

# Kansas Department of Health & Environment

## Analysis and Guidance Plan for

## Pandemic Influenza Mitigation

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Healthy Kansans Living In Safe And Sustainable Environments

**Kansas Department of Health and Environment**  
**Analysis and Guidance Plan for**  
**Pandemic Influenza Mitigation**  
 (Just in Time Training Document)

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# Kansas Department of Health and Environment (KDHE) Guidance Plan for Pandemic Influenza Mitigation

## Containing Pandemic Influenza

Social distancing as a viable option for mitigating the impact of pandemic influenza is an integral part of the national strategy for non-pharmaceutical interventions (NPI). Since the introduction of that strategy, Community Containment has emerged as a core component of the pandemic response plan.<sup>1</sup>

Until recently, there has been no consensus and very little quantifiable data to support any of the known NPI's. However, many historical documents and studies have been re-visited, and extensive epidemiological modeling has been performed, in attempt to objectively assess the effectiveness of social distancing strategies. An example is a recent article illustrating the impact of interventions in 23 U.S. cities by Hatchet, Mecher and Lipsitch that states, "Cities that introduced measures early in their epidemics achieved moderate but significant reductions in overall mortality."<sup>2</sup> In October of 2006, the Institute of Medicine (IOM) convened an expert committee to specifically look at these issues. Their report resulted in the first attempts to establish guidelines for initiating NPI's in a targeted fashion during a pandemic.<sup>3</sup>

The most compelling concept to arise from that report is the introduction of what was termed 'Early Targeted Layered Containment' or TLC.<sup>4</sup> This concept will very likely come to represent the core strategy for combating pandemic influenza in countries with well developed socio-political and public health infrastructures such as in Europe and North America. "TLC includes a combination of interventions that includes: targeted antiviral treatment and isolation of ascertained cases, targeted prophylaxis and quarantine of household contacts of index cases, school closure and keeping children at home for the duration of the closure; social distancing in the workplace (e.g. via telecommuting), and social distancing in the community (e.g. cancellation of public events)."<sup>5</sup>

Importantly, the IOM report specifically notes that, "It is almost impossible to say that any of the community interventions have been proven ineffective.... However, it is also almost impossible to say that the interventions, either individually or in combination, will be effective in mitigating an influenza pandemic." While TLC represents a viable strategy for pandemic mitigation, it remains an untested one. Only recently in June of 2008 was a "trigger" type of system developed and disseminated in draft form by the U.S. Centers for disease Control and Prevention. That is also untested. This new field of endeavor relies in large part on data and models that are rife with uncertainties. As noted in the Center for Infectious Disease Research and Policy newsletter speaking to the IOM Report Letter (Robert Roos/News Editor/ December 14, 2006), "...the panel warned that public health officials...should take care not to overstate the evidence for their effectiveness." and further said, "any plans to use such measures should be linked with plans for mitigating their side effects."

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<sup>1</sup> National Strategy for Influenza, Nov 2006, pg 8.

<sup>2</sup> Public health interventions and epidemic intensity during the 1918 influenza pandemic, Richard J. Hatchett, Carter E. Mecher, and Marc Lipsitch PNAS published April 6, 2007, 10.1073/pnas.0610941104 (American Journal of Public Health)

<sup>3</sup> Modeling Community Containment for Pandemic Influenza: A Letter Report, Institute of Medicine, December 10<sup>th</sup>, 2006 (<http://www.iom.edu/CMS/3793/37624/39066.aspx>) accessed Nov. 6, 2008

<sup>4</sup> *ibid* 3 pg. 6

<sup>5</sup> *ibid* 3 pg. 6

## Pandemic Severity Index

It has been recognized that some qualitative method of assessing the potential impact of pandemic influenza upon a community is necessary and that this measure can be used as a form of governor on levels and intensity of response. Guidance provided by the federal government in 2007 has created a Pandemic Severity Index (PSI, summarized in chart 1 below) to help address the need for some form of systemized ability to respond.<sup>6</sup> The Pandemic Severity Index (PSI) is a domestic planning tool to help categorize a pandemic by severity. It is not perfect, but it does provide a conceptual structure within which to place “triggers” for activating community containment actions.

Communities can then make decisions on what measures to take based on how harmful the pandemic is projected to be. The index is divided into five categories. A Category 1 pandemic is as harmful as a severe seasonal influenza season, while a pandemic with the same intensity as the 1918 flu pandemic (thought to have killed anywhere from 20 million to 100 million people around the world), would be classified as Category 5. Estimating the severity of a pandemic will be primarily based on the percentage of deaths among ill persons (chart 1). Based on this projection, the government and health officials may recommend different actions communities can take in order to try to limit the spread of disease by reducing contact between sick and well individuals.

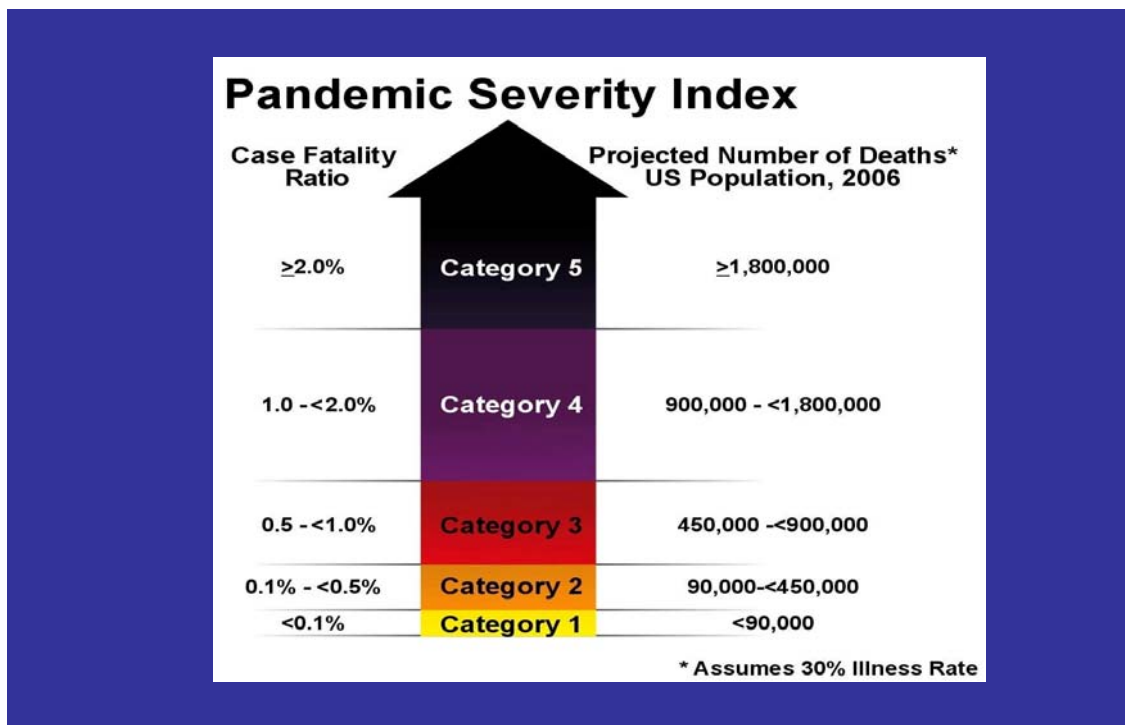


Chart 1

The guidance is conceptually designed around the idea that combinations of “infection control measures”, while individually of only limited benefit, may be highly effective in influencing the magnitude and impact of a pandemic event over time when implemented early and uniformly across a community. During a pandemic, public health recommendations should be tailored to the transmission

<sup>6</sup> Department of Health and Human Services/Centers for Disease Control and Prevention - Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States— Early, Targeted, Layered Use of Nonpharmaceutical Interventions February 1, 2007

characteristics of the particular pandemic virus, and revised as “real-time” assessments of the efficacy of interventions becomes available. These scenarios reinforce the basis of the Kansas plan, focusing attention on community resilience while also being relevant to an all-hazards preparedness approach. The array of interventions tied to severity includes those indicated in the national mitigation guidance and illustrated below in tables 1 and 2.<sup>7</sup>

Community Strategies by Pandemic Flu Severity (1)			
Interventions by Setting	Pandemic Severity Index		
	1	2 and 3	4 and 5
<b>Home</b>			
<b>Voluntary isolation</b> of ill at home (adults and children); combine with use of antiviral treatment as available and indicated	<b>Recommend</b>	<b>Recommend</b>	<b>Recommend</b>
<b>Voluntary quarantine</b> of household members in homes with ill persons (adults and children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	<b>Generally not recommended</b>	<b>Consider</b>	<b>Recommend</b>
<b>School</b>			
<b>Child social distancing</b> –dismissal of students from schools and school-based activities, and closure of child care programs –reduce out-of-school contacts and community mixing	<b>Generally not recommended</b>	<b>Consider:</b> ? 4 weeks	<b>Recommend:</b> ? 12 weeks
	<b>Generally not recommended</b>	<b>Consider:</b> ? 4 weeks	<b>Recommend:</b> ? 12 weeks

Table 1

Community Strategies by Pandemic Flu Severity (2)			
Interventions by Setting	Pandemic Severity Index		
	1	2 and 3	4 and 5
<b>Workplace/Community</b>			
<b>Adult social distancing</b>			
–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., stadium events, theater performances)	<b>Generally not recommended</b>	<b>Consider</b>	<b>Recommend</b>
–modify workplace schedules and practices (e.g., telework, staggered shifts)	<b>Generally not recommended</b>	<b>Consider</b>	<b>Recommend</b>

Table 2.

