1. What Happened
2. Lessons Learned
3. Next Steps
Goals for Addressing a Pandemic

- To limit the burden of disease
- To minimize social disruption
US CDC announces cases in Texas and CA

Mexico – 100s of young people hospitalized or dead

Mainers dust off pandemic plans – all geared for severe pandemic
Features of a Pandemic

- SHIFT in virus subtype
- Shift in highest death rates to YOUNGER populations
- Successive pandemic WAVES
- Higher TRANSMISSIBILITY than seasonal influenza
- Differences in IMPACT in different geographic regions
First identified cases in Maine – York and Kennebec Counties

1 school and 2 day cares closed
Disease Surge in Maine

H1N1 cases, Maine - 2009-2010
H1N1 in Maine
April 2009 – March 2010

- 200 schools w outbreaks w high absenteeism (>15%)
- 40 summer residential camps w outbreaks
- 250 Mainers hospitalized, mostly children and young adults
- 21 adults died (August – January)
Progression of H1N1

April, 2009: 2 countries

Summer, 2009: 200+ countries
Seasonal Flu vs H1N1 Flu

- Seasonal Flu: ~90% of deaths among those 65+
- H1N1 Flu: ~90% of deaths among those younger than 65
Number of Influenza-Associated Pediatric Deaths by Week of Death:
2006-07 season to present

- **2006-07**: Number of Deaths Reported = 77
- **2007-08**: Number of Deaths Reported = 88
- **2008-09**: Number of Deaths Reported = 134

- **2009-10**: Number of Deaths Reported = 272

Legend:
- Yellow: 2009 Influenza A (H1N1) Deaths Reported Current Week
- Blue: Other Influenza Deaths Reported Current Week
- Pink: 2009 Influenza A (H1N1) Deaths Reported Previous Weeks
- Green: Other Influenza Deaths Reported Previous Weeks
U.S. CDC Estimates H1N1
April 2009 – March 2010

- **Cases**
  - 60 million
  - 19 million children (32%)

- **Hospitalizations**
  - 270,000 total
  - 86,000 children (32%)

- **Deaths in U.S.**
  - 12,500 total
  - 1,300 children (10%)
  - Preliminary data: ~6% of all deaths in pregnant women (but they are 1% of population)
H1N1 Vaccine

- 5 manufacturers of vaccine
- 4 off shore
- 9 formulations of vaccine
**High Priority for Vaccine**

- *Pregnant women*
- *Children 6 mos to 25 years*
- *Adults with chronic conditions 25 - 65 years*
- *Caregivers/Household contacts of < 6 mos*
- Health care workers, inc EMS
- *At risk for severe disease*
Expected and Actual H1N1 Vaccine Doses in Maine as of January 22, 2010

<table>
<thead>
<tr>
<th>Date</th>
<th>Late August Estimates</th>
<th>Late September</th>
<th>Actual Doses in Maine</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/2/2009</td>
<td>12,000</td>
<td>67,000</td>
<td>67,000</td>
</tr>
<tr>
<td>10/9/2009</td>
<td>28,000</td>
<td>190,000</td>
<td>190,000</td>
</tr>
<tr>
<td>10/16/2009</td>
<td>94,000</td>
<td>168,000</td>
<td>168,000</td>
</tr>
<tr>
<td>10/23/2009</td>
<td>168,000</td>
<td>272,000</td>
<td>272,000</td>
</tr>
<tr>
<td>10/30/2009</td>
<td>155,000</td>
<td>264,000</td>
<td>264,000</td>
</tr>
<tr>
<td>11/6/2009</td>
<td>117,000</td>
<td>266,000</td>
<td>266,000</td>
</tr>
<tr>
<td>11/13/2009</td>
<td>117,000</td>
<td>321,000</td>
<td>321,000</td>
</tr>
<tr>
<td>11/20/2009</td>
<td>117,000</td>
<td>442,000</td>
<td>442,000</td>
</tr>
<tr>
<td>11/27/2009</td>
<td>117,000</td>
<td>612,000</td>
<td>612,000</td>
</tr>
<tr>
<td>12/4/2009</td>
<td>117,000</td>
<td>782,000</td>
<td>782,000</td>
</tr>
<tr>
<td>12/11/2009</td>
<td>117,000</td>
<td>898,700</td>
<td>898,700</td>
</tr>
<tr>
<td>12/18/2009</td>
<td>117,000</td>
<td>909,700</td>
<td>909,700</td>
</tr>
<tr>
<td>1/1/2010</td>
<td>117,000</td>
<td>1,000,000</td>
<td>1,000,000</td>
</tr>
</tbody>
</table>
**Priority Groups During Limited Supply**

**Maine October – December 2009**

<table>
<thead>
<tr>
<th></th>
<th>Oct. 29</th>
<th>Nov. 5</th>
<th>Nov. 12</th>
<th>Dec. 4</th>
<th>Dec. 11</th>
<th>Dec. 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant Women</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6mos-18yr</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>HCW (inpatient)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Highest Risk Adults</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>18-64yr Underlying Conditions</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Caregivers of &lt;6mos</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>18-25yr</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>HCW (any patient contact)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Summarized from health alerts on maineflu.gov

- 39% at a doctor’s office/HMO
- 17% at their place of employment
- 10% at a clinic or community health center
- 10% at a retail setting (grocery or drug store)
- 8% at a health department
- 6% at a hospital or emergency department
- 4% at a senior/recreation center
- 4% at a site classified as “other”
- 2% at a school

