



Texas Department of State Health Services  
**Planning Guidelines for Non-pharmaceutical Interventions**

Pandemic Influenza Plan Operational Guidelines  
Appendix J

Version 1.1  
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## RATIONALE

Community intervention strategies cannot prevent a pandemic, but they might decrease the odds of exposure to the virus, limit demands for hospital beds, and lessen economic impact because fewer people would be ill at the same time. [Non-pharmaceutical intervention](#) strategies that target individuals, families and communities will be critical in preparing for, responding to, and recovering from an [influenza pandemic](#)—especially if [vaccine](#) and [antiviral](#) drugs are unavailable, in limited supply, or ineffective. Mathematical modeling suggests that use of mitigation strategies in a targeted, multi-layered approach—including both pharmaceutical and non-pharmaceutical interventions—will be useful in limiting the spread of an influenza pandemic (Germann, et. al, 2006).

## OVERVIEW

The *Planning Guidelines for Non-pharmaceutical Interventions* are comprehensive and multi-faceted. A strong [seasonal influenza](#) program provides the framework for the development of pandemic influenza-containment strategies. Providing prevention education, increasing seasonal influenza vaccination rates, improving [surveillance](#), and developing best practices for treatment are crucial to strong seasonal and pandemic influenza programs. This document is intended to help guide staff in Local Health Departments (LHDs) and Health Service Regions (HSRs) as they develop their own Community Containment Plans for Pandemic Influenza.

Non-pharmaceutical intervention strategies reduce the risk of transmission by decreasing the probability of contact between infected and uninfected people and by decreasing the probability that contact will result in infection. These strategies can be applied at the individual or community level. Individual measures may include isolating ill patients (those with symptoms), quarantining well persons who have had contact with ill persons, good hand and respiratory hygiene/cough etiquette, and using personal protective equipment (e.g., masks or respirators, hand sanitizer). Community-based measures include community activity restrictions such as restricting mass gatherings and closing [schools](#) and/or businesses.

The non-pharmaceutical intervention strategies outlined in this document are intended to be scalable for use in local communities. Guided by surveillance and laboratory, epidemiologic and clinical data, the Texas Department of State Health Services (DSHS) and LHDs will identify and implement the most appropriate measures at each phase of the pandemic to minimize both disease transmission and impact on individual freedom of movement.

Further planning guidance can be found in the *Pandemic Influenza Plan Operating Guidelines (PIPOG)*, the [Antiviral Allocation, Distribution, and Storage Plan Guidelines \(AADS\)](#), the [Vaccine Allocation, Distribution, and Storage Plan Guidelines \(VADS\)](#), and [Appendix 7 to Annex H of the State Emergency Management Plan](#).

## FOUNDATION FOR TEXAS NONPHARMACEUTICAL INTERVENTION STRATEGIES

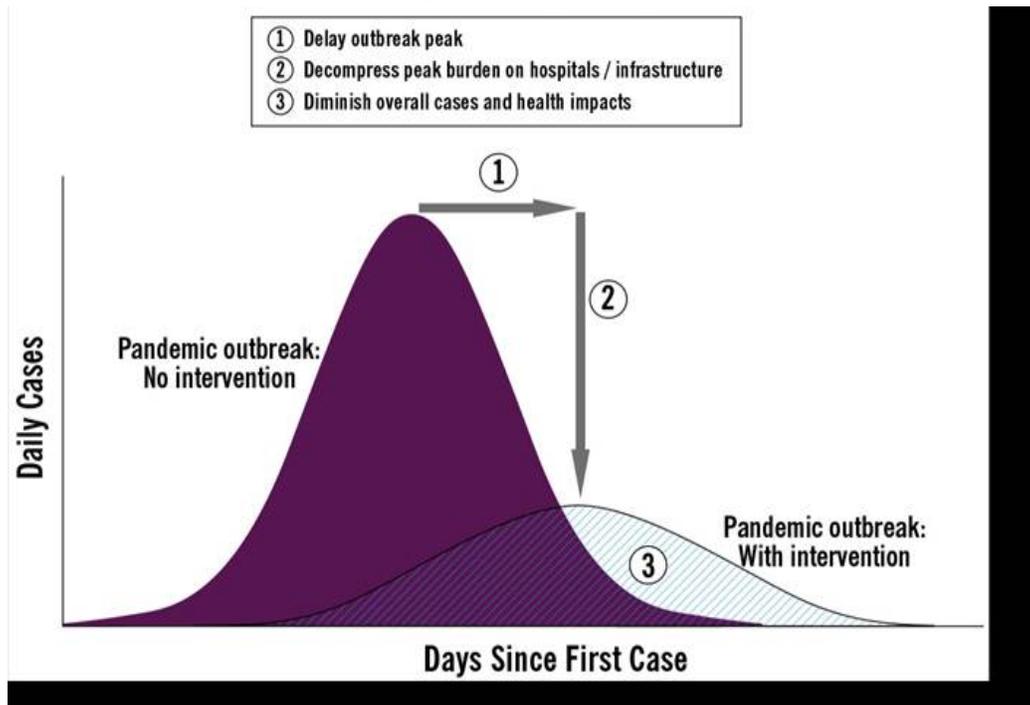
### Goals of Non-pharmaceutical Intervention Strategies

Goals for using non-pharmaceutical interventions for containing a community-wide epidemic are to:

- Delay the onset of new cases of disease as long as possible in order to provide time for the production and distribution of a well-matched pandemic strain vaccine ([Figure 1](#));
- Decrease the number of deaths and illness among individuals at any given time in order to minimize the burden on the health care system and [critical infrastructure](#) for the state and communities;

- Reduce the amount of social disruption;
- Minimize economic costs.

**Figure 1. Goals of Community Mitigation\***



\* From *Community Strategy for Pandemic Influenza Mitigation* (CDC, February 2007)

## Assumptions

- An effective response to an [influenza pandemic](#) will require multi-faceted, layered community- and individual-level interventions.
- The coordination of the community response should take an all-hazards approach that might require use of the [Incident Command System](#).
- Local communities will implement the most appropriate interventions based on the local situation and epidemiology of the pandemic.
- Improving the prevention and control of [seasonal influenza](#) will advance preparation for pandemic influenza.
- Since the severity of a pandemic is unknown, plans should include various scenarios based on pandemic severity.
- Planning for the use of [non-pharmaceutical intervention](#) measures appropriate for the severity of the pandemic will allow for the most effective and most feasible interventions to be implemented.
- In addition to effectiveness, the selection of non-pharmaceutical intervention strategies will depend on feasibility, potential for implementation within existing infrastructures, impact and acceptance by the public.
- Implementing non-pharmaceutical intervention measures might minimize illness and death, prevent or delay the geographic spread of the pandemic, prevent significant compromise of infrastructure, and ensure the integrity of the healthcare and public health infrastructure to allow for an adequate response.
- Once sustained human-to-human transmission is widespread, some strategies will be less effective and will be dropped to conserve resources.

## REDUCING PANDEMIC EFFECTS THROUGH COMMUNITY-LEVEL INTERVENTIONS

Even though an influenza pandemic will be caused by a new influenza virus and might have severe and sustained consequences in a community, it will be transmitted in the same manner as seasonal influenza. Therefore many of the measures that are used for controlling seasonal flu will also be used to help control pandemic flu. By taking steps today to control seasonal flu, Texas is more prepared to control pandemic flu.

