



U.S. Department of Health & Human Services

**Office of the Assistant Secretary for Preparedness and Response**

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## Update on HHS Influenza Improvement Plan Action Items

### **Chapter 3: Community Mitigation Measures**

HHS Monthly Influenza Pandemic Preparedness Meeting

13 February 2013



# H1N1 Improvement Plan Update

## Chapter 3 – Community Mitigation Measures

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### Overview

- Build evidence base for recommending community mitigation measures through research and evaluation
- Understand benefits and societal costs associated with social distancing measures
- Refine decision-making process for the recommendation and implementation of nonpharmaceutical interventions (NPIs)
- Develop updated guidance for use of NPIs during a pandemic
- Develop effective communications strategies for NPI use



# H1N1 Improvement Plan Update

## Chapter 3 – Community Mitigation Measures

| ITEM | ACTION   | LEAD | DATE    |
|------|--|------|---------|
| 3.1  | Build the evidence base for recommending community mitigation measures through research and evaluation. Validate measures through stakeholder and community input to develop a strong scientific basis for recommending these measures during a future pandemic. | CDC  | 12/2012 |

- Completed Phase 1:
  - Developed draft 5-year NPI research agenda
  - Identified key knowledge gaps relevant for updating CM guidance, which include:
    - Context specific social mixing and contact rates
      - Examining effectiveness of social distancing measures given variable  $R_0$  (at schools, businesses, and mass gatherings)
      - Assessing triggers and duration of measures (e.g., school closures)
    - Acceptability and compliance over time
      - Use of personal protective measures (self-isolation)
      - Long-term school closures
    - Costs and consequences of NPI implementation
      - Use of facemasks in community settings (effectiveness, acceptability, feasibility)
  - Planned external expert review – summer 2013
- Initiated new research and evaluation projects to start addressing gaps



# **H1N1 Improvement Plan Update**

## **Chapter 3 - Community Mitigation Measures**

### **Item 3.1: Examples of New Research & Evaluation Projects**



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### Examining Social Mixing and School-based Networks

- Social contact and mixing patterns in school-aged children (K-12)
  - 2-year extramural projects with University of Pittsburgh, Penn State University, and University of Utah
  - Year 1: Contact survey and proximity sensor data collected from >3,200 students at 11 participating schools; development of age-specific contact matrices to support mathematical modeling of disease transmission in schools and communities
  - Year 2 (current): Implementing influenza surveillance to evaluate relationship between observed contact patterns and laboratory-confirmed influenza cases in schools
- Acceptability and effects of voluntary isolation in preventing influenza transmission in a university setting
  - 2-year extramural project with University of Michigan
  - Year 1: Data available for ~450 students in 3 study groups (control, 3-day, and 6-day voluntary isolation); 24 students with ILI, but only 3 lab+; conducting network analyses of behaviors and reported illness by study group
  - Year 2: Recruitment initiated for 2 groups (control and 3-day voluntary isolation); 6-day intervention group dropped due to feedback from participants as infeasible



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### Assessing Costs and Consequences of Unplanned School Closures

- CDC collaborative research project with ORISE
  - Project period includes two academic school years (August 2011 – June 2013), data collection ongoing
  - Publicly announced school closures lasting  $\geq 1$  day identified from daily systematic searches of Google, Google News, and Lexis-Nexis
  - Onsite investigations proposed to evaluate impact of closures lasting  $\geq 4$  days on households and schools
- Preliminary findings:
  - 42,555 unplanned school closures identified during initial 3 semesters ( Aug 1, 2011 – Dec 31, 2012)
    - Duration: 1-20 days (Mean - 2.2 days)
    - Causes:
      - Weather conditions - 22,679 (53%)
      - Natural disasters - 16,246 (38%)
      - Other - 3,356 (8%)\*
      - Infectious disease outbreaks - 274 (0.6%)
  - Two onsite investigations implemented to date, analyses currently in progress
    - Harris County School District, Mississippi (closure to prepare for hurricane, Aug 28 – Sept 3, 2012)
    - Hall Elementary School , Portland, Maine (closure due to fire damage, Sept 17-25, 2012)

\*Other - includes facility problems such as broken water pipes, fire damage, and mold as well as teachers' strike, and at-school violence



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### Assessing Costs and Consequences of Unplanned School Closures

