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Several US states are currently reporting *all-time high counts* for Influenza Hospitalisations & Fatalities, topping the record-setting 2009 and 2010 Pandemic H1N1 seasons. Please review our **GeneWurx** charts and summary on the next page concerning **Pennsylvania**'s Influenza Fatalities exceeding the previous state record of 90 [chart]. The public health officials counted 27 victims this week giving a total of *102 Deceased* due to confirmed Influenza. Pennsylvania Hospitalisations continued to set new records each week with a total of *2,564 citizens requiring In-Patient* medical care so far this season.

Over 3 years ago, the state of Pennsylvania began a very aggressive campaign to raise their *vaccination rate*.

New Hampshire Fatalities due to Influenza rise by 5 this week, setting the new record for the northeastern state at *35 Deceased*, surpassing *by 80%* the previous high season of 19 Fatalities during the 2nd season of Pandemic H1N1.

The state of **Indiana** reports 3 new Fatalities this week bringing the total to *43 Deceased* so far this season, *almost double* the previous high mark of 22 set during the 2009 Pandemic season.

The most current sequences from around the world and all regions of the United States demonstrate *wide disparity from the vaccine* due to a high count of changes and a variation pattern at antigenic locations typically leading to higher morbidity & mortality (illness & fatality).

- *30 Polymorphisms* (HA and NA) NewHampshire20_C1_60M_2012_11_24
- *38 Polymorphisms* (HA and NA) Indiana167_M1C1_52F_2012_11_25

A synoptic **GeneWurx** polymorphism report from a *recent full batch* of each circulating serotype (pH1N1 and sH3N2) trails the 3 state Fatality Summaries.

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NS1.

2013-01-29

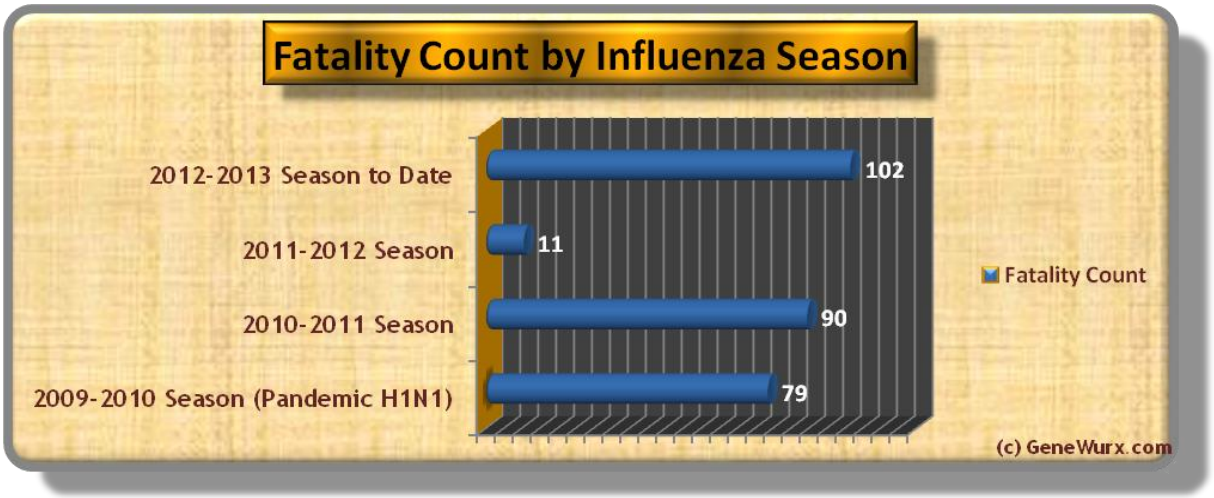
Pennsylvania

Fatality and Hospitalisation Totals after 2013 Week 04

Influenza Fatality Count of 102 Citizens . . . so far this season, increased by 27 this week to exceed the previous State Record of 90.

