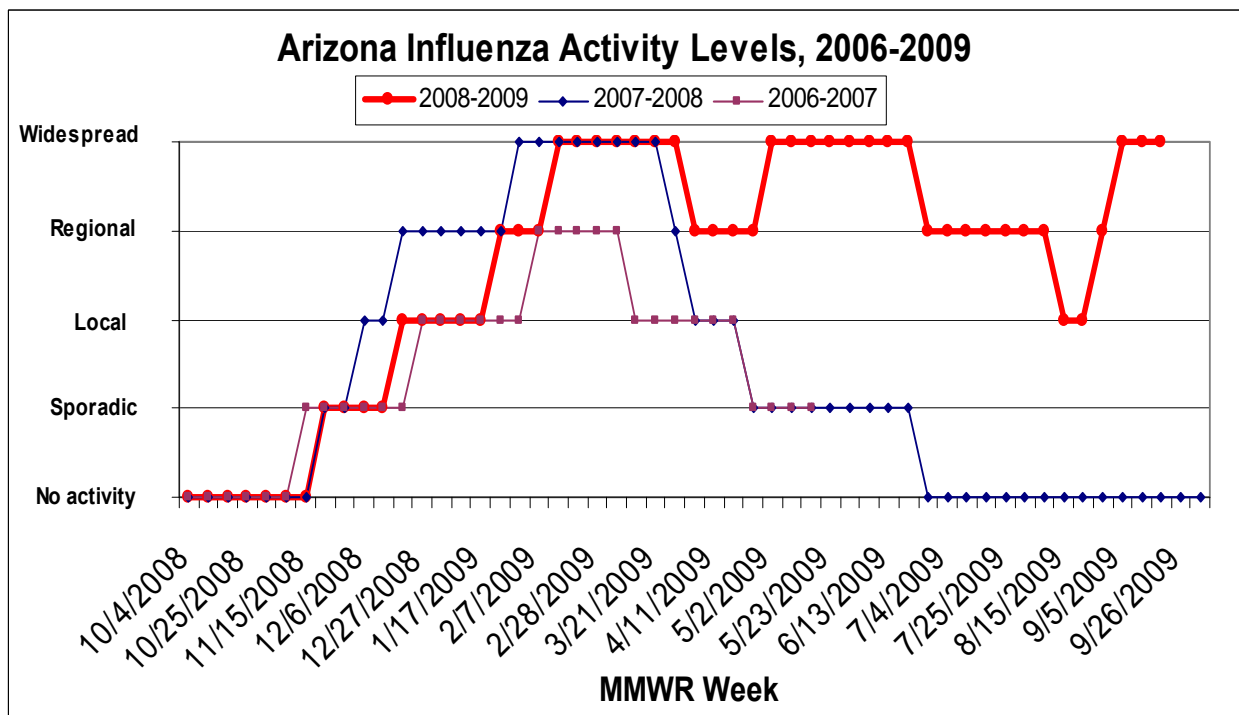


Influenza activity highlights (for both seasonal and 2009 H1N1) are included in a separate report, posted weekly at <http://www.azdhs.gov/flu/h1n1/index.htm>. This report supplements that information.

- Data in this report are provisional and may change as more reports are received.
- The data included in this report represent a small proportion of the true number of cases of influenza. Many people do not visit the doctor when ill and doctors should not be expected to run tests on all patients exhibiting influenza-like symptoms.
- For guidance and information pertaining to the 2009 H1N1 influenza virus, please visit: <http://www.azdhs.gov/phs/oids/epi/flu/h1n1/index.htm> or <http://www.cdc.gov/h1n1flu/>.
- National influenza surveillance data are available at the CDC’s Influenza Surveillance site (<http://www.cdc.gov/flu/weekly/fluactivity.htm>).
- Each influenza season is defined by surveillance weeks. The first day of the 2008-2009 influenza season was September 28th, 2008, or week 40 and the 2008-2009 surveillance season will continue through October 3rd, 2009, or week 39.

