PANDEMIC INFLUENZA PLAN

POLICY.

The Deschutes County Adult Jail must plan for pandemic influenza, as sustainable healthcare in correctional settings is critical.

PURPOSE.

The purpose of this policy is to set forth guidelines for responding to a potential pandemic influenza outbreak in the DCAJ or Work Center.

DEFINITIONS.

Clean. Having no detectable infectious disease or known contamination present in area.

Contact. An individual that has had close contact with a case at some point during their illness (from 2 days before to 5 days after the onset of symptoms), and having spent 15 minutes or more within 3 feet of a case.

Contaminated. Infectious disease present in area.

Epidemic. A sudden widespread outbreak of a disease. Usually contagious in nature. For an epidemic to occur, the infecting agent must have pathogenesis and easy transmissibility.

External to the Facility. Outside the locked jail facility.

Incubation period. The time from acquisition of an infecting agent (flu virus) until signs/symptoms begin to appear. During incubation period, individuals generally do not know they are infected, but can spread disease.

Influenza. A virus that kills millions of people each year worldwide. It is spread by respiratory airborne transmission, and contaminated surfaces. Coughing and sneezing cause tiny airborne droplets of saliva, which can carry viral particles. Inhalation of these particles introduces disease into the host.

Mortality rate. Number of people that will die as a result of the disease.

Pandemic. A large epidemic. Breakdowns/stressors on resources are typical.

Pathogenesis. The ability to cause disease.

Quarantine. Having no contact between inmate and anyone else without strict adherence with masks and cleaning after encounter.

SECTION A: CHARACTERISTICS OF INFLUENZA

A-1. **Influenza.** Carried by humans, birds, pigs, and other animals. There is a 5-10 day incubation period in which virus is "shed" and spreads to others. Pandemic influenza occurs 2-3 times a century, with the last occurring 1968, with 25% of the population infected in the first 'wave'. With pandemic influenza**,** certain qualities determine the scope of the epidemic. Factors include: a single person can infect many others (the most effective route of transmission is respiratory) and a long incubation period ensures that the virus can reproduce and spread to the next host **before** the primary host is even sick. A person with influenza can infect hundreds of other people within a week. **Avian Flu** is well known and usually only causes bird deaths. Because influenza viruses trade DNA with other influenza viruses, the Avian Flu virus can also infect the Human Flu virus, resulting in a virus that can not only infect humans but is more lethal than the more common Human Flu virus. Avian Flu's mortality rate is as high as 60%. This H5N1 strain continues to spread, reemerge, and mutate; has crossed from poultry and wild birds to mammals (e.g., cats, and dogs). This particular virus has no sustained transmission from human to human as yet, although mutation continues to change its characteristics. Preventative measures are believed to have decreased the number of human infections. Mortality results from respiratory distress syndrome and 'cytokine storm'.

A-2. **Symptoms of Influenza.** Include fever, sore throat, cough, dypsnea, acute onset, GI symptoms, symptoms of encephalitis or obtundation, history of travel to 'risky' areas, contact with sick or dying birds.

SECTION B: SOCIETAL RESPONSES TO PANDEMICS

B-1. **Grading Scheme.** People will respond based on the number/rate of those infected. The following reflects a grading scheme that would be expected responses in a pandemic outbreak of any kind:

a. **Casual Interest.** News stories, no change in behavior.
b. **Mild Caution.** Some cases will be seen in the U.S., staff in correctional facilities should be vaccinated.
c. **Early Epidemic.** Now there are known U.S. deaths, Public Service Announcements are made, health services are placed on alert. Protective behaviors increase. Children may be kept at home in increasing numbers. People begin to miss work as they stay home to care for themselves and family members. ERs busy, difficult to get medical appointments.

d. **Active Avoidance.** Measurable numbers of U.S. deaths, social order begins to disintegrate. Hospitals are very busy. Staffing shortages are evident in workplaces (plan for 30-40% absenteeism).
e. **Infrastructure Affected.** Hospitals are now overwhelmed, triaging (sorting patients by severity of illness) would be done to ration services. Energy costs would rise, gas lines would be seen, food and resource hoarding underway. Some social structure breakdown, but society anticipating that at the conclusion of the pandemic, things will return to normal. Government activity high with services directed toward public health measures. Vaccine and antiviral distribution high. Significant staff shortages in all areas. Further considerations: power supply, clean water supply, food delivery, pharmaceutical delivery, no court times, patrol officers overwhelmed, escalating crime rate.
f. **Loss of Societal Controls.** Infrastructure significantly damaged, crime unchecked, looting (gangs, guns, violence), energy availability uncertain, communication networks may fail, food supplies compromised, health care sporadic and of subsistence level as pharmaceutical supply lines fail.
g. **Anarchy.** Loss of societal structure, **you're on your own!**

B-2. Needs Estimate. We can list extreme scenarios, and we have the 1918 pandemic to help estimate, but basically our next outbreak needs estimate is **unknown**. By planning for 'active avoidance', lots of people will have to work overtime, everyone will be waiting for the pandemic to end, hospitals will be stressed to the point of turning people away and 'guarding' admittance. Death rates from unavailability of services to the elderly and shut-ins will be high. So, how long would this last? The epidemic would come in successive waves, each wave smaller than the last, with the whole thing lasting from 12 weeks to 2 years.