Fatality Count History for Pennsylvania

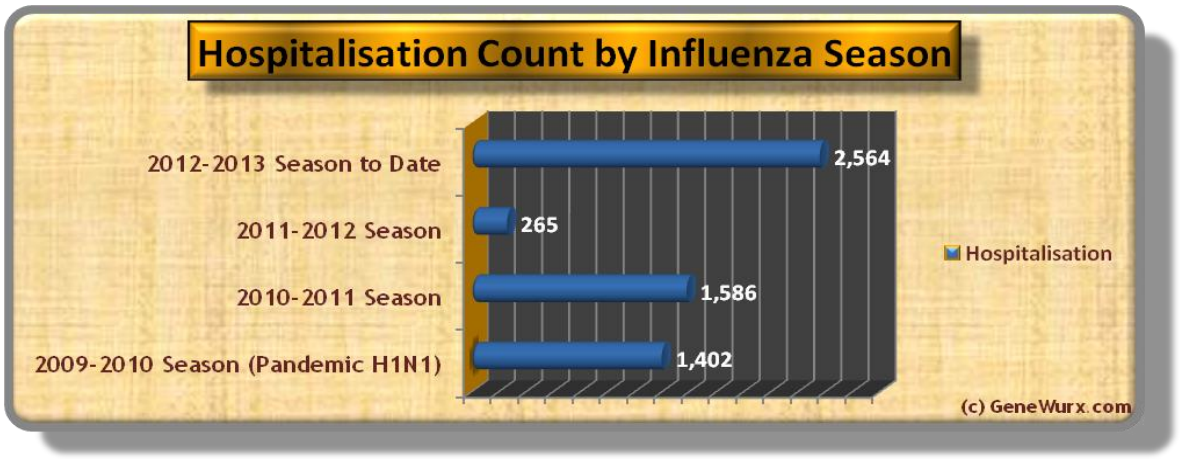
- 2011-2012 Season **11**
- 2010-2011 Season **90** Previous State Record during 2nd Season of Pandemic H1N1
- 2009-2010 Season **79**



State Record Influenza Hospitalisation Count of 2,564 Citizens . . . so far this season.

Hospitalisation Count History for Pennsylvania

- 2011-2012 Season **265**
- 2010-2011 Season **1,586** Previous State Record during 2nd Season of Pandemic H1N1
- 2009-2010 Season **1,402**



2013-01-29

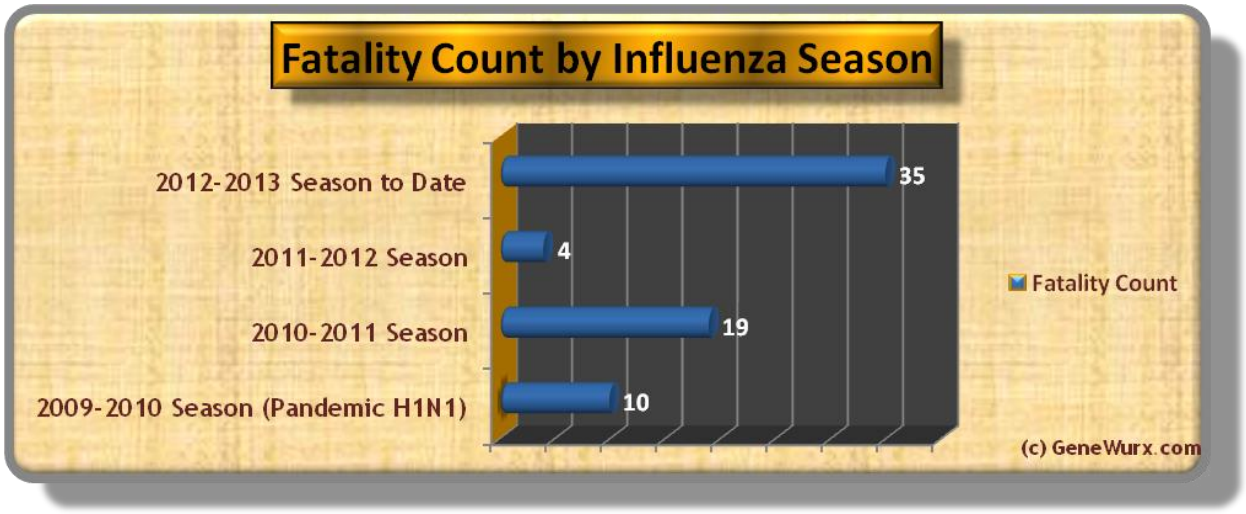
New Hampshire
Fatality Total after 2013 Week 04

State Record Influenza Fatality Count of 35 Citizens . . . so far this season.