Arizona Influenza Activity Levels

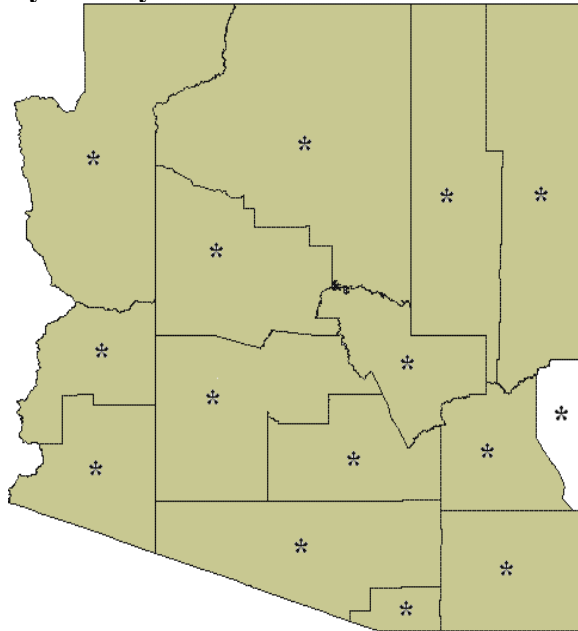
The graph below shows the influenza activity levels reported to CDC. For week 38, Arizona reported *widespread* activity. Definitions of these reporting categories can be found at Definitions: <http://www.cdc.gov/flu/weekly/fluactivity.htm>.



Laboratory-Confirmed Influenza

Positive influenza tests are reported to ADHS. These include many types of test (rapid tests, culture, PCR, DFA, etc.). Many of these do not distinguish 2009 H1N1 influenza from other influenza strains.

By County:



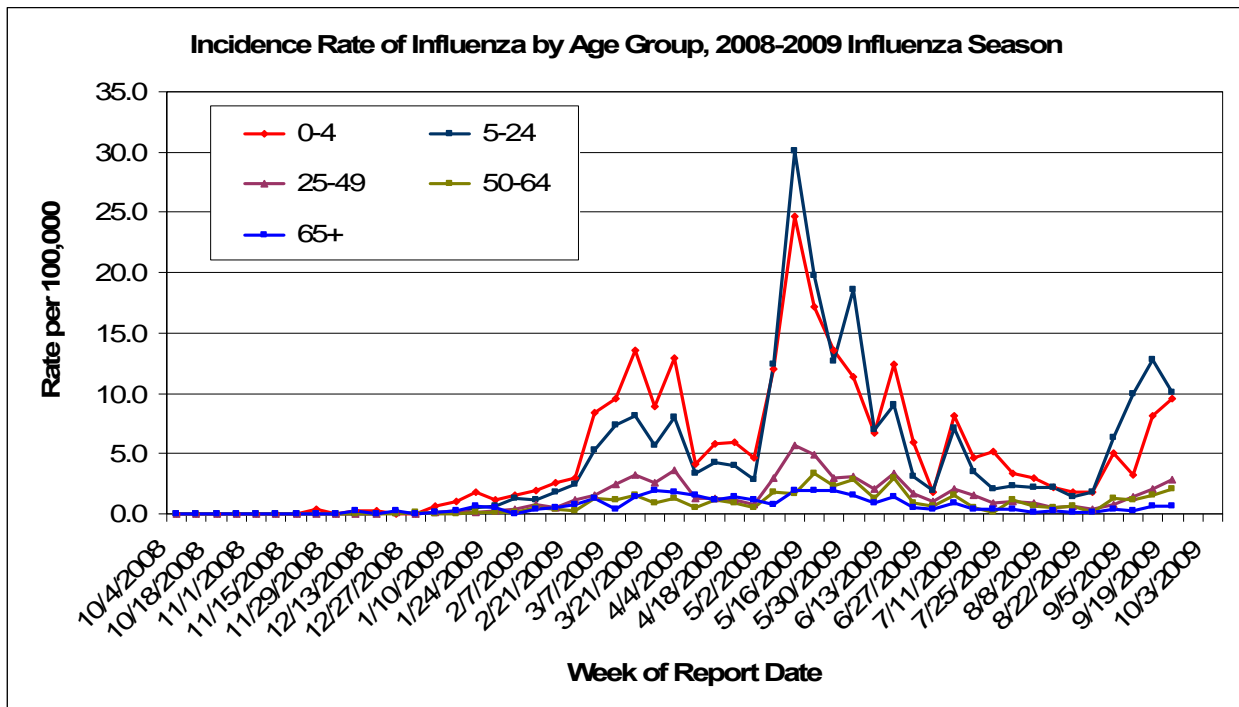
Key:

* = Any activity reported this season

Green = Activity reported in the previous three weeks

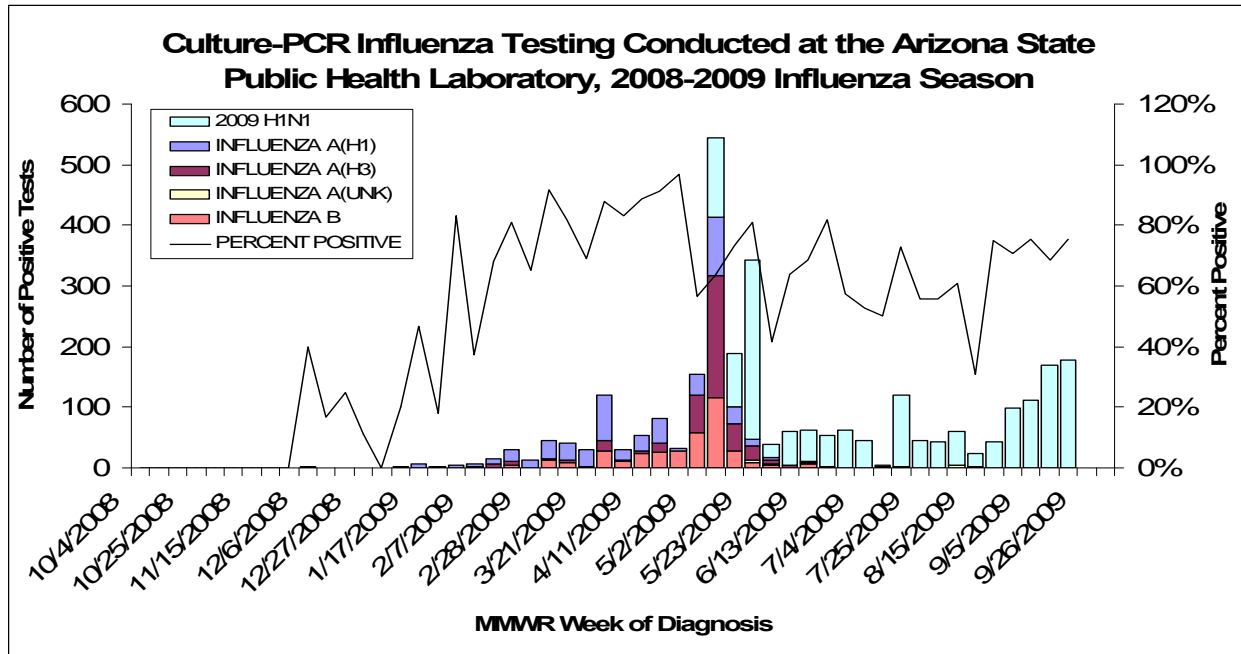
White = No activity reported in the previous three weeks

By Age Group:

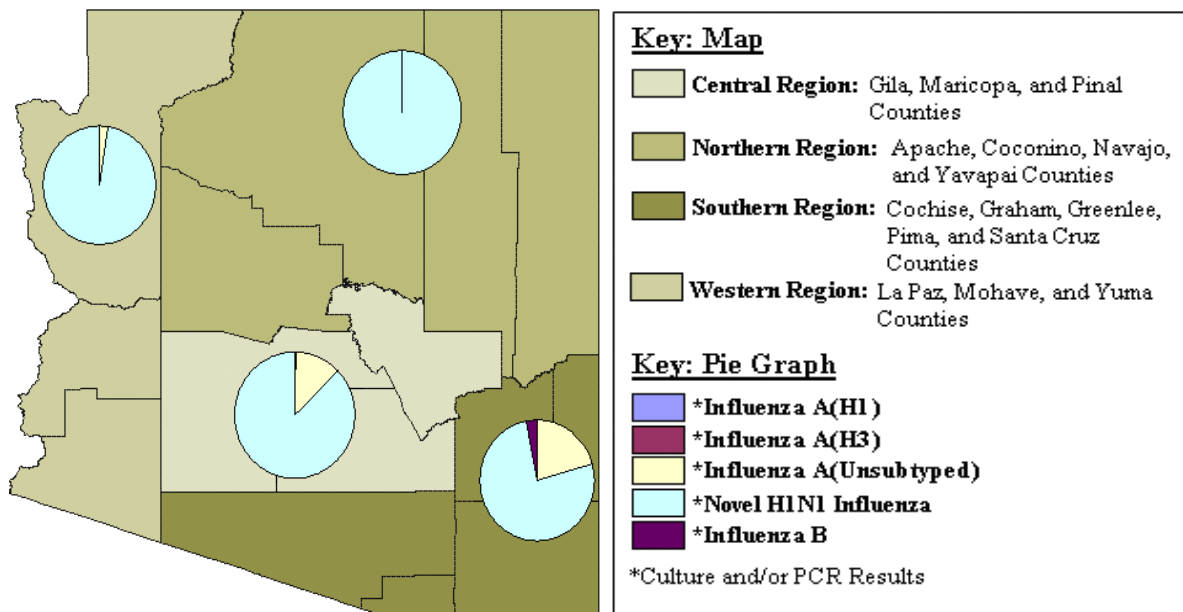


Laboratory Surveillance

Specialized testing at the Arizona State Public Health Laboratory and certain labs in the state can detect further information about the type and subtype of influenza virus, including differentiating 2009 H1N1 influenza from other subtypes.



The results below show only culture and/or PCR results reported to ADHS from the Arizona State Laboratory or other laboratories across the state during the previous three weeks.



Influenza subtyping of culture or PCR results, by region, past three weeks

| Region | Influenza A(H1) | Influenza A(H3) | Influenza A(Unsubtyped) | 2009 H1N1 Influenza | Influenza B |
|----------|-----------------|-----------------|-------------------------|---------------------|-------------|
| Central | 0 (0%) | 1 (0%) | 42 (12%) | 296 (87%) | 0 (0%) |
| Northern | 0 (0%) | 0 (0%) | 0 (0%) | 73 (100%) | 0 (0%) |
| Southern | 0 (0%) | 0 (0%) | 7 (21%) | 26 (76%) | 1 (3%) |
| Western | 0 (0%) | 0 (0%) | 1 (2%) | 40 (98%) | 0 (0%) |