SECTION C: RESPONSES TO EPIDEMICS

C-1. Responses to Epidemics. There are two approaches to an epidemic, medical therapy and behavior modification.

a. **Medical Therapy.** Immunizations and drug therapy (only effective if used promptly). The Center for Disease Control (CDC) models only predict which form of flu virus is coming; they cannot predict epidemic flu strains. Vaccination is still worth doing as there is some cross effectiveness. The public health plan is to immunize as much as possible. There are two antivirals that will likely be effective. They are Tamiflu and Relenza. These drugs are stockpiled by our government.
b. **Behavior Modification.** Reduce behaviors that raise the likelihood of transmission. Behaviors that actively prevent transmission:
    1) Respiratory precautions - one set of behavior modification that can protect us, but our population is unlikely to engage in these behaviors to any extent, thus causing a higher infection rate.
    2) Sequestration - a likely behavior with people staying in their homes, avoiding others.

SECTION D: PLANNING

D-1. Pandemic Stage Plan.

a. **Control Access**. Have only a single person moving in and out of facility at one time. At the entry site, masks should be available. Signage should be displayed that identifies restricted access and adherence to perimeters. Traffic should be limited to that which is absolutely necessary. Entrance area should be frequently cleaned.

b. **Quarantine and Segregate**. There should be three perimeters within the facility: **Quarantine, Clean, and Contaminated.**

c. **Establish Respiratory Precautions and Waste Disposal**. Masks are mandatory during the pandemic stage at all times in the facility. Frequent cleansing of hard surfaces is also mandatory. (One cup of regular bleach in 5 gallons of water) "Red bagging" of contaminated waste may not be effective – the biohazard waste removal companies may be overwhelmed or not even available. Coordinate with Deschutes County Health Department and utilize their plan for waste disposal.

d. **Provide Supportive Care to Infected Inmates.** This will consist of coordinating with local health department to immunize inmates and coordinating with local health departments to provide antiviral therapy, if none available for inmates in the facility. Palliative care by protocol – Tylenol, ibuprofen, fluids.

e. **Ensure Adequate Prior Officer Training**. Officers should be aware of the general policies with regard to pandemic response and understand their roles specific to their current position.

f. **Reduce Inmate Population**. Releasing low risk inmates will be necessary to meet the stresses of a pandemic scenario. Establish a chain of command now to allow rapid evaluation and release of low risk inmates.

g. **Contingent Plans for Power, Water, Food, Hygiene**. All employees should be aware of how the facility operates under manual lock and key. Kitchen power may be compromised - food preparation should be possible without heat. Be aware of the security risk of a lack of lighting - have battery lighting available. If water supplies are contaminated, some means of providing clean water are needed. Refer to web address **http://www.waterisac.org/cs/posted files** for further assistance, including a PDF document on how to decontaminate water. (Note: You can use bleach to decontaminate water. Check the bleach water to determine the % chlorine.) In general:

For 1% bleach the concentration should be: **10** drops per quart
For 4-6% bleach the concentration should be : **2** drops per quart
For 7-10% bleach the concentration should be: **1** drops per quart

Food supplies may be quickly compromised. Easy to prepare, cold food should be available. Use vacuum packed foods, canned and non-perishable goods, and do not worry about variety or palatability. Surveillance for emerging pandemic should prompt stocking of these kinds of foods. It is not clear how long the flu virus will live on hard surfaces, possibly 48 hours. Cleaning must be done very frequently. Bleach is cheap and plentiful, hot water and soap are effective – use liberally! Gel cleansers are effective if you have them, but they only clean your hands for the moment, not protective over time.

h. **Ensure Coordination with Deschutes County Health Department Plan.** Facility plans are dependent upon coordinated efforts with county, state and federal agencies. Examples of coordinated efforts include: access to vaccines and anti-viral drugs, updates on viability of water supply, hospital capacity, morgue services, and contaminated waste disposal.

