

Personal Pandemic Response Planning 2006

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MSM Pandemic Response Planning 2006

Purpose:

To inform staff and help employees mitigate the effects of a pandemic on their families.

Scope:

Include all information available at this time and interpret this information to make it easier to understand. Readers can then decide to take action under specific conditions.

Disclaimer:

The information in this document is not intended to cover every situation. Details which may be relevant to a user's particular circumstances may have been omitted. Users are advised to seek professional advice before applying any information contained in this document to their own particular circumstances. Users should always obtain appropriate professional advice on the medical issues involved.

Acknowledgements:

As well as personal opinion, the information contained herein is largely gathered from websites later listed in this document. All information is freely available to anyone wishing to understand the possible results of a pandemic and what to do to mitigate the effects.

Conventional Wisdom:

The World Health Organization (WHO), Public Health Agency of Canada, U.S. Department of Health and Human Services and UK's Health Protection Agency all believe that we are overdue for a pandemic, and the Bird Flu is most likely to be the agent. Scientists have created models and come up with the most likely scenario and casualty count. How well we do as a country depends on our governments. How well we do as a community depends on our local health services. How well we do as individuals depends on how well we prepare our families to protect ourselves as best as possible. Governments have traditionally reacted to crisis. It is incumbent on us as individuals to be proactive in preparing to avoid being a casualty.

Know Thy Enemy:

It is expected that this virus could be especially devastating to the very young, old and those with weakened immune systems. However, the pandemic of 1918 (Spanish Flu) was especially devastating to the young and fit. Since it hasn't reached the stage of human-to-human contact it is difficult to say how the Bird Flu will affect us or who will be the most vulnerable. The process for the virus to become transmittable by humans is called "reassortment" where avian flu will co-mingle with the human flu in the lungs of a person or animal. Since pigs can catch both viruses (human and bird), pigs are the perfect host for the mutation process to occur. Tigers have also been found to catch the avian flu, and it is suspected that insects, rodents and farm dogs may act as mechanical vectors for this virus. Chickens, ducks and geese are particularly vulnerable to avian flu with ducks being more of a carrier. Eating properly prepared and well-cooked fowl or eggs does not

present a risk to humans. Handling the birds or coming into contact with bird droppings does present a risk. Even though person-to-person transmission has not yet occurred, humans can still become infected by birds, dead or alive, and bird droppings.

The symptoms are much like the common flu; muscle aches, fatigue, fever, coughing, sneezing, a sore throat and eye infections. It is quite common to be contagious and spreading large amounts of virus for a day or two before you show any symptoms. In severe cases it could lead to fatal pneumonia, blood disorders and multiple organ failure. Once it arrives in a country, it could be with us for up to 18 months in three waves and it could take 6 months or more to develop a vaccine once human-to-human transmission is discovered. The WHO will see that the live culture is sent out to the various countries to develop a vaccine. Canada's vaccine will be produced in Quebec by ID Biomedical.

The Spanish Flu of 1918-1919 caused an estimated 40 to 50 million deaths worldwide including 675,000 Americans (1 in every 136). The US population was approximately 92,000,000 at the time. This was a time when air travel did not exist. To put it in perspective, that's 225 times as many Americans as those that died in the Twin Towers. The first wave of the Spanish Flu began in the USA in January 1918 and ended in April. The second wave began in September and ended in October. The third wave began in December ending in March 1919. The Asian Flu of 1957 caused 2,000,000 deaths. The Hong Kong Flu of 1968 caused an estimated 1,000,000 deaths. Scientists have estimated that when the current Avian Flu becomes a human-to-human transmitted virus, it will kill 2,000,000 to 7,400,000 people world wide and seriously sicken many more. (The Spanish Flu was an Avian Flu). Scientists dug up a body buried in permafrost in order to find a live virus to analyse. The colder it is the longer the virus lives.

Health Canada believes that when the Bird Flu becomes a pandemic, it will affect Canadians in only two waves, last less than 12 months and kill up to 58,000 Canadians. Normally up to 8,000 Canadians die from the flu every year. Health Canada believes that those that catch the bird flu and survive will spend two days in bed and not become reinfected. This obviously will vary depending on the immune system of each victim.

