



PREPARING FOR A PANDEMIC

For the past several years avian influenza (bird flu) has been in the news. Avian flu is caused by influenza A viruses that occur naturally among birds. The avian flu currently of concern is the H5N1 subtype. Rapid transmission in birds and virulence of the H5N1 virus has raised concerns about a potential human pandemic. The effects of a pandemic can be lessened if preparations are made ahead of time. The intent of this newsletter is to offer guidance in preparing for such an event.

20th century Influenza Pandemics

1918-19:

“Spanish flu,” [A (H1N1)], caused the highest number of known influenza deaths. About 675,000 people died in the United States, and up to 50 million people may have died worldwide. Many people died within the first few days after infection, and others died of secondary complications.

1957-58:

“Asian flu,” [A (H2N2)], caused about 70,000 deaths in the United States and 1-2 million deaths worldwide. The flu was first identified in China in late February 1957, and had spread to the U.S. by June 1957.

1968-69:

“Hong Kong Flu,” [A (H3N2)], caused about 34,000 deaths in the United States. This virus was first detected in Hong Kong in early 1968 and spread to the United States later that year.

Both the 1957-58 and 1968-69 pandemics were caused by viruses containing a combination of genes from a human influenza virus and an avian influenza virus. The 1918-19 pandemic virus appears to have had an avian origin according to the Centers for Disease Control.

What Is A Pandemic?

A pandemic is a global disease outbreak. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity. The disease usually spreads easily from person-to-person, causing serious illness, and can sweep across countries and around the world in a very short time.

Why Are Health Officials concerned about the Avian [H5N1] Virus?

Health officials are concerned that the highly pathogenic avian [H5N1] virus may represent a significant threat to human health because:

- It is especially virulent.
- It is being spread by migratory birds.
- It can be transmitted from birds to mammals and in some limited circumstances to humans.
- Like other influenza viruses, it continues to evolve and has the potential to eventually be transmitted from human to human.



Preparing an **EMERGENCY** **FOOD STOCKPILE**

Stockpiling food for a pandemic is somewhat different than for other emergencies. In an emergency like an earthquake, recommendations include preparing for a worst-case scenario of no gas, electricity, water or food supplies plus the possibility of camping out in the backyard for a few days. In the case of a pandemic, gas, electricity, and food supplies may or may not be available. Due to mass illnesses, goods and services could be temporarily affected, but not necessarily everything at once. There could be waves of losses of these over a period of about 18 months.

For most emergencies it is recommended to have a three day to two week supply of food on hand. In preparing for a pandemic, consider keeping a larger supply of food on hand since the pandemic threat could last for a longer period of time. Not only might there be

a loss of services, but to stop the spread of the disease, you may need to stay home to avoid contamination. Also shortages in one part of the country could affect other parts of the country.

Remember, if a pandemic flu virus becomes a reality, prices of basic goods and services will probably increase due to supply and demand. Fortunately, the last two pandemics were not as serious as the pandemic of 1918, but our economy is now global and we really don't know what to expect. Any preparation will make your life easier if a pandemic does become reality.

The easiest way to develop a food stockpile is to increase the amount of basic foods kept at home. Remember to compensate for the amount of food eaten away from home, such as restaurants. When preparing an emergency food stockpile choose foods that are familiar to those for whom the food is intended. Familiar foods lift morale and

give a feeling of security in times of stress. Here are other considerations to keep in mind when preparing an emergency food stockpile:

- Store a variety of canned foods, dry mixes, and staples.
- Foods for individuals with special diets and allergies will need particular attention, as well as for babies, toddlers and the elderly.
- Include foods that are high in calories and nutrition.
- Foods that require no refrigeration, preparation or cooking are best. For example, canned foods won't require cooking, water or special preparation.
- Include vitamin, mineral, and protein supplements in your stockpile to assure adequate nutrition.

How is

Preparing for a Pandemic Different from Preparing for Other Emergencies?

A pandemic flu virus will affect a large geographic area and could even spread worldwide. It is expected to last much longer than most public health emergencies and may include waves of influenza activity separated by months of relative quiet periods. In previous 20th century pandemics, a second wave of flu activity occurred 3 to 12 months after the first wave.