<sup>7</sup> ibid 3

## The Kansas Plan

This document provides the general plan for implementing community containment strategies focused on minimizing the impact of an influenza pandemic in Kansas. This plan works in conjunction with other standard operating guidelines (SOG's) and tools developed in association with community containment in Kansas including the Kansas Community Containment For Disease Tool Box and the inter-related Pandemic Influenza Preparedness Action Kit developed by the Kansas Association of School Boards (KASB) and KDHE. All of these planning tools are designed to work together.

It's critical to note that these tools do not suggest that a "one size fits all" approach is either optimal or desirable. The use of non-pharmaceutical interventions needs to be understood in the context of a geographically large state with large urban population concentrations contrasted with vast expanses of geography and very low population densities. NPI's within a TLC based strategy may need to target urban areas and rural areas of the state differently.<sup>8 9</sup> The epidemiology of a particular pandemic will determine the magnitude and scope of actions.

School closure has been targeted as a special tactical element of an effective TLC strategy. The effectiveness of this part of the overall strategy will be affected by geographic and population aspects noted above that could have an impact on the efficacy of compliance issues associated with self shielding or community quarantine. Community compliance has been identified as a critical element of the success of mitigation strategies.<sup>10</sup> Historically, during the 1918 pandemic, even though schools were closed, children continued to mingle on street corners, furthering transmission outside of the school setting. That historical notation is why the TLC interventions discuss "keeping children at home for the duration..." of the pandemic period.

Communities will need to consider issues regarding how to enhance communication regarding preventive measures within and across age groups. Mass media strategies must be developed to continue public education and provide alternate means of communication to facilitate social distancing measures within a targeted layered strategy.

## Operational Goals and Parameters

Certain foundational assumptions can be made from the research and experiences to this point. The first is that a Pandemic cannot be stopped or sharply curtailed unless there is vaccine for the appropriate viral strain and/or well-timed prophylactic antiviral medications for every person.

Given these assumptions, a distinct set of goals for community containment programs can be identified.<sup>11 12 13</sup> These are to:

1. Delay disease transmission and outbreak peak
2. Decompress peak burden on healthcare infrastructure

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<sup>8</sup> World Health Organization Writing Group, "Nonpharmaceutical Interventions for Pandemic Influenza, National and Community Measures" Emerging Infectious Diseases Vol. 12, No 1. January 2006 pg. 90

<sup>9</sup> Targeted Social Distancing Design for Pandemic Influenza Emerging Infectious Diseases Vol. 12, Number 11, November 2006

<sup>10</sup> *ibid*, 4, 5, 6.

<sup>11</sup> Targeted Layered Containment: Policy Perspective, Rajeev Venkayya, Homeland Security Council powerpoint; Modeling Community Containment, IOM workshop October 25, 2006

<sup>12</sup> Targeted Layered Containment: Scientific Underpinnings, Martin Cetron, Centers for Disease Control and Prevention powerpoint; Modeling Community Containment, IOM workshop October 25, 2006

<sup>13</sup> *ibid* 4

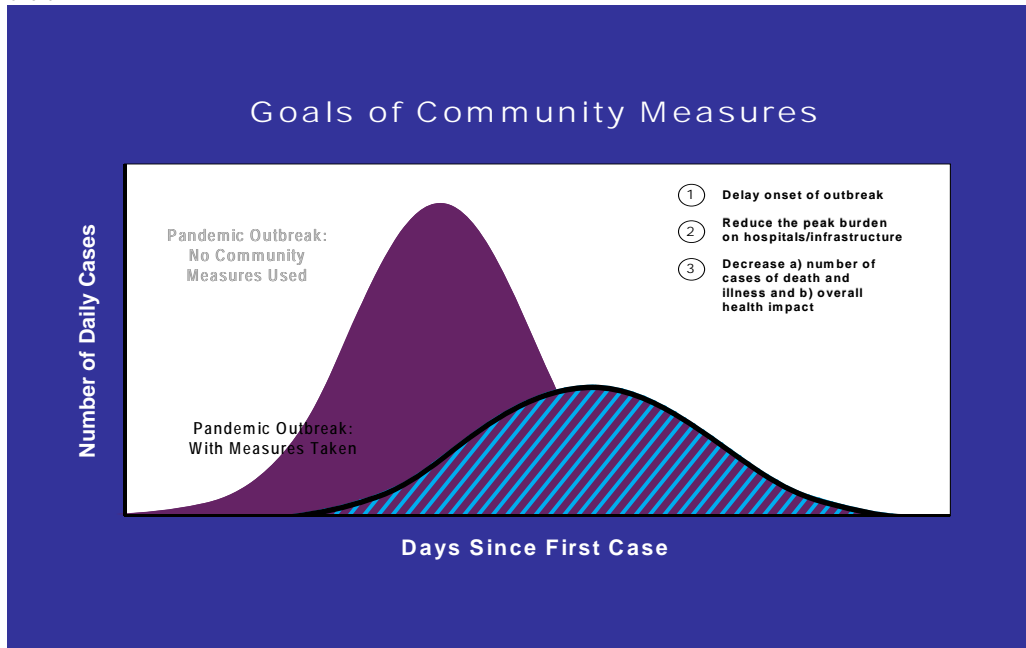
### 3. Diminish overall cases and health impacts

These goals assume that:

- Our best countermeasure – vaccine – will probably be unavailable during the first wave of a pandemic
- Antiviral treatment may improve outcomes but will have only modest effects on transmission<sup>14</sup>

Chart 1 below illustrates how the federal guidance anticipates the impact of effective community mitigation interventions.

Chart 1



#### Timing and Robustness of Policy Options

A key variable underlying the effective use of NPI's is the timing of actions. The intrinsic uncertainties of both a pandemic and the effectiveness of NPI's can result in a tentative response.

Tied closely to this is the need to have "robust" policy options that decision makers can have confidence in. Robust in this case means that the portfolio of NPI's must be capable of mitigating a pandemic across a wide range of assumptions.

When should the public health system respond to an emergency? Timing is of extreme importance. An example of late timing placing the state in a reactive mode occurred during the Kansas Mumps Outbreak in 2006. While utilizing a National Incidence Management Systems (NIMS) based approach, Kansas chose to activate its state Incident Command System (ICS) at a point in time that, in retrospect, might have been improved. Once placed in a reactive mode of

<sup>14</sup> ibid 5 and 6

operation, a given situation is likely irretrievable from the standpoint of “mitigation” as represented in this document.

The recent (March 2008) introduction by the federal government of the Pandemic Intervals interim guidance provides triggers and actions based upon the epidemiology of a particular virus internationally, nationally and at state levels. This system of triggers is discussed operationally in Appendix 1 and from the standpoint of a Pandemic, will address trigger/timing issues. In all likelihood, a pandemic in Kansas will produce examples of successful and failed localized responses. There will be lessons to be learned from all. A core objective of present planning must be to minimize the number of “reactive” approaches caused by a failure to act.

### **Partners and Roles**

In a pandemic, community guidance from the public health infrastructure charged with “mitigating” the impact of pandemic influenza must be clear. The National Association of County and City Health Officials (NACCHO) and Infectious Diseases Society of America have stated that, “Guidance on community mitigation strategies must include clear and practical recommendations such as specific thresholds and criteria for implementation, discontinuation, and modification of individual measures and combinations of measures, and on how the impact of the strategies will be assessed.”<sup>15</sup> This is the core expectation of both state and local public health authorities.

