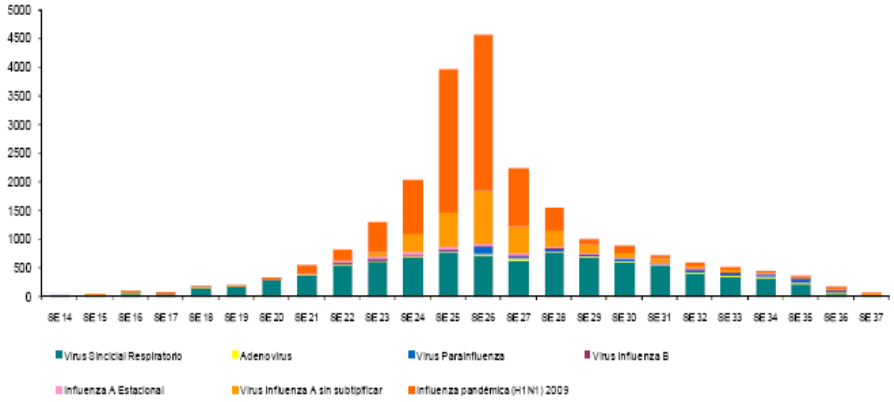
Table 4. Relative circulation of pandemic (H1N1) 2009 for selected countries by last EW available

Country	Epidemiological Week	Pandemic (H1N1) 2009 virus (n)	Percentage of Pandemic (H1N1) 2009
Canada	37	114	98.3%
Chile	37	1	100%
Colombia	36	2	95.2%
USA	37	1395	99.5%
MEDIAN			98.9%

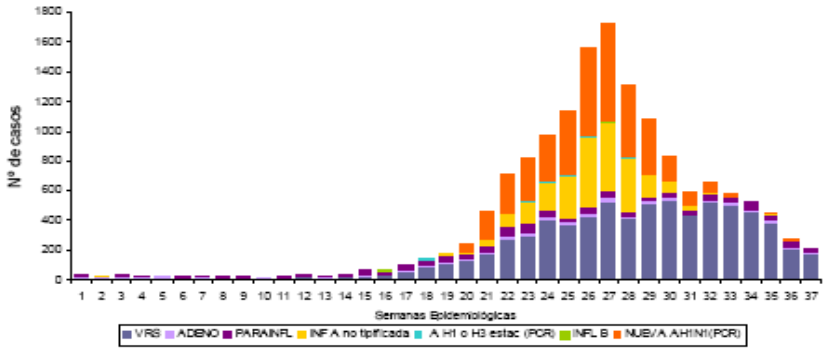
*Percentage of pandemic (H1N1) 2009 virus = Pandemic (H1N1) 2009 virus / All subtyped influenza A viruses

Below are graphs of the circulating respiratory viruses in the Southern Cone countries of Argentina and Chile. In general, the trend has been decreasing since week 27 (July 5 to July 11). Additionally, the proportion positive of pandemic virus relative to the total positive samples has been decreasing.

Graph 1: Distribution of respiratory viruses by epidemiologic week, Argentina, 2009

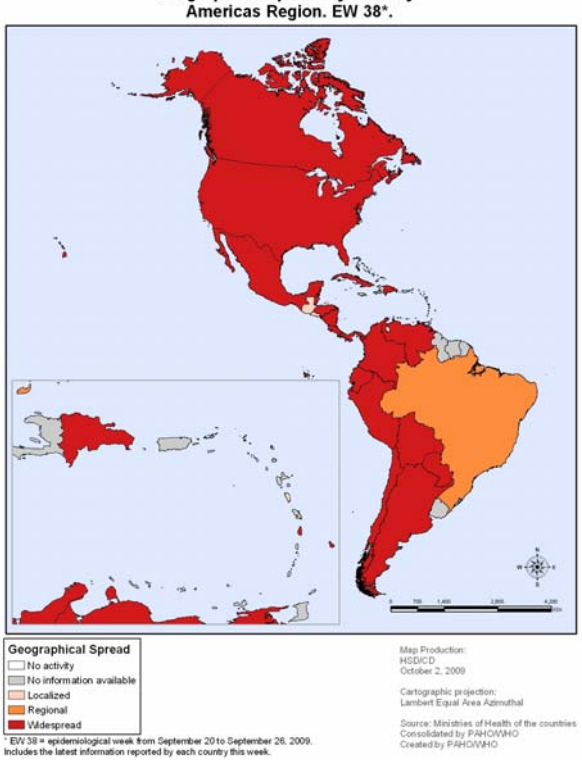


Graph 2: Distribution of respiratory viruses by epidemiologic week, Surveillance ISP, Chile, Week 1 to 37, 2009

