



Interim Guidance on Use of Intervals, Triggers, and Actions for Novel Influenza A (H1N1) Response

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Purpose

This document provides background and justification for the use of a conceptual framework to guide the response to the currently circulating novel influenza A (H1N1) through the use of intervals and triggers. This approach enhances and builds upon prior U.S. Government (USG) guidance by further refining the stages of a pandemic into “intervals” that are more closely aligned with prevention and response activities for novel influenza A (H1N1).

This framework has been adopted into the [Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans](#), and has been reviewed with state partners during the past year as part of pandemic preparedness.

While this document was created for use during an influenza pandemic, it is applicable to the current epidemic of novel H1N1, and has been modified for that purpose. The original document that outlined the ITA paradigm was reviewed with CSTE members earlier this year during a workshop in Atlanta and shared with CSTE membership through email.

Background

In November 2005, the President of the United States released the National Strategy for Pandemic Influenza, followed by the Implementation Plan in May 2006. These documents introduced the concept of “stages” for Federal Government response to pandemic influenza. [1] The six USG stages have provided greater specificity for U.S. preparedness and response efforts than the pandemic phases outlined in the World Health Organization (WHO) global pandemic plan. [2] The USG stages have facilitated initial planning efforts by identifying objectives, actions, policy decisions, and messaging considerations for each stage

While the stages have provided a high-level overview of the US Federal Government approach to a pandemic response, more detailed planning for federal, state, and local responses requires a greater level of specificity than is afforded with the current USG stages. In developing more specific plans for pandemic response, four needed improvements on the current USG stages were identified:

1. **Providing Greater Detail to Reflect the Progression of a Pandemic:** While adequate for high-level strategy, the USG stages generally are too broad for detailed agency-level or community/regional planning. For example, USG Stage 4 is characterized by the detection of the first laboratory-confirmed human case of a pandemic strain of influenza in North America, and USG Stage 5 is characterized by the spread of pandemic influenza infection throughout the United States. Many public health actions will take place at the onset and within Stage 4 and Stage 5, so additional refining of the stages is needed to plan for specific activities which would occur at various points within the stages.

2. **Considering that Pandemic Influenza May First Emerge in the United States:** The USG stages assume that widespread overseas outbreaks of pandemic influenza will be identified prior to the detection of the first case in the United States. Because of the worldwide mobility of persons and limited surveillance systems in many countries, as well as the presence of animal reservoirs for influenza domestically, it is possible that cases of pandemic influenza may first be identified in the United States. Plans for response need to account for this contingency.
3. **Improving Definitions to Identify the Transition Points Between the Stages:** The points when a USG stage begins and ends have been interpreted differently by various organizations. As a consequence, there is the potential for uncoordinated or possibly conflicting perceptions of where the US is at a given time. Plans should have clearly defined triggers for action to inform decision making.
4. **Representing the Potential Variation in Onset and Progression of a Pandemic in Different Jurisdictions:** The stages do not account for the possibility that a pandemic will strike individual communities at varying points in time. At the moment the Nation enters a given USG stage, the specific actions to be taken by state and local health jurisdictions may differ. For example, some states may have numerous cases of pandemic influenza and fully implement community mitigation interventions, while a distant state may have limited, if any, cases and would apply case-based interventions to contain. Plans should reflect the *asynchrony* of pandemic cases occurring in different jurisdictions.

To address these concerns for pandemic influenza response planning, the Centers for Disease Control and Prevention (CDC) began working to construct a common framework from which CDC and other Federal, State, and local governments and agencies can plan and coordinate their actions in 2007. The development of this approach, including both more refined intervals and triggers for action, has included gathering input from various CDC divisions, as well as of clinical, laboratory medicine, and public health partners. In addition, the approach was tested during four CDC agency level pandemic influenza exercises in 2007 and 2008. Based upon these experiences, the existing pandemic framework has been adapted to guide novel influenza A (H1N1) epidemic influenza response and planning.

