

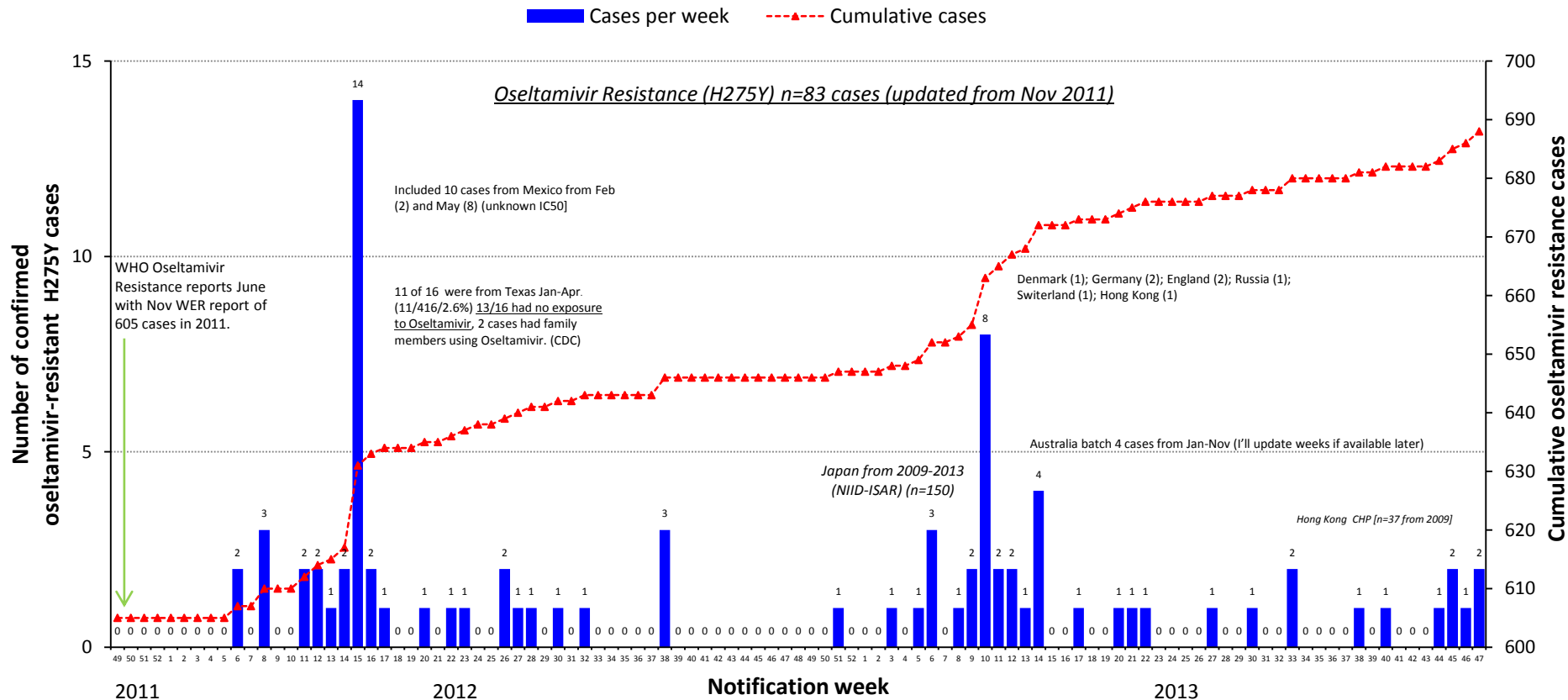
Pandemic (H1N1) 2009 Virus Antiviral Resistance

Updated 3 Dec 2013 ver. 1.5

Pandemic (H1N1) 2009 Virus

Antiviral Resistance (Update from Nov 2011- Dec 2013)

Week of Notification of Influenza A pdm (H1N1) 09 Virus Worldwide Oseltamivir Resistance Nov 2011-2013 (n=688)



Updated Peru (1) 2012 July (week 28); Canada (1) 2013 week 22; Argentina (1) week 17; England (1) by week 20 2013 [for a total of 4]; USA (2) week 47

Note: Not exclusive list, underestimated n=82!

All references available on request!

If any variances are noted please post with reference!

*Variance 1:
"Australia 3 cases in week 38"
Australia (1) updated week 38
2012; 2 cases were from
Netherlands~*

Updated 6 cases: 3 Dec 2013

- 1. Peru (1) Week 28 2012*
- 2. Canada (1) Week 22 2013*
- 3. Argentina (1) Week 17 2013*
- 4. PHE (1) Weeks 2012-2013
by week 20 a total of 4 cases*
- 5. USA (2) Week 47 2013*

