Tab 11 – Non-Pharmaceutical Interventions (NPI) Plan

Purpose: During a large-scale, novel outbreak, medications and vaccinations may not exist or not exist in needed quantities. For this reason, non-pharmaceutical interventions (NPIs) can be used to slow or stop the spread of the illness. NPIs are any action, apart from medication and vaccinations that can be taken by individuals and communities to slow the spread of an illness. They are a community's first line of defense against the illness.

The goals of NPIs are to:

- Delay the increase in number of new cases buying time for the production and distribution of a vaccine or curative medication.
- Decrease the maximum number of cases at any given time.
- Reduce the total number of new cases.
- Decrease the demand for and strain on medical resources.

When to initiate:

NPIs will be initiated when an outbreak is suspected or confirmed based on the triggers outlined in the [BRDHD All Hazards Plan Tab 8 – Epidemiological Response](), or under the Governor's Executive Orders.

Types of NPIs:

There are three (3) broad categories for NPIs. They are: personal, community, and environmental. Within each category are different NPIs that can be initiated based on the type and severity of the outbreak.

- Personal – Personal NPIs are steps that individuals can take to help prevent the spread of the illness to themselves and others. Examples of personal NPIs include:
  - Hand hygiene
  - Respiratory etiquette (i.e. coughing and sneezing into a tissue or one's sleeve)
  - Voluntary home isolation
  - Voluntary home quarantine
  - Use of face masks by ill persons if they must go out to public places
- Community – Community NPIs are steps that communities (schools, workplaces, etc.) can take to help prevent the spread of the illness. Examples of community NPIs include:
  - Social distancing
  - Preemptive school closures/dismissals
  - Cancellation of large scale events
  - Alternative work schedules and arrangements
- Environmental – Environmental NPIs are cleaning measures that can reduce the spread of the illness. Cleaning solutions used on commonly touched surfaces should meet the Environmental Protection Agency's (EPA) disinfectant standards.

Selecting NPIs to Initiate:

The implementation of more than one NPI increases its effectiveness. When deciding which NPIs to implement the following must be taken into consideration:

● **Disease Severity and Transmissibility:** The severity of the outbreak must be taken into consideration. More severe outbreaks require implementation of more extensive NPIs. Similarly, the mode of transmission needs to be taken into consideration. Only NPIs that inhibit the spread of the illness need to be implemented. Appendix A has a table of NPIs that the CDC recommends for large scale respiratory outbreaks such as a pandemic influenza.

● **Feasibility:** The feasibility of each NPI must be addressed. The NPI must be financially, legally, and logistically feasible.

● **Public Acceptance:** NPIs that are accepted by the public are more likely to be followed. Furthermore, the public's understanding of the disease's severity will influence the public's acceptance of NPIs.

NPIs that lead to economic or social burdens (i.e. closing a business, cancelling large scale events) will be less acceptable to the public. Efforts must be taken to balance the public health benefits of each NPI with the economic and social costs. Furthermore, plans must be made to mitigate secondary consequences of implementing certain NPIs.

● **Legality:** Most NPIs are initiated at a voluntary level. The severity of the illness, however, may warrant the use of mandatory quarantines and isolations. This must be decided in accordance with KRS 212.245 and KRS 214.020. Curfews can only be declared by the mayor. Travel restrictions can only be put in place by the governor after declaring a state of emergency.

NPI Examples in Different Settings

Below are examples of NPIs that can be initiated in specific settings. These lists are not all encompassing. Selection of NPIs must be flexible and dependent on the illness severity, the community at risk, the feasibility, the social acceptance, and the legality of each NPI.

At a School: Below are examples of NPIs that can be initiated at a school.

● Personal NPIs
  ○ Require students to wash their hands before eating.
  ○ Have tissues available in each classroom.
  ○ Have hand sanitizer available in each classroom.
  ○ Send ill students home.
    ▪ Discontinue perfect attendance awards.
  ○ Educate students on respiratory etiquette.

- Social Distancing
  - Separate desks or seat students in every other seat*.
  - Stagger recess so only one class is outside at a time.
  - Have students eat lunch in their classrooms versus the crowded cafeteria. Have meals brought to each classroom.
  - Postpone extracurricular events (i.e. school dances, band concerts, sporting events, field trips)
  - Discourage the use of the school bus.
  - Shorten the school day to half a day enabling half of the students to attend in the morning and half to attend in the afternoon.
- School Closure/Dismissal**
  - Preemptive school closures (closing before students become infected) are more likely to decrease the spread of the disease. Reactive school closures (closing once a certain portion of students and staff are ill) are less likely to decrease the spread of the disease and are more often a result of the school not being able to function properly.
  - Utilize Non- Traditional Instruction Programs (online learning) to decrease the amount of missed instruction. House Bill 211 (Accessed December 2017) enables approved districts to count up to 10 days of online learning as part of the normal school year.

* If not feasible due to size of classrooms, then other social distancing tactics should be implemented.