The Epidemic Novel influenza A (H1N1) Influenza Intervals

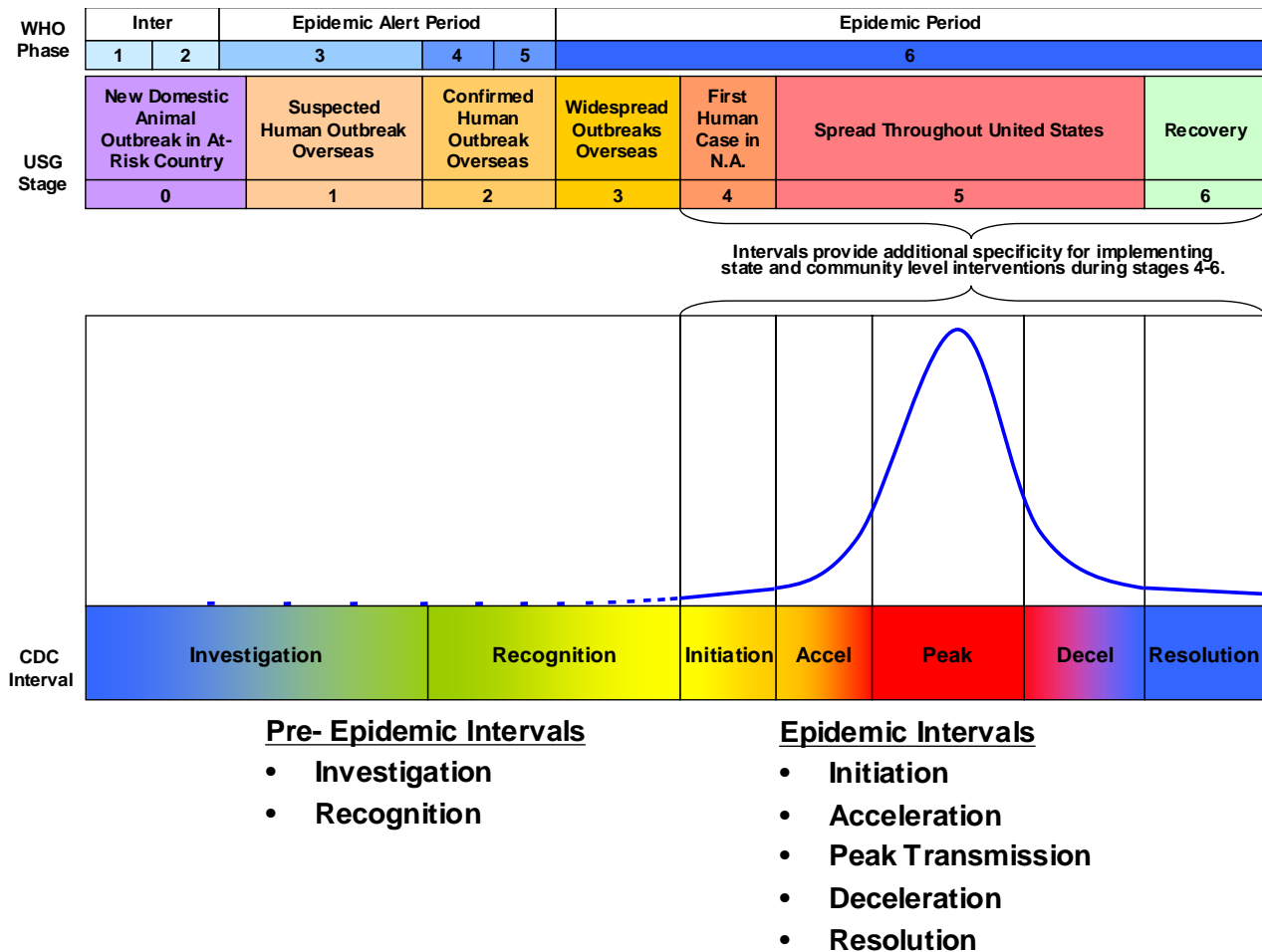
The incorporation of known principles regarding epidemic influenza transmission, experience from this ongoing epidemic, along with the adoption of well-defined triggers for action, will enhance the development of more detailed plans and guidance for novel influenza A (H1N1). Moreover, these refinements will facilitate better coordinated and timelier containment and mitigation strategies at all levels, while acknowledging the heterogeneity of conditions affecting different U.S. communities during the progression of a novel influenza epidemic.