Key stakeholders including the Kansas Association of Counties and the Kansas Association of Local Health Departments have been instrumental in the development of the Kansas standard operating guidelines and the Community Containment Tool Box. These efforts are designed to provide local authorities with the “portfolio of NPI’s” that will be needed in the event of an outbreak of pandemic influenza or other significant infectious disease. The Kansas Department of Health and Environment (KDHE) has also worked with the Kansas Association of School Boards (KASB) to create a Pandemic Influenza Preparedness Action Kit to assist Kansas school systems in the event of a pandemic. These documents are dynamic, and will be edited over time to reflect the state of the art knowledge reflecting NPI’s and their use as tools, either alone or in combination, for mitigating the impact of a pandemic.

It will be the role of KDHE to set the tone of the response, establish expertise in the use of a range of NPI’s, monitor the health status of the state, and initiate appropriate action at the state level in the case of a pandemic. Local Health Departments will be responsible for activating their local Health and Medical Task Forces in association with their Biological Incidence Annex SOG’s to determine the local array of NPI’s that will need to be deployed with the assistance and guidance of KDHE. Local health departments will need to base their actions on the biological incidence annex, community containment SOG, and supporting Community Containment/Isolation and Quarantine Tool Box. Coordination with other emergency preparedness authorities and community partners is integral to the process.

The role of the local school system(s) and individual schools will be to work closely with the local public health authorities and implement tools like those in the preparedness action kit adapted for

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<sup>15</sup> The Role of Community Based Mitigation During an Influenza Pandemic, NACCHO/Infectious Diseases Society of America powerpoint, Jeffrey Duchin, Seattle-King County and University of Washington, Modeling Community Containment, IOM workshop October 25, 2006

local use. Training at various levels in the implementation of NIMS would be an essential element of appropriate structural preparedness and should be prioritized as this training also has a great deal of value in all types of hazardous response.

Other local emergency preparedness authorities must be involved in local health and medical task forces that comprise the primary decision making bodies at local levels. Active implementation of crisis communications plans at all levels will be essential for the transparent provision of information to the community at large.

Ultimately, it will be the citizens of a community, both individually and in the whole, who will determine the success of all efforts. In association with the October IOM workshop, a presentation was also made on public opinion regarding cooperating with authorities in the case of a pandemic.<sup>16</sup> In that survey, when asked about their “willingness to cooperate with public health officials”, at least 88% indicated that they would follow recommendations for one month to avoid air travel, avoid public events, avoid malls/department stores, not use public transport, cancel non-critical doctor appointments, and reduce contact with people outside of the household. 82% indicated they would avoid church services and 79% said they were willing to postpone family events.

Even when questions were much more detailed, the survey indicated a high degree of willingness to actively cooperate with public authorities in the event of a pandemic. Kansas is also doing some state-specific research in this area. The KDHE Office of Surveillance and Epidemiology is presently examining data from a survey performed with parents and faculty of school systems in Kansas that had to close due to outbreaks of seasonal influenza early in 2007. This data should provide further information that will allow Kansas to better target its communications strategy in preparation for a pandemic.

### **2<sup>nd</sup> and 3<sup>rd</sup> Order Impacts Upon the Community and Communications**

Communications will be the foundation for obtaining the required cooperation of the citizens and community in a Pandemic situation. Proactive transparency will be the key. It must be an explicit “given” that there must be nothing to hide. Present communications plans at KDHE specifically emphasize this point. In order to promote effective communications with the public, planning documents need to acknowledge that, “the scientific basis and public health rationale for the prescribed measures...encompassing discussion of limitations, assumptions, and potential social and economic consequences of such measures on local communities.”<sup>17</sup>

The consequences are described as 2<sup>nd</sup> and 3<sup>rd</sup> order impacts in the December IOM Letter Report and associated workshop.<sup>18</sup> They include the direct physical consequences that stress the healthcare infrastructures and cause increased mortality, to issues associated with closure of schools and sequestration of children, alteration of the services schools provide, and job related absenteeism as it relates to school closure and child minding. The U.S. Department of Labor 2006 Household Survey estimated that 40 million households (1 or 2 parents with children <18 at home)

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<sup>16</sup> Pandemic Influenza and the Public: Survey Findings, Harvard School of Public Health powerpoint, Robert J. Blendon et al, Modeling Community Containment, IOM workshop October 25, 2006

<sup>17</sup> ibid 5 and 6

<sup>18</sup> 2<sup>nd</sup> and 3<sup>rd</sup> Order Consequences of Mitigation Strategies, United States Department of Veterans Affairs powerpoint, Carter Mecher, Modeling Community Containment, IOM workshop October 25, 2006

would have to potentially deal with the issue of minding the children in the case of school closures. Unrelated to sickness or infrastructure breakdown issues, this impact alone will have significant implications for our population.<sup>19</sup> Effects upon children that receive meals in school, and parents living at or below poverty levels with few resources to prepare are other examples. The impacts will ripple through our society in a host of ways, many still unknown and unanticipated.

Those who are charged with directing preparedness for a community must be acutely aware of these issues. The challenge is to communicate all of this to the community in such a way that they internalize the reality but respond rationally? The Chief Medical Officer for Australia defined the problem well in a presentation stating, "The competing temptations are "it won't happen here complacency, "there's nothing we can do" fatalism, or "no precaution is too great" alarmism... Even so, it's hard to discuss potential disasters outside of people's ordinary experience without generating the sort of lurid headlines which make some scoff and others panic. It's important not to over-react to potential threats. On the other hand, people and governments need to take credible threats seriously and take reasonable and proportionate precautions against them."<sup>20</sup>

All Kansans will be challenged in the face of significant societal events. Kansans must assume that all will be severely shaken by a moderate to severe influenza pandemic. This plan is part of the process of mitigating the impact.

### **Summary**

This analysis and the resultant guidance are designed around the goal of justifying and creating a plan of action with community mitigation strategies that are "...acceptable and can be endorsed by, key stakeholders" as stated by the National Association of County and City Health Officials.<sup>21</sup> This acceptance can be "...facilitated by stakeholder participation in the development of recommendations and through public discussion of the recommended strategies, including their scientific and public health rationale, remaining uncertainties and costs of implementation.

KDHE has been working closely and directly with partners including the Kansas Association of Counties, the Kansas Association of Local Health Departments and the Kansas Association of School Boards to develop the Plans, Annexes, Standard Operating Guidelines, Community Containment Tool Kits, and Action Kits that will comprise the foundation for a localized and resilient community response. The Department has made great effort to involve and inform many other affected organizations, agencies and community bodies of the potential impact of a future pandemic.

The new national mitigation guidance can easily be integrated into existing documents and local plans that are already in place. The new guidance begins to address one of the main questions faced at the state and local levels of the "triggers" for aggressive community action. The PSI may not be a perfect tool, but it represents a significant step forward.

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<sup>19</sup> ibid 16

<sup>20</sup> Kansas Department of Health and Environment, Crisis Emergency Risk Communications Plan Appendix 12 "Avian And Pandemic Influenza" Pg. 5

<sup>21</sup> ibid 16

## Appendix I Kansas Pandemic Influenza Mitigation Guidance

### Introduction

Kansas will utilize a portfolio of early targeted and layered non-pharmaceutical interventions (NPI's) as a primary strategy to contain a pandemic influenza event. A strategy of Early Targeted Layered Containment (TLC) is a combination of NPI's that have been determined by consensus of international experts to be able to influence the course of a pandemic in the United States.<sup>22</sup> The NPI types to be used are listed in the Kansas Department of Health and Environment, Kansas Association of Counties and Kansas Association of Local Health Departments "Kansas Community Containment for Diseases Tool Box."<sup>23</sup> The tool box is designed to work in conjunction with local county health department "Community Disease Containment" standard operating guidelines (SOG), which themselves are part of local county Biological Incidence Annexes relative to emergency preparedness.

School closures will represent a foundational intervention associated with the need for social distancing. Targeting of school closures as an NPI in a TLC based strategy will be tailored to meet the geographic and population factors in varying parts of the state. School closures will be but one facet of the larger effort to mitigate the impact.