An especially severe influenza pandemic could lead to high levels of illness, death, social disruption, and economic loss. The severity of a flu pandemic cannot be predicted; however, modeling studies have shown that its effect in the United States could be severe. Everyday life could be disrupted because so many people in so many places can become seriously ill at the same time. Social disruptions may be greatest when rates of absenteeism impair essential services, such as utilities, power, transportation, and communications. This could occur not just in the United States but also world-wide.

A substantial percentage of the world's population could require some form of medical care. Some modeling studies suggest a severe pandemic could result in 2.2 million deaths and 10 million hospitalizations in the United States. Health care facilities could be overwhelmed, creating a shortage of hospital staff, beds, ventilators and other supplies. Surge capacity at non-traditional sites such as schools may need to be created to cope with demand. The need for vaccine is likely to outstrip supply. A vaccine will most likely not be available for the first 3-6 months of a pandemic.



Food Supplies to Keep On Hand

- Rice, pasta, dry beans and peas
- Instant mashed potatoes
- Rice and pasta main dish mixes
- Ready-to-eat poultry and fish (turkey spam, chicken, pork, tuna)
- Ready-to-eat canned or shelf stable meals (chili con carne, pasta and meat, beef stew)
- Jerky
- Processed cheese (packaged and in jars or cans)
- Canned fruits and vegetables (green beans, mixed vegetables, corn, spinach, peaches, pears, pineapple)
- Milk, dehydrated or evaporated
- Fruit, tomato and vegetable juices
- Sports drinks, powered beverages, soda
- Coffee, tea and instant cocoa
- Canned soup and dry soup mixes
- Protein and fruit bars
- Peanut butter and jelly
- Dried fruit and nuts
- Crackers
- Ready-to-eat cereal, hot cereals
- Pancake mix (water only type)
- Salt, sugar, cooking oil, honey, favorite seasonings
- Bottled water
- Canned or jarred baby food and formula
- Pet food

How to

Store Your

FOOD

Stockpile

Keep canned food in a dry place where the temperature is in the 70's F but not below freezing. In the parts of the U.S. that experience warm summer temperatures, storing food in the garage is not recommended, since food will deteriorate at a very rapid rate under high temperature conditions. To protect packaged foods from pest and extend their shelf life, store the packages in tightly closed cans or plastic containers.

Rotate your food supply every SIX MONTHS. This is not because all food supplies will go bad in six months, but because rotating supplies should become a habit. An easy way to remember to rotate supplies is when clocks are changed for daylight savings time. As an added precaution, date items with a permanent marker.

Shelf Life of Foods For Storage

Here are some general guidelines for rotating common emergency foods.

Use within six months:

- Powdered milk (boxed)
- Dry, crisp crackers (in metal container)
- Instant potatoes

Use within One Year:

- Canned fruits, fruit juices and canned vegetables, tomato-based products
- Peanut butter, jelly
- Canned nuts

May be stored indefinitely in airtight glass or metal containers and at room temperature:

- Baking powder
- Instant coffee, tea
- Cocoa
- White rice
- Bouillon products
- Dry pasta

Storage Without Power

Temporary power outages are possible if there is a pandemic flu outbreak. In a freezer food could be safe up to three days if the freezer is full and the door is not opened. If your freezer is not full plastic jugs of water can be added. Leave room for the water to expand when frozen. Not only will ice help keep the food in the freezer safe for a longer period of time, a full freezer uses less energy to run. Water jugs can be added and removed depending on space needs. These ice jugs can also be used in the refrigerator or an ice chest to keep food cold, and the jugs provide another source of water when needed.

If the electricity goes off, first use perishable food from the refrigerator. Then, use the foods from the freezer. To minimize the number of times the freezer door is opened, post a list of the freezer contents on the door. In a well-filled, well-insulated freezer, foods will usually still have ice crystals in their centers (meaning foods are safe to eat) for at least three days.

Finally, begin to use non-perishable foods and staples.



Water Storage

Part of any good disaster plan is the safe storage of water. In the event of a pandemic flu outbreak, water supplies may be interrupted.

Interruptions could be for short periods of time, or longer. An emergency water supply is recommended for every household.

