

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health

H1N1 Influenza Disparities: Data Highlights

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The H1N1 influenza outbreak first hit Massachusetts in late April, 2009. Since that time, the Commonwealth's influenza surveillance system indicates that there have been over 1900 confirmed cases in the state. However, this represents only a fraction of Massachusetts residents who became ill with H1N1 influenza because routine testing was not performed after June. Centers for Disease Control population estimates indicate that approximately 20 million people in the U.S. have become ill with H1N1 influenza.

Massachusetts has experienced two waves of H1N1 influenza.

- Our surveillance data on influenza-like illness through January 8, 2010 demonstrate a substantial peak in reports of illness in the late fall that exceed both the peak of H1N1 illness during the spring outbreak and the peak of usual seasonal flu in the winter months during the past two flu seasons (*Figures 1 & 2*).
- Of the 1912 confirmed cases in Massachusetts, 385 individuals were hospitalized with confirmed H1N1 influenza and unfortunately, 29 individuals died (*Table 1*).

Members of racial and ethnic minorities bore a disproportionate burden of H1N1 disease and complications.

Our surveillance system indicates that the burden of H1N1 disease and its complications was disproportionately borne by minority populations in the state.

- Black, Hispanic and Asian residents were over-represented among confirmed cases compared to their percentages in the overall population. *Figure 3* shows the distribution of confirmed cases by race/ethnicity.
- When the confirmed cases are analyzed by race/ethnicity according to their overall population, there are still alarming disparities in the rates of confirmed H1N1 influenza. The rates of laboratory confirmed H1N1 influenza among Asian, Black and Hispanic residents are more than two to four times as high as those for white residents (*Figure 4*).

- Racial and ethnic minorities were also over represented among those hospitalized with H1N1 infection, both in terms of their proportion of hospitalized patients (*Figure 5*) and in their rates of hospitalization (*Figure 6*). Racial and ethnic minorities who had H1N1 were also hospitalized at much higher rates than their White counterparts. Hispanics were hospitalized over 3 times more often, and Blacks were hospitalized more than 4 times as often. (Asians were 1.5 times higher.)
- Even more disturbing is the difference in death rates. Blacks had a death rate more than 3 times higher than their White counterparts, Asians more than 4 times higher, and Hispanics almost 6 times higher (*Figure 7*).
- Young Black and Hispanic children had the highest rates of hospitalization when hospitalization rates were stratified by race/ethnicity and age (*Figure 8*).
- There are likely multiple factors leading to these disparities, which may include:
 - Differences in the geographic regions of virus circulation. If the H1N1 virus circulated more freely in geographic areas with higher proportions of minority residents, higher proportions of minorities would be expected among the confirmed cases.
 - Differences in vaccination rates among the groups. Historically, minority groups have had lower rates of vaccination compared to their white counterparts.
 - Disparities in hospitalization and death may be related to the increased burden of chronic disease among minority populations which puts these individuals at increased risk for complications from influenza.

ACTION STEPS

The Department of Public Health is dedicated to promoting the health and well-being of all communities in the Commonwealth and has consistently focused on the reduction of health disparities in all of its work. Given the data summarized here, the Department will launch a special initiative to reach populations who are more vulnerable to adverse outcomes of H1N1 influenza. Key components include:

- **It will dedicate over \$1 million in funding that will enable community-based organizations to perform outreach to the populations especially hard hit by the flu.** This includes organizations such as community health centers, WIC offices and others. These organizations will focus on overcoming any barriers to H1N1 vaccination in these communities.
- **DPH will expand the Flu Facts media campaign to speak directly to African American and Latino audiences.** This campaign has played a vital role in keeping the public informed about protecting themselves from the flu, and we hope that the new commercials will further spread this important message to those most at risk.

• **Figure 1**

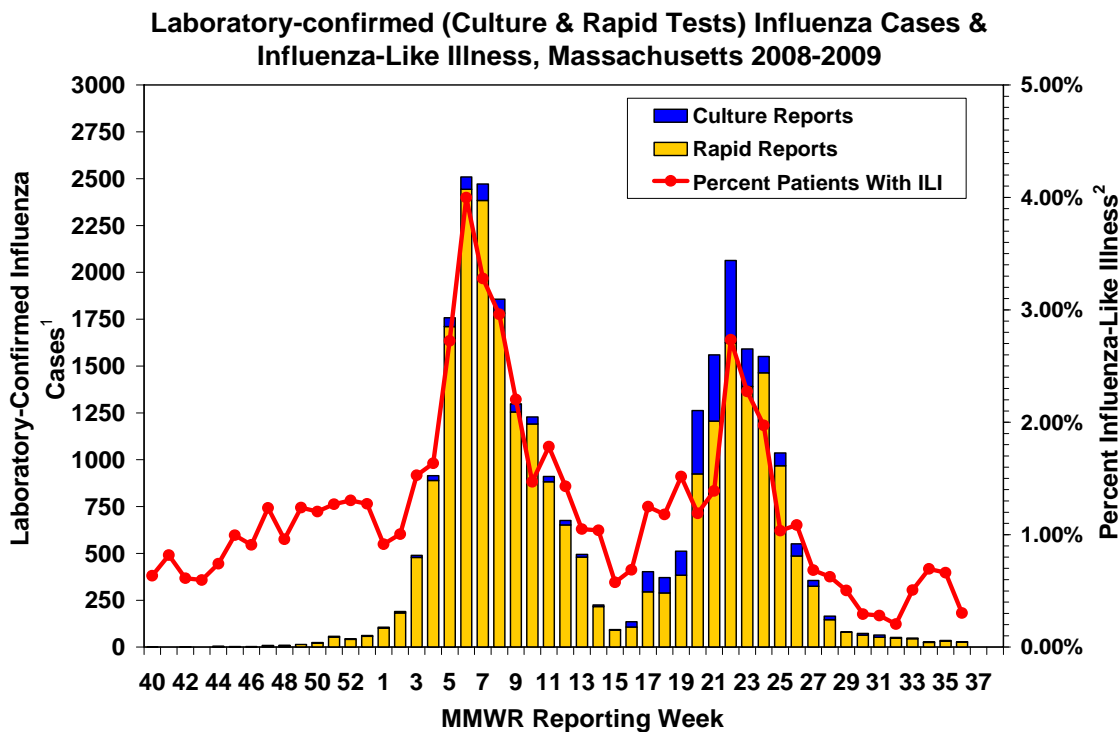
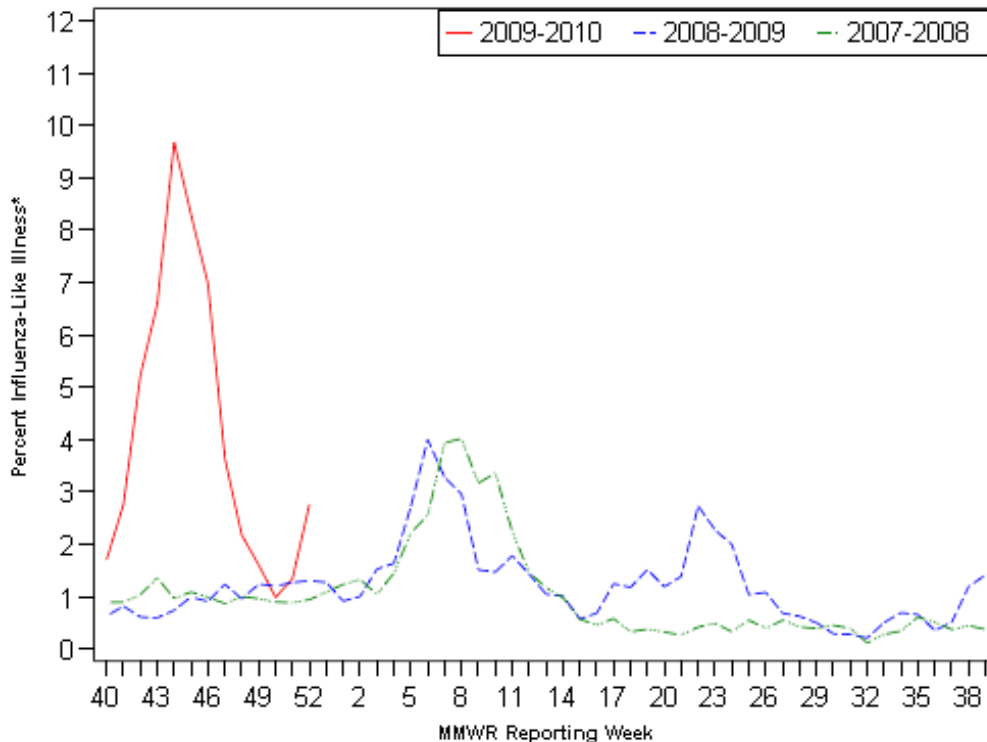


Figure 2



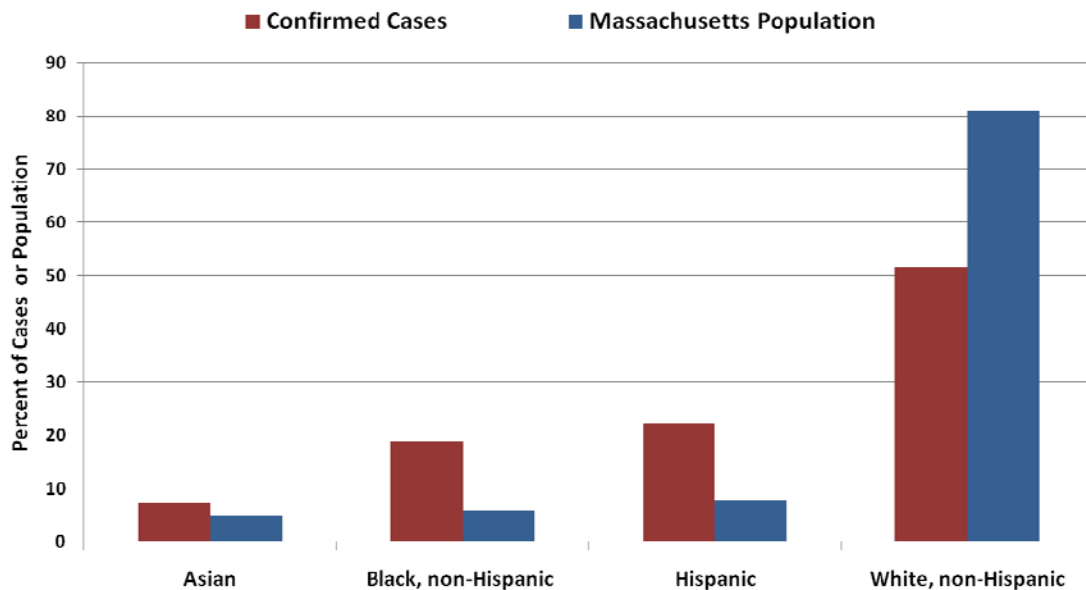
*Influenza-like illness (ILI, defined by fever >100F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites.

Table 1: Confirmed H1N1 cases in Massachusetts, April 26, 2009 – January 7, 2010

	Age group (N)	Age group (%)	Female (%)	Pregnant (N)	Hospitalized (N)	Hospitalized (%)	Deaths (N)
0-4 years	295	15.4	40.68	0	87	29.49	2
5-12 years	498	26	39.96	0	89	17.87	1
13-18 years	366	19.1	49.18	6	45	12.30	1
19-25 years	221	11.6	62.90	22	27	12.22	2
26-44 years	284	14.9	65.49	33	48	16.90	7
45-64 years	209	10.9	54.55	0	66	31.58	11
65+ years	37	1.94	67.57	0	23	62.16	5
Unknown	2	0.1	50.00	0	0	0	0
TOTAL	1912	~ ~	50.42	61	385	20.14	29

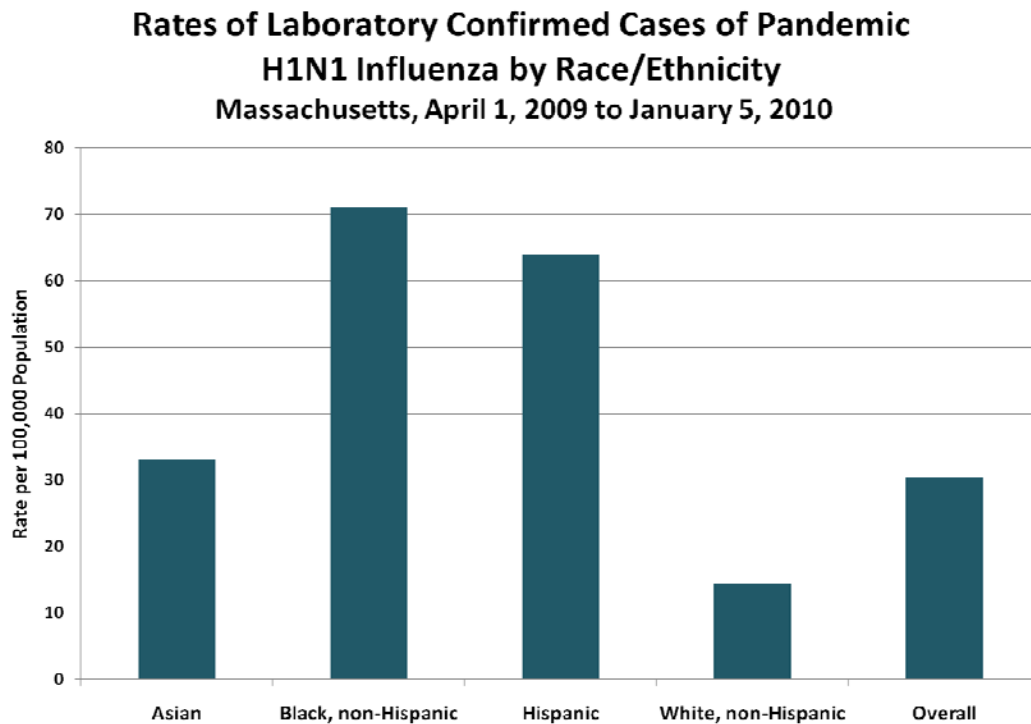
Figure 3

**Race/Ethnicity Among Individuals with Laboratory-Confirmed 2009 Pandemic H1N1 Influenza Compared to the Massachusetts Population
April 1, 2009 to January 5, 2010**



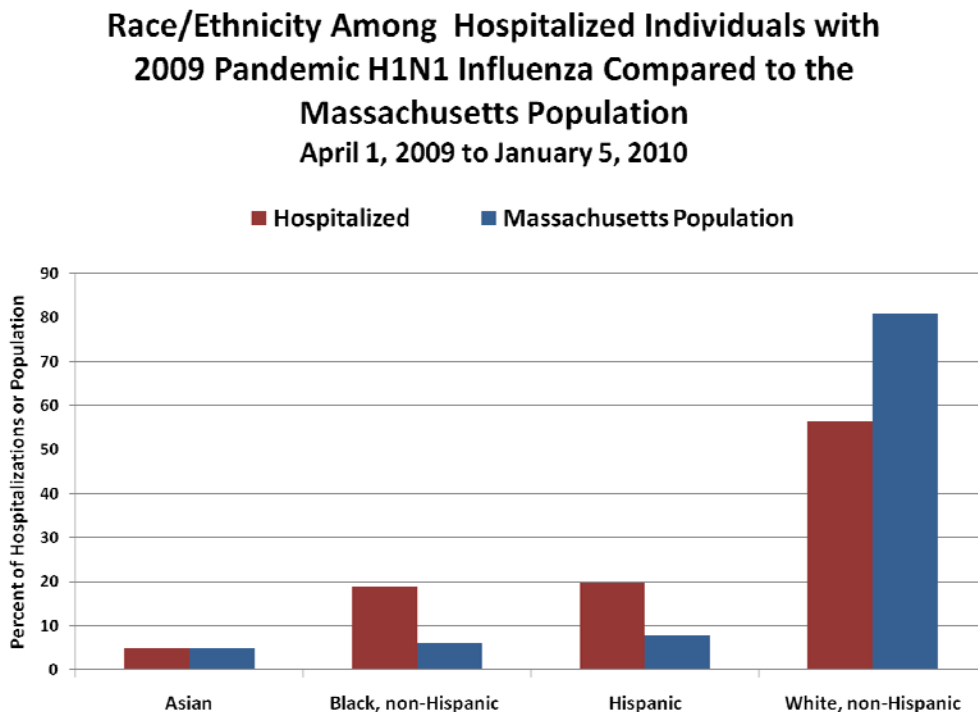
Source: Massachusetts Immunization Program.