### Goals

1. Delay disease transmission and outbreak peak
2. Decompress peak burden on healthcare infrastructure
3. Diminish overall cases and health impacts

### Assumptions

- Our best countermeasure – vaccine – will probably be unavailable during the first wave of a pandemic
- Antiviral treatment may improve outcomes but will have only modest effects on transmission

### Key Parameters

- | Epidemiologic   | Social   |
|---|--|
| <ul style="list-style-type: none"><li>• Case incidence rate</li><li>• Case fatality rate</li><li>• Incubation period</li><li>• Infectious Period</li><li>• Symptoms</li><li>• Age distribution</li><li>• Reproductive rate</li><li>• Intergeneration time</li><li>• Susceptibility/Immunity</li></ul> | <ul style="list-style-type: none"><li>• Mixing patterns</li><li>• Mobility</li><li>• Acceptability of collective actions</li><li>• Acceptability of imposed restrictions</li><li>• Expectations</li><li>• Affordability</li><li>• Resiliency</li></ul> |

The relative interaction of the above noted variables will determine the extent and nature of the NPI's to be used in the event of a pandemic.

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<sup>22</sup> Ibid 7, 9, 10

<sup>23</sup> Kansas Department of Health, Kansas Association of Counties and Kansas Association of Local Health Departments "Kansas Community Containment for Diseases Tool Box"

### Timing of Closures (Triggers for action)

The timing and degree of mitigation actions will be a function of the dynamic nature of the event. Recommendations will be based upon guidance documents and direction from the national level and an evolving state of the art analyses of the mitigating impact of TLC strategies within a given pandemic scenario.

In February of 2007, the U.S. Department of Health and Human Services (HHS) in conjunction with the Centers for Disease Control and Prevention (CDC) provided guidance on mitigating the impact of pandemic influenza in the U.S. As part of that guidance, HHS created a Pandemic Severity Index.<sup>24</sup> The Pandemic Severity Index (PSI) is a domestic planning tool to help categorize a pandemic by severity based on case fatality rates. Communities can then make decisions on what measures to take based on how harmful the pandemic is projected to be.

The index is divided into five categories. A Category 1 pandemic is as harmful as a severe seasonal influenza season, while a pandemic with the same intensity as the 1918 flu pandemic (thought to have killed anywhere from 20 million to 100 million people around the world), would be classified as Category 5. Estimating the severity of a pandemic will be primarily based on the percentage of deaths among ill persons. Based on this projection, the government and health officials may recommend different actions communities can take in order to try to limit the spread of disease by reducing contact between sick and well individuals. Table 1 below is from the guidance and illustrates the PSI in relation to various severity levels.

Characteristics	Pandemic Severity Index (PSI)				
	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1-<0.5	0.5-<1.0	1.0-<2.0	≥2.0
Excess Death Rate (per 100,000)	<30	30-<150	150-<300	300-<600	≥600
Illness Rate (percentage of the population)	20-40	20-40	20-40	20-40	20-40
Potential Number of Deaths (based on 2006 U.S. population)	<90,000	90,000-<450,000	450,000-<900,000	900,000-<1.8 million	≥1.8 million
20 <sup>th</sup> Century U.S.Experience	Seasonal Influenza (illness rate 5-20%)	1957,1968	None	None	1918 Pandemic

Table 1.

The PSI is designed to also relate to the World Health Organizations Pandemic Influenza Phases as indicated in Table 2. These trigger points also relate to the United States Response Stages, which

<sup>24</sup> ibid 4 CDC Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States Early Targeted Layered use of Non-Pharmaceutical Interventions [http://www.pandemicflu.gov/plan/community/community\\_mitigation.pdf](http://www.pandemicflu.gov/plan/community/community_mitigation.pdf)

further relate to Kansas activation levels as noted in the Kansas Pandemic Influenza Preparedness and Response Plan. Attachment 2 has a table showing the relationship between the response systems and Kansas activation levels.

Pandemic Severity Index	WHO Phase 6, U.S. Government stage 3*	WHO Phase 6, U.S. Government Stage 4† and First human case in the United States	WHO Phase 6, U.S. Government Stage 5§ and First laboratory confirmed cluster in state or region¶
1	Alert	Standby	Activate
2 and 3	Alert	Standby	Activate
4 and 5	Standby**	Standby/Activate††	Activate

Table 2.

Alert: Notification of critical systems and personnel of their impending activation.

Standby: Initiate decision-making processes for imminent activation, including mobilization of resources and personnel.

Activate: Implementation of the community mitigation strategy.

\*Widespread human outbreaks in multiple locations overseas.

†First human case in North America.

§Spread throughout the United States.

¶Recommendations for regional planning acknowledge the tight linkages that may exist between cities and metropolitan areas that are not encompassed within state boundaries.

\*\*Standby applies. However, Alert actions for Category 4 and 5 should occur during WHO Phase 5, which corresponds to U.S. Government Stage 2.

††Standby/Activate Standby applies unless the laboratory-confirmed case cluster and community transmission occurs within a given jurisdiction, in which case that jurisdiction should proceed directly to Activate community interventions defined in Table 2.

KDHE will monitor federal directions and surveillance data to develop recommendations to local health departments on activation of their local BIA's and relational SOG's. Local Health and Medical Task Forces will monitor the local situational in conjunction with emergency preparedness infrastructures to determine specific mitigation recommendations contained within the portfolio of targeted and layered NPI's outlined in Section II of the Kansas Community Containment Tool Box. Other information must also be considered when making local decision. For example, school closure without a concurrent limitation of interactions outside of school settings has the potential for causing more harm than good. Public compliance is a critical factor for success.

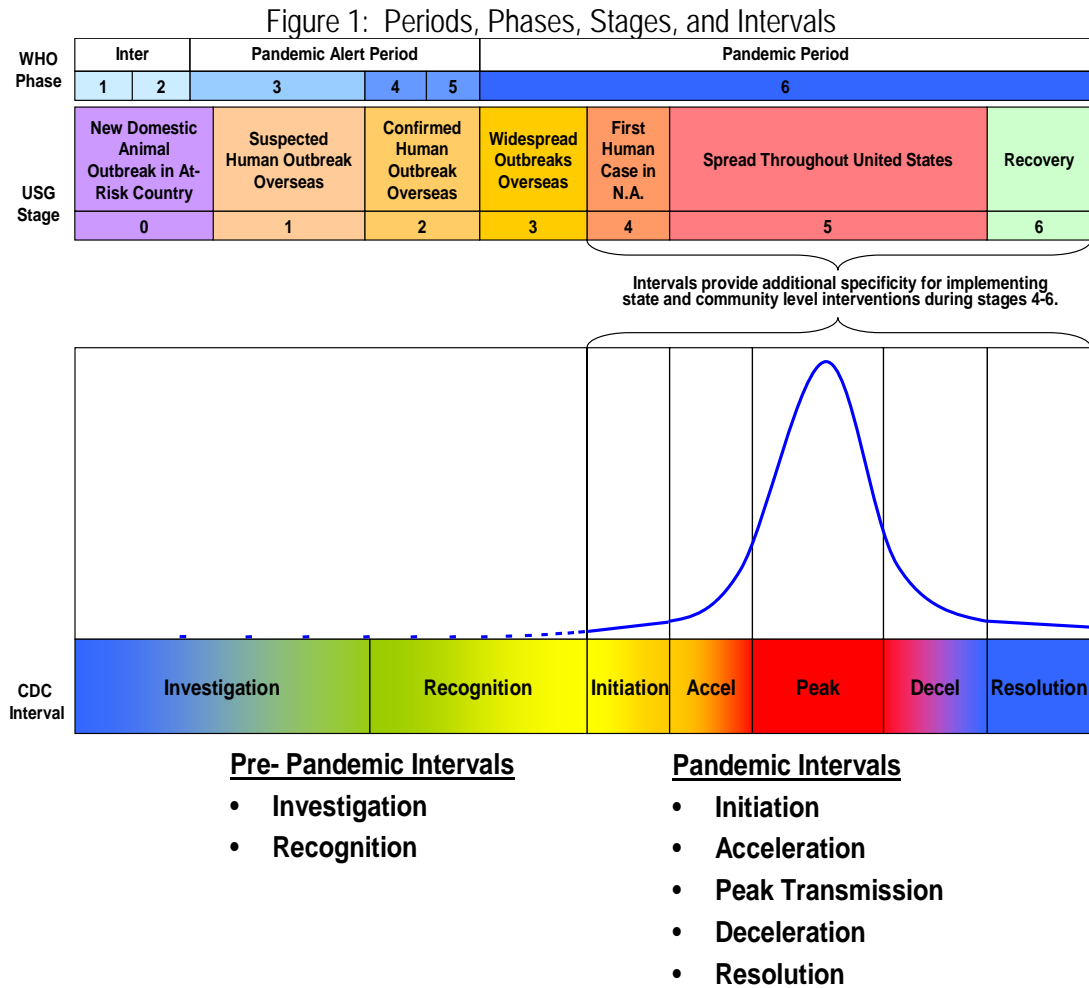
The HHS guidance notes, "Determining the likely time frames for progression through *Alert*, *Standby*, and *Activate* postures is difficult. Predicting this progression would involve knowing 1) the speed at which the pandemic is progressing and 2) the segments of the population most likely to have severe illness. These two factors are dependent on a complex interaction of multiple factors, including but not limited to the novelty of the virus, efficiency of transmission, seasonal effects, and the use of countermeasures. Thus it is not possible to use these two factors to

forecast progression prior to recognition and characterization of a pandemic outbreak, and predictions within the context of an initial outbreak investigation are subject to significant limitations. Therefore, from a pre-pandemic planning perspective and given the potential for exponential spread of pandemic disease, it is prudent to plan for a process of rapid implementation of the recommended measures.”