Containers for Water Storage

The most commonly used containers for water storage are glass, plastic, and metal. Water stored in containers should not be stored near gasoline, kerosene, pesticides, or similar substances.

- Glass - Glass provides an effective container for storage, but is easily broken and heavier than plastic.
- Plastic - Plastic jugs are frequently used for water storage. Depending on the type of jug, some are more durable than others. Jugs that previously contained juice are light weight and fairly sturdy, but the jugs that contained milk and some fruit drinks are not very durable. Jugs designed for water storage can also be purchased.
- Metal - A metal water storage container should be resistant to rust. A metallic taste can be picked up by the stored water in some types of metal containers. Water stored in metal containers should not be treated, prior to storage, with chlorine since the chlorine compound is corrosive to most metals.

Emergency Disinfection of Water

There are sources of water available in the house such as the water heater and the storage tank of the toilet bowl. If you only have contaminated water available, the following treatments can make it safe to drink.

- Heat Treatment – Boiling is the most preferred method. This heat treatment requires water to be boiled in a vigorous rolling boil for five minutes. Taste may be improved by pouring the boiled water back and forth from one clean container to another several times to incorporate air.
- Chlorine Treatment – Clear water can be treated with $\frac{1}{4}$ teaspoon (16 drops) of liquid chlorine bleach per gallon. Mix the water and allow it to stand for 30 minutes. If the water is cloudy in appearance, it is not recommended to treat with chlorine bleach.
- A slight chlorine odor should be detected in the water before using. Use fresh bleach.
- Water Purification Tablets – Different types of tablets are available for water purification purposes. If using this method it is important to follow the manufacturer's directions and allow sufficient time for the chemical to work before using. Check the label for expiration date, since the tablets can become ineffective with time. Most tablets, if unopened have a storage life of about 2-5 years.

Amount of Water for Storage

Only a short-term supply of water can be stored in most homes. Recommendations for the amount of water to be stored vary from one-half gallon to one gallon per day, per person, for food preparation and drinking purposes only. Your hot water heater or home swimming pool is a source for emergency water also, especially for bathing. It is recommended to treat water from these sources prior to drinking.

Treatment for Stored Water

Water which is stored for long periods of time should be sanitized or disinfected before storage. Start with clean containers and use the best quality water available for storage. Water from a system with a state division of health "approved" rating is recommended. Tap water from city sources meets this requirement.

- Heat Treatment- One effective way to store water is in clean canning jars. Fill clean jars with water, leaving one inch of head space at the tip of the jars. Use new lids and seal the jar. Process the water in a boiling water bath, 20 minutes for one quart and 25 minutes for 2 quart jars.
- Chlorine treatment – Liquid chlorine bleach can be used to disinfect water for long-term storage. One gallon of water can be treated by the addition of $\frac{1}{4}$ teaspoon or 16 drops of liquid chlorine containing 4 to 6 percent sodium hypochlorite. (Most bleach contains 5.25% sodium hypochlorite.)

Food Preparation without Gas or Electricity

If a disruption of utilities occurs, traditional cooking may not be possible. If gas is interrupted, close the gas line at the meter and then follow safety instructions for the safe re-lighting of pilot lights when the gas is restored. Planning ahead for alternate ways of preparing a meal will make life easier during an emergency situation.

A propane or kerosene cook stove works for most stove-top cooking but should be used outdoors or in well ventilated areas. Fire danger increases as well. Make sure to have one or more multi-use fire extinguishers always close at hand—small canister ABC types are recommended. Also never leave an open flame unattended, especially indoors, and most especially, when small children are nearby.

An outdoor charcoal or propane grill can do double duty, as well as a fireplace (as long it is wood burning). Chafing dishes and fondue pots can be used for heating food using Sterno (an alcohol fuel) as a heat source. Canned food can be eaten right out of the can. If you heat it in the can, be sure to open the can and remove the label first.

Most camping supply stores have quite a wide variety of devices with which you can cook—from solar to Sterno cans. Plan ahead of time for what may be appropriate for your needs, and make any purchases well in advance. Prices may go up and availability may go down as a crisis approaches.