Influenza typing and subtyping of all reported influenza tests

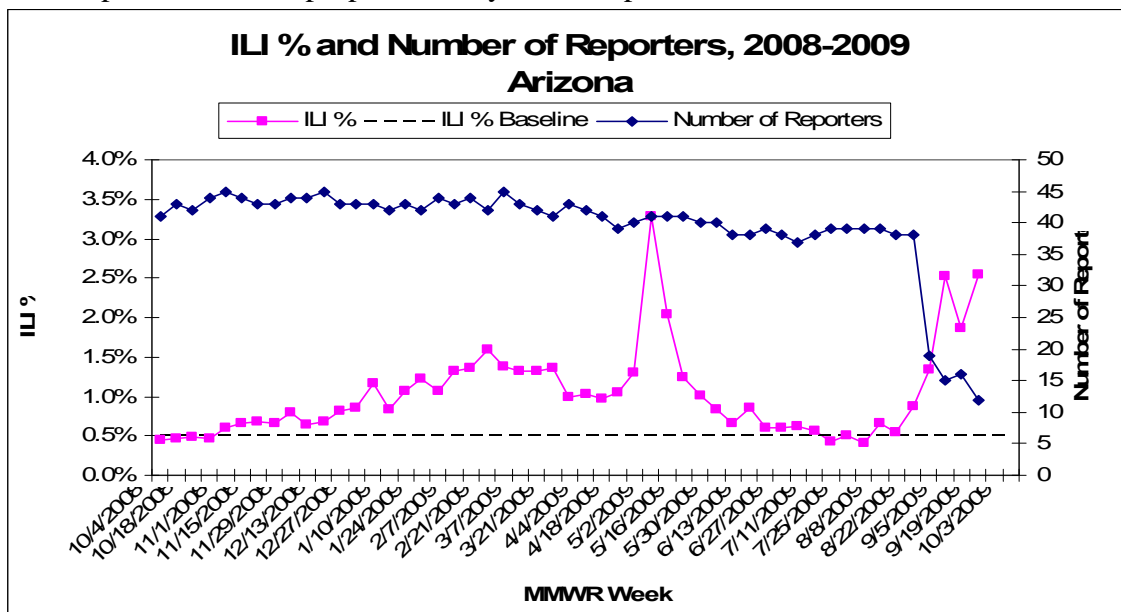
| | Season (2008-2009) | Percent Total (2008-2009) | Season (2007-2008) | Percent Total (2007-2008) | Season (2006-2007) | Percent Total (2006-2007) |
|---------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|---------------------------|
| Total* | 7,768 | 100% | 5,168 | 100% | 1,663 | 100% |
| Influenza A* | 5,888 | 76% | 2,898 | 56% | 1,116 | 67% |
| 2009 H1N1 † | 1670 | 21% | 0 | 0% | 0 | 0% |
| Influenza A(H1) † | 457 | 6% | 184 | 4% | 235 | 14% |
| Influenza A(H3) † | 382 | 5% | 234 | 5% | 31 | 2% |
| Influenza A(Unsubtyped) † | 432 | 6% | 257 | 5% | 185 | 11% |
| Influenza B* | 1,683 | 22% | 1,900 | 37% | 355 | 21% |
| B/Victoria lineage † | 52 | 1% | 0 | 0% | 38 | 2% |
| B/Yamagata lineage † | 1 | 0% | 181 | 4% | 5 | 1% |
| B/Unsubtyped † | 451 | 6% | 325 | 6% | 120 | 7% |
| Unknown* | 197 | 3% | 370 | 7% | 192 | 12% |

* Data for the bolded categories include all tests.

† Data for the subcategories include only culture and PCR tests conducted at the Arizona State Laboratory or other reporting laboratories.

Influenza-Like Illness (ILI) Surveillance from Sentinel Providers

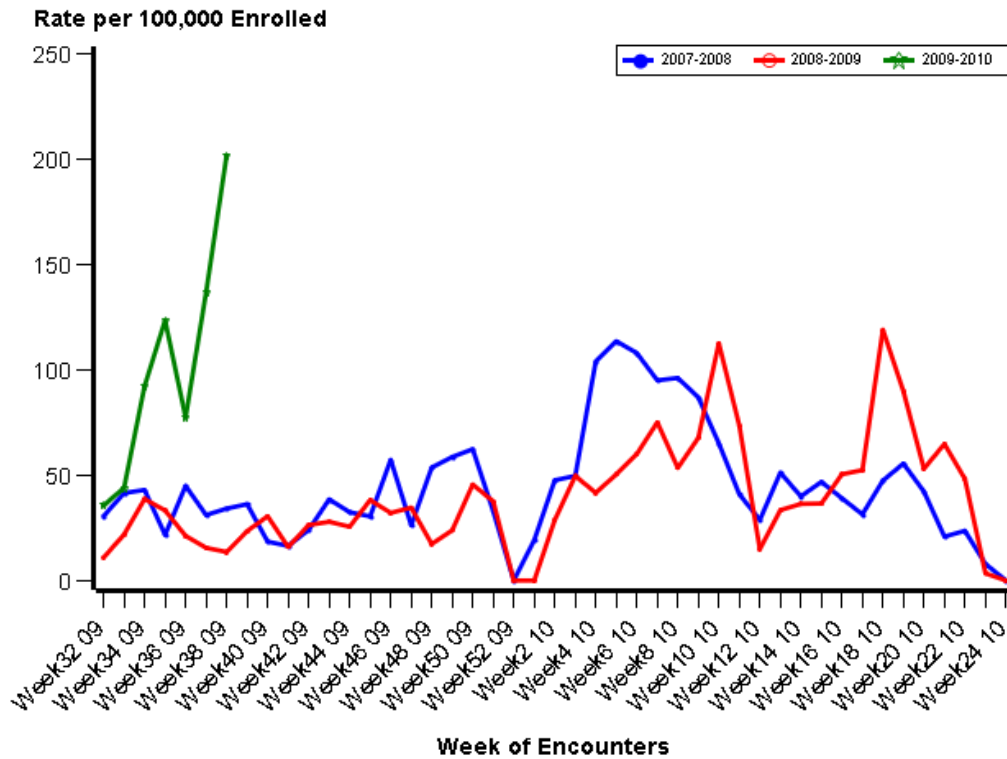
ILI is defined as a fever of at least 100°F plus either a cough or a sore throat. The proportion of patient visits to sentinel providers for ILI in the state was 2.6% for the week ending 9/19/2009 (week 37). The state baseline is 0.5%. In weeks when a relatively low number of reporting providers is present, the ILI proportion may not be representative for the entire state of Arizona.