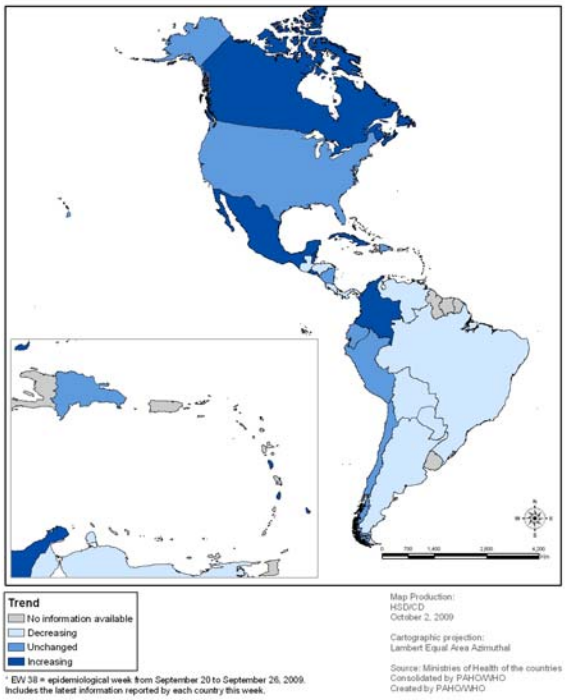


V-Qualitative indicators

Map 1. Pandemic (H1N1) 2009, Geographical Spread by Country. Americas Region. EW 38*.

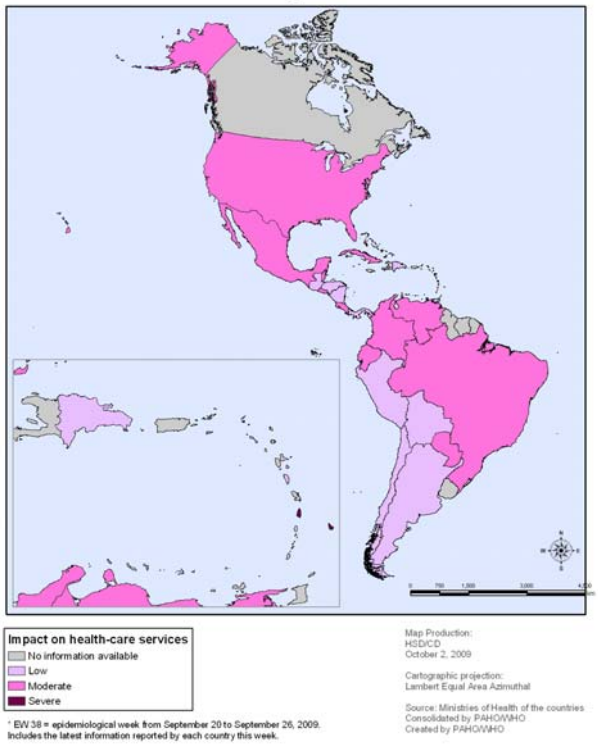


Map 2. Pandemic (H1N1) 2009, Trend of respiratory disease activity compared to the previous week. Americas Region. EW 38*.



Map 3. Pandemic (H1N1) 2009, Intensity of Acute Respiratory Disease in the Population. Americas Region. EW 38*.

Map 4. Pandemic (H1N1) 2009, Impact of Acute Respiratory Disease on Health-Care Services. Americas Region. EW 38*.



The information from Argentina, Bahamas, Belize, and Honduras is from week 37

For **Epidemiological Week 38 (EW 38)**, from 20 September to 26 September, **26** countries reported updated information to the Pan American Health Organization (PAHO) regarding the qualitative indicators to monitor pandemic (H1N1) 2009 (Table 1)[4]. Only those **26** countries were included in this analysis.

Twenty countries in the Region reported having widespread geographical distribution of influenza virus. Bahamas and Brazil reported regional activity and Dominica, El Salvador, and Guatemala reported localized activity (Map 1). Of note, Cuba and Dominica's spread increased this week (Cuba is now reporting and increase from regional to widespread activity and Dominica which previously had no activity is reporting localized activity). Saint Kitts and Nevis reported no activity this week.

Bahamas, Barbados, Belize, Canada, Colombia, Cuba, Dominica, El Salvador, Mexico, and Saint Lucia reported an increasing trend of respiratory disease. Argentina, Bolivia, Brazil, Costa Rica, Guatemala, Honduras, Panama, Paraguay, and Venezuela reported a decreasing trend. The other seven countries reported an unchanged trend (Map 2). El Salvador reported an increasing trend this week where as last week reported a decreasing trend.