- Fatalities **increased by 5** this week, more than the **entire previous season's** total.
- This season is more than **800% higher** than the final total of last season.

Fatality Count History for New Hampshire

- 2011-2012 Season **04**
- 2010-2011 Season **19** Previous State Record during 2nd Season of Pandemic H1N1
- 2009-2010 Season **10**



2013-01-29

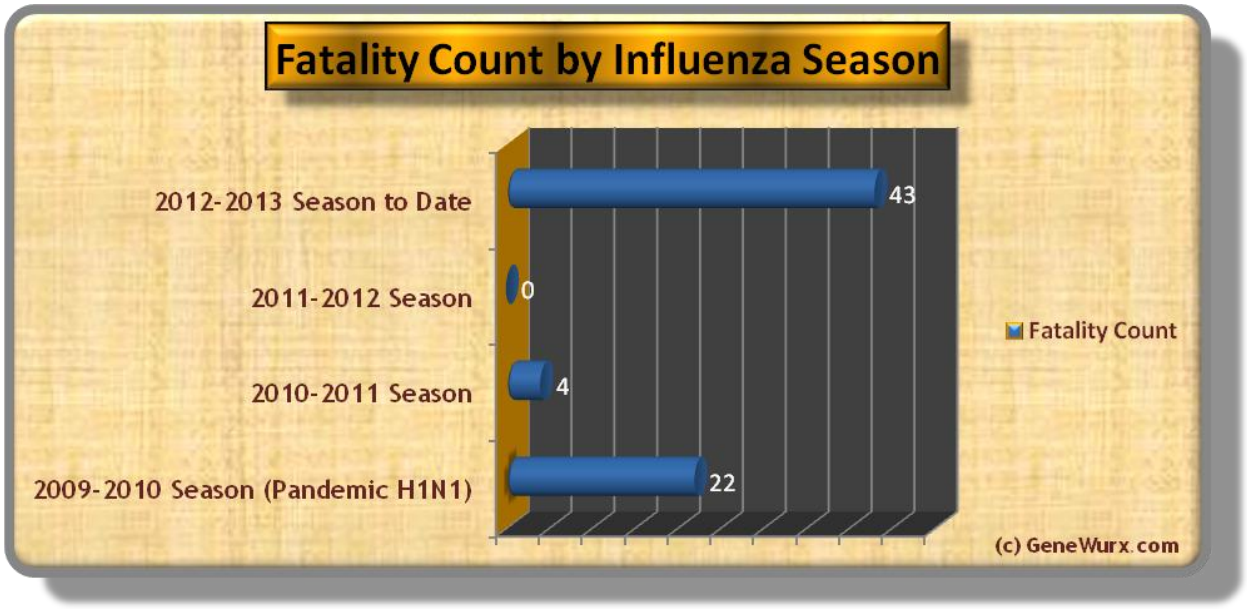
Indiana

Fatality Total after 2013 Week 04

State Record Influenza Fatality Count of 43 Citizens . . . so far this season.

Fatality Count History for Indiana

- 2011-2012 Season **00**
- 2010-2011 Season **04**
- 2009-2010 Season **22** Previous State Record during Pandemic H1N1



2013-01-29

pH1N1
2013_01_22_CDC
HA & NA Polymorphisms

pH1N1 Influenza Hemagglutinin & Neuraminidase Segments elucidated at 2013-01-22-18_29_55_797930 by GeneWurx see.PolyDetector v0, Copyright 2007-2013.

Sequences discussed in this analysis are variously stored publicly at GenBank and privately at GISAID. We gratefully acknowledge the authors, originating and submitting laboratories of the sequences from GenBank and from GISAID's EpiFlu™ Database on which this research is based. GISAID Citations are attached as PDF.