** One secondary consequence of school closures/dismissals is students' access to free or reduced lunches. School administration should work with the USDA to prevent this from happening. During the 2009 H1N1 pandemic, the USDA allowed closed schools to provide reduced or free lunches through the Summer Food Service Program or the Seamless Summer Option. These programs will help ensure students still have access to food.

NPIs at a College or University – Below are examples on NPIs that can be initiated at a college or university.

- Personal NPIs
  - Have tissues available in each classroom.
  - Have hand sanitizer pumps at the entrance to each cafeteria to encourage students to use it before entering the cafeteria.
  - Have hand sanitizer available in each classroom and dorm.
  - Send ill students home.
  - Educate students on respiratory etiquette.
- Social Distancing
  - In classrooms and lectures, have students sit every other seat.
  - Record and post or live stream each lecture.
  - Initiate a meal delivery program for ill students preventing them from having to come to the cafeteria.

- o Modify, postpone, or cancel large campus events.
- University Closure
  - o While ill students may be encouraged to go home, it is not recommended to close the entire university, unless the outbreak is very severe.

Missed Classes/Exams: Universities and professors must work with ill students and allow them to make-up missed work, lectures, and exams. This will help encourage students to not come to class when they are ill.

NPIs at the Workplace - Below are examples of NPIs that can be initiated at a workplace.

- Personal NPIs
  - o Ensure all bathrooms have soap.
  - o Have tissues available.
  - o Have hand sanitizer available throughout the workplace.
  - o Send ill employees home.
    - ▪ Initiate a flexible leave policy.
  - o Educate employees on respiratory etiquette.
- Social Distancing
  - o Decrease in-person meetings by using teleconferences, videoconferences, and other forms of technology.
  - o Limit unnecessary travel.
  - o If possible, have employees work from home or work alternate hours so they have less contact with each other.
- Workplace Closures
  - o Workplace closures should only be encouraged during a severe outbreak. Closing businesses has economical consequences and is not socially acceptable.

Workplaces that provide goods/services: If possible, provide home delivery of the goods/services to decrease the number of clients/customers visiting the workplace.

Flexible Leave Policies: It is important for employers to implement more flexible leave policies to enable employees to stay home for the entire duration of their illness and to stay home to care for sick ones or children (if schools have been closed).

NPIs in Places of Worship – Below are examples of NPIs that can be implemented in places of worship.

- Personal NPIs
  - o Ensure all bathrooms have soap.
  - o Have tissues available throughout the building.
  - o Have hand sanitizer available throughout the building. For example, have hand sanitizer pumps at the entrance to each pew, encouraging individuals to use it as they enter and leave.
  - o Educate attendees on respiratory etiquette prior to the start of services.

- Social Distancing
  - Encourage worshippers to sit further apart (distance determined by type of illness).
  - Encourage ill worshippers to stay home.
  - Live stream services so individuals can stay home and still participate.
  - Postpone bible studies, small groups, and other gatherings. If this is not possible, limit the size of each group to no more than 6 individuals.
- Closures
  - Closures should only be encouraged during a severe outbreak.

The Rite of Peace: Discourage hand shaking and simply say, "Peace be with you," or use a simple head nod.

Communion: To prevent the spread of the illness through the shared communion cup, churches should be encouraged to use individual communion cups.

Wudu: Individuals entering a mosque should be encouraged to wash their hands with soap and warm water before starting the wudu/washing ritual.

NPIs at Mass Gatherings – Below are NPIs that can be implemented during mass gatherings.

- During an outbreak, mass gatherings such as concerts, sporting events, and conventions bring together many people from different areas. The decision to modify, postpone, or cancel a mass gathering should be made based on 3 factors:
  1) The timing of the event in terms of the local outbreak situation.
  2) The type and size of the event.
  3) Whether people will be traveling from areas that are/aren't already affected by the outbreak.

- Modifying, postponing, or cancelling a mass gathering can have large economic consequences. Furthermore, public health officials may not have the jurisdiction to modify, postpone, or cancel such events.

- If an event is modified, postponed, or cancelled tickets should be refunded.

Terms

Non-pharmaceutical Interventions (NPIs): Actions apart from medications and immunizations that individuals and communities can take to slow the spread of a disease.

Social Distancing: Measures to increase physical distance between individuals. Example: having students sit every other seat.

School Closure: When classes are dismissed and the school buildings are closed.

School Dismissal: When classes are dismissed, but school buildings remain open and may be used as part of the community's emergency response.

Quarantine: The separation of individuals who have been exposed to the illness, but are currently well to monitor for illness and prevent transmission during the incubation period.

Isolation: The separation of individuals who have a communicable disease to prevent the transmission of the illness to others.

Respiratory Etiquette: Covering one's mouth and nose when coughing or sneezing. It is preferred if the individual uses a tissue and disposes of the tissue in a no touch garbage can. After sneezing or coughing, individuals wash their hands.

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