Figure 4



Source: Massachusetts Immunization Program. MDPH MassCHIP 2005 Population Estimates

Figure 5



Source: Massachusetts Immunization Program.

Figure 6

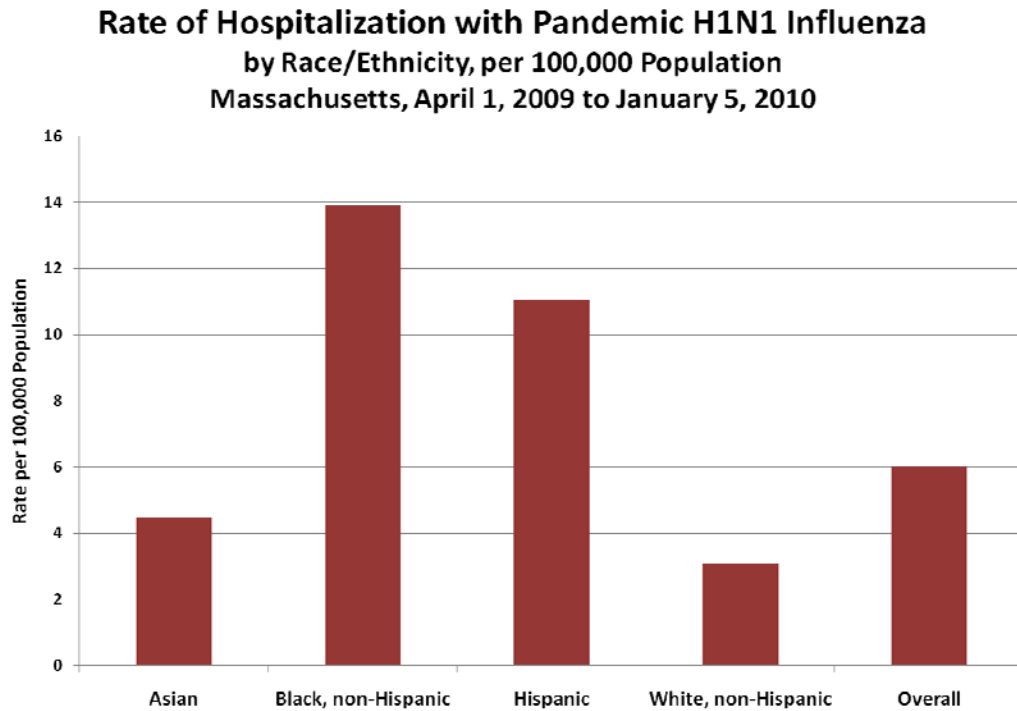
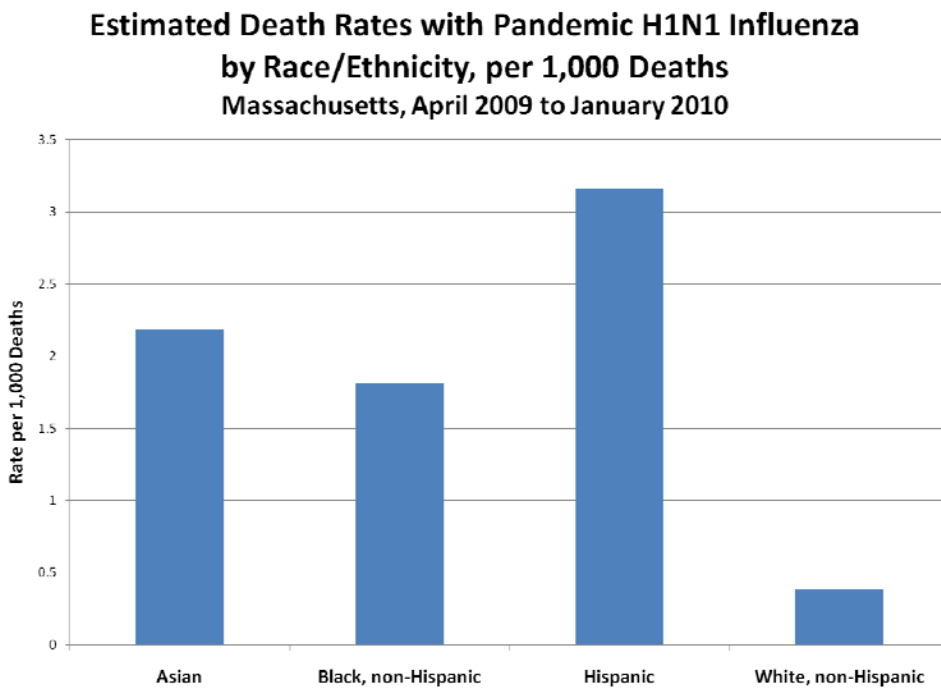


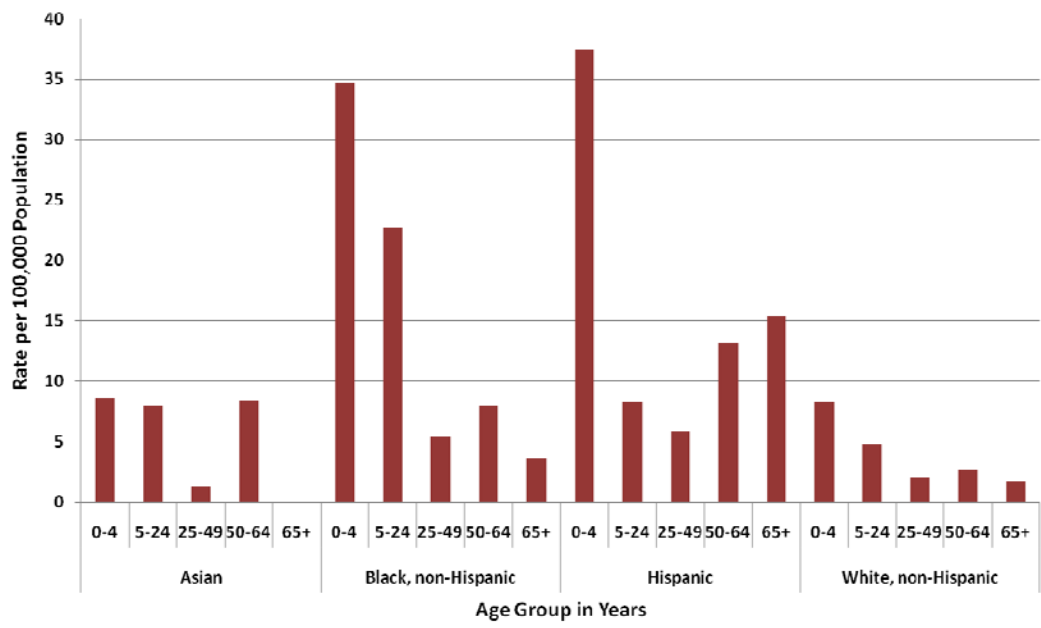
Figure 7



Source: Massachusetts Immunization Program, MDPH MassCHIP 2005 Population Estimates
Death proportions based on 2007 data – MDPH Registry of Vital Statistics

Figure 8

**Rate of Hospitalization with Pandemic H1N1 Influenza
by Race/Ethnicity, by Age, per 100,000 Population
Massachusetts, April 1, 2009 to January 5, 2010**



Source: Massachusetts Immunization Program. MDPH MassCHIP 2005 Population Estimates