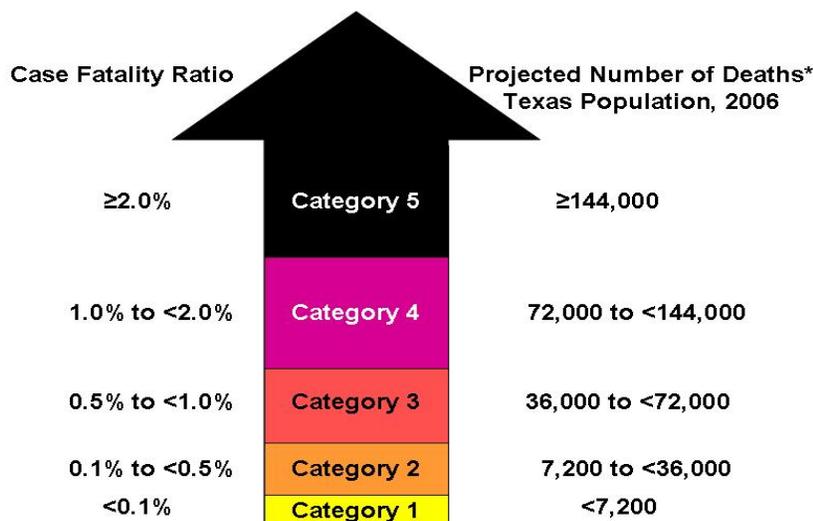
Implementing the following activities **now**—before a pandemic begins—can make a difference in reducing the impact of both seasonal and pandemic flu.

- [Encourage hand hygiene and respiratory hygiene/cough etiquette for everyone.](#)
- Recommend policies that support seasonal flu vaccine for workers who
  - Maintain [critical infrastructure](#) (e.g., key positions within waste disposal, police, fire, utilities, social services, emergency management, and government);
  - Provide patient care (e.g., nurses, mortuary, maintenance, physicians and some administrative staff);
  - Work in group settings (e.g., [schools](#), prisons, and residential living centers); and
  - Work with wild or domestic birds.
- Encourage seasonal flu vaccine for everyone.
- Support policies and practices that encourage ill people to stay home from school or work.
- Adopt community level reporting strategies and [surveillance](#) practices that help to show seasonal influenza in the community.
- During flu season reduce or eliminate, when possible, crowded, group settings.

## PANDEMIC SEVERITY INDEX

The [Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza in the United States—Early, Targeted, Layered Use of Non-pharmaceutical Interventions](#) (HHS and CDC, 2007) introduces the Pandemic Severity Index (CDC, 2007) that defines pandemic severity in five distinct categories. This index assumes a 30% [illness rate](#) and varies according to [case fatality ratio](#). DSHS has adopted this index for use in Texas. Figure 2 describes the various pandemic categories and estimates the number of deaths in Texas for each.

**Figure 2. Pandemic Severity Index**



\*Assumes 30% Illness Rate and Unmitigated Pandemic Without Interventions

## USE OF NONPHARMACEUTICAL INTERVENTIONS BY PANDEMIC SEVERITY INDEX

The Centers for Disease Control and Prevention (CDC) recommendations for community level intervention strategies by pandemic severity index have been adopted by Texas and are summarized in [Table 1](#). Interventions should be combined with [infection control](#) practices. Additional guidance on infection control measures are available online at [www.pandemicflu.gov](http://www.pandemicflu.gov).

A array of possible [non-pharmaceutical interventions](#) can be used by communities to prepare for, respond to, and recover from an influenza pandemic. Some of these interventions can be used regardless of pandemic severity, while other more extreme measures would be used only during severe pandemics. Each community experience will be different (e.g. waves may peak at different times). The [Pandemic Severity Index](#) can help communities to make critical strategic decisions that reflect these differences.

### Category 1 Pandemics (Case Fatality Ratio <0.1%)

During a *Category 1 influenza pandemic*, fewer than 7,200 Texans are expected to die given a 30% illness rate and a [case fatality ratio](#) of less than 0.1%. [Voluntary isolation](#) is always recommended for anyone ill with influenza. People who are ill are encouraged to stay home, away from others, until their illness passes. Voluntary [quarantine](#) of household members in homes with ill persons and other [social distancing](#) measures are generally not recommended during a *Category 1* pandemic; however, communities should base their recommendations on the local experience with the disease.

### Category 2–3 Pandemics (Case Fatality Ratio 0.1% to <1.0%)

During a *Category 2* pandemic, possible 7,200–36,000 deaths are estimated statewide; during a *Category 3* pandemic 36,000–72,000 deaths are estimated. Again, planning for voluntary isolation of ill persons is recommended, whereas other measures (voluntary quarantine of household contacts, social distancing measures for children and adults) might be implemented in some communities based on local decisions.

### Category 4–5 Pandemics (Case Fatality Ratio ≥1.0%)

The number of deaths among Texans during a *Category 4* pandemic is expected to be between 72,000 and 144,000 (assuming a case fatality ratio of 1.0% to <2.0%). The expected number of deaths rises to more than 144,000 Texans during a *Category 5* pandemic (assuming a case fatality ratio of at least 2.0%). Because of the increased risk of death among those who become ill, it is recommended that communities plan to implement all non-pharmaceutical interventions listed in [Table 1](#) during a *Category 4* or *Category 5* pandemic. Under these severe conditions, communities should prepare to enforce these recommendations throughout the initial and subsequent pandemic waves. These interventions may include dismissal of students from [schools](#) and school-based activities and closure of [childcare](#) programs for up to 12 weeks during a particular wave.

**Table 1. Intervention Strategies by Setting and Pandemic Severity and Phase.**

| Interventions* by Setting  | Pandemic Severity Index          |   |   |
|--|----------------------------------|---|---|
|  | 1                                | 2 and 3                                 | 4 and 5                                   |
| <b>Home</b><br><b>Voluntary isolation</b> of ill at home (adults and children); combine with use of antiviral treatment as available and indicated   | <b>Recommend<sup>†§</sup></b>    | <b>Recommend<sup>†§</sup></b>           | <b>Recommend<sup>†§</sup></b>             |
| <b>Voluntary quarantine</b> of household members in homes with all ill persons <sup>¶</sup> (adults and children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient | <b>Generally not recommended</b> | <b>Consider<sup>**</sup></b>            | <b>Recommend<sup>**</sup></b>             |
| <b>School</b><br><b>Child social distancing</b><br><br>➤Dismissal of students from schools and school-based activities, and closure of child care programs.  | <b>Generally not recommended</b> | <b>Consider: ≤ 4 weeks<sup>††</sup></b> | <b>Recommend: ≤ 12 weeks<sup>§§</sup></b> |
| ➤Reduce out-of-school social contacts and community mixing   | <b>Generally not recommended</b> | <b>Consider: ≤ 4 weeks<sup>††</sup></b> | <b>Recommend: ≤ 12 weeks<sup>§§</sup></b> |
| <b>Workplace/Community</b><br><b>Adult social distancing</b><br>➤Decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)                                       | <b>Generally not recommended</b> | <b>Consider</b>                         | <b>Recommend</b>                          |
| ➤Increase distance between persons (e.g., reduce density in public transit, workplace)   | <b>Generally not recommended</b> | <b>Consider</b>                         | <b>Recommend</b>                          |
| ➤Modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theatre performances)  | <b>Generally not recommended</b> | <b>Consider</b>                         | <b>Recommend</b>                          |
| ➤Modify, work place schedules and practices (e.g., telework, staggered shifts)   | <b>Generally not recommended</b> | <b>Consider</b>                         | <b>Recommend</b>                          |

**Generally not recommended** = Unless there is a compelling rationale for specific populations or jurisdictions, measures are generally not recommended for entire populations because consequences may outweigh benefits.

**Consider** = Important to consider these alternatives as part of a prudent planning strategy, considering characteristics of the pandemic, such as age-specific [illness rate](#), geographic distribution, and the magnitude of adverse consequences. These factors may vary globally, nationally, and locally.

**Recommended** = Generally recommended as an important component of the planning strategy.

\*All these interventions should be used in combination with other [infection control](#) measures, including [hand hygiene](#), [respiratory hygiene/cough etiquette](#), and [personal protective equipment](#) such as face [masks](#). Additional information on infection control measures is available at [www.pandemicflu.gov](http://www.pandemicflu.gov).

<sup>†</sup>This intervention may be combined with the treatment of sick individuals using [antiviral](#) medications and with [vaccine](#) campaigns, if supplies are available

<sup>§</sup>Many sick individuals who are not critically ill may be managed safely at home.