Hand Washing

If the pandemic flu becomes a reality the single most important preventative measure to do is to frequently wash your hands properly. This is true even during a seasonal flu outbreak. Good hand washing lowers the risk of contaminating ourselves. It is important to remind the elderly and teach children the importance of good hand washing. The elderly and children have a greater risk of getting sick due to either a diminished immune system or an underdeveloped immune system.

The proper way to wash hands is to use water that is hot but not uncomfortable, lather up with soap and scrub your hands together including between the fingers for 20 seconds. It takes about 20 seconds to sing happy birthday. Also consider using alcohol based hand gels, which will kill this virus on contact, whenever visiting public places.



Keeping **CASH ON HAND** for an Emergency

During many emergencies having an emergency supply of cash on hand is very important. If electricity is out ATM machines will not work and businesses will not have the ability to process credit and debit cards. If many people are sick at the same time, banks might not be open or not have a person available to keep ATM machines filled.

How much cash should be kept on hand? One recommendation is to keep as much as would be spent on a weekend vacation and in currency of 1's, 5's, 10's and 20's.



Basic Supplies

These supplies are a good idea to keep on hand for any type of an emergency. They can be stored in a large covered plastic storage bin until needed.

- Paper plates, cups and plastic utensils (water may not be available)
- Flashlights and extra batteries
- Candles, lamps and lamp oil
- Non-electric can opener, utility knife
- Matches
- Aluminum foil (better than dirtying pans)
- Toilet paper, towelettes (especially for baby)
- Soap, liquid detergent
- Feminine hygiene items, deodorant
- Plastic garbage bags, ties, various sizes
- Plastic buckets with tight fitting lids (can serve as potties)
- Disinfectant, household chlorine bleach
- Cooking fuel (i.e. propane, charcoal, sterno, and/or wood)

Supplies Needed for a Pandemic

Due to the special nature of a pandemic, a supply of the following items should be kept on hand.

- Over the counter flu, cough, cold and stomach remedies
- Anti-diarrhea medicines, pain relievers
- Fluids with electrolytes
- N95 respirators (can be purchased in the disposable form. N95 respirators are the only ones which will protect against viruses)
- Disposable gloves-medical grade
- Anti-bacterial soap, hand sanitizers

Other Supplies for Special Situations

- Pet food, chew toys, vitamins, litter, bedding
- Denture needs
- Contact lenses and solution, extra glasses
- Baby supplies, diapers, formula, ointments, wipes
- Prescription Medicine

This newsletter was compiled using information from the following resources:

<http://www.who.int/csr/disease/influenza/pandemic10things/en/index.html>

<http://www.pandemicflu.gov/plan/tab3.html>

<http://www.redcross.org/>

<http://www.fema.gov/>

Georgia Lauritzen, Food Science Specialist, Utah State University, Water Storage, January 1999.

Additional Resources

<http://www.whitehouse.gov/homeland/pandemic-influenza.html>

This website addresses the national plan for the pandemic influenza.

<http://www.stanford.edu/group/virus/uda/>

This website shares the history of the 1918 influenza pandemic.

<http://www.pandemicflu.gov/>

This is the official government website for the pandemic flu. It contains planning information for federal, state and local governments, individuals, businesses, schools and healthcare providers and the community on preparing for the pandemic influenza.

http://www.who.int/csr/disease/avian_influenza/en/index.html

The World Health Organization coordinating the global response to human cases of H5N1 avian influenza and monitoring the corresponding threat of an influenza pandemic. The website contains information on what is happening internationally regarding avian influenza.

<http://www.redcross.org/>

This website contains basic information about emergency preparedness.

<http://www.fema.gov/>

This website contains information on disaster preparedness, emergency response and recovery planning.

<http://www.eden.lsu.edu/>

This website is the Extension Disaster Education Network. It contains information on disasters including the Pandemic Flu and Avian Influenza. Resources from Cooperative Extension in other states are also available on this site.

<http://www.cfsan.fda.gov/~dms/avfluqa.html>

FDS fact sheet which addresses the following questions: What is avian influenza? How is avian influenza spread? Can I get avian influenza from eating poultry or eggs? What is avian influenza?

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