HA 308 Polymorphisms Averaging ~**20.5** per Segment
NA 193 Polymorphisms Averaging ~**12.9** per Segment
HA & **NA** 501 Polymorphisms Averaging ~**33.4** per Sequence

. . . . India2192_2012_12_22 (
. . . . . GISAID HA EPI413162
. . . . . GISAID NA EPI413161
. . . . . 19 Polymorphisms (9 Amino and 10 Silent)
. . . . . 12 Polymorphisms (5 Amino and 7 Silent))

. . . . Minnesota26_C1_31F_2012_12_13 (
. . . . . GISAID HA EPI409917
. . . . . GISAID NA EPI409916
. . . . . 21 Polymorphisms (8 Amino and 13 Silent)
. . . . . 12 Polymorphisms (6 Amino and 6 Silent))

. . . . Florida57_M1C1_25M_2012_12_12 (
. . . . . GISAID HA EPI409898
. . . . . GISAID NA EPI409897
. . . . . 19 Polymorphisms (8 Amino and 11 Silent)
. . . . . 12 Polymorphisms (6 Amino and 6 Silent))

. . . . RhodeIsland10_C2_44M_2012_12_05 (
. . . . . GISAID HA EPI409889
. . . . . GISAID NA EPI409888
. . . . . 22 Polymorphisms (10 Amino and 12 Silent)
. . . . . 12 Polymorphisms (6 Amino and 6 Silent))

. . . . NewYork45_C2_51F_2012_12_02 (
. . . . . GISAID HA EPI414444
. . . . . GISAID NA EPI409900
. . . . . 28 Polymorphisms (11 Amino and 17 Silent)
. . . . . 16 Polymorphisms (8 Amino and 8 Silent))

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pH1N1
2013_01_22_CDC

(continued as Page 2 of 3)

. . . . Indiana167_M1C1_52F_2012_11_25 (
. . . . . GISAID HA EPI409909
. . . . . GISAID NA EPI409908
. . . . . 22 Polymorphisms (9 Amino and 13 Silent)
. . . . . 16 Polymorphisms (8 Amino and 8 Silent))

. . . . NewHampshire20_C1_60M_2012_11_24 (
. . . . . GISAID HA EPI409915
. . . . . GISAID NA EPI409914
. . . . . 18 Polymorphisms (8 Amino and 10 Silent)
. . . . . 12 Polymorphisms (5 Amino and 7 Silent))

. . . . ChinaGansu_Ganzhou33_E2E1_2012_11_19 (
. . . . . GISAID HA EPI409924
. . . . . GISAID NA EPI409923
. . . . . 19 Polymorphisms (8 Amino and 11 Silent)
. . . . . 13 Polymorphisms (6 Amino and 7 Silent))

. . . . ChinaGansu_Ganzhou35_C1C1_2012_11_19 (
. . . . . GISAID HA EPI409922
. . . . . GISAID NA EPI409921
. . . . . 20 Polymorphisms (9 Amino and 11 Silent)
. . . . . 12 Polymorphisms (6 Amino and 6 Silent))

. . . . India5416_X1C1_30M_2012_11_10_TmX247 (
. . . . . GISAID HA EPI409892
. . . . . GISAID NA EPI409891
. . . . . 18 Polymorphisms (8 Amino and 10 Silent)
. . . . . 15 Polymorphisms (5 Amino and 10 Silent))

. . . . Peru2023_C1_7F_2012_10_26 (
. . . . . GISAID HA EPI409903
. . . . . GISAID NA EPI409902
. . . . . 20 Polymorphisms (8 Amino and 12 Silent)
. . . . . 14 Polymorphisms (4 Amino and 10 Silent))

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pH1N1
2013_01_22_CDC

(continued as Page 3 of 3)

. . . . Brazil3479_C1C1_14M_2012_10_16 (
. . . . . GISAID HA EPI409895
. . . . . GISAID NA EPI409894
. . . . . 19 Polymorphisms (8 Amino and 11 Silent)
. . . . . 9 Polymorphisms (4 Amino and 5 Silent))

. . . . Peru0505_C1_27M_2012_10_12 (
. . . . . GISAID HA EPI409906
. . . . . GISAID NA EPI409905
. . . . . 21 Polymorphisms (8 Amino and 13 Silent)
. . . . . 12 Polymorphisms (5 Amino and 7 Silent))

. . . . India1214_X1C1_39F_2012_10_05 (
. . . . . GISAID HA EPI414445
. . . . . GISAID NA EPI409919
. . . . . 18 Polymorphisms (7 Amino and 11 Silent)
. . . . . 13 Polymorphisms (3 Amino and 10 Silent))

. . . . Peru0429_C1_24M_2012_09_04 (
. . . . . GISAID HA EPI409912
. . . . . GISAID NA EPI409911
. . . . . 24 Polymorphisms (10 Amino and 14 Silent)
. . . . . 13 Polymorphisms (5 Amino and 8 Silent))

2013-01-29

sH3N2
2013_01_16_CDC
HA & NA Polymorphisms

sH3N2 Influenza Hemagglutinin & Neuraminidase Segments elucidated at 2013-01-22-01_19_34_490910 by GeneWurx see.PolyDetector v0, Copyright 2007-2013.