Vaccines/Antiviral Drugs:

Vaccines are considered the best defence against becoming ill by forcing the body to produce antibodies. Antiviral drugs must be administered within 48 hours of the first symptoms, and do not provide immunity. Tamiflu, which has been used effectively against the common flu has not been effective on cases of Bird Flu in Vietnam, probably because they waited too long before being treated. Tamiflu is made up from three common strains of influenza viruses. A second antiviral medicine called Relenza will be used to treat Canadians during a pandemic.

What can we do to Prepare?:

There will be different stages of community-to-community contamination, and our responses should be staged accordingly and in advance.

1. The first and most effective way of combating the virus is to wash hands frequently and properly. See attached pages from Health Canada numbered 195 & 196. See also Cleaning of Common Surfaces numbered 198 & 199, which follow.
2. Stay healthy: Get proper rest and exercise. Drink plenty of liquids. Avoid stress. Stress is when we are subject to a condition or unpleasant circumstance that we have no control over. We all handle it differently, but most ineffectively. Stress is a topic unto itself and will be rampant in a pandemic.
3. Get a flu shot. Because it alerts the immune system, it may offer some protection by waking up the immune system. Discuss it with your doctor.
4. Educate yourself about proper respiratory hygiene. If you are sick, stay home. Practice social distancing by avoiding others. If you cough, cover your mouth to keep the spray off general surfaces. If you have a cough, consider wearing a mask in order to protect your family.
5. Shortages of essential goods like food and water may exist during a pandemic. You may want to stock long-shelf-life foods and medicines beforehand.
6. Latex gloves and breathing masks may come in handy when you have no choice but to touch something someone else has touched or you have to meet someone face-to-face other than family.
7. Fresh air is good. Air out the house regularly. Disease is abundant in the winter because we spend so much time indoors.
8. As a final and desperate move, remove yourself from the community. This could mean having no contact with the neighbours or mailman to moving to the fully stocked family cottage.
9. Keep a cash reserve on hand for emergency use in case going to the bank becomes a risk.
10. Remove any bird feeders from your property before the flu hits North America. This will force the birds to seek food in the wilds before the pandemic, and keep contaminated carcasses out of the reach of family or neighbourhood pets. It will also help to keep bird droppings off your patio. Droppings are highly contagious and you don't want pets tracking it into the house.

Hand Hygiene Procedures

How to Wash Hands (using non antimicrobial soap and antimicrobial soap)

Remove jewellery before hand washing procedures
Rinse hands under warm running water. Rationale: This allows for suspension and washing away of the loosened microorganisms.
Lather with soap and, using friction, cover all surfaces of the hands and fingers. Rationale: The minimum duration for this step is 10 seconds; more time may be required if hands are visibly soiled. For antimicrobial agents 3-5mL are required. Frequently missed areas are thumbs, under nails, backs of fingers and hands.
Rinse under warm running water. Rationale: To wash off microorganisms and residual hand washing agent.
Dry hands thoroughly with a single-use towel. Drying achieves a further reduction in number of microorganisms. Re-useable towels are avoided because of the potential for microbial contamination.
Turn off faucet without re-contaminating hands, e.g., use single use towel. Rationale: To avoid re-contaminating hands.
Keep fingernails short and do not use fingernail polish or artificial nails. Rationale: Chipped nail polish may increase bacterial load. Artificial nails including wraps, acrylics or tips increase bacterial load. Nail polish and artificial nails impede visualization of soil under nails.

Adapted from Health Canada Infection Control Guidelines: *Hand Washing, Cleaning, Disinfection and Sterilization in Health Care, 1998.*

Decontaminating Hands with an Alcohol-based Hand Rub

To decontaminate hands that are not visibly soiled* using an alcohol-based hand rub:

- Follow the manufacturer's recommendations on the volume of product to use;
- Apply product to palm of one hand and rub hands together, covering all surfaces of hands and finger, until hands are dry.