### Pandemic Intervals

The Department of Health and Human Services introduced the concept of intervals in March of 2008. As noted in the federal guidance for their use, “The intervals are designed to inform and complement the use of the Pandemic Severity Index (PSI) for choosing appropriate community mitigation strategies. 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.”

Figure 1. from the federal guidance below illustrates the interrelationship between the WHO phases, the United States stages tied to the PSI and the role of intervals in determining when to initiate actions. This trigger based concept is then tied to the Kansas activation levels



(attachment 1.) that will trigger state initiation and local use of incorporated disease containment standard operating guidelines based upon the Kansas Community Containment for Disease Tool Box. Decision algorithms are intrinsic to the SOG and the tool box and will help local health departments in the management of a Pandemic event.

Intervals are tied to specific epidemiologically based triggers that themselves will trigger actions at the national, state and local levels. Within a state, the asynchronous nature of the impact of a particular virus can dictate different intervals in different regions or communities within the state. The intervals themselves are summarized below with the key public health actions associated with each interval.

**“Investigation” Interval – Investigation of Novel Influenza Cases:** This pre-pandemic interval represents the time period when sporadic cases of novel influenza are occurring overseas or within the United States.

- During the recognition interval, public health officials in the affected country or community will attempt to contain the outbreak and limit the potential for further spread of infection.

**“Initiation” Interval – Initiation of the Pandemic Wave:** This interval begins with the identification of the first human case(s) of pandemic influenza virus in the United States.

- As this interval progresses, continued implementation of case-based control measures (i.e., isolation and treatment of cases, prophylaxis and quarantine of contacts) will be essential, along with enhanced surveillance for detecting additional or potential cases of the pandemic strain to determine when community mitigation interventions will be implemented.

**“Acceleration” Interval – Acceleration of the Pandemic Wave:** This interval begins in a State when public health officials identify that containment efforts have not succeeded and onward transmission is occurring, or there are two or more laboratory-confirmed cases in the State that are not epidemiological linked to any previous case.

- 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.

**“Peak/Established Transmission” Interval – Transmission is Established and Peak of the Pandemic Wave:** This interval encompasses the time period when there is extensive transmission in the community and a state reaches its greatest number of newly identified cases.

- To reduce the societal effects of the pandemic, utilization of available resources will need to be optimized to maintain critical infrastructure and key functions in the face of widespread disease.

**“Deceleration” Interval – Deceleration of the Pandemic Wave:** During this interval, it is evident that the rates of pandemic infection are declining.

- State health officials may choose to rescind community mitigation intervention measures in select regions within their jurisdiction, as appropriate; however, mathematical models suggest that cessation of community mitigation measures would be most effective when new cases are not occurring or occur very infrequently.

**“Resolution” Interval – Resolution of the Pandemic Wave:** In this interval, pandemic cases are occurring only sporadically.

- The primary actions to be taken during this interval include 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.

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				
3: No or very limited human-human transmission				
4: Evidence of increased human-human transmission	2: Confirmed Human Outbreak Overseas	Recognition of Pandemic 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 Pandemic Wave	Laboratory-confirmed case of defined pandemic influenza detected within the state	Laboratory-confirmed case of defined pandemic influenza detected within the US

	5: Spread Throughout United States	<b>Acceleration of Pandemic Wave</b>	Two or more laboratory-confirmed pandemic cases in a state that are not epidemiologically linked to any previous case; or,  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
		<b>Peak/Established Transmission During Pandemic Wave</b>	>10% of specimens from patients with influenza-like illness submitted to the state public health laboratory are positive for the pandemic strain during a seven day period; or,  "Regional" pandemic influenza activity is reported by the State Health Department using CDC surveillance criteria, or  The health care system surge capacity has been exceeded	The majority of states have met the Peak/Established Transmission criteria (includes states that have transitioned into the Deceleration Interval)
		<b>Deceleration of Pandemic Wave</b>	<10% of specimens from patients with influenza-like illness submitted to the state public health lab are positive for the pandemic strain for at least two consecutive weeks; or,  The health care system capacity is below surge capacity	The majority of states have met the Deceleration criteria (includes states that have transitioned into the Resolution Interval)
	6: Recovery	<b>Resolution of Pandemic Wave</b>	Laboratory-confirmed pandemic influenza cases are occurring sporadically; or,  The health care system capacity is approaching pre-pandemic levels	The majority of states have met the Resolution criteria

Actions at each interval will be based upon the best epidemiologically founded models available at a given point in time. To date these include:

Glass RJ, Glass LM, Beyeler WE, Min HJ. Targeted social distancing design for pandemic influenza. *Emerging Infectious Disease* Vol 12 #11, 2006 Nov. Available from <http://www.cdc.gov/ncidod/EID/vol12no11/06-0255.htm>

Kahn LH. Pandemic Influenza school closure policies (letter). *Emerging Infectious Disease* Vol 13 #2. Feb 2007. Available from <http://www.cdc.gov/ncidod/EID/content/13/06-1109.htm>

Haber MJ, Shay DK, Davis XM, Patel R, Jin X, Weintraub E, et al. Effectiveness of interventions to reduce contact rates during a simulated influenza pandemic. *Emerging Infectious Dis* [serial on the internet]. 2007 Apr. [March 15, 2007] Available from <http://www.cdc.gov/EID/content/13/4/581.htm>

Davey VJ, Glass RJ. Rescinding community mitigation strategies in an influenza pandemic. *Emerg Infect Dis* [serial on the Internet]. 2008 Mar [June 10, 2008]. Available from <http://www.cdc.gov/EID/content/14/3/365.htm>

The Pandemic Severity Index based variability associated with particular viruses will dictate different qualitative decision algorithms for whatever particular virus presents itself. During the initiation interval when a PSI designation can be derived from either the WHO or the USG, specific event driven process algorithms will be created on short notice at the state level to assist both state and local pandemic mitigation efforts. Once again, specific actions will be based upon local SOG's founded on the state Community Containment for Disease Tool Box.

### **Authority for Closure, Key Considerations and Roles**

#### **State and Local County Health Officials**

KSA 65-129 provides local health officers and the Secretary of the Kansas Department of Health and Environment (KDHE) with the authority to act in the presence of an infectious or contagious disease. An analysis performed by the Kansas Association of Counties notes: "After the passage in 2005 of 65-129, the local health officer or secretary of health and environment has clearer authority to take action for the treatment, isolation and quarantine of any individual or group when they have reason to believe one of the infectious or contagious diseases is involved. Although it is expected that compliance with the directives of the local health officer will be voluntary, the statute provides for the circumstances when an individual or group may not be cooperative."<sup>25</sup>

Used effectively, the elements in an early-targeted layered containment strategy are designed to reduce human interactions that facilitate the transmission of influenza. Authority to implement does not, however, guarantee public compliance. As previously noted, closure without compliance outside of controlled settings like schools could potentially enhance transmission. Crisis communications messages should anticipate and address second order elements of this type. This also represents another example of where population density, geographic and socio-economic factors complicate local and statewide decision making.

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<sup>25</sup> *ibid* 24. Section V

The Community Containment/Isolation and Quarantine Tool Box utilized in conjunction with the local health department Standard Operating Guidelines jointly assist in understanding the feasibility of certain actions in the midst of an infectious or contagious public health emergency. That tool is designed to work in concert with other emergency preparedness processes such as the Kansas Association of School Boards Pandemic Preparedness Tool Kit that mirrors this guidance and recommendations. (The schools resource is available at <http://www.kasb.org/panflu/index.html>.) If the Pandemic Severity Index triggers a mitigation action, state and local public health authorities will be responsible for implementing targeted and layered community-based containment measures. These measures can be grouped into two broad categories: measures that affect groups of exposed or at-risk persons, and measures that affect entire communities. Prior to implementing any community-based interventions, key questions must be asked:

**Key Considerations:** <sup>26</sup>

- Do Public Health and medical analyses warrant the imposition of large-scale quarantine (**or Community Containment**)?
- Are implementation and maintenance feasible (**Including Compliance**)?
- Is there a plausible way to determine who should be quarantined (**affected by Community Containment actions**)?
- Are resources available to enforce confinement (**or ensure compliance within parameters for mitigation**)? <sup>27</sup>
- Can the quarantined group be confined for the duration during which they could transmit disease?
- Do the potential benefits outweigh the possible adverse consequences?