Regarding the intensity of acute respiratory disease, Colombia, Cuba, El Salvador, Mexico, and Paraguay reported high intensity of acute respiratory disease, which is two countries more than reported this last week. Belize was the only country which reported very high intensity. The remaining 20 countries reported low or moderate intensity (Map 3).

Barbados and Saint Lucia were the only countries which reported severe impact on health care services this week (Map 4). Of note, Barbados and Cuba's reports of impact on health care services increased this week.

VI- Updated topic

Bacterial complications in severe cases of pandemic (H1N1) 2009

Although the primary cause of hospitalization for patients with pandemic (H1N1) 2009 is viral pneumonia, bacterial pneumonia as a secondary complication has been described, especially in fatal cases [14% (7/50) California, United States]4.

In the CDC's MMWR, published on October 2nd, 2009[5], they reported an analysis of post-mortem respiratory specimens collected in patients who had confirmed pandemic (H1N1) 2009 prior to death. Of the 77 cases evaluated, 22 had evidence of bacterial infection, based on histopathology, immunohistochemistry, and molecular techniques. The primary bacteria identified was *S.pneumoniae* (n=10), followed by *S.pyogenes* (n=6), *S.aureus* (n=7), *S.mitis* (n=2), and *H. influenzae* (n=1); four patients had multiple pathogens. Among those with *S.aureus*, four cases had evidence of methicillin-resistance. As stated in the report, these data are subject to several limitations including the fact that there might have been inadequate sampling or sampling from unaffected portions of the lungs and that there was limited information available about patient characteristics. Overall, these data reinforce the importance of pneumococcal vaccination in the groups in which the vaccine is indicated and empiric treatment with antibiotics and antivirals for patients in whom influenza and bacterial coinfection is suspected.

In the Region of the Americas, there is a concern about coinfection with influenza and *S.aureus*, related to the high prevalence of methicillin-resistance in the community. Accordingly, methicillin-resistant *S.aureus* (MRSA) prevalence should be considered when selecting antibiotic therapy. In the literature, there was a recent description of a fatal case of a person in Hong Kong coinfected with pandemic (H1N1) 2009 and MRSA[6].

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4. WHO. WEEKLY EPIDEMIOLOGICAL RECORD, NO. 30, 24 JULY 2009
5. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm58e0929a1.htm?s_cid=rr58e0929a1_e
6. Cheng VCC, et al., Fatal co-infection with swine origin influenza virus A/H1N1 and community-acquired methicillin-resistant Staphylococcus aureus, J Infect (2009), doi:10.1016/j.jinf.2009.08.021

Annex 1: Qualitative indicators for the monitoring of pandemic (H1N1) 2009

Geographical spread: refers to the number and distribution of sites reporting influenza activity.	
No activity:	No laboratory confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.
Localized:	Limited to one administrative unit of the country (or reporting site) only.
Regional:	Appearing in multiple but <50% of the administrative units of the country (or reporting sites).
Widespread:	Appearing in ≥50% of the administrative units of the country (or reporting sites).
No information available:	No information available for the previous 1 week period.
Trend of respiratory disease activity compared to the previous week: refers to changes in the level of respiratory disease activity compared with the previous week.	
Increasing:	Evidence that the level of respiratory disease activity is increasing compared with the previous week.
Unchanged:	Evidence that the level of respiratory disease activity is unchanged compared with the previous week.
Decreasing:	Evidence that the level of respiratory disease activity is decreasing compared with the previous week.
No information available.	
Intensity of Acute Respiratory Disease in the Population: is an estimate of the proportion of the population with acute respiratory disease, covering the spectrum of disease from influenza-like illness to pneumonia.	
Low or moderate:	A normal or slightly increased proportion of the population is currently affected by respiratory illness.
High:	A large proportion of the population is currently affected by respiratory illness.
Very high:	A very large proportion of the population is currently affected by respiratory illness.
No information available.	
Impact on Health-Care Services: refers to the degree of disruption of health care services as a result of acute respiratory disease.	
Low:	Demands on health-care services are not above usual levels.
Moderate:	Demands on health-care services are above the usual demand levels but still below the maximum capacity of those services.
Severe:	Demands on health care services exceed the capacity of those services.
No information available.	

***Source**: Updated interim WHO guidance on global surveillance of human infection with pandemic (H1N1) 2009 virus. 10 July 2009.*

The data and information in this report will be updated on a weekly basis and available at:
http://new.paho.org/hq/index.php?option=com_content&task=blogcategory&id=814&Itemid=1206

This report was prepared based on the indicators in the document *Human infection with pandemic (H1N1) 2009 virus: updated interim WHO guidance on global surveillance* available at: (http://www.who.int/csr/disease/swineflu/notes/h1n1_surveillance_20090710/en/index.html).

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