Year/Week of Notification	Countries (case) n=83
2012	N=42
Week 6	Mexico (2)
Week 8	CDC US (2), Hong Kong (1)
Week 11	CDC US (1), Hong Kong (1)
Week 12	CDC US (2)
Week 13	CDC US (1)
Week 14	CDC US (2)
Week 15	Mexico (8) [pending +2]; CDC US (6)
Week 16	CDC US (2) [11 of 16 are from Texas Jan-Apr.]
Week 17	CDC US (1)
Week 20	Hong Kong (1)
Week 22	Brazil (1),
Week 23	Hong Kong (1)
Week 26	Brazil (2)
Week 27	Brazil 1
Week 28	Peru (1)
Week 30	Hong Kong (1)
Week 32	Hong Kong (1)
Week 38	Australia (1); Netherlands 2 [changed Australia]
Week 51	Netherlands (1)
2013	N=41
Week 2	CDC US (1)
Week 5	Japan (1)
Week 6	Hong Kong (1); CDC US (1); Japan (1) [total cases since 2009 n=150]
Week 8	Hong Kong (1)
Week 9	Netherland (1); Hong Kong (1)
Week 10	Denmark (1); Germany (2); England (2); Russia (1); Switzerland (1); Hong Kong (1)
Week 11	Hong Kong (1); England (1)
Week 12	Hong Kong (2)
Week 13	Hong Kong (1)
Week 14	Australia batch 4 cases (7/1 change weeks later)
Week 17	Argentina (1)
Week 20	England (1) PHE
Week 21	Hong Kong (1)
Week 22	Canada (1)
Week 27	Hong Kong (1)
Week 30	Hong Kong (1)
Week 33	Hong Kong (2)
Week 38	Hong Kong (1)
Week 40	Hong Kong (1) [n=37 from 2009]
Week 44	CDC US (1)
Week 45	CDC US (2)
Week 46	CDC US (1)
Week 47	CDC US (2)

No specific case update in WHO wer 44,45

Updated Ver. 1.4

- **Japan : Updated NIID website!**
- **NIID – 2009-10 n=79/8145; 2010-11- n=69/3,844 (2-Nov-11) ; 2011-12- n=0 /11 ; 2012-13- n=2 /111; Interim 2013-14 0/9 tested (=150)**
- Antiviral resistance surveillance in Japan (as of November 18, 2013)
- <http://www.nih.go.jp/niid/en/influenza-e/2132-flu/flu-dr-e/4112-flu-dr-e20131118.html>
- Also see - NIID Antiviral-resistant B viruses with a novel mutation detected by antiviral resistance surveillance in Japan- Masaki Imai WHOCC
- http://www.wpro.who.int/emerging_diseases/meetings/docs/AntiviralResistantBVirusesinJapan.pdf
- **Variance:**
- Changed Australia (A/Perth/33/2012) from 3 cases to 1 case in week 38 and updated Netherlands 2 A/Bilthoven/4311200706/2012 + A/Bilthoven/4361200003/2012) in week 38 2012
- Meijer A, Jonges M, van Beek P, Swaan CM, Osterhaus AD, Daniels RS, Hurt AC, Koopmans MP. Oseltamivir-resistant influenza A(H1N1)pdm09 virus in Dutch travellers returning from Spain, August 2012. Euro Surveill. 2012;17(36):pii=20266.
- <http://www.eurosurveillance.org/images/dynamic/EE/V17N36/art20266.pdf>
- **4 New retrospective updates:**
- 1. **Updated Peru ,1 case, week 28 2012 (IPE01397_ Puna_Junio-2012 Peru July 2012)**
 - Detection of an influenza a (H1N1) pdm09 strain resistant to Oseltamivir in Peru Rev Peru Med Exp Salud Publica vol.30 n.1 Lima Jan./Mar. 2013
 - http://www.scielo.org/scielo.php?script=sci_arttext&pid=S1726-46342013000100039&lng=en&nrm=iso&tlng=en
 - H/T FluTrackers
 - <http://www.flutrackers.com/forum/showthread.php?t=204716>
- 2. **Updated Canada, 1 case ,week 22- May 19 to June 1, 2013 (Weeks 21 & 22)**
 - http://www.phac-aspc.gc.ca/fluwatch/12-13/w22_13/index-eng.php
 - FluWatch report: August 11 to August 24, 2013 (Weeks 33 & 34) - Public Health Agency of Canada
 - http://www.phac-aspc.gc.ca/fluwatch/12-13/w34_13/index-eng.php
- 3. **Updated Argentina 1 case Week Unknown (1 case updated in May 2013)**
 - Updated Recommendations Acute Respiratory Infections Argentina. Year 2013. (6-May-2013)
 - A selection of virus A (H1N1) pdm, A (H3N2) and B were performed sensitivity studies to antivirals. All samples were susceptible to neuraminidase inhibitors than strain A (H1N1) pdm to which una was diagnosed a rare mutation that conferred resistance, confirmed by phenotypic and genotypic studies.
 - <http://www.msal.gov.ar/images/stories/bes/graficos/0000000055cnt-recomendaciones-infecciones-respiratorias-2013.pdf>
- 4. **Updated England, 1 in week 20 in 2013 (for a total of 4)**
 - **Public Health England: Surveillance of influenza and other respiratory viruses, including novel respiratory viruses, in the UK: Winter 2012-13**
 - [Surveillance of influenza and other respiratory viruses, including novel respiratory viruses, in the United Kingdom: Winter 2012/13 \(PDF, 647 KB\)](#)
- **1 Current update:**
- 1. **Updated USA 2 cases Week 47 6/217 (2.8%)** http://www.cdc.gov/flu/weekly/pdf/External_F1347.pdf