JAMA Vol. 286 No. 21, Dec 5, 2001 "Large Scale Quarantine Following Biological Terrorism in the US," 286:2711-2717

If a policymaker or a decision-making body is able to answer **yes to all** of these considerations in consultation with state and/or local public health, emergency preparedness, and education authorities, then community containment measures may be implemented. Care must be taken to ensure that all affected authorities are informed and actively participating in the processes.

If the answer to any of these considerations is **no**, consultation with partners noted in the local SOG is appropriate to determine what level of community containment measures may be warranted. All containment actions will need to be periodically reviewed, both locally and at the state level.<sup>28</sup>

## **Communications**

Communications must be coordinated between public health, and emergency preparedness officials and schools and school systems. The communications should be transparent at all levels and inform the public of all aspects of the threat faced.

### Public Health Preparedness and Local School Officials

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<sup>26</sup> *ibid* 24, Section I (Kansas Community Containment Flow Chart)/Section II (Community Based Containment Measures)

<sup>27</sup> *ibid* 28

<sup>28</sup> Portions adapted from United Kingdom Department for Education and Skills. Planning for a human influenza pandemic. Guidance to schools and children's services 2006. Available from [www.teachernet.gov.uk/doc/9942/FullGuidance.pdf](http://www.teachernet.gov.uk/doc/9942/FullGuidance.pdf)

Schools are often singled out in mitigation strategies, as children are epidemiologically considered to be core transmitters in the spread of influenza. Local school officials should actively involve themselves as members of local Health and Medical Task Forces convened by local health departments. Schools will be responsible for coordinating with local public health officials in preparing parents for the event of a pandemic, and may play a critical role in communicating the importance of preparation to the public. Local school officials should also implement training at appropriate levels (schools and/or school systems) regarding the National Incident Management System (NIMS) and develop incident command structures to better coordinate actions at both school and community levels for all potential hazards.

It must be noted that NIMS training is required nationally of all local health departments, and other emergency preparedness agencies that might receive federal funding including fire, police and even local hospitals. NIMS training within local agencies helps ensure that when a serious event occurs, schools and/or school systems will be able to both integrate their internal responses and communicate effectively with other emergency preparedness officials within the same tactical framework.

Schools and/or school systems should also utilize resources such as the Kansas Pandemic Influenza Preparedness Action Kit For Schools developed by the Kansas Association of School Boards and the Kansas Department of Health and Environment (This resource can be found at [KASB.org http://www.kasb.org/panflu](http://www.kasb.org/panflu) . The Action Kit provides templates for local Pandemic Flu plan development and examples of communications elements that can be used locally, including those for seasonal influenza. Other links and resources, including NIMS training, are also available through this site.

Attachment 1

Response Phases/KS Activation Levels/US Stages	KS I US Stage 0 - 1  Day-to-Day Operations	KS II US Stage 2  Active Surveillance	KS III US Stage 2  Health Response	KS IV US Stages 3–4-5  Full-Scale Activation	KS V US Stage 6  Recovery
<b>WHO Pandemic Phases</b>	Inter-pandemic Period Phase 1, 2, & 3	Pandemic Alert Period Phase 4 & 5	Pandemic Alert Period Phase 5	Pandemic Period Phase 6	Post pandemic Period
Surveillance	Normal operation	Enhanced surveillance per plan	Enhanced surveillance per plan	Enhanced surveillance per plan	Epidemiological studies as outlined in the plan
Disease Investigation	Normal operation	Broad dissemination of case definition for active case finding of novel virus in KS resident.	Case finding of pandemic strain in KS residents	Case investigation limited to determining age-specific attack rates, morbidity and mortality	Return to normal case investigation.
Vaccination/ Prophylaxis	PIPC review and update the Vaccine and Antiviral Delivery section of the plan as needed	Initiate Vaccine and Antiviral acquisition	Continue to identify high-risk groups for possible treatment with antivirals and prepare for mass vaccination.	Conduct mass immunizations when vaccine is available. Continue treatment with antivirals if available.	Assess the effectiveness of vaccine and antivirals.
Quarantine/ Isolation	Prepare and distribute Isolation and Quarantine Order Templates to LHD.	Advise hospitals and clinicians of control measures, including quarantine and isolation orders for novel virus cases.	Review community control measures. Consider group isolation measures.	Implement community control measures including group isolation.	Review effectiveness of control efforts.
Mass Care	Planning with KDEM, KHA, KS Bd of EMS, KAHD, and KS VOAD.	Alert KDEM, KHA, KAHD, and KS VOAD.	Activate KDEM, KHA and Hospital Emergency Incident Command System (HEICS) in affected healthcare facilities	HEICS continue to operate. KDEM, KDHE, and EMS coordinate temporary facilities.	Continues until patient load normalizes and disease transmission is interrupted
Mass Fatality		Alert KDEM and KFSA	Activate Mass Fatality Plan	Activate State EOC and request federal DMORT assistance.	Stand down as fatalities return to normal levels.
Public Information	Review and update CERC plan and the communications section of this plan	KDHE PIO will review CERC Plan with PIPC.	KDHE PIO conducts communication activities outlined in the plan.	KDHE PIO conducts communication activities outlined in the CERC plan.	KDHE PIO reviews strategies, communicates to partners cessation steps.
Command/ Control	Readiness Training Exercises and Surge Capacity Training	No or Minimal Response. EPI Resources. Alert KDEM and KHA	Minimal or Extended Response. DOH Resources. EOC and SERT activated to Level 3	Maximal Response. KDHE Resources. EOC and SERT activated Level 3 or Level 4	Stand down as event closes.

## Attachment 2: Intervals, Triggers, and Actions

(From CDC Interim Guidance on Use of Intervals, Triggers, and Actions in CDC Pandemic Influenza Planning; Updated 05.13.2008)

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

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

Recognition of Efficient and Sustained Transmission of a Pandemic Virus		
Trigger	<p><i>Confirmation of human cases of novel influenza A and demonstration of efficient and sustained human-to-human transmission</i></p>	
Local/State Actions	Affected State(s)	Unaffected States
	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Investigation Interval"</li> <li>• Implement case-based investigation and containment</li> <li>• Implement voluntary contact quarantine and chemoprophylaxis</li> <li>• Confirm all suspect cases at public health laboratory</li> <li>• Consider rapid containment of emerging pandemic influenza</li> <li>• Report cases according to Nationally Notifiable Diseases Surveillance System</li> <li>• Conduct enhanced pandemic surveillance</li> <li>• Prepare to receive SNS countermeasures</li> <li>• Disseminate risk communication messages, including when to seek care and how to care for ill at home</li> <li>• Implement appropriate screening of travelers and other border health strategies, as directed by CDC</li> </ul>	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Investigation Interval"</li> <li>• Prepare for investigation and response</li> <li>• Conduct enhanced pandemic surveillance</li> <li>• Prepare to receive SNS countermeasures</li> <li>• Disseminate risk communication messages</li> <li>• Implement appropriate screening of travelers and other border health strategies, as directed by CDC</li> </ul>
Federal Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions as described for "Investigation Interval"</li> <li>• Begin enhanced pandemic surveillance nationally</li> <li>• Implement appropriate screening of travelers and other border health strategies, as directed by CDC</li> <li>• Deploy federal responders to affected areas</li> <li>• Evaluate available data to determine case-fatality ratios or excess mortality to estimate the Pandemic Severity Index (PSI)</li> <li>• Implement appropriate screening of travelers and other border health strategies</li> <li>• Advise all health care workers to screen for travel history</li> <li>• Initiate vaccine manufacturing</li> <li>• Implement pre-pandemic vaccination strategy</li> <li>• Deploy SNS antiviral drug reserve for international containment (if recognition occurs outside of the US)</li> <li>• Deploy pro rata allocations of SNS countermeasures to Project Areas (based on sustained transmission)</li> <li>• Consider replenishment of SNS inventory as assets are used</li> <li>• Disseminate risk communication messages, including when to seek care and how to care for ill at home</li> </ul>	

