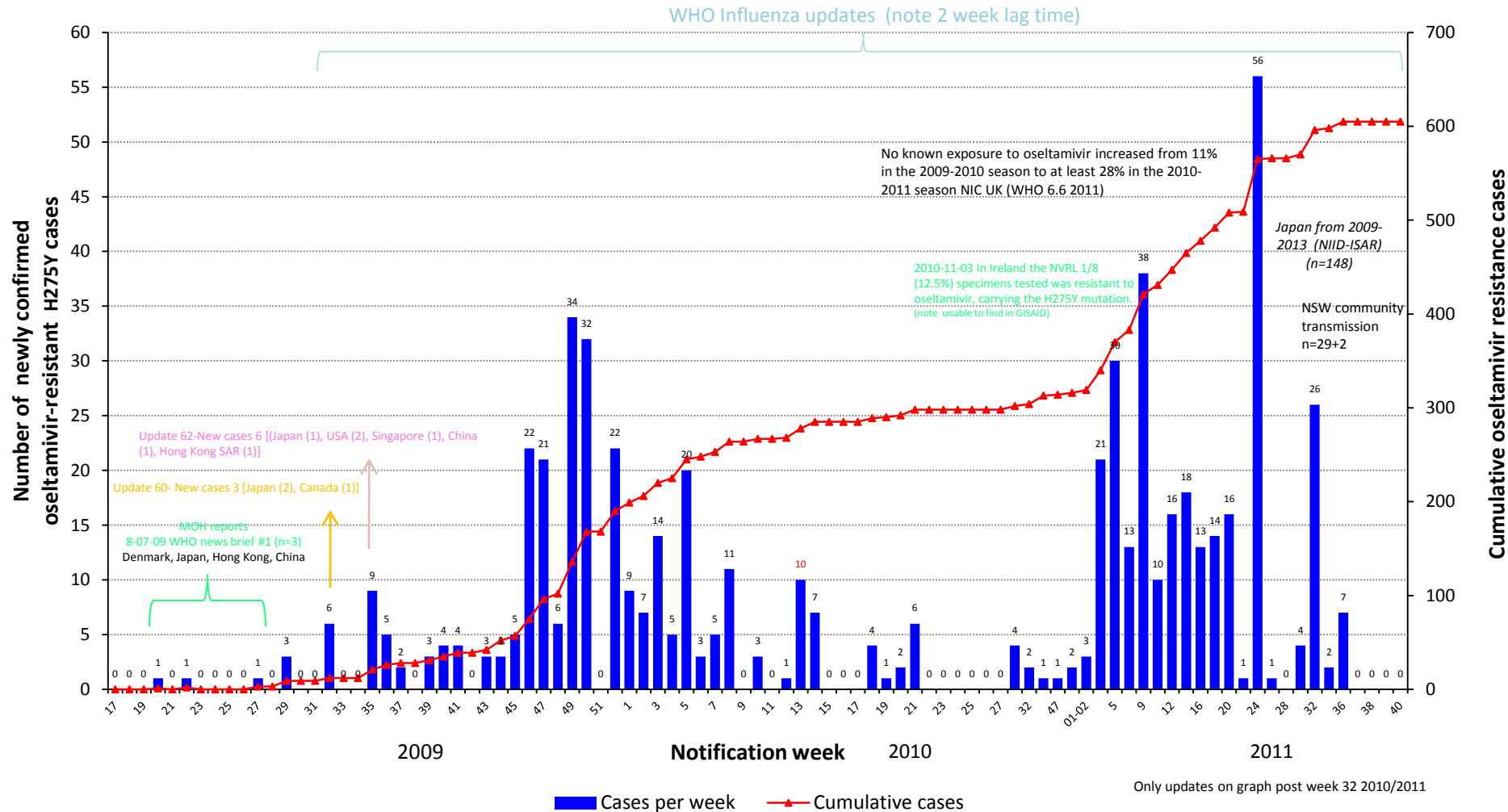


Pandemic (H1N1) 2009 Virus Antiviral Resistance

Updated 10 Jan 2014 ver. 2.1

Pandemic (H1N1) 2009 Virus Antiviral Resistance

Pandemic (H1N1) 2009 Virus Worldwide Oseltamivir Resistance 2009-2011 (n=605)