#### UPDATE ON INFLUENZA-RELATED SCHOOL CLOSURES IN THE UNITED STATES

| NOVEMBER 15, 2012 THROUGH JANUARY 28, 2013<br>Data as of 12pm, 28/JAN/2013  |   |  |
|---|---|--|
|   | Announced as District-wide<br>School Closures                 | Announced as Individual<br>School Closures                             |
| <b>Number of Closure Events</b>   | 54<br>ID=1;IL=1;IN=1;KY=19;MI=7;MO=4;OK=6;<br>TN=14;WV=1      | see below  |
| <b>Number of Schools Affected<br/>by Closure and by State</b>   | 287*<br>ID=2;IL=2;IN=1;KY=155;MI=18;MO=9;<br>OK=16;TN=79;WV=5 | 19<br>AL=1;KY=1;MI=4;MN=3;<br>MO=1;NC=2; NE=1;OH=1;<br>OK=1; TN=3;VA=1 |
| <b>Duration of Closure-Days<br/>Mean(Median; Range)</b>   | 2.4(2.0; 1.0-4.0)   | 1.8(2.0;1.0-3.0)   |
| * Number of schools closed in district-wide closures was estimated by matching the school district ID with the school data for school year 2010/11 obtained from National Center for Education Statistics ( <a href="http://nces.ed.gov/ccd/bat/">http://nces.ed.gov/ccd/bat/</a> , accessed on January 11th, 2013) |   |  |



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### Los Alamos National Laboratories Modeling Project

| ITEM | ACTION  | LEAD | DATE            |
|------|---|------|-----------------|
| 3.2  | Develop evidence-based models to enhance understanding of the benefits and societal costs of social distancing measures, and incorporate results into future planning efforts. Target date for development of an evidence-based model to explore 5 pre-pandemic planning scenarios – 02/2013; building evidence base – ongoing. | CDC  | 12/2012-12/2013 |

- Collaborating with Los Alamos National Laboratories on a mathematical model project to explore effects of different scale, timing, and duration of school closures in 5 pre-pandemic planning scenarios.
- Timeline adjusted reflecting a delay of the project due to illness and unexpected time demands upon the LANL PI:
  - Complete sensitivity analyses for different parameters by the end of January 2013
  - Complete all simulations by the end of February 2013
  - Project completion (incl. a report) anticipated by the end of March 2013





# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

| ITEM | ACTION   | LEAD | DATE                |
|------|--|------|---------------------|
| 3.3  | Refine the decision-making process for the recommendation and implementation of NPIs and meet with stakeholders to review response options for a set of basic pandemic severity scenarios. | CDC  | 12/2012-<br>12/2013 |

- Progress toward a refined decision-making process demonstrated during the 2012 Pandemic Influenza Functional Exercise, September 11-13, 2012, in Atlanta, GA
- During the exercise, CDC Community Mitigation Task Force (CMTF) developed a decision brief on geographical/jurisdictional scale of school dismissals as a community mitigation measure to slow the spread of a novel highly transmissible influenza virus associated with clinically severe disease
  - Provided formal decision-making training for CMTF members
  - Exercised decision-making process to develop coherent set of options for the brief
  - Established core group of appropriate SMEs to discuss and analyze set of options
  - Engaged external partners in decision-making process (U.S. DoEd, GA DoEd, NACCHO, and WA State DoH)
  - Presented CMTF recommendation to Incident Commander on Day 1 of functional exercise
- Further activities forthcoming in 2013 in conjunction with update of the 2007 Community Mitigation Guidance (please see slides related with item 3.4)

# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

| ITEM | ACTION  | LEAD | DATE            |
|------|---|------|-----------------|
| 3.4  | Develop updated recommendations and guidance for the use of NPIs during a pandemic that incorporate the latest scientific findings, including transmissibility of the virus as well as updated severity measures, availability of pharmaceutical interventions, and the practicality of implementation by states, locals, employers, and providers. | CDC  | 12/2012-12/2013 |

- **Updating 2007 CM Guidance\*: Progress to Date**

- Coordinated effort ongoing in parallel with development of Pandemic Severity Assessment Framework (PSAF) ([http://wwwnc.cdc.gov/eid/article/19/1/12-0124\\_article.htm](http://wwwnc.cdc.gov/eid/article/19/1/12-0124_article.htm))
- Key CM planning concepts presented along with PSAF to internal and external partners during functional/tabletop exercises, presentations, and workshops, 2010-2012
- Drafted NPI White Paper to conceptualize 2013 CM Guidance update
- Circulating NPI White Paper with advisory workgroup and relevant programs within CDC for development, refinement, and validation
- Planning engagement with other federal government agencies, state/local public health departments, and external non-governmental partners; May-August 2013