Source: Centers for Disease Control and Prevention - Influenza Vaccine Supply Surveys 2005-06 (Gallup Results)
Maine School
H1N1 Vaccination

- 143 School Districts participating
- 197,000 students offered vaccine in schools
- Preliminary coverage rates ranging from ~15 – 100%, with most being 40 – 60%

>70%: Cape Elizabeth, Dedham, East Machias, Gould Academy, Hyde, Long Island, Indian Island, NYA, RSU 30 (Lee), RSU 82 (Jackman), Union 108 (Danforth), Union 93 (Blue Hill)

<25%: AOS 95 (Ft Kent/Allagash), Bangor Christian, Biddeford, RSU 3 (Unity), RSU 6 (Standish), RSU (Ellsworth), RSU 31 (Howland), RSU 36 (Livermore Falls), RSU 42 (Mars Hill), RSU 54 (Skowhegan), RSU 57 (Waterboro), SAD 24 (Van Buren)

- Seasonal flu and LAIV often both offered
- Vaccine effectiveness and programmatic studies are underway with US CDC
Maine Leads the Nation in H1N1 Vaccine Rates

- **Children**
  - 60% vs 35% in U.S. (2\textsuperscript{nd})

- **Seniors**
  - 40% vs 22% U.S. (1\textsuperscript{st})

- **High Risk Adults 25 – 64 yrs old**
  - 35% vs 25% U.S. (1\textsuperscript{st})

- **All people 6 mos and older:**
  - 37% vs 23% U.S. (1\textsuperscript{st})
Seasonal Flu Vaccine Rates 2009-2010

- **Children**
  - 57% vs 40% in U.S.

- **Seniors**
  - 73% vs 68% U.S.

- **High Risk Adults 25 – 64 yrs old**
  - 44% vs 36% U.S.

- **All people 6 mos and older**
  - 48% vs 40% U.S.
Massive unpredictability is absolutely certain, maybe
The most predictable thing about influenza is its unpredictability.
The most predictable thing about the influenza vaccine supply is its unpredictability.
It takes a village to vaccinate.
Be Prepared
Draft Next Steps
Surveillance

Privacy issues

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2008-09

- A (Novel H1N1)
- A (Could not be subtyped)
- A(H3)
- A(H1)
- A (Unsubtyped)
- B
- Percent Positive

Number of Positive Specimens vs. Week vs. Percent Positive
Mitigation

Figure 1. Goals of Community Mitigation

1. Delay outbreak peak
2. Decompress peak burden on hospitals / infrastructure
3. Diminish overall cases and health impacts

Daily Cases

Days Since First Case

Pandemic outbreak:
No intervention

Pandemic outbreak:
With intervention
Mitigation

- Prevention
  - Annual reminder campaigns
  - Social marketing strategies

Don’t be the office sprinkler.
Mitigation

- Early Detection
  - Lab Testing – communicate reasons for testing
  - Surveillance vs clinical management
Mitigation

- Protection – PPE
  - Outreach to US DHHS
    - conflicting guidelines
    - non-permissive federal stockpile access (EMS)
    - poor quality of equipment
Mitigation

- **Treatment**
  - Statewide Nurse Triage Hot Line
  - Prescribing barriers

- **Alternate care sites**
  - Hospital plans need improvement
  - Protocol 36
Vaccination

- Fall 2010 Flu Campaign
- Maine CDC to provide vaccine for:
  - all children
  - school employees (in school-located clinics)
  - pregnant women (and significant others)
  - nursing home staff/residents
  - Municipal health depts and tribal health centers
  - Uninsured/underinsured in any setting
Vaccination

- Some lessons to be addressed in Fall 2010 School Campaign
  - PCP’s to receive vaccine same timeframe as schools
  - Communication channels with schools and PCP’s
  - Schools as vaccine distribution sites
  - School clinic dates in Maine CDC database
  - Scheduling of clinics
Vaccination (con’t)

- Liability issues addressed
- One standardized consent form with ImmPact data-sharing waiver, insurance information, etc
- Messages for parents
- ImmPact
- Parent volunteers
VACCINATION

- Roster billing glitches
- Financing of H1N1 Vaccine Efforts (federal funds focused on uninsured)

Two choices:
- Invoice method to all partners
- RFP
Vaccination

- Vaccinator Workforce
  - Vaccine clinic organizers
  - Maine CDC vaccinator strike team
  - More PHN’s!
  - Medical Response Teams in each district
VACCINATION

- Vaccine to PCP’s, First Responders, and others
  - Communicate on the priority groups and why
  - Improved planning for vaccinating critical infrastructure

- Vaccine and Sharps Disposal Planning

- ImmPact – speed vs data and billing advantages
Communication

- More segmentation
- Outreach to HCP’s (including pharmacists) to register for HAN
- No major announcements without press conference!
- Unified communications – Maine CDC, DOE, RRC’s
- Local leaders to help support messages
Pandemic Planning

- Updated Pandemic Plans – State, District/County, Hospital, etc.
  - Scalable
  - Role definition – EMA, DL’s, RRC’s, EMS, HMP’s
- Modified NIMS/ICS – education
- Back up DL for every county EOC
- Advisory board for pan flu planning
- Change Management
Hope for the best and...
...prepare for the worst
Influenza epidemics are lived forward and understood backward. (paraphrasing Kierkegaard)
Shared Responsibility
Questions?

- Flu.questions@maine.gov
- www.maineflu.gov
- www.mainepublichealth.gov for PPT too