<sup>¶</sup>The contribution made by contact with asymptotically infected individuals to disease transmission is unclear. Household members in homes with ill persons may be at increased risk of contracting pandemic disease from an ill household member. These household members may have asymptomatic illness and may be able to [shed influenza virus](#) that promotes community disease transmission. Therefore, people living in homes with sick individuals should be advised to stay home.

<sup>\*\*</sup>To facilitate compliance and decrease risk of household transmission, this intervention may be combined with provision of antiviral medications to household contacts, depending on drug availability, feasibility of distribution, and effectiveness; policy recommendations for antiviral [prophylaxis](#) are addressed in a separate guidance document.

<sup>††</sup>Consider short-term implementation of this measure—that is, less than 4 weeks.

<sup>§§</sup>Plan for prolonged implementation of this measure—that is, 1 to 3 months; actual duration may vary depending on transmission in the community as the pandemic wave is expected to last 6–8 weeks.

Note: From [Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation](#) (CDC, February 2007)

## CRITICAL ISSUES FOR THE USE OF NONPHARMACEUTICAL INTERVENTIONS

It is expected that the timely adoption of community- and individual-level [non-pharmaceutical interventions](#) will reduce the number of people who become ill and die in a community. Historical data from the 1918 pandemic suggests that the death rates experienced within communities is associated with how quickly and how long they maintained the non-pharmaceutical interventions. Cities that concurrently implemented school closures and public gathering bans for a median duration of four weeks had significant reductions in excess pneumonia and influenza deaths (Markel et. al, 2007). In addition those cities that implemented non-pharmaceutical interventions early in the pandemic took longer to reach peak death rates and experienced lower numbers of total deaths compared to cities that took longer to implement them (Markel et. al, 2007).

Experience demonstrates that relaxing community mitigation strategies was directly associated with increasing deaths due to pneumonia and influenza. It is not known how long any particular waves of disease will last within a community. Estimates show it could be 6–8 weeks or longer. The length of time a community mandates non-pharmaceutical interventions will depend on many factors including the severity of the pandemic and the duration of the pandemic wave in the community. However, early implementation of non-pharmaceutical interventions may slow the movement of the virus through the community, thereby increasing the duration of the pandemic wave in the community. Therefore, communities should be prepared to maintain these measures for up to 12 weeks during a *Category 4* or *5* pandemic and be ready to re-establish them quickly during subsequent waves.

As long as susceptible individuals are present in large numbers, spread of disease will continue. Immunity to infection with a pandemic strain can only occur after natural infection and subsequent recovery or after immunization with an effective [vaccine](#). Thus, while non-pharmaceutical interventions may limit or slow community transmission, persisting pandemic virus circulating in a community with a susceptible population is a risk factor for re-emergence of the pandemic. Monitoring deaths, [case fatality ratios](#), or other markers over time will be important for determining both the optimal duration of implementation and the need to resume these countermeasures.

## TEXAS LEADERSHIP DECISION MATRIX FOR NON-PHARMACEUTICAL INTERVENTION STRATEGIES

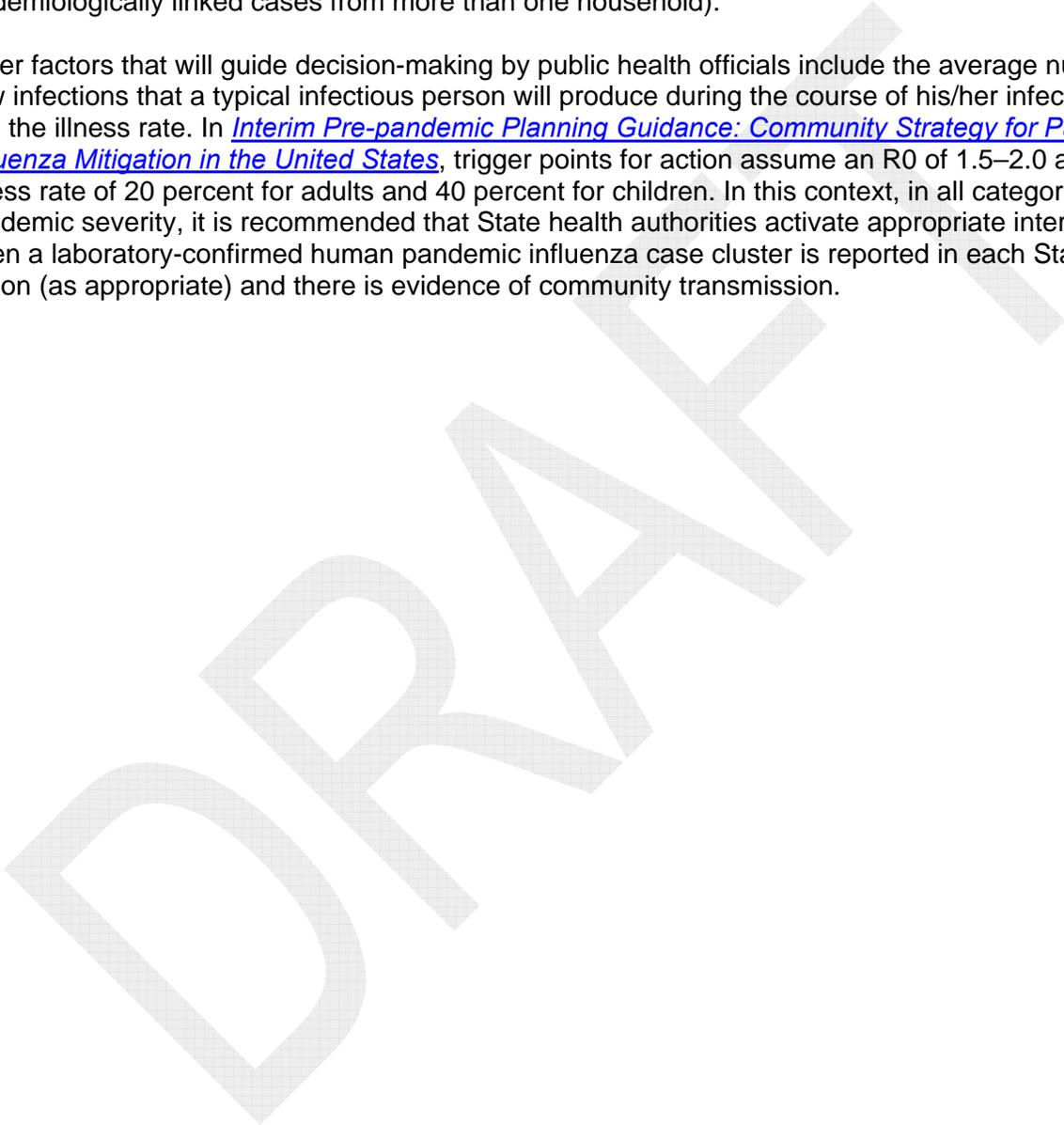
Taking into account the complex issues associated with implementing various [non-pharmaceutical interventions](#), DSHS has created a Leadership [Social Distancing Decision Matrix](#) (Table 2) to help clarify issues and guide decision-makers. This matrix outlines critical non-pharmaceutical intervention strategies that could be implemented, provides the person (or persons) who has the authority and the responsibility to implement the given strategy, and suggests the level at which the strategy might be implemented according to the World Health Organization Pandemic Phase, Federal Government Response Stage, or Centers for Disease Control (CDC) Intervals. ([Appendix A](#)). For example, the purple/black highlight indicates a Category 4 or 5 pandemic. At a WHO Phase 6 Federal Stage 3, the governor and health commissioner should be on standby to make the decision to declare a public health disaster. If the stage evolves to stage 4, they might want to consider declaring a public health emergency. At Stage 5, it is recommended that they make a declaration.

When WHO declares Pandemic Period (Phase 6) and the U.S. Government identifies Stage 3, 4, or 5, the CDC's Director shall designate the category of the emerging pandemic based on the Pandemic Severity Index and consideration of other available information. Pending this announcement, communities facing the imminent arrival of pandemic disease will be able to define which pandemic interventions are most indicated for implementation based on the level of pandemic severity.