Note: * Hand wash if hands are visibly dirty or contaminated with proteinaceous material or are visibly soiled with blood or other body fluids by washing with either a non-antimicrobial soap and water or an antimicrobial soap and water as outlined in Appendix III A, How to Wash Hands.

(adapted from **Canadian Pandemic Influenza Plan** February 2004)

Cleaning Procedures for Common Items

Surface/object Procedure		Special considerations
Horizontal surfaces such as over bed tables, work counters, baby weigh scales, beds, cribs, mattresses, bed rails, call bells	<ol style="list-style-type: none"> 1. Thorough regular cleaning 2. Cleaning when soiled 3. Cleaning between patients/ clients and after discharge 	<p>Special procedures sometimes called carbolizing are not necessary.</p> <p>Some environmental surfaces may require low level disinfection (e.g., in nurseries, pediatric settings, critical care, burn units, emergency rooms, operating rooms and bone marrow transplantation facilities).</p>
Walls, blinds, curtains	Should be cleaned regularly with a detergent and as splashes/visible soil occur.	
Floors	<ol style="list-style-type: none"> 1. Thorough regular cleaning 2. Cleaning when soiled 3. Cleaning between patients/clients and after discharge. <p>Damp mopping preferred</p>	<p>Detergent is adequate in most areas.</p> <p>Blood/body fluid spills should be cleaned up with disposable cloths followed by disinfection with a low level disinfectant.</p>
Carpets/upholstery	Should be vacuumed regularly and shampooed as necessary.	
Toys	Should be regularly cleaned, disinfected with a low level disinfectant, thoroughly rinsed, and dried (between patients in acute care setting).	<p>For pediatric settings, toys should be constructed of smooth, nonporous (i.e., not plush) materials to facilitate cleaning and decontamination. Do not use phenolics.</p>
Toilets and commodes	<ol style="list-style-type: none"> 1. Thorough regular cleaning 2. Cleaning when soiled 3. Clean between patients/clients and after discharge. Use a low level disinfectant 	<p>These may be the source of enteric pathogens such as <i>C. difficile</i> and <i>Shigella</i>.</p>

Directions for Preparing and Using Chlorine-based Disinfectants

Product	Intended Use	Recommended Dilution	Level of available Chlorine
Household bleach (5% sodium hypochlorite solution with 50,000 ppm* available chlorine)	Cleanup of blood spills	Use concentrations ranging from 1 part bleach to be mixed with 99 parts of tap water (1: 100) or one part of bleach to be mixed with 9 parts of tap water (1: 10), depending on the amount of organic material (e.g., blood or mucus) present on the surface to be cleaned and disinfected.	0.05% or 500 ppm 0.5% or 5,000 ppm
	To add to laundry water	One part (one 8 ounce cup) of bleach to be mixed with about 500 parts (28 gallons) of tap water.	0.01% or 100ppm
	Surface cleaning Soaking of glassware or plastic items	One part (one 8 ounce cup) to be mixed with about 50 parts (2.8 gallons) of tap water.	0.1% or 1,000ppm
NaDCC (Sodium dichloroisocyanurate) powder with 60% available chlorine	Cleanup of blood spills	Dissolve 8.5g in one litre of tap water	0.85% or 5,000ppm
Chloramine-T powder with 25% available chlorine	Cleanup of blood spills	Dissolve 20g in one litre of tap water	2.0% or 5,000ppm

- *Parts per million*
- *Imperial gallon (4.5 litres)*

Family Emergency Health Information Sheet

It is important to think about health issues that could arise if an influenza pandemic occurs, and how they could affect you and your loved ones. For example if a mass vaccination clinic is set up in your community, you may need to provide as much information as you can about your medical history when you go, especially if you have a serious health condition or allergy.

Create a family emergency health plan using this information. Fill in information for each family member in the space provided. Like much of the planning for a pandemic, this can also help prepare for other emergencies.