Typically, epidemic curves are used to monitor an outbreak as it is occurring or to describe the outbreak retrospectively. While epidemic curves are useful during an outbreak or retrospectively for noting the possible effects of interventions (graphically showing when they are or were implemented relative to the rise and fall of the epidemic), model epidemic or pandemic curves can also be used to describe likely events over time. These hypothetical models may be

particularly valuable for anticipating conditions and identifying key actions that could be taken at certain points in time to alter the epidemic or pandemic curve. Classic epidemic curves have been described in the literature as having a growth phase, hyperendemic phase, decline, endemic or equilibrium phase, and potentially an elimination phase.[3,4]

For the purposes of novel influenza A(H1N1) response, CDC will use seven intervals to represent the sequential units of time that occur along a hypothetical pandemic curve. [5,6] We acknowledge that the US and several states are already in the Initiation interval. For state planning, use of the intervals to describe the progression of the epidemic within communities in a state provides a more granular framework for defining when to respond with various actions and interventions during U.S. Government stages 4, 5 and 6. (Figure 1)

Figure 1: Periods, Phases, Stages, and Intervals



While there will be one epidemic curve for the United States, the national curve will be the composite of the smaller curves representing each community. Therefore, the intervals serve as additional points of reference within the phases and stages to provide a common orientation and better epidemiologic understanding of what is taking place and when to intervene. Thus, state health authorities may elect to implement interventions asynchronously within their states by

focusing early efforts on communities that are first affected. The intervals are also a valuable means for communicating the status of the epidemic by quantifying different levels of disease, and linking that status with triggers for interventions.

The intervals are designed to inform and complement the use of the Pandemic Severity Index (PSI) for choosing appropriate community mitigation strategies.[7] The PSI guides the range of interventions to consider and/or implement given the epidemiological characteristics of the pandemic. The intervals are more closely aligned with triggers to indicate *when* to act, while the PSI is used to indicate *how* to act.

Definitions of the Different Intervals:

For each interval shown in Figure 1, a definition of the interval is provided below.

“Investigation” Interval – Investigation of Novel Influenza Cases: Sporadic cases of novel influenza are occurring. Public health actions should focus on routine surveillance and epidemiologic investigations to identify human cases and assess the potential for the strain to cause significant disease in humans, investigations of animal outbreaks to determine any human health implications, and case-based control measures (i.e., antiviral treatment and isolation of cases and antiviral prophylaxis of contacts).

“Recognition” Interval – Recognition of Efficient and Sustained Transmission: Clusters of cases of novel influenza virus in humans are identified and sustained and efficient human-to-human transmission is confirmed. Public health actions should concentrate on containment of the outbreak, focusing on case-based control measures, including isolation and treatment of cases and voluntary quarantine of contacts. However, addition of rapid implementation of community-wide antiviral prophylaxis may be attempted to fully contain an emerging epidemic. *Many states are currently in the Recognition Phase at this time, while the country is in the Initiation Phase.*

“Initiation” Interval – Initiation of the Epidemic Wave: The first human case(s) of novel influenza A (H1N1) is identified in the United States. Continued implementation of case-based control measures (i.e., isolation and treatment of cases, prophylaxis and quarantine of contacts) is essential, along with enhanced surveillance for detecting additional or potential cases of the epidemic strain to determine when community mitigation interventions will be implemented. *Many states are currently in the Recognition Phase at this time, while the country is in the Initiation Phase.*