Other epidemiologic features that are relevant in overall analysis of prevention, mitigation, and containment plans include total [illness rate](#), age-specific illness and [mortality rates](#), the [reproductive number](#), [intergeneration time](#), and [incubation period](#). [Case fatality ratio](#) and excess mortality rates may be used as a measure of the potential severity of a pandemic.

All of these suggest the appropriate non-pharmaceutical tools; however, alone, they are not suitable trigger points for action. **The primary activation trigger for initiating interventions will be the arrival and transmission of pandemic virus.** This trigger is best defined by a laboratory-confirmed cluster of infections with a novel influenza virus and evidence of community transmission (i.e., epidemiologically linked cases from more than one household).

Other factors that will guide decision-making by public health officials include the average number of new infections that a typical infectious person will produce during the course of his/her infection ([R0](#)) and the illness rate. In [Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States](#), trigger points for action assume an R0 of 1.5–2.0 and an illness rate of 20 percent for adults and 40 percent for children. In this context, in all categories of pandemic severity, it is recommended that State health authorities activate appropriate interventions when a laboratory-confirmed human pandemic influenza case cluster is reported in each State or region (as appropriate) and there is evidence of community transmission.



**Table 2. TEXAS LEADERSHIP DECISION MATRIX** R = Responsible A = Authority C = Consult/Consulted I = Informed

| Decision   | Governor            | Health Commissioner | HSR Director <sup>1</sup> | LHD Health Authority | District Court Judge | County Judge/ City Council | School Board    | Other                   |
|--|---------------------|---------------------|---------------------------|----------------------|----------------------|----------------------------|-----------------|-------------------------|
| Declaration of Public Health Disaster  | R <sup>2</sup> , A  | R <sup>2</sup> , A  |                           |                      |                      |                            |                 |                         |
| <b>Restrictions of Movement</b>  |                     |                     |                           |                      |                      |                            |                 |                         |
| ▪ Isolation of Person  |                     | R <sup>3</sup> , A  | R <sup>3</sup> , A        | R <sup>3</sup> , A   |                      |                            |                 |                         |
| ▪ Isolation of Person: Court Ordered   |                     |                     |                           |                      | R, A <sup>4</sup>    |                            |                 | LEO <sup>5</sup>        |
| ▪ Quarantine of Person   |                     | R <sup>3</sup> , A  | R <sup>3</sup> , A        | R <sup>3</sup> , A   | A <sup>6</sup>       |                            |                 | LEO <sup>5</sup>        |
| ▪ Group Quarantine   |                     | R <sup>3</sup> , A  | R <sup>3</sup> , A        | R <sup>3</sup> , A   | A <sup>6</sup>       |                            |                 | LEO <sup>5</sup>        |
| ▪ Area Quarantine  |                     | R <sup>7</sup> , A  | R, A                      | R <sup>8</sup> , A   | A <sup>6</sup>       | R, A, I <sup>9</sup>       | I               | LEO <sup>5</sup>        |
| ▪ Restriction of movement (isolation / quarantine) in the absence of a declared emergency                        |                     | R, A                | R, A                      | R, A                 | A <sup>4</sup>       |                            |                 | LEO <sup>5</sup>        |
| <b>Curfew</b>  |                     |                     |                           |                      |                      |                            |                 |                         |
| ▪ Declare a curfew   | R <sup>10</sup> , A | R <sup>11</sup> , A |                           |                      |                      | R, A <sup>12</sup>         |                 | Loc. Govt <sup>13</sup> |
| ▪ Curfew enforcement   |                     |                     |                           |                      |                      | R, A <sup>12</sup>         |                 | LEO <sup>5, 14</sup>    |
| ▪ Declaring a curfew in the absence of a declared emergency  |                     |                     |                           |                      |                      | R, A <sup>12</sup>         |                 | Loc Govt <sup>13</sup>  |
| <b>Inter-jurisdictional Cooperation and Restricting Movement of Persons</b>                                      |                     |                     |                           |                      |                      |                            |                 |                         |
| ▪ Decision to cooperate with other jurisdictions   | A                   |                     |                           |                      |                      | R, A <sup>12</sup>         |                 |                         |
| ▪ Decision to cooperate in the absence of a declared emergency   | A                   |                     |                           |                      |                      | R, A <sup>12</sup>         |                 |                         |
| <b>Closure of Public Places</b>  |                     |                     |                           |                      |                      |                            |                 |                         |
| ▪ Closure of Business  | R <sup>10</sup> , A | R <sup>11</sup> , A |                           | R, A <sup>15</sup>   |                      | R, A <sup>12</sup>         |                 | Loc Govt <sup>13</sup>  |
| ▪ School Closure   |                     |                     |                           | R, A <sup>16</sup>   |                      |                            | A <sup>17</sup> |                         |
| ▪ Cancellation of Public Events  | R <sup>10</sup> , A | R <sup>11</sup> , A |                           | R, A <sup>15</sup>   |                      | R, A <sup>12, 18</sup>     |                 | Loc Govt <sup>13</sup>  |
| ▪ Decision to close public places in the absence of a declared emergency   |                     |                     |                           | R, A <sup>15</sup>   |                      | R, A <sup>12, 18</sup>     |                 | Loc Govt <sup>13</sup>  |
| <b>Mass Prophylaxis Readiness</b>  |                     |                     |                           |                      |                      |                            |                 |                         |
| ▪ Issuance of blanket prescriptions and use of other prophylaxis measures  |                     | R, A                | R, A                      | R, A                 |                      |                            |                 |                         |
| ▪ Issuance of blanket prescriptions and use of other prophylaxis measures in the absence of a declared emergency |                     | R, A                | R, A                      | R, A                 |                      |                            |                 |                         |

### Decision Matrix Footnotes:

- 1 The Regional Director of the Department of State Health Services (Department) acts as a local health authority where none has been appointed locally. (Health and Safety Code §121.007(c), or may serve as the designee of the Commissioner or the Department.
- 2 Health and Safety Code §81.003(7) requires a declaration of disaster by the governor and a finding of a specific serious communicable disease threat by the Commissioner.
- 3 Public health control measures may be initiated by the local health authority or the Department [of State Health Services].
- 4 Health and Safety Code, Chapter 81, Subchapter G.
- 5 Law Enforcement Officer
- 6 Control measures on persons, places, and common carriers are imposed by the health authority. Non compliance with these orders is judicially enforced.
- 7 Most types of control measures may be imposed by the “Department,” but an area quarantine specifies the “Commissioner.”
- 8 Area quarantine may be imposed by the local health authority or the Commissioner. If imposed by the local health authority, he must consult with the department and each county and municipality in the affected area (§ 81.085).
- 9 The presiding officer of the governing body of a political subdivision may declare a local state of disaster (Government Code (§ 418.108(a)). The county judge or the mayor of a municipality may control ingress to and egress from a disaster area under the jurisdiction and authority of the county judge or mayor and control the movement of persons and the occupancy of premises in that area (Government Code (§ 418.108(g))).
- 10 The Governor has implied authority under the Disaster Act (Government Code Chapter 418) and explicit authority under the Emergency Act (Gov’t Code Chapter 433)
- 11 The Commissioner may impose additional control measures within an area affected by area quarantine.
- 12 Ordinance authority; Local Government Code Chapter 54.
- 13 Municipalities have ordinance authority to preserve public health under Loc. Government Code Chapter 54 and Health and Safety Code Chapters 121 and 122.
- 14 Most of the curfew statutes mentioned here have criminal penalties that would be enforced by Law Enforcement Officers.
- 15 Health Authority may impose other restrictions with an area covered by an Area Quarantine (§ 81.085(c)).
- 16 Title 25 Texas Administrative Code (§97.6(g)).
- 17 The Texas Education Code gives full authority to local school boards, but authority for day-to-day decisions is, in practice, delegated to the school superintendent.
- 18 See footnote 9 above. The authority to control “occupancy of premises” could be used to cancel public events.