\*Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States—Early, Targeted, Layered Use of Nonpharmaceutical Interventions ([http://www.flu.gov/planning-preparedness/community/community\\_mitigation.pdf](http://www.flu.gov/planning-preparedness/community/community_mitigation.pdf))



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### Updating 2007 CM Guidance\*: Next Steps

- Draft 2013 CM Guidance update based on NPI White Paper input
  - Maintain all components as presented in 2007 CM Guidance; update as needed
  - Include the following new materials:
    - Replace PSI with new PSAF
    - Update evidence base for NPIs; present phasing in NPIs w/ regard to set of historically referenced, pre-pandemic planning scenarios described in PSAF
    - Update chapter on WHO pandemic plan; describe how it relates to new CM guidance
    - Provide NPI “tool box” for local decision-making on NPI implementation
    - Address vulnerable populations
    - Include home care planning guide
- Incorporate focused, well-defined consultation process with key stakeholders that can be completed over next 6-8 months
- Facilitate ongoing consultations with DHHS (ASPR, ACF), DoEd, USDA, DHS, and others

\*Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States—Early, Targeted, Layered Use of Nonpharmaceutical Interventions ([http://www.flu.gov/planning-preparedness/community/community\\_mitigation.pdf](http://www.flu.gov/planning-preparedness/community/community_mitigation.pdf))



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

| ITEM | ACTION  | LEAD | DATE            |
|------|---|------|-----------------|
| 3.5  | Develop strategies to effectively communicate the severity of the pandemic and the rationale for implementing certain NPIs. | CDC  | 12/2012-12/2013 |

- Completed formative communications research projects
  - NPI message mapping and testing
  - NPI material development and evaluation
  - State, tribal, local, and territorial health departments (STLTs) NPI needs assessment
- Ongoing communication projects informed by formative research
  - NPI website development and usability testing; testing in March 2013
  - NPI photo and video shoots; in progress
  - NPI web-based training; piloting in May-June 2013
- Revising NPI communication materials; projected for completion by September 2013
- Activated CDC NPI website in August 2012 (<http://www.cdc.gov/nonpharmaceutical-interventions/>)



# **H1N1 Improvement Plan Update**

## **Chapter 3 - Community Mitigation Measures**

### **Item 3.5: Update on Formative Communications Research Projects**



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### NPI Material Development and Evaluation

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- **Objective**

- Gather feedback from the general public on newly developed NPI communication materials via 12 on-line focus groups (60 participants in total) in August 2012

- **Preliminary Findings**

- Many did not know the term “nonpharmaceutical interventions”
- Participants suggested including facts about NPIs, such as handwashing and the use of hand sanitizer, to help motivate people to practice them
- Most liked the use of images in materials to help describe NPI recommendations

- **Next Steps**

- Revise NPI communication materials based on focus group findings, incorporate images from NPI photo shoots, and develop dissemination plan



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### STLTs NPI Needs Assessment

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- **Objective**

- Identify needs of STLTs around communicating, implementing, and monitoring NPIs during an influenza pandemic

- **Findings**

- Key Informant Interviews (8 respondents)
  - Identified areas of need: Triggers for NPIs, legal authority for implementing NPIs, plain language NPI messages and tools
- Web-based Survey (267 respondents – July 2012)
  - NPI target audiences: General public/families, childcare/K-12 schools, workplaces
  - NPI training needs: NPI strategies, triggers for use, decision-making strategies for NPIs
  - Updated CM guidance: Practical orientation, triggers, legal authority for implementing NPIs

- **Next Steps**

- Incorporate web-based survey findings into refining NPI communication materials and channels, drafting NPI training modules, developing a social media plan, and updating the 2007 CM Guidance



# H1N1 Improvement Plan Update

## Chapter 3 - Community Mitigation Measures

### Questions for Discussion

- We welcome your input on the NPI White Paper. Are there “big picture” comments and/or suggested edits that you would like to share today? If not, please send your comments to CDC’s ICU Policy Team at [ICUpolicy@cdc.gov](mailto:ICUpolicy@cdc.gov) by March 1<sup>st</sup>, and they will compile the feedback from ASPR.
- As we transition from the NPI White Paper to updating the 2007 CM Guidance, are there specific gaps or topics that we should address in the update?
- Once the CM Guidance is updated in 2013, how can we best “socialize” it? Who should be included in the consultation process and how?
  - Other federal government agencies
  - State/local public health departments
  - External non-governmental partners
- Once the 2013 CM Guidance update is approved and finalized, how can we best disseminate it to our governmental and non-governmental partners?