“Acceleration” Interval – Acceleration of the Epidemic Wave: Public health officials identify that containment efforts have not succeeded and onward transmission is occurring. Immediate initiation of community mitigation activities such as school and childcare closures, social distancing, and the efficient management of public health resources will be of primary importance. [8] Isolation and treatment of cases along with voluntary quarantine of contacts will continue as a key mitigation measure. Historical analyses and mathematical modeling indicate that early institution of combined, concurrent community mitigation measures may maximize reduction of disease transmission (and subsequent mortality) in the affected areas. [9,10,11,12]

“Peak/Established Transmission” Interval – Transmission is Established and Peak of the Epidemic Wave: Extensive transmission in the community and a state reaches its greatest number of newly identified cases. The healthcare system is overburdened. To reduce the societal effects of the epidemic and maintain critical infrastructure, utilization of available resources should be optimized.

“Deceleration” Interval – Deceleration of the Epidemic Wave: The rates of epidemic infection are declining, providing an opportunity to begin planning for appropriate suspension of community mitigation activities and recovery. State health officials may choose to rescind community mitigation intervention measures in select regions within their jurisdiction, as appropriate, when new cases are not occurring or occur very infrequently.

“Resolution” Interval – Resolution of the Epidemic Wave: Epidemic novel influenza A (H1N1) cases are occurring only sporadically. Primary actions should focus discontinuing all community mitigation interventions, facilitating the recovery of the public health, healthcare, and community infrastructure, resuming enhanced surveillance protocols to detect possible subsequent waves, and preparing for next waves of infection, should they occur.

Interval Triggers and Actions associated with them

We had previously proposed a set of triggers to mark the onset for each of the intervals providing a framework against which actions can be aligned. (Table 1) These have been modified to be applicable to the current novel influenza A (H1N1) epidemic. Multiple secondary or sub-triggers will also need to be identified to add yet greater specificity and relevancy for specific functions, such as releasing communications, monitoring, recalling/ redesignation of assets, or distributing vaccines. The state-level and national-level triggers are different to reflect the varying scale and impact of events at the different levels. Some areas of the country, such as the Washington DC Capital Region, cross multiple jurisdictional boundaries. Coordination of public health authorities for a combined approach to implementing the triggers and actions will be needed. For this reason, "State Triggers" may be considered regional triggers for those areas where multiple public health authorities are planning for a coordinated approach.

Evaluation of whether these triggers are applicable to the current epidemic will be continually assessed as more data are available on the epidemiology of the epidemic.

Table 1. Proposed Stages, Intervals, and Triggers for Novel influenza A (H1N1) Response

WHO Phase	USG Stage	Influenza Interval	State Trigger	National Trigger
1: Low risk of human cases	0: New Domestic Animal Outbreak in At-Risk Country	Investigation of Novel Influenza A Infection in Animals and Humans	Identification of animal case of influenza A subtypes with potential implications for human health within the state	Identification of animal case of influenza A subtypes with potential implications for human health anywhere in the world
2: Higher risk of human cases			Identification of human case of potential novel influenza A infection within the state	
3: No or very limited human-human transmission				
4: Evidence of increased human-human transmission	2: Confirmed Human Outbreak Overseas	Recognition of Novel influenza A (H1N1) Virus	Confirmation of human cases of novel influenza A and demonstration of efficient and sustained human-to-human transmission within the state	Confirmation of human cases of novel influenza A and demonstration of efficient and sustained human-to-human transmission anywhere in the world
5: Evidence of significant human-human transmission				
6: Efficient and sustained human-human transmission	3: Widespread Human Outbreaks in Multiple Locations Overseas			
	4: First Human Case in North America	Initiation of Epidemic Wave	Laboratory-confirmed case of defined Novel influenza A(H1N1) influenza detected within the state	Laboratory-confirmed case of defined Novel influenza A(H1N1) detected within the US
	5: Spread Throughout United States	Acceleration of Epidemic Wave	Increasing numbers of cases exceed resources to provide case-based control measures	At least one state in five of the ten FEMA/HHS regions have met the Acceleration criteria
		Peak/Established Transmission During Epidemic Wave	Half or more of geographical regions in a state are reporting novel influenza H1N1 activity	At least one state in five of the ten FEMA/HHS regions have met the Peak/Established Transmission criteria