Family Member Information:

Family Member	Blood Type	Allergies	Past/Current Medical Conditions	Current Medications/Dosages

2. Emergency Contacts:

Contacts Name/Phone	Number
Local personal emergency contact	
Out-of-town personal emergency contact	
Hospitals near:	Work:
	School:
	Home:
Family physician(s)	
State public health department (See list on www.pandemicflu.gov)	
Pharmacy	
Employer contact and emergency information	
School contact and emergency information	
Religious/spiritual organization	
Veterinarian	

Pandemic Flu Planning Checklist for Individuals and Families

You can prepare for an influenza pandemic now. You should know both the magnitude of what can happen during a pandemic outbreak and what actions you can take to help lessen the impact of an influenza pandemic on you and your family. This checklist will help you gather the information and resources you may need in case of a flu pandemic.

1. To plan for a pandemic:

- Store a supply of water and food. During a pandemic, if you cannot get to a store, or if stores are out of supplies, it will be important for you to have extra supplies on hand. This can be useful in other types of emergencies, such as power outages and disasters.
- Ask your doctor and insurance company if you can get an extra supply of your regular prescription drugs.
- Have any nonprescription drugs and other health supplies on including stomach remedies, cough and cold medicines, fluids with electrolytes, and vitamins.
- Talk with family members and loved ones about how they would be cared for if or what will be needed to care for them in you home.
- Volunteer with local groups to prepare and assist with emergency response.
- Get involved in your community as it works to prepare for an influenza pandemic.

2. To limit the spread of germs and prevent infection:

- Teach your children to wash hands frequently with soap and water, and model the correct behavior.
- Teach your children to cover coughs and sneezes with tissues, and be sure to model that behavior.
- Teach your children to stay away from others as much as possible if they are sick.
- Stay home from work and school if sick.

3. *Items to have on hand for an extended stay at home:*

Examples of food and non-perishables	Examples of emergency supplies
<ul style="list-style-type: none">• Ready-to-eat canned meats, fruits, vegetables, and soups• Protein or fruit bars• Dry cereal or granola• Peanut butter or nuts• Dried fruit• Crackers• Canned juices• Bottled water• Canned or jarred baby food and formula• Pet food	<ul style="list-style-type: none">• Prescribed medical supplies such as glucose and blood-pressure monitoring equipment.• Soap and water, or alcohol-based hand wash• Medicines for fever, such as acetaminophen or ibuprofen• Thermometer• Anti-diarrheal medication• Vitamins• Fluids with electrolytes• Cleansing agent/soap• Flashlights• Batteries• Portable radio• Manual can opener• Garbage bags• Tissues, toilet disposable diapers

Further Information:

- CDC is not waiting for the flu to arrive in North America. They are actively monitoring the effects in Asia now to see what works and what doesn't.
- Biologists in Alaska have already begun to test migratory birds; a smart move considering 90% of Europe and Asia has found infection among migratory birds.
- Vaccine production is already maxed out by the chicken-egg method.
- The USA has currently (Feb 20/06) enough supplies of Tamiflu to treat 1% of their population.
- School closings and bans on public meetings such as church service, sporting events and theatres will become commonplace.
- Border closures will disrupt whatever remaining commerce there is Travel restrictions will become a reality.
- Disruptions in public services such as electricity, water, garbage collection and sewer service are to be considered.
- A lack of medical services and or supplies could exist.

Avoid panicked crowds, and stockpile now says the CDC. Standing in lines at grocery stores with other people possibly infected should not be an attractive proposition. Remaining in a small apartment in a large city is not a good idea. Be sure to have plenty of cardboard boxes on hand for packing supplies in case an opportunity arises where you can move to a more secure location. The more self sufficient you are during a pandemic, the less you have to worry about these issues.

Desperate people will do desperate things. Truckers that normally transport food items may refuse to do so for fear of their safety. We only have to think of New Orleans to realize what people are capable of. Neighbours might become desperate enough to steal your propane tank out of your backyard. Cooking on barbecues may become necessary so keep a spare tank of propane full.

It is recommended that you keep 3 to 6 months supply of necessities and replace stock as it is used paying particular attention to shelf life. