Use of Real-Time School District Influenza-Like Illness Data During a Pandemic

Fatema Mamou, MPH
Epidemiologist
Genesee County Health Department
Genesee County, MI
Background – 2009 H1N1 Influenza A

• June 11th 2009 the World Health Organization declared first global influenza pandemic in 41 years
• Caused by a novel H1N1 strain of Influenza A
• The first wave of the pandemic occurred during the summer of 2009
• The second wave of the pandemic occurred during the fall of 2009
  ➢ Genesee County observed historic levels of influenza activity during this time
  ➢ Local epidemiology of 2009 H1N1 Influenza A infection similar to national
  ➢ 72.3% of reported 2009 H1N1 cases were observed among those under 25 years of age
Background - Communicable Disease Reporting

• Michigan law requires schools and childcare centers to report occurrences or suspected occurrences of communicable diseases to their local health department
  ➢ Act No. 368 of the Public Acts of 1978
  ➢ Help identify outbreaks and epidemics
  ➢ Assists with disease surveillance efforts

• Weekly reporting

• Best local resource for tracking influenza activity
  ➢ Flu-like illness
  ➢ Absenteeism
Background – Reporting at the GCHD

- The Genesee County Health Department (GCHD) has a web-based electronic reporting system
  - *Established Fall 2005*
  - *Significant improvements have been made to improve efficiency*
  - *Allows for real-time data analysis (weekly basis)*

- Reporting by these facilities has consistently been low across Michigan

- Genesee County reporting rate from these facilities
  - *Overall reporting level~ 50%*
  - *Higher among public schools ~75%*
  - *Lower among childcare centers - ~33%*
## Background - Data Collected

### General School Information

**Week Ending:** Friday, 08/14/2009

**Current School Enrollment:**

**Total Number of Children Absent This Week:**

### Aggregate Case Count Reporting

Please record total number of cases for flu-like illness and stomach virus.

<table>
<thead>
<tr>
<th>Disease Description</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flu-Like Illness (Apparent Influenza)</td>
<td>0</td>
</tr>
<tr>
<td>Stomach Virus</td>
<td>0</td>
</tr>
<tr>
<td>Strep Throat</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note:* The health department will no longer be collecting numbers of head lice cases or pinkeye (conjunctivitis). Contact School Health Services at (810) 257-3551 for more information regarding head lice or pinkeye in schools.

### Individual Disease Reporting

Use the following lines to complete information for ALL INDIVIDUALS WITH CONFIRMED OR SUSPECTED CASES of communicable diseases below, including chickenpox.

**Serious/Rare Illnesses:** In addition to reporting on this form, call the health department at (810) 257-1017 IMMEDIATELY to report: measles, mumps, rubella, pertussis, Haemophilus influenzae type b, meningitis, encephalitis, hepatitis, tuberculosis, or any other serious communicable disease occurrence.

| Disease | First Date | Last Date | Source | Student Name | Student Grade | Student Gender | Parent Name | Parent Email | Student Phone | Student County |
|---------|------------|-----------|--------|--------------|---------------|---------------|-------------|--------------|---------------|----------------|----------------|
| Choose Disease | 08/13/2009 | | | | | | | | | |
| Choose Disease | 08/13/2009 | | | | | | | | | |

### Additional Comments

- Please check:
  - No diseases to report this week
  - School closed due to illnesses

**Submitted by:**

**Phone Number:**

**Today’s Date:** 08/13/2009

[Submit Data] [Clear Form]
Influenza-Like Illness Reporting

Percent Influenza-Like Illness Reported by Schools & Childcare Facilities
Genesee County, Michigan
September 2008 - August 2010

Graph showing the percentage of influenza-like illness reported weekly from September 2008 to August 2010. The graph indicates peak activity in mid-2009.
Epidemiology of 2001 H1N1 Infection in Genesee County

Confirmed 2009 H1N1 Influenza A Cases as Reported to the Genesee County Health Department by Patient Status
2009-2010 Influenza Season (September 2009 - December 11, 2009)

- Note: Testing and reporting recommendations changed throughout the course of the 2nd wave
GIS & the 2009 Pandemic at the GCHD

• Create local weekly flu report
  ➢ Modeled after the FluView produced by the Centers for Disease Control and Prevention (CDC)
  ➢ Dissemination
    • Internal weekly meetings
    • Meetings with external partners
    • GCHD website

• Pandemic Planning and Response
  ➢ Guide disease control activities
  ➢ Vaccination Clinics
  ➢ Monitor for 3rd wave of infection
Weekly Influenza Surveillance Report