## TRIGGERS FOR INITIATING USE OF NONPHARMACEUTICAL INTERVENTIONS

Case fatality ratio and excess [mortality rates](#) might be used as pandemic severity indicators, thereby providing triggers for the initiation of appropriate non-pharmaceutical tools. However, mortality estimates alone are not suitable trigger points for public health action. The primary activation trigger for initiating the strategies outlined in this document is the arrival and transmission of a novel influenza virus as verified by a laboratory-confirmed case—or cluster of cases—and evidence of person-to-person or community transmission (i.e. epidemiologically-linked cases from more than one household).

Other factors that might contribute to the adoption of individual-level and community-level [non-pharmaceutical interventions](#) include the ability of the virus to cause infection ([infectivity](#)), the ability of the virus to cause disease (virulence), and the severity of the disease after the infection occurs ([pathogenicity](#)). In this context, in all categories of pandemic severity, DSHS, in coordination with local jurisdictions, will activate appropriate interventions when a laboratory-confirmed human pandemic influenza case is reported in any region in Texas and there is evidence of community transmission.

WHO Phases and Federal Government Response Stages reflect categories rather than specific actions. CDC developed Pandemic Intervals in order to operationalize these Phases and Stages. Intervals allow for better placement of triggers and actions, provide a framework for resource planning, and allow for a synchrony of response. Seven intervals have been identified. The first two Intervals are pre-pandemic. “Investigation” consists of surveillance and laboratory activities that identify early cases of novel virus influenza in individuals. The effort is investigation, early detection, and containment. During the “Recognition” interval, the focus is demonstration of sustained and efficient human-to-human transmission through evaluation of clusters. Identification of early cases is the goal. The first laboratory-confirmed case of pandemic influenza triggers the “Initiation” interval. Outbreak control with voluntary isolation and quarantine of individuals are employed as intervention strategies. Two or more laboratory-confirmed cases without identifiable epidemiological links trigger the “Acceleration” interval. During this interval, increasing numbers of cases will eventually exceed resources to provide case-based control measures. However the individual-focused strategies introduced during the “Initiation,” interval will continue. In addition, population focused social distancing strategies will be employed including consideration of school dismissal and cancellation of large group activities. The “Peak” interval is triggered when >10% of random specimens from patients with ILI are positive for the pandemic influenza strain and/or regional influenza activity is reported and/or the health care system has exceeded surge capacity. The “Deceleration” interval begins when <10% of random samples are laboratory confirmed and health care reports are below surge capacity. Individual control measures continue. Depending upon the severity of the pandemic, relaxation of population-focused social distancing limitations may be considered. The “Resolution” interval begins when only sporadic laboratory confirmed cases are identified. Surveillance and movement back to an individual level focus for laboratory identification regain importance during the “Deceleration” and “Resolution” intervals to identify locations, trends, and determine when the wave has resolved. Since the pandemic will affect jurisdictions differently, leadership from Local health departments in consultation with Health Service Regions will determine when population-focused interventions can be relaxed.

The timing of initiation and relaxation of non-pharmaceutical interventions is critical to control. The Pandemic Severity Index combined with the CDC intervals serve as triggers to determine when non-pharmaceutical social distancing strategies should be employed and suspended. Table 3 depicts social distancing triggers as they relate to virus location, WHO Phases, Federal Government Response Stages, and CDC Intervals. Two scenarios are offered: Virus isolated in Texas and Texas unaffected.

Table 3. Social distancing triggers based on Phases, Stages, and Intervals

| WHO Pandemic Period                      | Inter-pandemic Period                                  |   | Pandemic Alert Period             |                                   |                               | Pandemic Period                   |                                     |                  |                  |          |
|--|--|---|-----------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------------|------------------|------------------|----------|
| Pandemic Phase                           | 1  | 2 | 3                                 | 4                                 | 5                             | 6                                 |                                     |                  |                  |          |
| Federal Government Response Stage (FGRS) | New Domestic Animal Outbreak in At Risk Country        |   | Suspected Human Outbreak Overseas | Confirmed Human Outbreak Overseas | Widespread Outbreaks Overseas | First Human Case in North America | Spread Throughout the United States |                  |                  | Recovery |
|  | 0  |   | 1                                 | 2                                 | 3                             | 4                                 | 5                                   |                  |                  | 6        |
| CDC Pandemic Intervals (CDCI)            | Pre-Pandemic Intervals                                 |   |                                   |                                   | Pandemic Intervals            |                                   |                                     |                  |                  |          |
|  | Investigation  |   |                                   | Recognition                       | Initiation                    | Acceleration                      | Peak Transmission                   | Deceleration     | Resolution       |          |
| Pandemic Severity Index                  | Community Mitigation Triggers—Influenza Virus in Texas |   |                                   |                                   |                               |                                   |                                     |                  |                  |          |
| 1  | Alert  |   |                                   |                                   | Standby                       | Activate                          | Activate                            | Activate/Standby | Standby          |          |
| 2  | Alert  |   |                                   |                                   | Standby                       | Activate                          | Activate                            | Activate/Standby | Standby          |          |
| 3  | Alert  |   |                                   |                                   | Standby                       | Activate                          | Activate                            | Activate/Standby | Standby          |          |
| 4  | Alert  |   |                                   | Alert                             | Standby                       | Activate                          | Activate                            | Activate         | Activate/Standby | Standby  |
| 5  | Alert  |   |                                   | Alert                             | Standby                       | Activate                          | Activate                            | Activate         | Activate/Standby | Standby  |
| Pandemic Severity Index                  | Community Mitigation Triggers—Texas Unaffected         |   |                                   |                                   |                               |                                   |                                     |                  |                  |          |
| 1  | Alert  |   |                                   |                                   | Standby                       | Activate                          | Alert                               |                  |                  |          |
| 2  | Alert  |   |                                   |                                   | Standby                       | Activate                          | Alert                               |                  |                  |          |
| 3  | Alert  |   |                                   |                                   | Standby                       | Activate                          | Alert                               |                  |                  |          |
| 4  | Alert  |   |                                   | Alert                             | Standby                       | Standby                           | Activate                            | Alert            |                  |          |
| 5  | Alert  |   |                                   | Alert                             | Standby                       | Standby                           | Activate                            | Alert            |                  |          |

## RESPONSIBILITIES FOR NONPHARMACEUTICAL INTERVENTIONS

The following section divides planning responsibilities for non-pharmaceutical interventions according to the World Health Organization Pandemic Phases, related Federal Government Response Stages, and corresponding CDC Pandemic Intervals (Appendix A).

### ***INTERPANDEMIC PERIOD PHASES 1 & 2 (Federal Government Response Stage 0; CDC Pandemic Interval Investigation)***

*New domestic animal outbreaks in at-risk-countries*

#### **Department of State Health Services Responsibilities**

##### Central Office:

1. Collaborate with local entities, other states, military, and federal partners in non-pharmaceutical intervention planning for a pandemic.
2. Encourage local jurisdictions to identify community partners such as universities, high schools, public stadiums, business owners, faith-based organizations, etc. that they may be impacted by the implementation of social distancing strategies during a pandemic.
3. Under leadership of the DSHS Office of the General Counsel, perform an annual review of procedures for, forms, laws, and statutes related to suspension of rules and necessary limitations of freedoms to contain the pandemic.
  - a. See [Communicable Disease Control Measures in Texas: A Guide for Public Health Authorities in a Public Health Emergency](#).
4. Assist the Texas Education Agency (TEA), Texas Association of School Boards (TASB), Texas School Safety Center, and Texas Association of School Administrators (TASA) regarding pandemic influenza planning in:
  - a. Triggers for school closure,
  - b. Plans for parental notification,
  - c. Business continuity planning,
  - d. School distance learning,
  - e. Education of staff, parents, and students (e.g. distribution of educational materials, information on social distancing and disease prevention),
  - f. Continued communications during dismissal period, and
  - g. The continuation or dismissal of extramural school activities.
5. Brief governor and state legislature leadership as requested.