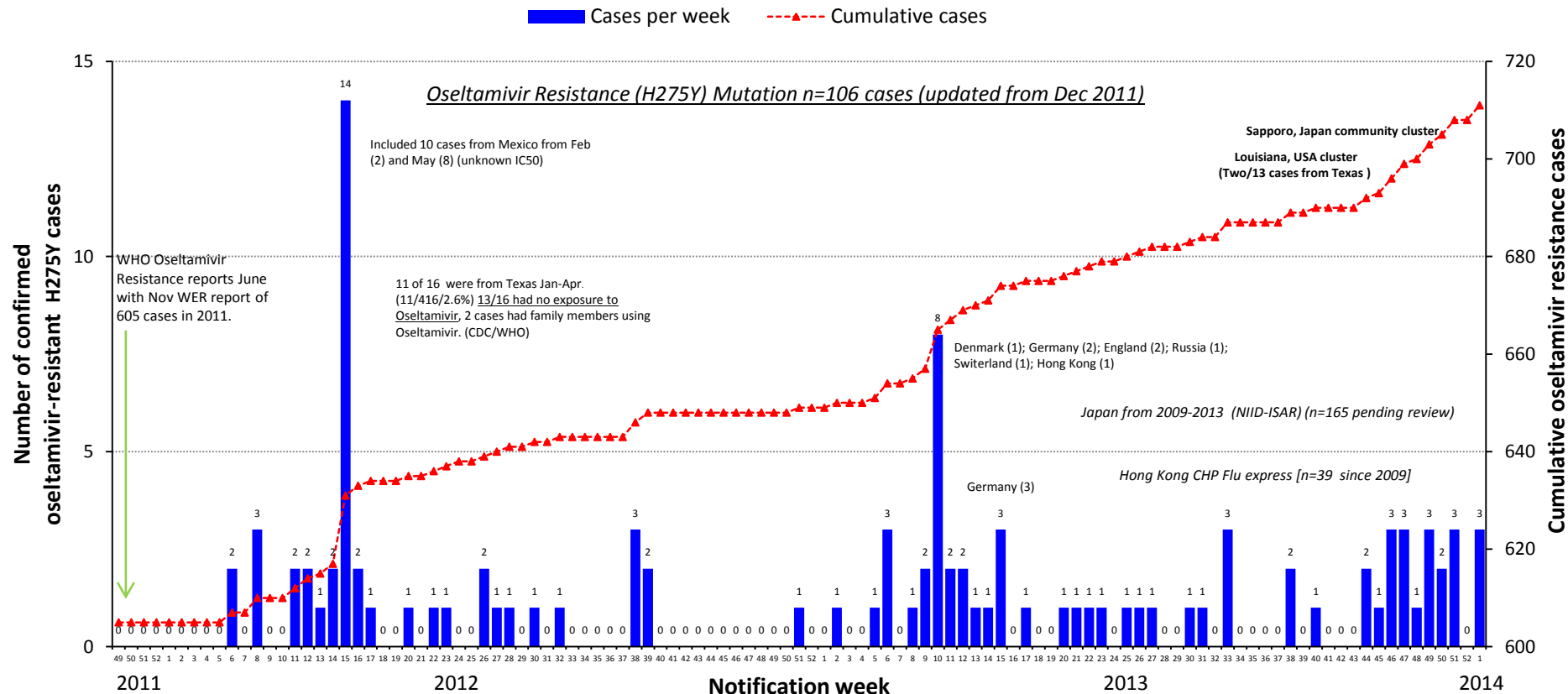


Note- In week 13 (2010) most of the 10 new cases are retrospective from the 4 quarter of 2009 (Update 95 WHO)

Cases reported for the period between week 35, 2010 and week 16, 2011 in Infectious Agents Surveillance Report, Japan. This figure includes 8 samples that are mixed populations H275Y -H275H/Y- 2012 most recent US case during Week 8 (February 19-25, 2012), (no reports since week 38 by WHO) In Australia the frequency of H275Y variants was 4 in 50 viruses in June (8%), 20 in 85 viruses in July (24%), and 4 in 45 viruses in August (9%).