D-2. Expanded Pandemic Instructions.

a. **Respiratory Precautions.**
   1) Maintain your own 'infection perimeter' of approximately 4 feet.
   2) Anyone entering your 'perimeter' must wear a mask.
   3) Don't let anyone enter <u>your</u> perimeter before you have a mask on.
   4) Wash hands before and after every inmate contact.
   5) Do not risk your own health – noncompliant inmates are putting you as much at risk as brandishing a weapon. Use 'arm's length' control measures rather than 'take down' procedures.
   6) Finally, dispose of masks appropriately.

b. **Masks.** Some writers talk about "N95" masks. These do not filter out influenza viruses, per se, but they do filter out the fomites (things that carry the virus, respiratory secretions, surfaces). Many writers simply refer to the use of surgical masks, not specifically 'N95" masks. There are no studies to identify whether one is better than the other. The 'N95' masks do have smaller pores and will filter TB bacteria, so viral particles on respiratory droplets would be large enough to be filtered out.

D-3. Facility Precautions.
   a. Post respiratory precautions throughout facility.
   b. Do not let anyone enter the perimeter without meeting the requirements.
   c. Keep masks at the point of entrance into the facility or outer infection perimeter.

D-4. Inmate Precautions.
   a. Inmates working in kitchen or hallways can only come from 'clean' unit.
   b. Inmates in 'contaminated' unit may only be pod workers.
   c. Inmates in 'quarantine' unit may have no contact with staff or inmates – they are in isolation lock down.

D-5. Establishing Perimeters. There are 4 perimeters related to infectious disease: External to the facility, quarantine, contaminated and clean.
   a. Use different units for quarantine, contaminated, and clean perimeters.
   b. Use the *Infectious Disease Screening Form No. 568* to determine where each inmate belongs.
   c. Quarantine requires single cell. Absolutely no contact between inmate and anyone else without strict adherence to use of masks and thorough cleansing after encounter. Ill inmates to be placed together in quarantine in designated dorms.
   d. Contaminated inmates only to work in own dorms. Inmates may have been exposed to infectious agent, but are not ill at the time of assessment. When and if illness strikes, inmates to be moved to quarantine areas.

e. Based upon medical data, inmates will be moved from quarantine to clean or contaminated.
f. Once an inmate has survived the disease they can be moved to a clean perimeter.

D-6. Medical Department.

a. Sick call and/or medical follow-up will take place inside each perimeter to reduce transport of inmates.
b. All staff will observe respiratory precautions.
c. Inmates will be seen by category.
d. 'Clean' inmates will be seen first.
e. Med passes will be reviewed by medical director to reduce discretionary medication administration.
f. Inmates with chronic illness will be triaged for administration of anti-viral agents twice a week. Because approximately 2 weeks is required to develop an optimal response to influenza vaccination, use of antivirals during a confirmed influenza outbreak should be considered for persons at risk who were exposed less than 2 weeks after immunization.
g. Vaccines will be administered as they are available to the facility based upon the usual criteria.
    1) Critical personnel.
    2) Elderly or chronically ill inmates.
    3) Others.

D-7. Pregnant Women. Pregnant women are at high risk for severe complications from influenza. This is due to both mechanical and hormonal alterations that occur during pregnancy: increased heart rate, increased stroke volume, increased oxygen consumption, and decreased lung capacity. Immunologic alterations that are relevant include: a shift from cell mediated immunity toward humoral immunity, with this shift causing pregnant women to be more severely affected by viral pathogens. During the 1918 pandemic, remarkably high rates of spontaneous abortion and preterm births occurred, especially among women with pneumonia. There was also a suggestion after the 1957 Asian pandemic that fetus' suffered more neurological defects than in previous years. The fever that accompanies influenza might also have adverse effects.

D-8. Assigned Responsibilities and Multidisciplinary Committee. The Deschutes County Adult Jail will form a committee to address pandemic influenza preparedness. The committee may include the following members: Facility Physician, Facility Medical Supervisor, Facility Captain, Facility Operations Lieutenant, Facility Administrative Lieutenant, Facility Nurses, Facility Mental Health Specialist. The Facility Medical Supervisor will act as the Pandemic Influenza Preparedness Coordinator (PIP).

D-9. Local and State Resources.

* Dr. Richard Fawcett MD, DCHD Medical Director, Mobile #5s41-408-0436, Pager #541-322-8319
* CPS Pharmacist Wayne Shaffer, W #1-800-782-4696

* Scott Johnson, DCHD Director, W #541-322-7502, Cell #541-788-3486
* Collette Whelan, Preparedness Coordinator DCHD, W #541-322-7409, or Cell #541-280-1153
* Carrie Palm, Oregon Health Division, Bend, Oregon, Emergency Preparedness Liason, DHS W #541-693-8901, or Cell #503-381-9579
* St. Charles Medical Center, Mary Betsch, Preparedness Coordinator W #541-382-4321

D-10. Online References.

www.pandemicflu.gov
http://egov.oregon.gov/DHS/ph/acd/flu/oregonfluplan.pdf

Forms Used:

- Infectious Disease Screening Form No. 568