- Syndromic Surveillance
- Confirmed Cases
- Hospitalizations/Deaths
- School & Childcare Data
  - # of districts with increasing activity
  - School closure information
- Vaccine Updates
- Antiviral Distribution

Influenza Surveillance Report - Week Ending November 6th

Genesee County Influenza Surveillance

- Surveillance: Surveillance in Genesee County indicates influenza activity for the week ending November 1st decreased from the previous two weeks to levels similar to what is observed during the peak of the seasonal influenza season. Visits to emergency departments due to respiratory and constitutional complaints continue to remain high. Respiratory complaints remained similar to what was observed the previous week while constitutional complaints continued to rise.
- Lab-confirmed cases: Confirmed cases of influenza among Genesee County residents continued to be reported during the week ending November 6th. Fifty-two (52) cases of confirmed H1N1 influenza were reported in the week ending November 6th, bringing the total number of confirmed H1N1 influenza cases to 100. The age range of these recent confirmed H1N1 cases is 3 to 52 years.
- Hospitalizations/deaths: Six hospitalizations with confirmed influenza were reported during the week ending November 6th. No deaths due to the 2009 H1N1 influenza virus have been reported in Genesee County residents to date.
- Local Colleges and Universities: Low levels of influenza-like illness and sporadic cases of physician diagnosed influenza have been observed in college students and staff for the week ending November 6th.

Genesee County Schools and Childcare Centers: Rates of influenza-like illness among children in schools and childcare centers stabilized the week ending November 6th. Influenza-like illness among schools and childcare centers continue to be at levels 4 times higher than what is normally seen at this time of year. Student absences continue to be high. Twelve school districts (34%) continue to experience increasing influenza-like illness. Influenza-like illness is stabilizing or slightly decreasing in the other school districts but continue to remain at much higher levels than normally observed during this time of year. One charter school closed for one day due to illnesses and absences during the week ending November 6th and has re-opened.

H1N1 Vaccine Update

- The nasal spray form of 2009 H1N1 Influenza Vaccine and multi-dose vials of injectable 2009 H1N1 vaccine continue to be allotted to Genesee County as more becomes available.
- Until the H1N1 vaccine supply is more plentiful, the Genesee County Health Department continues to prioritize vaccination of groups who are most at risk as stated by ACIP guidelines. These groups are:
  - pregnant women,
  - caregivers/contacts of children under 6 months,
  - children and young adults 6 months through 24 years,
  - adults 25 – 64 years with underlying medical conditions, and
  - EMS and health care workers.
- School-based vaccine clinics for priority groups have begun in Genesee County and more are being planned. For details on school-based vaccination clinics including locations and times visit http://www.gchd.us/FluTools/FluClinicLocations.aspx.
- The Genesee County Health Department continues to distribute vaccine to many Genesee County providers this week in order to reach our highest risk populations as soon as possible.

Antiviral Distribution

- The Genesee County Health Department is planning to distribute Tamiflu and Relenza from the Strategic National stockpile to pharmacies in Genesee County.
- Diplomat Pharmacy (G3320 Beecher Rd Flint, MI 48532, ph: (810) 732-8720) has received a supply of antivirals to dispense to Genesee County residents.
- All doses from the SNS are free of charge to underinsured or uninsured patients. A prescription from a health care provider is required to receive antivirals.

The most recent information about H1N1 Influenza can be found at www.gchd.us
Mass Vaccination Clinics Using Points of Dispensing Sites

- Facilities previously identified and mass dispensing plans exist
- Limited vaccine
- Limited staff
Example: Education

- No vaccine available
- School districts with highest disease burden contacted about increasing influenza like illnesses
- Daily communication between school and epidemiologist occur
- Information provided for dissemination
More Education

- Genesee Intermediate School District contacted regarding increases in ILI county-wide
- Press release issued to announce GCHD Media Conference
- Vaccine becomes available in limited supply
Example: Vaccine Clinic Planning

- 1\textsuperscript{st} and 2\textsuperscript{nd} clinics planned
- POD sites identified based on disease burden
Further Clinic Planning

• More clinics planned
• POD sites identified based on disease burden
Further Clinic Planning

- GCHD and Community Partners continue clinics
- Vaccine now becomes more widely available
**Continued Surveillance**

- Evaluation of vaccine efforts
- Monitor for 3rd wave of illness
Conclusion

• Utilizing GIS to display influenza like illness data is effective in public health practice
  ➢ Best distribution of resources
  ➢ Target interventions to areas of greatest disease burden

• Limitations
  ➢ Reporting is not consistent across districts or facilities
  ➢ Limitations to weekly aggregate reporting of data
Thank You!