Pandemic (H1N1) 2009 Virus Antiviral Resistance

Week of Notification of Influenza A pdm (H1N1) 09 Virus Worldwide Osetamivir Resistance Nov 2011-2013 (n=711)



1/13/2014

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 Sweden (1) week 14; Germany (3) week 15; New Zealand (2) batch report week 39 from annual report 2012; Hong Kong week 49 and 50 2013 Australia / week notification update one case for each week 23, 31, 33, 38. (weeks 33 case was pending and confirmed in week 38) USA 7 cases reviewed, Louisiana (4) [3 cases Oct and 1 case Nov]; Utah (1); Mississippi (1); pending case 8-10 case respectively; Sapporo, Japan cluster (6)

Note: Not exclusive list, underestimated n=101!

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~ (Group 6)

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) 2012-2013 by week 20 a total of 4 cases

5. USA (2) Week 47 2013

Updated Cases on graph: 14 Dec 2013

1. New Zealand (2) week 39 2012 batch

2. Sweden (1) week 14 2013 EuroFlu

3. Germany (3) week 15 2013

4. Japan (1) week 49 2013

Updated Cases on graph: 16 Dec 2013

Louisiana, USA cluster (No cases from Texas CDC) noted (H/T Niman @ recombinics)

1. Australia (4) 2013

Cases updated week of notification

2. Singapore (1) week 46 2012 (GISRS)

Updated Cases on graph: 22 Dec 2013

Week 49

USA (1) week (reviewed weeks of notification)

Hong Kong (1) week 50

Update new table on following slides!

Updated Cases on graph: 28 Dec 2013

USA (3) Week 51

Year/Week of Notification	Countries (cases) n=92	New cases	
2012	N=44		
Week 6	Mexico (2)	2	
Week 8	CDC US (1), Hong Kong (2)	3	
Week 11	CDC US (1), Hong Kong (1)	2	
Week 12	CDC US (2)	2	
Week 13	CDC US (1)	1	
Week 14	CDC US (2)	2	
Week 15	Mexico (8) [pending +2]; CDC US (6)	14	
Week 16	CDC US (2) [11 of 16 are from Texas Jan-Apr.]	2	
Week 17	CDC US (1)	1	
Week 20	Hong Kong (1)	1	
Week 22	Brazil (1),	1	
Week 23	Hong Kong (1)	1	
Week 26	Brazil (2)	2	
Week 27	Brazil 1	1	
Week 28	Peru (1) July week 2	1	
Week 30	Hong Kong (1)	1	
Week 32	Hong Kong (1)	1	
Week 38	Australia (1); Netherlands (2) [changed Australia]	3	
Week 39	New Zealand (2) [batch from usual res.]	2	
Week 51	Netherlands (1)	1	
2013	N=48		
Week 2	CDC US	1	
Week 5	Japan	1	
Week 6	Hong Kong (1); CDC US (1); Japan (1) [total cases since]	3	
Week 8	Hong Kong (1)	1	
Week 9	Netherlands; Hong Kong (1)	2	
Week 10	Denmark (1); Germany (2); England (2); Russia (1); Switzerland (1); Hong Kong (1)	8	
Week 11	France (4); England (1)	2	
Week 12	Hong Kong (2)	2	
Week 13	Hong Kong (1)	1	
Week 14	Sweden (1)	1	
Week 15	Germany (3)	3	
Week 17	Argentina (1)	1	
Week 20	England (1) PHE	1	
Week 21	Hong Kong (1)	1	
Week 22	Canada (1)	1	
Week 23	Australia (1)	1	
Week 27	Hong Kong (1)	1	
Week 30	Hong Kong (1)	1	
Week 31	Australia (1)	1	
Week 33	Hong Kong (2); Australia (1)	3	
Week 38	Hong Kong (1); Australia (1)	2	
Week 40	Hong Kong (1)	1	
Week 44	CDC US (2)	2	
Week 45	CDC US (1)	1	
Week 46	CDC US (1)	1	
Week 47	CDC US (2)	2	