HA 282 Polymorphisms Averaging ~**25.6** per Segment
NA 210 Polymorphisms Averaging ~**19.1** per Segment
HA & **NA** 492 Polymorphisms Averaging ~**44.7** per Sequence

. . . . Virginia15_C2_85F_2012_12_05 (
. . . . . GISAID HA EPI408604
. . . . . GISAID NA EPI408603
. . . . . 38 Polymorphisms (16 Amino and 22 Silent)
. . . . . 29 Polymorphisms (7 Amino and 22 Silent))

. . . . RhodeIsland09_C2_19M_2012_11_28 (
. . . . . GISAID HA EPI408606
. . . . . GISAID NA EPI408605
. . . . . 17 Polymorphisms (9 Amino and 8 Silent)
. . . . . 9 Polymorphisms (2 Amino and 7 Silent))

. . . . NewJersey08_C2_93M_2012_11_28 (
. . . . . GISAID HA EPI408601
. . . . . GISAID NA EPI408600
. . . . . 16 Polymorphisms (10 Amino and 6 Silent)
. . . . . 16 Polymorphisms (5 Amino and 11 Silent))

. . . . Nebraska11_C2_33F_2012_11_26 (
. . . . . GISAID HA EPI408613
. . . . . GISAID NA EPI408612
. . . . . 19 Polymorphisms (8 Amino and 11 Silent)
. . . . . 14 Polymorphisms (5 Amino and 9 Silent))

. . . . Missouri13_C2_79M_2012_11_26 (
. . . . . GISAID HA EPI408611
. . . . . GISAID NA EPI408610
. . . . . 21 Polymorphisms (8 Amino and 13 Silent)
. . . . . 11 Polymorphisms (4 Amino and 7 Silent))

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sH3N2

2013_01_16_CDC

(continued as Page 2 of 2)

. . . . Maryland43_C2_2M_2012_11_13 (
. . . . . GISAID HA EPI408608
. . . . . GISAID NA EPI408607
. . . . . 37 Polymorphisms (15 Amino and 22 Silent)
. . . . . 27 Polymorphisms (8 Amino and 19 Silent))

. . . . Virginia14_X1C2_7M_2012_11_13 (
. . . . . GISAID HA EPI408598
. . . . . GISAID NA EPI408597
. . . . . 36 Polymorphisms (15 Amino and 21 Silent)
. . . . . 26 Polymorphisms (7 Amino and 19 Silent))

. . . . SouthDakota10_C1_73M_2012_10_12 (
. . . . . GISAID HA EPI408616
. . . . . GISAID NA EPI408615
. . . . . 20 Polymorphisms (9 Amino and 11 Silent)
. . . . . 11 Polymorphisms (3 Amino and 8 Silent))

. . . . Alaska25_C2_5F_2012_10_11 (
. . . . . GISAID HA EPI408596
. . . . . GISAID NA EPI408595
. . . . . 34 Polymorphisms (15 Amino and 19 Silent)
. . . . . 25 Polymorphisms (6 Amino and 19 Silent))

. . . . ChinaXinjiang_Tianshan1411_C3C1_2012_04_01_VxX (
. . . . . GISAID HA EPI408591
. . . . . GISAID NA EPI408590
. . . . . 34 Polymorphisms (15 Amino and 19 Silent)
. . . . . 32 Polymorphisms (15 Amino and 17 Silent))

. . . . Vietnam51_CXC2_2012_02_26_VxX (
. . . . . GISAID HA EPI408588
. . . . . GISAID NA EPI408587
. . . . . 10 Polymorphisms (6 Amino and 4 Silent)
. . . . . 10 Polymorphisms (5 Amino and 5 Silent))