				(includes states that have transitioned into the Deceleration Interval)
		Deceleration of Epidemic Wave	Less than half of geographical regions in a state are reporting novel influenza H1N1 activity	The majority of states have met the Deceleration criteria (includes states that have transitioned into the Resolution Interval)
	6: Recovery	Resolution of Epidemic Wave	Laboratory-confirmed novel influenza H1N1 cases are occurring sporadically; or, The health care system capacity is approaching pre-epidemic levels	The majority of states have met the Resolution criteria

With the adoption of the intervals and triggers, we can more effectively coordinate and more clearly delineate responsibilities and expectations across the different levels of government. Appendix 1 provides a listing of some of the key actions that would be expected to be taken during the different intervals. The appendix is designed to demonstrate the utility of the framework and does not provide a comprehensive listing of actions to be implemented.

Discussion

While the actual shape of the epidemic curve cannot be exactly predicted and may be modified by interventions, the use of an idealized curve permits the defining of triggers that are applicable generally. The concept of charting an epidemic can be applied to a single outbreak, such as what might be happening in an individual state or community; or information from multiple outbreaks can be aggregated, such as for highlighting the situation at the national level.

The principle of establishing this framework of intervals, triggers and accompanying actions is more important than the specification of individual triggers. There is no 'one-size fits all' for establishing triggers. The diversity of resources and demographics between regions and states in the United States makes detailed, all encompassing triggers nearly impossible. Some triggers may not be scalable to all levels of government. Some triggers will not have corresponding actions from every participant group. However, the establishment and understanding of common concepts will be critical for tracking the course of the epidemic and for implementing response efforts in a coordinated manner.

This framework is designed to inform decisionmaking but should not be seen as minimizing or replacing the role of scientific expertise; particularly as a novel influenza epidemic unfolds. In addition, the proposed triggers and actions are not inflexible and should not be blindly followed in an epidemic. Epidemic planning is based on numerous assumptions and actions that will need to be continuously reanalyzed in the face of the facts and science as the epidemic progresses.

References

1. Pandemicflu.gov – Federal Planning & Response Activities. Available at <http://www.pandemicflu.gov/plan/federal/index.html#national>
2. WHO global influenza preparedness plan: The role of WHO and recommendations for national measures before and during pandemics. Available at http://www.who.int/csr/resources/publications/influenza/GIP_2005_5Eweb.pdf
3. Liang W, Zhu Z, Guo J, et al. Severe acute respiratory syndrome, Beijing, 2003. *Emerg Infect Dis* (2004);10(1): 25-31. <http://www.cdc.gov/ncidod/EiD/vol10no1/pdfs/03-0553.pdf>
4. Wasserheit JN, Aral SO. The dynamic typology of sexually transmitted disease epidemics: Implications for prevention strategies. *J Infect Dis* (1996);174(suppl 2): S201-13.
5. Epidemic curves can be drawn to represent many different outbreaks—an epidemic curve for the world is distributed over a long period of time and around the globe and might be correlated to the WHO phases. An epidemic curve for the U.S. is likely shorter and references only the geographic bounds of the United States, and can be correlated with the U.S. government planning stages. An epidemic curve for a state or community is likely shorter still and references only the geographic bounds of the state or community. In this document, we apply these intervals to State and community planning during U.S. government stages 4, 5 and 6. (Of course these intervals have utility for national and international efforts as well.)

6. Because we recognize that the epidemic may begin, or first be detected, in the United States or elsewhere in North America, the intervals do not distinguish between the occurrence of pre-epidemic or epidemic cases overseas versus the occurrence of cases domestically. Therefore, this framework can be applied in community, state, national, or international settings.

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7. CDC. Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States – Early, Targeted, Layered Use of Nonpharmaceutical Interventions. February 2007. Available at

<http://www.pandemicflu.gov/plan/community/commitigation.html>

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10. Ferguson NM, Cummings DA, Fraser C, et al. Strategies for mitigating an influenza pandemic *Nature* (2006);442:7: 448-452.