##### Central Office and Health Service Regions:

1. Identify [non-pharmaceutical interventions](#) relevant to jurisdictional needs including:
  - a. Personal protection strategies, including need for [masks](#) and other resources.
  - b. Institutional/Community/Population-Level intervention strategies.
2. Conduct educational efforts at the state level that facilitate understanding of these strategies (e.g. giving presentations or trainings as needed).
3. Support efforts at the local level to develop and disseminate educational information and materials about social distancing strategies.
4. Work with healthcare providers to:
  - a. Increase the number of individuals receiving [seasonal influenza](#) vaccine, especially among target groups including those identified for maintaining [critical infrastructure](#), health care workers, school children, and persons at high risk for secondary infections.
  - b. Encourage pneumococcal vaccine among those for whom it is recommended.
5. Collaborate with state agencies, business, educators, faith-based organizations, and others in planning and implementing community [social distancing](#) practices (e.g. [continuity of operations planning \(COOP\)](#) and school closures).

6. Coordinate with partners and stakeholders who may be involved in enforcing [isolation](#) or [quarantine](#) orders in future pandemic phases.
  - a. Work with CDC quarantine stations to develop travel-related containment measures to include drafting Ports of Entry (POE) communicable disease response plans. Plans should include: quarantine facilities, screening of passengers, providing treatment and referral to ill persons, conditional release of exposed persons, and coordinating public and media communication.
7. Continue to develop and implement additional flu [surveillance](#) activities.
8. Brief governor and state legislature leadership as requested.

### **Local Health Department and Health Service Regions (serving in the LHD capacity) Responsibilities**

1. Identify non-pharmaceutical interventions relevant to jurisdictional needs including:
  - a. Personal protection strategies
  - b. Institutional/Community/Population-Level intervention strategies
2. Work with local healthcare providers (e.g. community hospitals) to develop plans for management of community containment strategies to include:
  - a. Publicizing the community information hotline number
  - b. Education about when and how to seek emergency and non-emergency medical care
  - c. Tools for triage for both professionals and the general public regarding follow-up of known or suspected cases.
  - d. Educating household contacts of a known or suspected case of pandemic influenza about providing care to ill household contacts, [voluntary quarantine](#), and seeking medical care.
  - e. Developing interview forms with demographic characteristics of household members (both ill and contacts).
  - f. Routine monitoring of ill households including contacts.
3. Identify and educate local partners that may be impacted by the implementation of social distancing strategies including public gatherings.
4. Develop informational materials and conduct public education at the local level which facilitate understanding of social distancing strategies within their jurisdictions (e.g. giving presentations or trainings as requested).
  - a. Distribute informational materials pertaining to social distancing strategies for the workplace and community
5. Work with appropriate partners to develop Standard Operating Procedures (SOPs) for ensuring the availability and distribution of medications, vaccine, and other subsistence items to households in isolation or quarantine in the jurisdiction.
6. Conduct [Homeland Security Exercise and Evaluation Program](#) (HSEEP)-compliant exercises of those strategies.
  - a. Revise strategies, plans, and SOPs as appropriate based on after-action reports of the exercises.
7. Collaborate with local school districts regarding pandemic influenza, including
  - a. triggers for school closure,
  - b. plans for parental notification,
  - c. business continuity planning,
  - d. school distance learning,
  - e. education of staff, parents, and students (e.g. distribution of educational materials, information on [social distancing](#) and disease prevention),
  - f. continued communications during dismissal period
  - g. the continuation or dismissal of extramural school activities
8. Review the [Crisis and Emergency Risk Communications](#) (CERC) Guidelines for guidance on processes for communicating with the public about voluntary quarantine.
9. Brief local elected officials as requested.

## **PANDEMIC ALERT PERIOD PHASE 3 AND 4 (Federal Government Response Stages 0, 1, and 2; CDC Pandemic Intervals Investigation/Recognition)**

*Pandemic Influenza in small clusters has been identified somewhere in the world.*

### **Department of State Health Services Responsibilities**

#### Central Office:

1. Update presumptive pandemic influenza case definition per latest clinical and epidemiological information in coordination with CDC. Educate providers and public about the definition, using educational measures appropriate to the audience.
2. Assist other state agencies in planning for needs of clients under their care/jurisdiction who may have inadequate resources.
3. Consult Texas Military Forces (TMF) regarding their nonpharmaceutical supply needs during a pandemic.
4. Continue working with other state agencies to develop and exercise their COOP plans.
5. Brief governor and legislature as requested.

#### Central Office and Health Service Regions:

1. Expedite completion of Interpandemic preparations.
2. Encourage public adoption of personal protective strategies (social distancing, hand hygiene, respiratory hygiene/cough etiquette), including use in the workplace.
3. Work with businesses to develop education materials for employees regarding not attending work until they are no longer infectious.
4. Implement appropriate Pandemic Alert Phases 3 and 4 strategies ([Table 1](#)).
5. Provide testing supplies to local jurisdictions, hospitals, and providers for influenza and rapid testing.
6. Develop agreements with laboratories for rapid diagnostic testing on 24/7 basis.
7. Update other educational materials for the public and other entities.
8. Publicize the numerous on-line educational resources that are available through the federal government's online resources at [www.pandemicflu.gov](http://www.pandemicflu.gov).

### **Local Health Department and Health Service Regions (serving in the LHD capacity) Responsibilities**

1. Expedite completion of Interpandemic preparations.
2. Encourage public adoption of personal protective strategies and family preparation.
3. Notify local businesses that there may be a public surge on food and personal protective supplies.
4. Implement appropriate Pandemic Alert Phases 3 and 4 strategies ([Table 1](#)).
5. Finalize plans for influenza screening, including training for persons who may be doing remote screening or who may be non-clinical workers; training for triage; for screening for alternate care facilities for those who cannot be cared for at home or hospitalized.
6. Assist community agencies (e.g. food banks, churches, other non-profits, state agencies working with vulnerable populations) in planning for subsistence needs of patients with inadequate resources.
7. Encourage public adoption of personal protective strategies (social distancing, hand hygiene, respiratory hygiene/cough etiquette), including use in the workplace.
8. Publicize care strategies for families to implement as appropriate if a family member becomes ill.
9. Identify potential hotlines (e.g. 2-1-1) in local jurisdictions and work to ensure coordinated and consistent messages are provided.
  - a. Work with emergency management officials to ensure training for volunteers or other personnel who will staff the official emergency hotline.

10. Brief local elected officials as requested.

### ***PANDEMIC ALERT PERIOD PHASE 5 (Federal Government Response Stage 2; CDC Pandemic Interval Recognition)***

*Confirmed human outbreak of large clusters overseas, but not in the United States*

#### **Department of State Health Services Responsibilities**

##### Central Office:

1. Notify state agencies to place COOP plans on standby.
2. Brief governor and state legislature leadership as requested.
3. Consult and coordinate with Quarantine Stations and appropriate HSRs to heighten international travel surveillance plans.

##### Central Office and Health Service Regions:

1. Encourage public adoption of personal protective strategies (social distancing, hand hygiene, respiratory hygiene/cough etiquette, use of surgical masks in crowds), including use in the workplace.
2. Standby COOP plans; begin social distancing strategies in the workplace.
3. [Encourage the public to stockpile foods and other essential items.](#)
4. Implement appropriate Pandemic Alert Phase 5 strategies ([Table 1](#)).
5. Publicize care strategies for households to implement as appropriate for ill household members.

#### **Local Health Department and Health Service Regions (serving in the LHD capacity) Responsibilities**

1. Encourage public adoption of personal protective strategies including hand washing and respiratory hygiene/cough etiquette, social distancing, and use of masks in crowded places.
2. Standby COOP plans; begin social distancing strategies in the workplace.
3. Encourage public stockpiling of food and other essential items.
4. Notify local businesses that there may be a public surge on food and personal protective supplies.
5. Implement appropriate Pandemic Alert Phase 5 strategies ([Table 1](#)).
6. Publicize care strategies for households to implement as appropriate if a household member becomes ill.
7. Brief local elected officials as requested.