Initiation of Pandemic Wave		
Trigger	<i>Laboratory-confirmed case of defined pandemic influenza detected within the US</i>	
	Affected States	Unaffected States
Local/State Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Recognition Interval"</li> <li>• Declare Community Mitigation Alert if PSI Category 1 to 3, declare Standby if PSI Category 4 or 5</li> <li>• Continue enhanced state and local surveillance</li> <li>• Implement (pre-pandemic) vaccination campaigns if (pre-pandemic) vaccine is available</li> <li>• Offer mental health services to health care workers</li> </ul>	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Recognition Interval"</li> <li>• Declare Community Mitigation Standby if PSI Category 4 or 5</li> <li>• Prepare for investigation and response</li> <li>• Prepare for healthcare surge</li> <li>• Review and prepare to deploy mortuary surge plan</li> <li>• Deploy state/local caches</li> <li>• Prepare to transition into emergency operations</li> </ul>
Federal Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Recognition Interval"</li> <li>• Deploy federal responders to states initially affected, as appropriate</li> <li>• Maintain appropriate screening of travelers</li> <li>• Declare public health emergency</li> <li>• Remove select agent status and USDA regulations for the pandemic influenza strain</li> <li>• Deploy SNS antiviral drug reserve for U.S. containment and quarantine stations</li> <li>• Provide priority groups with (pre-pandemic) vaccine if available/appropriate</li> <li>• Begin exit screening at borders when there are cases in the US</li> <li>• Manage healthcare surge including support of production of key medical resources</li> <li>• Conduct analyses; disseminate data regarding transmission, treatment &amp; prognosis</li> </ul>	

Acceleration of Pandemic Wave		
	State level	National level
Trigger(s)	<p><i>Two or more laboratory-confirmed pandemic cases in a state that are not epidemiological linked to any previous case; or</i></p> <p><i>Increasing numbers of cases exceed resources to provide case-based control measures</i></p>	<p><i>At least one state in five of the ten FEMA/HHS regions have met the Acceleration criteria</i></p>
Local/State Actions	Affected States	Unaffected States
	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Initiation Interval"</li> <li>• Activate community mitigation interventions for affected communities</li> <li>• Transition from case-based containment/contact chemoprophylaxis to community interventions</li> <li>• Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring</li> <li>• Begin pre-shift healthcare worker physical and mental health wellness screening</li> <li>• Implement vaccination campaigns if (pre-pandemic) vaccine is available</li> <li>• Monitor vaccination coverage levels, antiviral use, and adverse events</li> <li>• Monitor effectiveness of community mitigation activities</li> </ul>	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Initiation Interval"</li> <li>• Prepare for investigation and response</li> <li>• Prepare for healthcare surge</li> <li>• Review and prepare to deploy mortuary surge plan</li> <li>• Deploy state/local caches/ stockpiles</li> <li>• Prepare to transition into emergency operations</li> <li>• Implement vaccination campaigns if (pre-pandemic) vaccine is available</li> <li>• Monitor vaccination coverage levels, antiviral use, and adverse events</li> </ul>
Federal Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Initiation Interval"</li> <li>• Maintain enhanced surveillance and virologic characterization</li> <li>• Implement vaccination campaigns if (pre-pandemic) vaccine is available</li> <li>• Monitor vaccination coverage levels, antiviral use, and adverse events</li> <li>• Consider re-allocation of remaining SNS antiviral drug reserve for international containment to other priorities</li> <li>• End risk-based entry screening at borders. Continue/initiate exit screening, as appropriate.</li> <li>• Provide recommendations for use of community mitigation measures</li> <li>• Transition to virologic testing of a sample of viruses submitted from states</li> <li>• Cease deployments of federal responders as appropriate</li> <li>• Consider redesignation of deployed border screening resources for local public health mitigation efforts</li> <li>• Initiate targeted studies of clinical course, treatment responses, and transmission of disease</li> <li>• Cease deployment of SNS antiviral drugs for containment (internationally and in the US); consider re-allocation of remaining SNS antiviral drugs for other priorities</li> </ul>	

Peak/Established Transmission of Pandemic Wave		
	State level	National level
Trigger(s)	<p>&gt;10% of specimens from patients with influenza-like illness submitted to the state public health laboratory are positive for the pandemic strain during a seven day period, or</p> <p>Regional influenza activity is reported by the State, or</p> <p>The healthcare system surge capacity has been exceeded</p>	<p>The majority of states have met the Peak/Established Transmission criteria</p>
Local/State Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Acceleration Interval"</li> <li>• Manage health care surge</li> <li>• Maintain critical infrastructure and key resources</li> <li>• Laboratory confirmation of only a sample of cases as required for virologic surveillance</li> <li>• Implement surveillance primarily for mortality and syndromic disease</li> </ul>	
Federal Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for "Acceleration Interval"</li> <li>• Implement surveillance primarily for mortality and syndromic disease</li> <li>• Manage healthcare surge</li> <li>• Maintain critical infrastructure and key resources</li> <li>• Support production of key medical resources</li> <li>• Advise implementation of healthcare surge mitigation strategy: <ul style="list-style-type: none"> <li>○ Activation of alternate care sites</li> <li>○ Implementation of standards of care appropriate to the circumstances (resource allocation and adjusted triage algorithms)</li> </ul> </li> </ul>	

Deceleration of Pandemic Wave		
	State level	National level
Trigger(s)	<p>&lt;10% of specimens from patients with influenza-like illness submitted to the state public health laboratory are positive for the pandemic strain for at least two consecutive weeks, or</p> <p>The healthcare system capacity is below surge capacity</p>	<p>The majority of states have met the Deceleration criteria</p>

Local/State Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for “Peak/Established Transmission Interval”</li> <li>• Assess, plan for, and implement targeted cessation of community mitigation measures, if appropriate</li> <li>• Transition surveillance from syndromic to case-based monitoring and confirmation</li> <li>• Initiate targeted cessation of surge capacity strategies</li> <li>• Maintain aggressive infection control measures in the community</li> </ul>
Federal Actions	<ul style="list-style-type: none"> <li>• Continue/initiate actions described for “Peak/Established Transmission Interval”</li> <li>• Provide planning assistance with cessation of community mitigation measures and surge capacity strategies</li> <li>• Provide information on measures to prepare and respond to possible additional pandemic waves</li> </ul>

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

National Response Plan



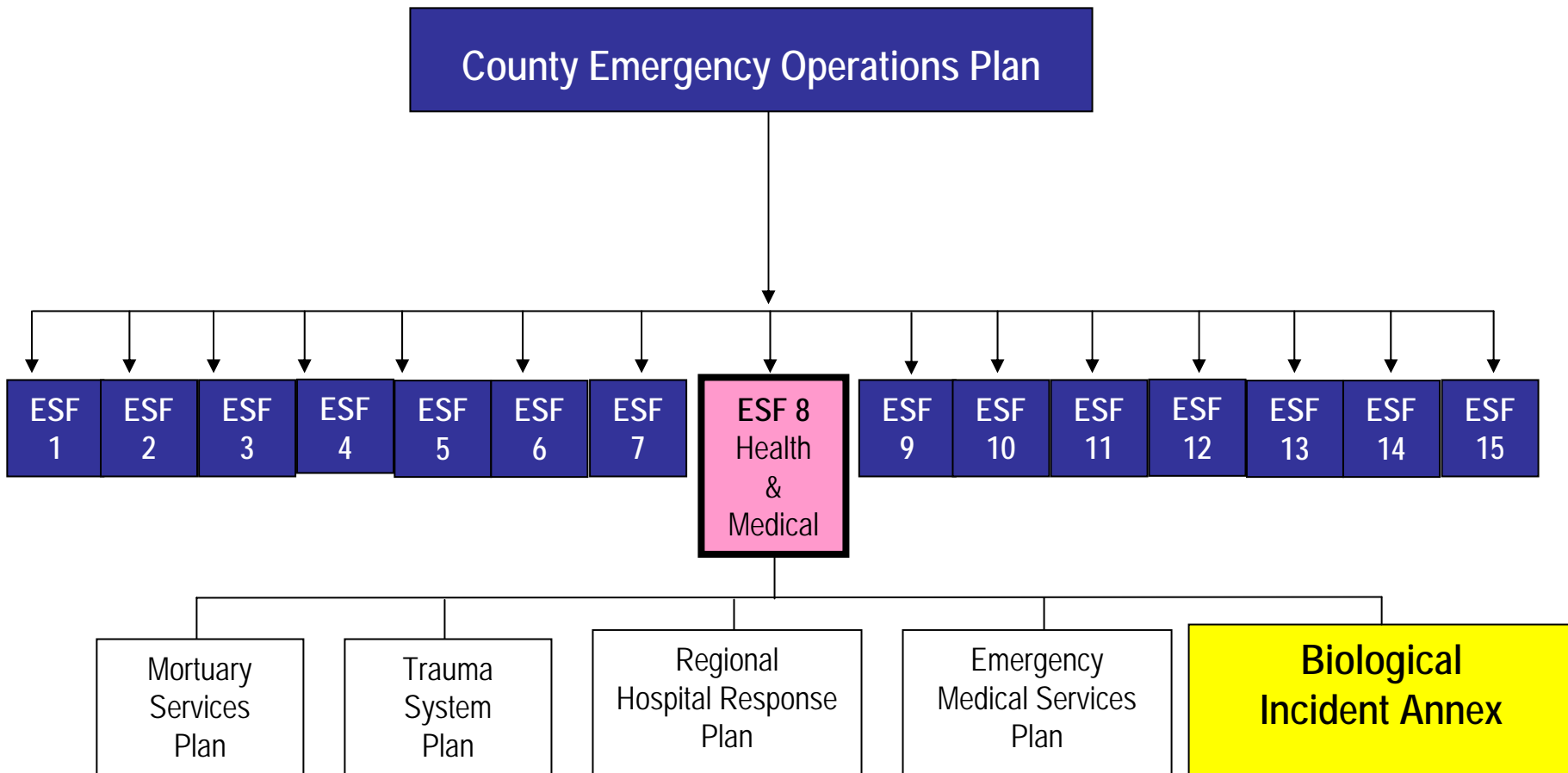
State Response Plan  
(KDEM)