School Surveillance for Influenza-Like Illness (ILI)

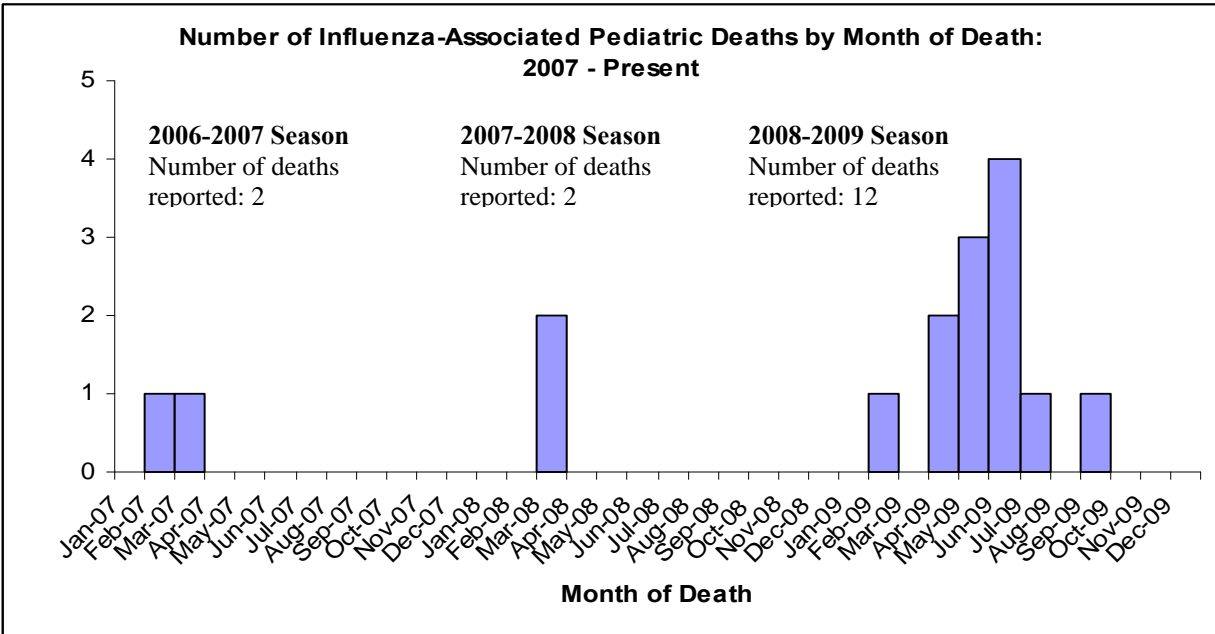
School nurses in 340 Arizona schools around the state use a computer program (the Child Health Indicator Program) for electronic management of student health records. The graph presents the weekly trend of ILI syndromes reported among students during the school years of 2006-2007, 2007-2008, and 2008-2009. The number of school nurse encounters are not diagnosed cases of communicable diseases but are based on the nursing codes that school nurses enter to track student conditions. Also, the numbers in the graph are only from schools that used CHIP during the school year.