### ***PANDEMIC PERIOD PHASE 6 (Federal Government Response Stage 3; Federal Government Response Stage 3; CDC Pandemic Interval Recognition)***

*International Identification – widespread human outbreaks in multiple locations overseas.*

#### **Department of State Health Services Responsibilities**

Note: Guidance for implementation of non-pharmaceutical interventions may be updated throughout the course of an influenza pandemic to reflect current epidemiologic and laboratory data.

##### Central Office:

1. Coordinate appropriate non-pharmaceutical strategies with other pandemic intervention measures such as antivirals and vaccines (when available) and other measures (See [AADS Guidelines](#)).
2. Communicate with other state agencies and TMF regarding implementation of their pandemic influenza continuity of operations plans.

3. Update, as needed, presumptive pandemic influenza case definition per latest clinical and epidemiological information in coordination with CDC. Educate providers and public about the definition, using educational measures appropriate to the audience.
4. Brief governor and state legislature leadership as requested.
5. Consult and coordinate with Quarantine stations and appropriate HSRs regarding activation of international pandemic travel surveillance procedures.
6. Activate COOP plan as appropriate.

Central Office and Health Service Regions:

1. Implement appropriate Pandemic Period strategies.
2. Activate COOP plan as appropriate.
3. Actively encourage public adoption of personal protective strategies.
4. Publicize care strategies for families to implement as appropriate if a family member becomes ill.
5. Begin active influenza-like illness [surveillance](#) (see [PIPOG](#) surveillance section).
6. Alert volunteers to prepare to be activated as per business continuity plans.
7. Use the Decision Matrix ([Table 2](#)) for non-pharmaceutical intervention triggers as appropriate.

**Local Health Department and Health Service Regions (serving in the LHD capacity) Responsibilities**

1. Implement appropriate Pandemic Alert Period strategies (if not already in place).
2. Encourage adoption of personal protective strategies.
3. Work with hospitals to educate public on:
  - a. Care strategies for households to implement as appropriate for ill household members
  - b. Appropriate care seeking activities
  - c. Hotline number that can be called for information on care strategies as well as seeking medical care
4. Coordinate with local hospitals, schools, and businesses on these measures and forward placement of antivirals.
5. Implement use of the Decision Matrix ([Table 2](#)) for non-pharmaceutical intervention triggers as appropriate.
6. Brief local elected officials as requested.

***PANDEMIC PERIOD PHASE 6 (Federal Government Response Stages 4 and 5; CDC Pandemic Interval Initiation/Peak Transmission/Deceleration)***

*North American and/or Texas circulation of Pandemic Influenza*

**Department of State Health Services Responsibilities**

Central Office:

1. Update DSHS Website with latest information.
2. Brief governor and state legislature leadership as requested.

Central Office and Health Service Regions:

1. Implement use of the Decision Matrix ([Table 2](#)) for non-pharmaceutical intervention triggers as appropriate
2. Encourage adoption of personal protective strategies.
3. Continue to publicize care strategies for families to implement as appropriate if a family member becomes ill.
4. Work with hospitals, media, and other entities to encourage appropriate care seeking, such as staying home with illness unless it is severe and calling 211 for help with triage and to find appropriate care site if needed.
5. Publicize 2-1-1 as a resource for finding appropriate care.

6. Refer to the Texas [Antiviral Allocation, Distribution, and Storage \(AADS\) Plan Guidelines](#) for guidance on coordinating non-pharmaceutical intervention measures with allocation and distribution of antivirals and implementation of other measures.
7. Continue with activities of previous stages as appropriate to the unfolding pandemic situation.

### **Local Health Department and Health Service Regions (serving in the LHD capacity) Responsibilities**

1. Encourage adoption of personal protective strategies.
2. Continue to publicize care strategies for households and families to implement as appropriate if a household or family member becomes ill.
3. Continue to work with hospitals, media, and other entities to encourage appropriate care seeking, such as to stay home with illness unless it is severe and to call hotline for help with triage and to find appropriate care site if needed.
4. Refer to the Texas [Antiviral Allocation, Distribution, and Storage \(AADS\) Plan Guidelines](#) for guidance on coordinate non-pharmaceutical intervention measures with allocation and distribution of antivirals and implementation of other measures.
5. Implement use of the Decision Matrix ([Table 2](#)) for non-pharmaceutical intervention triggers as appropriate
6. Activate local SOPs/SOGs to ensure availability and distribution of medications, vaccine, and other subsistence items to households in isolation or quarantine.
7. Participate in activation of the Strategic National Stockpile as appropriate (See [Texas SNS Plan](#)).
8. Brief local elected officials as requested.

### **PANDEMIC PERIOD PHASE 6 (Federal Government Response Stage 6; CDC Pandemic Interval Resolution)**

#### *Recovery and preparation for subsequent waves)*

#### **Department of State Health Services Responsibilities**

##### Central Office:

1. Update the *Planning Guidelines for Non-pharmaceutical Interventions* (this document) to reflect new science and lessons learned.
2. Assist state agencies in adjusting COOP plans and [social distancing](#) practices as requested.
3. Brief governor and state legislature leadership as requested.

##### Central Office and Health Service Regions:

1. Place COOP plans on standby as appropriate.
2. Evaluate state-wide response to the pandemic wave in order to identify successes and opportunities for improvement in decision-making and implementing of non-pharmaceutical interventions.
3. Assess remaining supplies of PPE and augment if possible in preparation for subsequent waves. Consider needs of critical service providers.
4. Remove restrictions implemented by DSHS and inform community partners to resume normal activities as appropriate to the unique community experience.
5. Keep public and partners informed.

### **Local Health Department and Health Service Regions (serving in the LHD capacity) Responsibilities**

1. Evaluate local response to the pandemic wave identifying successes and opportunities for improvement in decision-making and implementing of non-pharmaceutical interventions and report to DSHS.

2. Identify those who have recovered from pandemic influenza and seek their willingness to volunteer for critical activities during subsequent waves.
3. Remove restrictions implemented by LHD as appropriate.
4. Resume normal activities in the community as appropriate.
5. Assist local partners in adjusting COOP plans and social distancing practices as requested.
6. Keep public and partners informed.
7. Brief local elected officials as requested.

DRAFT

## APPENDIX A

### WHO Global Pandemic Phases

#### WHO Periods and Phases and Corresponding Federal Government Response Stages

| WHO Phases                   |   | Federal Government Response Stages |   |
|------------------------------|---|------------------------------------|---|
| <b>INTER-PANDEMIC PERIOD</b> |   |                                    |   |
| <b>1</b>                     | No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused a human infection may be present in animals. If present in animals, the risk of human disease is considered to be low. | <b>0</b>                           | New domestic animal outbreak in at-risk country           |
| <b>2</b>                     | No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza subtype poses a substantial risk of human disease.  |                                    |   |
| <b>PANDEMIC ALERT PERIOD</b> |   |                                    |   |
| <b>3</b>                     | Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.  | <b>0</b>                           | New domestic animal outbreak in at-risk country           |
|                              |   | <b>1</b>                           | Suspected human outbreak overseas                         |
| <b>4</b>                     | Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.  | <b>2</b>                           | Confirmed human outbreak overseas                         |
| <b>5</b>                     | Larger cluster(s) but human-to-human spread still localized suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).                    |                                    |   |
| <b>PANDEMIC PERIOD</b>       |   |                                    |   |
| <b>6</b>                     | Pandemic phase: increased and sustained transmission in general population.   | <b>3</b>                           | Widespread human outbreaks in multiple locations overseas |
|                              |   | <b>4</b>                           | First human case in North America                         |
|                              |   | <b>5</b>                           | Spread throughout United States                           |
|                              |   | <b>6</b>                           | Recovery and preparation for subsequent waves             |

## GLOSSARY

**Antiviral medications:** Medications presumed to be effective against potential pandemic influenza virus strains and that may be useful to treat influenza-infected persons or persons that have been exposed to influenza to prevent them from becoming ill. These antiviral medications include the neuraminidase inhibitors oseltamivir (Tamiflu®) and zanamivir (Relenza®).