County Emergency  
Operations Plan



Biological Incident Annex



**ESF – Emergency Support Function**

Originally known as --  
*Local Public Health Emergency Preparedness & Response Plan*

Once called --  
*SNS SOG*

State Response Plan  
(KDEM)

**Biological Incident Annex**

County Emergency Operations Plan

Mass Dispensing SOG

Community Disease Containment SOG





Communication SOG

Risk

Tactical

Surveillance SOG

Public Health COOP

-  Federal/State/County EM Responsibility
-  State/County Public Health Responsibility
-  County Public Health Responsibility
-  County Public Health Responsibility

**Kansas Planning Standards  
County Response Plan  
ESF 8  
Public Health & Medical**

**Primary Agency**

- *County Health Department*

**Support Agency**

- *Emergency Medical Services*
- *County/District Coroner*
- *Hospital*
- *Emergency Management*
- *Behavioral Health Agency*

**PURPOSE**

Emergency Support Function (ESF) #8 – Public Health and Medical Services provides the mechanism for coordinated assistance in response to public health and medical care needs (to include veterinary and/or animal health issues when appropriate) for potential or actual Incidents of significance and/or during a developing potential health and medical situation. The Local Health Officer, principally through the local health department administrator coordinates ESF #8.

ESF #8 resources are used when local agencies are overwhelmed and the County Emergency Operations Center is activated. There are two scenarios that would most likely result in a substantial ESF 8 activation:

- An intentional or naturally occurring disease outbreak that overwhelms local resources
- A natural or manmade disaster that results in a large number of deaths and/or injuries

ESF #8 provides the means for the coordination of a public health and medical response, to include:

- Triage, treatment and transportation of victims of a disaster
- Assistance in the evacuation of victims out of the disaster area after the event
- Immediate support to hospitals and nursing homes
- Provision of emergency mental health crisis counseling for individuals and the community
- Environmental health issues (Food and water contamination/clean-up)
- Mass fatality management
- Re-establishment of all health and medical systems
- Countermeasure response (provision of vaccines and prophylactic treatments)

**SCOPE**

ESF #8 provides assistance in identifying and meeting the public health and medical needs of victims of a disaster. This support is categorized in the following core functional areas: assessment of public health/medical needs (including behavioral health); public health surveillance; medical care personnel; and medical equipment and supplies. As the primary agency for ESF #8, the local health department coordinates the provision of health and medical assistance to fulfill the requirements identified the Incident Commander. ESF #8 uses resources primarily available from the local health department and other ESF #8 support agencies and organizations.

Since the terrorism events of September 11, 2001, the health and medical community has been forced to re-evaluate the capacity to respond to acts of terrorism and naturally occurring disease outbreaks. Specific information regarding response to Hazardous Materials and Radiological events can be found in ESF #10. The Biological Incident Annex (BIA) discusses the local response to a significant contagious disease outbreak (intentional or naturally occurring). The BIA also describes the process for requesting and dispensing the Strategic National Stockpile (SNS). Response to a Pandemic Influenza and Smallpox are also discussed in the BIA.

**CONCEPT OF OPERATIONS**

**General**

# County Community Disease Containment

## Standard Operating Guide

<b>AUTHORITIES</b>	
<b>Primary Agency</b> <ul style="list-style-type: none"><li>• X County Health Department</li></ul>	<b>Supporting Agencies</b> <ul style="list-style-type: none"><li>▪ Emergency Medical Services (EMS)</li><li>▪ Local hospital(s)</li><li>▪ X County Emergency Management</li><li>▪ Behavioral/Mental Health Agency</li><li>▪ Local Funeral Directors</li><li>▪ County/District Coroner</li><li>▪ X County Sheriff</li><li>▪ Local Elected Officials</li></ul>
<b>I. MISSION</b>	
<p>The Community Disease Containment Standard Operating Guide (CC SOG) provides X County with step-by-step instructions for reducing or minimizing person-to-person spread of disease by separating individuals with disease or at an increased risk for developing disease from individuals at lower risk.</p>	
<b>I.a. PURPOSE</b>	
<p>The CC SOG is used during infectious or contagious disease outbreaks to assist decision makers in implementing community containment measures, which require individuals to be separated from the general population. This SOG and the core attachment the "Kansas Community Containment Isolation/Quarantine Tool Box" (<i>Attachment 1</i>) contains information and tools needed to implement a range of measures necessary in the case of an outbreak of infectious or contagious disease. The tools include flow charts, statutes, regulations, sample forms, and protocols for performing the tasks associated with community disease containment. This SOG is interdependent with other SOG's. The related SOG's are referenced in this SOG and must be referred to when dealing with community disease containment issues. The Kansas Isolation and Quarantine statute K.S.A. 65-129 (<i>Attachment 1, Section V.</i>) provides the template for control efforts in the case of large-scale outbreaks of naturally occurring diseases like pandemic influenza or SARS or artificially introduced biological agents in connection with bioterrorism.</p> <p>There are many other alternatives that will be utilized beyond individual isolation and quarantine. These alternatives are addressed within this SOG. The effectiveness of these measures will rely upon the understanding, comprehension and active cooperation of the public, business and clinical care infrastructures within communities. These measures are discussed in <i>Attachment 1/Section II.</i></p>	

# Kansas

## Community Containment For Disease

# Tool Box

A Joint Project of the Kansas Association of Counties, The Kansas Association of Local Health Departments and the Kansas Department of Health and Environment.

October 2006 Version 1.2



# **Kansas Community Containment for Disease Toolbox**

**Section I. Page 3  
Isolation/Quarantine and  
Community Containment  
Decision Tree/Flow Charts  
and Resources**

**Section II Page 9  
Community Containment Guidelines  
and Recommendations**

**Section III. Page 23  
Isolation and Quarantine  
Kansas Guidelines and  
Sample Legal Orders**

**Section IV. Page 38  
Physical and Medical Monitoring for Isolation and  
Quarantine Guidelines, Forms**

**Section V. Page 55  
Kansas Isolation and Quarantine Statute 65-129  
Kansas Associated Regulations for Isolation and Quarantine  
Kansas Association of Counties Analysis of 65-129**

# Kansas Pandemic Influenza Preparedness Action Kit For Schools

Produced To Assist Kansas  
School Systems In The  
Event of Pandemic Influenza

Adapted from the Contra Costa California Health Services Agency  
"Pandemic Action Kit for Schools" and the Tulsa Oklahoma  
School Preparedness Plan Template

Version 1.6  
February 2007



**Kansas Association of School Boards**



**Kansas Association of School Boards**  
1425 SW Arrowhead Place, Topeka, KS 66604 (800) 433-2471 Fax (785) 373-7500

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\*All materials are available electronically on a CD and online at <http://www.kasb.org/panflu/panflu.htm>