11. Bootsma MC, Ferguson NM. The effect of public health measures on the 1918 influenza pandemic in U.S. cities. *Proceedings of National Academy of Sciences of USA*, (2007);104(18): 7588-7593.

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http://www.cdc.gov/eid/content/14/3/365.htm?s_cid=eid365_e#cit

Appendix A: Intervals, Triggers, and Actions

Note: Unless stated otherwise, Federal, Region/State, and local preparedness and response actions begun during one interval should be continued and enhanced during subsequent intervals.

	<u>Investigation</u> of Novel Influenza A in <i>Animals</i>	<u>Investigation</u> of Novel Influenza A in <i>Humans</i>
Trigger	<i>Identification of animal case of influenza A subtypes with potential implications for human health within the state</i>	<i>Identification of human case of potential novel influenza A infection within the state</i>
Local/State Actions	Affected State	Affected State
	<ul style="list-style-type: none"> • Contain animal cases • Assess human exposures and risks of infection • Monitor for human disease • Share information with animal and human health officials and other stakeholders, including sharing virus strains • Disseminate risk communication messages, including food safety 	<ul style="list-style-type: none"> • Voluntarily isolate and treat human cases • Voluntarily quarantine if human-to-human transmission is suspected; monitor, and provide chemoprophylaxis to contacts • Assess case contacts to determine human to human transmission and risk factors for infection • Share information with animal and human health officials and other stakeholders, including reporting of cases according to the Nationally Notifiable Diseases Surveillance System and sharing virus samples • Disseminate risk communication messages
	Unaffected State	Unaffected State
	<ul style="list-style-type: none"> • Maintain state surveillance for animal cases and human cases • Ensure laboratory capacity to detect and characterize influenza viruses • Develop local Strategic National Stockpile (SNS) plans • Develop guidance for antiviral and vaccine allocation, distribution and usage (including monitoring of adverse events) • Develop community mitigation preparedness activities, including plans and exercises • Develop, review, and test surge plans for all healthcare facilities • Build and place caches of antivirals and surge supplies • Develop plans for planning, coordination, and communication 	<ul style="list-style-type: none"> • Continue to maintain state surveillance • Continue to build state and local countermeasures stockpile • Continue to develop and promote community mitigation preparedness activities, including plans and exercises • Continue refining and testing healthcare surge plans

	Investigation of Novel Influenza A in <i>Animals</i> (Cont'd)	Investigation of Novel Influenza A in <i>Humans</i> (Cont'd)
Federal Actions	US is Affected	US is Affected
	<ul style="list-style-type: none"> • Report animal cases to OIE • Enhance surveillance for animal cases • Support state and local investigation and containment efforts • Disseminate risk communication messages, including food safety • Maintain national surveillance for animal cases 	<ul style="list-style-type: none"> • Report human cases to WHO per International Health Regulations (2005) • Enhance surveillance for human cases and assess potential for human to human transmission • Support state and local investigation and containment efforts • Disseminate risk communication messages • Conduct laboratory confirmation of cases and monitor virus for transmission characteristics and resistance
	US is Unaffected	US is Unaffected
	<ul style="list-style-type: none"> • Support international investigation and containment efforts • Support characterization of viruses and resistance profiles • Monitor importation of embargoed items • Promote community mitigation preparedness activities, especially hand hygiene, infection control and social distancing messages • Facilitate development of surge strategies and tools • Develop guidance for antiviral and vaccine prioritization, allocation, distribution and usage (including monitoring of adverse events) • Build and maintain SNS caches • Develop strategies for ports of entry operations • Develop plans for planning, coordination, and communication 	<ul style="list-style-type: none"> • Support international investigation and containment efforts • Maintain national surveillance for human cases • Support development of vaccine candidates • Continue to develop and promote community mitigation preparedness activities including relevant guidance material • Support planning and preparedness for mass care under conditions of scarce resources

Recognition of Efficient and Sustained Transmission of a Novel influenza A (H1N1)Virus		
Trigger	<i>Confirmation of human cases of novel influenza A and demonstration of efficient and sustained human-to-human transmission</i>	
Local/State Actions	Affected State(s)	Unaffected States
	<ul style="list-style-type: none"> • Continue/initiate actions described for “Investigation Interval” • Implement case-based investigation and containment • Implement voluntary contact quarantine and chemoprophylaxis • Confirm all suspect cases at public health laboratory • Consider rapid containment of emerging novel influenza A (H1N1) • Report cases according to Nationally Notifiable Diseases Surveillance System • Conduct enhanced novel influenza A (H1N1) surveillance • Prepare to receive SNS countermeasures • Disseminate risk communication messages, including when to seek care and how to care for ill at home • Implement appropriate screening of travelers and other border health strategies, as directed by CDC 	<ul style="list-style-type: none"> • Continue/initiate actions described for “Investigation Interval” • Prepare for investigation and response • Conduct enhanced novel influenza A (H1N1) surveillance • Prepare to receive SNS countermeasures • Disseminate risk communication messages • Implement appropriate screening of travelers and other border health strategies, as directed by CDC

Federal Actions	<ul style="list-style-type: none"> • Continue/initiate actions as described for “Investigation Interval” • Begin enhanced novel influenza A (H1N1) surveillance nationally • Implement appropriate screening of travelers and other border health strategies, as directed by CDC • Deploy federal responders to affected areas • Evaluate available data to determine case-fatality ratios or excess mortality to estimate the Pandemic Severity Index (PSI) • Implement appropriate screening of travelers and other border health strategies • Advise all health care workers to screen for travel history • Initiate vaccine manufacturing • Implement pre-epidemic vaccination strategy • Deploy SNS antiviral drug reserve for international containment (if recognition occurs outside of the US) • Deploy pro rata allocations of SNS countermeasures to Project Areas (based on sustained transmission) • Consider replenishment of SNS inventory as assets are used • Disseminate risk communication messages, including when to seek care and how to care for ill at home
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<u>Initiation</u> of Epidemic Wave		
Trigger	<i>Laboratory-confirmed case of novel influenza A (H1N1) detected within the US</i>	
	Affected States	Unaffected States
Local/State Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Recognition Interval” • Declare Community Mitigation Alert if PSI Category 1 to 3, declare Standby if PSI Category 4 or 5 • Continue enhanced state and local surveillance • Implement (pre-epidemic) vaccination campaigns if (pre-epidemic) vaccine is available • Offer mental health services to health care workers 	<ul style="list-style-type: none"> • Continue/initiate actions described for “Recognition Interval” • Declare Community Mitigation Standby if PSI Category 4 or 5 • Prepare for investigation and response • Prepare for healthcare surge • Review and prepare to deploy mortuary surge plan • Deploy state/local caches • Prepare to transition into emergency operations
Federal Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Recognition Interval” • Deploy federal responders to states initially affected, as appropriate • Maintain appropriate screening of travelers • Declare public health emergency • Remove select agent status and USDA regulations for the novel influenza A (H1N1) strain • Deploy SNS antiviral drug reserve for U.S. containment and quarantine stations • Provide priority groups with (pre-epidemic) vaccine if available/appropriate • Begin exit screening at borders when there are cases in the US • Manage healthcare surge including support of production of key medical resources • Conduct analyses; disseminate data regarding transmission, treatment & prognosis 	