**Case fatality ratio:** Proportion of deaths among ill persons.

**Childcare:** Childcare programs discussed in this guidance include 1) centers or facilities that provide care to any number of children in a nonresidential setting, 2) large family childcare homes that provide care for seven or more children in the provider's home, and 3) small family childcare homes that provide care to six or fewer children in the provider's home.

**Children:** In this document children are defined as 17 years of age or younger unless an age is specified or 12 years of age or younger if teenagers are specified.

**Community mitigation strategy:** A strategy for the implementation at the community level of interventions designed to slow or limit the transmission of a pandemic virus.

**Continuity of Operations Plan:** Preparation made by businesses and agencies to maintain survival of the operation during catastrophic event.

**Critical infrastructure:** Systems and assets, whether physical or virtual, so vital to the United States that the incapacitation or destruction of such systems and assets would have a debilitating impact on national security, economy, or public health and/or safety, either alone or in any combination. Specifically, it refers to the critical infrastructure sectors identified in Homeland Security Presidential Directive 7 (HSPD-7).

**Early, targeted, and layered non-pharmaceutical intervention strategy:** A strategy for using combinations of selected community-level non-pharmaceutical interventions implemented early and consistently to slow or limit community transmission of a pandemic virus.

**Generation time:** Average number of days taken for an ill person to transmit the infection to another person.

**Hand hygiene:** Hand washing with either plain soap or antimicrobial soap and water or use of alcohol-based products (gels, rinses, foams containing an emollient) that do not require water.

**Homeland Security Exercise and Evaluation Program (HSEEP):** Capabilities and performance-based exercise program that provides a standardized policy, methodology, and language for designing, developing, conducting, and evaluating all exercises.

**Incident Command System (ICS):** The combination of facilities, equipment, personnel, procedures, and communications operating within a standardized organizational structure, designed to aid in domestic incident management activities.

**Illness rate or clinical attack rate:** Proportion of people in a community who develop illness (symptomatic cases ÷ population size).

**Incubation period:** The interval (in hours, days, or weeks) between the initial, effective exposure to an infectious organism and the first appearance of symptoms of the infection.

**Infection control practices:** Hygiene and protective measures to reduce the risk of transmission of an infectious agent from an infected person to uninfected persons (e.g., hand hygiene, respiratory

hygiene/cough etiquette, use of personal protective equipment, such as face masks and respirators, and disinfection).

**Infectivity:** The ability of the virus to cause infection in a susceptible host.

**Influenza pandemic:** A worldwide epidemic caused by the emergence of a new or novel influenza strain to which humans have little or no immunity and that develops the ability to infect and be transmitted efficiently between people.

**Isolation of people who are ill:** Separation or restriction of movement of persons ill with an infectious disease in order to prevent transmission to others.

**Masks:** Disposable face shields that cover the nose and mouth. Two types of facial shields are recommended by CDC: [Surgical masks](#) and [N-95 respirators](#). Surgical masks help to prevent spread of droplets by persons wearing them. They will not protect the wearer from inhaling small particles. An N-95 respirators protect the wearer from inhaling small particles and should be worn by those who will likely be exposed to sick patients. CDC recommends that: Surgical facemasks should be considered for use by individuals who enter crowded settings, both to protect their nose and mouth from other people's coughs and to reduce the wearers' likelihood of coughing on others. N-95 masks should be considered for use by individuals for whom have a high likelihood of exposure to sick people. To function properly, N-95 masks should be fit-tested.

**Mortality rate:** Number of deaths in a community divided by population size of community over a specific period of time (e.g., 20 deaths per 100,000 persons per week).

**N-95 Respirators:** Disposable face shields that should be used by individuals during activities that have a high likelihood of generating infectious respiratory aerosols including procedures such as intubation, nebulizer treatments, or suctioning; resuscitation; or providing direct care for patients with suspected or confirmed pandemic influenza. Fit testing is required to assure the respirator appropriately fits the wearer.

**Non-pharmaceutical intervention (NPI):** Mitigation measure implemented to reduce the spread of an infectious disease (e.g., pandemic influenza) that does not include pharmaceutical products, such as vaccines and medicines. Examples include [social distancing](#) and [infection control](#) practices.

**Pandemic vaccine:** Vaccine for a specific influenza virus strain that has evolved the capacity for sustained and efficient human-to-human transmission. This vaccine can only be developed once the pandemic strain emerges.

**Pathogenicity:** The ability of the agent to induce disease.

**Personal protective equipment (PPE):** PPE is any type of clothing, equipment, or respiratory protection device (respirators) used to protect workers against hazards they encounter while doing their jobs. PPE can include protection for eyes, face, head, torso, and extremities. Gowns, face shields, gloves, [face masks](#), and respirators are examples of PPE commonly used within healthcare facilities. When PPE is used in a workplace setting to protect workers against workplace hazards, its use must be consistent with regulations issued by the Occupational Safety and Health Administration (<http://www.osha.gov/index.html>).

**[Pandemic Influenza Plan Operational Guidelines \(PIPOG\)](#):** The operating guidelines for the Texas Pandemic Influenza Plan. The PIPOG is available on the DSHS Community Preparedness Website.

**Post-exposure prophylaxis:** The use of antiviral medications in individuals exposed to others with influenza to prevent disease transmission.

**Prophylaxis:** Prevention of disease or of a process that can lead to disease. With respect to pandemic influenza, this specifically refers to giving antiviral medications to healthy individuals to prevent influenza.

**Quarantine:** A restraint upon the activities or communication (e.g., physical separation or restriction of movement within the community/work setting) of individuals who have been exposed to an infection but are not yet ill to prevent the spread of disease. [Quarantine](#) may be applied voluntarily (preferred) or on compulsory basis dependent on legal authority.

**Respiratory hygiene/cough etiquette:** a term that has been adopted by the Centers for Disease Control and Prevention (CDC) to describe measures that can be taken to decrease the risk of spreading respiratory pathogens.

**R0 (“reproductive number”):** Average number of infections resulting from a single case in a fully susceptible population without interventions.

**Schools:** Refers to public and private elementary, middle, secondary, and post-secondary schools (colleges and universities).

**Seasonal influenza:** Influenza virus infections in familiar annual patterns.

**Second- and third-order consequences:** Chains of effects that may arise as a consequence of intervention and that may require additional planning and intervention to mitigate. These terms generally refer to foreseeable unintended consequences of intervention. For example, dismissing students from schools may lead to workplace absenteeism for child care. Subsequent workplace closings due to high absenteeism may lead to loss of income for employees, a third-order effect that could be detrimental to families living at or near subsistence levels.

**Sector:** A subdivision (sociological, economic, or political) of society.

**Social distancing:** Measures to increase the space between people and decrease the frequency of contact among people.

**Strategic National Stockpile (SNS):** National repository of antibiotics, chemical antidotes, antitoxins, life-support medications, IV administration, airway maintenance supplies, and medical/surgical items. The SNS is designed to supplement and re-supply state and local public health agencies in the event of a national emergency anywhere and at anytime within the U.S. or its territories.

**Surge capacity:** Refers to the ability to expand provision of services beyond normal capacity to meet transient increases in demand. Surge capacity within a medical context includes the ability of healthcare or laboratory facilities to provide care or services above their usual capacity and to expand manufacturing capacity of essential medical materiel (e.g., vaccine) to meet increased demand.

**Surgical mask:** A disposable face mask that covers the mouth and nose and comes in two basic types. The first type is affixed to the head with two ties and typically has a flexible adjustment for the nose bridge. This type of surgical mask may be flat/pleated or duck-billed in shape. The second type of surgical mask is pre-molded, or cup shaped, and adheres to the head with a single elastic strap and usually has a flexible adjustment for the nose bridge. Surgical masks are used to prevent the transmission of large particles. Fit testing is not required for surgical masks.

**Surveillance:** The ongoing systematic collection and analysis of data and the provision of information which leads to action being taken to prevent and control a disease, usually one of an infectious nature.

**Viral shedding:** Discharge of virus from an infected person.

**Virulence:** The severity of the disease after infection occurs.

**Voluntary:** Acting or done of one's own free will without legal compulsion (e.g., voluntary household [quarantine](#)).

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