



Timeline for the emergence of oseltamivir resistant influenza A(H1N1) 2007-8 Version 31-10-08

| DATE | EVENT OR PUBLICATION | DOCUMENTATION |
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| Prior to 2007/8 Season | | |
| | Minimal detection of A (H1N1) resistant Viruses | VIRGIL [1] Surveillance |
| 2008 | | |
| January 18 th | VIRGIL Centre & WHO-CC [2] commence testing 2007-8 season specimens | - |
| WB January 21 st th | VIRGIL Centre & WHO-CC start to detect resistant viruses in specimens from Norway. Seek to confirm finding by re-testing | |
| January 25 th | VIRGIL Centre informs Norway and other interested parties | |
| January 25 th | Formal notification by Norwegian authorities of potential PHEIC through WHO International Health Regulations & Level ? event through EU Early Warning and Response System | Alerts through IHR & EWRS restricted web-sites |
| | Norwegian authorities public statement and informing doctors | Norwegian Institute of Public Health |
| | Risk assessment teleconference convened by ECDC | |
| | Informing of the Manufacturer by VIRGIL | |
| | Communication by Manufacturer to EMEA, FDA and its affiliates | <i>To whom it may concern letter by Roche</i> |
| January 28 th | Interim Risk Assessment | ECDC, EISS & WHO web sites [3] |
| January 28 th | Routine teleconference convened by ECDC. Agreement: <ul style="list-style-type: none"> • To channel data that needed to come to ECDC & WHO through the pre-existing EISS / VIRGIL databases • To release data simultaneously on the ECDC, EISS & WHO web-sites with a common acknowledgement • Planning weekly teleconferences | |
| January 29 th | Briefing teleconference for EWRS contact points and for members of the Influenza Section of the EU Health Security Committee | European Commission (SANCO C-3) |
| January 29 th | Technical briefing teleconference with | WHO[4] |



Human Seasonal Influenza A (H1N1) Oseltamivir Resistant Viruses in EU; timeline,
12th June 2008

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| | representatives from Global Influenza Surveillance Network and international partners to review the available data and make recommendations for future surveillance, investigations, and data sharing | |
| January 31 st | Peer-reviewed publication [5] by the central VIRGIL, WHO-CC and EISS collaborators | Eurosurveillance [6] |
| February 4 th | First teleconference convened by ECDC to coordinate investigations (analytic epidemiologic studies) in the affected countries | ECDC |
| February 12 th | EMEA requested the Roche to submit any relevant information regarding the epidemiological situation | A report was made to the EMEA Rapporteur in March. |
| February 20 th | Briefing on the virological findings and implications from VIRGIL principle investigator to ECDC Advisory Forum. Agreement by the most affected countries to meet with ECDC, EISS Center and WHO to coordinate epidemiological investigations | ECDC Advisory Forum |
| Second week of February | Brief guidelines for influenza antiviral therapy in response to the emergence of oseltamivir resistance | Netherlands |
| End February | a written briefing for policy makers in the EU and EEA/EFTA Member States by ECDC | [7] |
| February 27 th | Substantive newspaper article | Irish Independent Paper (There were more) reporting than perceived |
| March 4 th | Meeting of the epidemiological investigators of 6 most affected countries with ECDC, WHO & EISS Centre at Schipol airport in the Netherlands and agreement to work collaboratively on epidemiological & clinical analysis. Formation of the <i>Schipol Group</i> | Agreed minutes of meeting |
| May | Presentation of preliminary findings <ul style="list-style-type: none"> • EISS Annual Meeting in Malta (May 20th) • VIRGIL meeting, Lyon (May 27th) | |
| June 12 th | Report to the Health Security Committee (HSC) meeting by ECDC | HSC Minutes |
| June 20 th | Second Briefing teleconference for EWRS contact points and for members of the Influenza Section of the EU Health Security Committee | European Commission (SANCO C-3) |
| July 18 th | Detection of Resistant Viruses during the 2008 Southern Hemisphere season, notably in South Africa | WHO[8] |
| September 13 th | ECDC/WHO Technical advisory consultation on influenza A(H1N1) virus resistance to oseltamivir | |
| October 14 th | WHO publishes interim summary of Southern | WHO[9] |



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| | Hemisphere season. Includes further confirmation of high proportions of viruses in South Africa and appearance in South America | |
| October 24 th | Routine surveillance publication noted the first detection of a single resistant virus in the 2008/9 Northern Hemisphere Influenza Season | United Kingdom Health Protection Agency [10] |

Sources

1. VIRGIL, Network; <http://www.virgil-net.org/>.
2. WHO Collaborating Centre, <http://www.nimr.mrc.ac.uk/wic/>.
3. ECDC, Interim Risk Assessment; http://www.ecdc.europa.eu/pdf/080127_os.pdf, 2008.
4. WHO, Global Influenza Surveillance Network; <http://www.who.int/csr/disease/influenza/collabcentres/en/index.html>.
5. Eurosurveillance, <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=8026>.
6. ECDC, Eurosurveillance, <http://www.eurosurveillance.org/Default.aspx>.
7. ECDC, http://ecdc.europa.eu/Health_topics/influenza/Briefing_policymakers_EU_%20EEA.pdf.
8. WHO http://www.who.int/csr/disease/influenza/oseltamivir_summary/en/index.html
9. WHO <http://www.who.int/csr/disease/influenza/H1N1200801013.pdf>
10. Health Protection Agency, UK Health Protection Report October 24th 2008
<http://www.hpa.org.uk/hpr/archives/2008/news4308.htm#hcai>