RED = MOH

Green = Variance

Blue: GISRS (WHO)

GISAIID/CDC/NS1

Updated Cases on graph: 9 Jan 2013

1. Japan (6) week 46 (2); 47 (1); 48 (1); 49 (1); 50 (1)- all 6 had no exposure to antiviral [6/31 (19%)]

Updated Cases on graph: 10 Jan 2014*

2. Paraguay (1) week of collection

•A/Paraguay/91/2013

(15-Jun-13) week 25

3. Dominican Republic (1)

•A/Dominican Republic/7626/2013

(24-Jun-13) week 26

Having some faith in NS1 on these two! Don't have MOH reports, will check sequence!

1. USA (3) week 1 2014

Not sure if WHO included one or all 3 cases from Portugal in 2009-2010

(Option to Control Influenza VIII Cape Town

2013) specific case update in WHO week 44,45

Oseltamivir Resistance (H275Y) n=106 cases (updated from Dec 2011)

Year/Week of Notification	Countries (cases) n=106	New cases
2012	N=44	
Week 6	Mexico (2)	2
Week 8	CDC US (1), Hong Kong (2)	3
Week 11	CDC US (1), Hong Kong (1)	2
Week 12	CDC US (2)	2
Week 13	CDC US (1)	1
Week 14	CDC US (2)	2
Week 15	Mexico (8) [pending +2]; CDC US (6) (H/T Niman)	14
Week 16	CDC US (2)	2
Week 17	CDC US (1) [11 of 16 are from Texas Jan-Apr.]	1
Week 20	Hong Kong (1)	1
Week 22	Brazil (1),	1
Week 23	Hong Kong (1)	1
Week 26	Brazil (2)	2
Week 27	Brazil 1	1
Week 28	Peru (1) July week ?	1
Week 30	Hong Kong (1)	1
Week 32	Hong Kong (1)	1
Week 38	Australia (1); Netherlands 2	3
Week 39	New Zealand (2) batch from annual report	2

Oseltamivir Resistance (H275Y) n=106 cases (updated from Dec 2011-13)

2013	N=62	New Cases
Week 2	CDC US (1)	1
Week 5	Japan (1)	1
Week 6	Hong Kong (1); CDC US (1); Japan (1) [total cases since 2009 n=159]	3
Week 8	Hong Kong (1)	1
Week 9	Netherland (1); Hong Kong (1)	2
Week 10	Denmark (1); Germany (2); England (2); Russia (1); Switerland (1); Hong Kong (1)	8
Week 11	Hong Kong (1); England (1)	2
Week 12	Hong Kong (2)	2
Week 13	Hong Kong (1)	1
Week 14	Sweden (1)	1
Week 15	Germany (3)	3
Week 17	Argentina (1)	1
Week 20	England (1) PHE	1
Week 21	Hong Kong (1)	1
Week 22	Canada (1)	1
Week 23	Australia (1)	1
Week 25	Paraguay (1)*	1
Week 26	Dominican Republic (1)*	1
Week 27	Hong Kong (1)	1
Week 30	Hong Kong (1)	1
Week 31	Australia (1)	1
Week 33	Hong Kong (2); Australia (1)	3
Week 38	Hong Kong (1); Australia (1)	2
Week 40	Hong Kong (1)	1
Week 44	CDC US (2)	2
Week 45	CDC US (1)	1
Week 46	CDC US (1); Japan (2)	3
Week 47	CDC US (2); Japan (1)	3
Week 49	Hong Kong (1) CDC US (1); Japan (1)	3
Week 50	Hong Kong (1); Japan (1)	2
Week 51	CDC US (3)	3
Week 01	CDC US (3)	3