Acceleration of Epidemic Wave		
Trigger(s)	State level	National level
		<i>Increasing numbers of cases exceed resources to provide case-based control measures</i>
Local/State Actions	Affected States	Unaffected States
	<ul style="list-style-type: none"> • Continue/initiate actions described for “Initiation Interval” • Activate community mitigation interventions for affected communities • Transition from case-based containment/contact chemoprophylaxis to community interventions • Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring • Begin pre-shift healthcare worker physical and mental health wellness screening • Implement vaccination campaigns if (pre-epidemic) vaccine is available • Monitor vaccination coverage levels, antiviral use, and adverse events • Monitor effectiveness of community mitigation activities 	<ul style="list-style-type: none"> • Continue/initiate actions described for “Initiation Interval” • Prepare for investigation and response • Prepare for healthcare surge • Review and prepare to deploy mortuary surge plan • Deploy state/local caches/ stockpiles • Prepare to transition into emergency operations • Implement vaccination campaigns if (pre-epidemic) vaccine is available • Monitor vaccination coverage levels, antiviral use, and adverse events
Federal Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Initiation Interval” • Maintain enhanced surveillance and virologic characterization • Implement vaccination campaigns if (pre-epidemic) vaccine is available • Monitor vaccination coverage levels, antiviral use, and adverse events • Consider re-allocation of remaining SNS antiviral drug reserve for international containment to other priorities • End risk-based entry screening at borders. Continue/initiate exit screening, as appropriate. • Provide recommendations for use of community mitigation measures • Transition to virologic testing of a sample of viruses submitted from states • Cease deployments of federal responders as appropriate • Consider redesignation of deployed border screening resources for local public health mitigation efforts • Initiate targeted studies of clinical course, treatment responses, and transmission of disease • Cease deployment of SNS antiviral drugs for containment (internationally and in the US); consider re-allocation of remaining SNS antiviral drugs for other priorities 	

<u>Peak/Established Transmission</u> of Epidemic Wave		
Trigger(s)	State level	National level
		<i>Half or more of geographical regions in a state are reporting novel influenza H1N1 activity, or</i>
Local/State Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Acceleration Interval” • Manage health care surge • Maintain critical infrastructure and key resources • Laboratory confirmation of only a sample of cases as required for virologic surveillance • Implement surveillance primarily for mortality and syndromic disease 	
Federal Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Acceleration Interval” • Implement surveillance primarily for mortality and syndromic disease • Manage healthcare surge • Maintain critical infrastructure and key resources • Support production of key medical resources • Advise implementation of healthcare surge mitigation strategy: <ul style="list-style-type: none"> ○ Activation of alternate care sites ○ Implementation of standards of care appropriate to the circumstances (resource allocation and adjusted triage algorithms) 	

<u>Deceleration</u> of Epidemic Wave		
Trigger(s)	State level	National level
	<i>Less than half of geographical regions in a state are reporting novel influenza H1N1 activity</i>	<i>The majority of states have met the Deceleration criteria</i>
Local/State Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Peak/Established Transmission Interval” • Assess, plan for, and implement targeted cessation of community mitigation measures, if appropriate • Transition surveillance from syndromic to case-based monitoring and confirmation • Initiate targeted cessation of surge capacity strategies • Maintain aggressive infection control measures in the community 	
Federal Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Peak/Established Transmission Interval” • Provide planning assistance with cessation of community mitigation measures and surge capacity strategies • Provide information on measures to prepare and respond to possible additional epidemic waves 	

Resolution of Epidemic Wave and Preparation for Subsequent Waves		
	State level	National level
Trigger(s)	<p><i>Laboratory-confirmed novel influenza H1N1 cases are occurring sporadically, or</i></p> <p><i>The health care system capacity is approaching pre-epidemic levels</i></p>	<p><i>The majority of states have met the Resolution criteria</i></p>
Local/State Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Deceleration Interval” • Rescind community mitigation interventions • Continue case confirmation of selected cases to verify resolution of epidemic wave • Resume enhanced virologic surveillance to detect emergence of increased transmission. • Prepare for possible second wave • Continue to promote community mitigation preparedness activities on standby for second wave • Conduct after-action review for lessons learned • Replenish stockpiles/caches as able 	
Federal Actions	<ul style="list-style-type: none"> • Continue/initiate actions described for “Deceleration Interval” • Initiate routine inter-epidemic surveillance, including virologic testing • Provide assistance with cessation of community mitigation measures and surge capacity strategies • Cease declaration of public health emergency • Conduct after-action review for lessons learned • Prepare for possible second wave • Replenish national stockpiles, as able • Assist states in replenishing stockpiles/caches of PPE and antivirals 	