Influenza-Like Illness Per School Enrollment in Arizona (per 100,000)



Mortality Surveillance

Twelve influenza-associated pediatric deaths have been reported to ADHS during the 2008-2009 influenza season. Nine individuals were infected with influenza A and three with influenza B. Of the nine individuals infected with influenza A, seven were confirmed to be 2009 H1N1 influenza. One case died in February, two in April, three in May, four in June, one in July, and one in September.



Epidemiologic Information for confirmed 2009 H1N1 influenza cases

| | Total Confirmed Cases (N=1,935) | Investigated Confirmed Deaths and Hospitalizations (N=371) |
|-----------------------------------|------------------------------------|--|
| By Age Group: | | |
| Children (≤18 Years) | 1,190 (62%) | 166 (45%) |
| Adults (>18 Years) | 745 (38%) | 205 (55%) |
| By Race: | | |
| American Indian or Alaskan Native | 299 (15%) | 80 (22%) |
| Asian or Pacific Islander | 11 (1%) | 1 (0%) |
| Black or African American | 50 (3%) | 25 (7%) |
| Hispanic or Latino | 387 (20%) | 122 (33%) |
| White Non-Hispanic | 301 (16%) | 88 (24%) |
| Other or Unknown | 887 (46%) | 55 (15%) |

2009 H1N1 Influenza Hospitalized Cases and Deaths: Medical progression & Underlying Conditions

| | Investigated Confirmed Deaths and Hospitalizations (N=371) |
|---|--|
| Pneumonia at Time of Hospital Admission | 142 (38%) |
| Developed ARDS Prior to or While in Hospital | 83 (22%) |
| Asthma | 83 (22%) |
| Chronic Lung Disease | 71 (19%) |
| Chronic Heart or Circulatory Disease | 71 (19%) |
| Metabolic Disease (Including Diabetes) | 78 (21%) |
| Cancer in the Previous 12 Months | 17 (5%) |
| Pregnant | 33 (9%) |
| Immunosuppressive Condition (Including HIV Infection) | 51 (14%) |
| Neurological Disease | 55 (15%) |
| Other Chronic Disease | 113 (30%) |
| ≥1 Underlying Medical Conditions* | 246 (66%) |

2009 H1N1 Influenza Hospitalized Cases and Deaths: Medical progression & Underlying Conditions, by Age Group

| | Children (≤18 Years) (N=166) | Adults (>18 Years) (N=205) |
|---|---------------------------------|-------------------------------|
| Pneumonia at Time of Hospital Admission | 56 (34%) | 86 (42%) |
| Developed ARDS Prior to or While in Hospital | 30 (18%) | 53 (26%) |
| Asthma | 43 (26%) | 40 (20%) |
| Chronic Lung Disease | 21 (13%) | 50 (24%) |
| Chronic Heart or Circulatory Disease | 11 (7%) | 60 (29%) |
| Metabolic Disease (Including Diabetes) | 6 (4%) | 72 (35%) |
| Cancer in the Previous 12 Months | 4 (2%) | 13 (6%) |
| Pregnant | 3 (2%) | 30 (15%) |
| Immunosuppressive Condition (Including HIV Infection) | 12 (7%) | 39 (19%) |
| Neurological Disease | 30 (18%) | 25 (12%) |
| Other Chronic Disease | 39 (23%) | 74 (36%) |
| ≥1 Underlying Medical Conditions* | 94 (57%) | 152 (74%) |

*Medical conditions include: asthma, chronic lung disease, chronic heart or circulatory disease, metabolic disease, cancer, pregnancy, immunosuppressive condition, neurologic disease, and other chronic diseases.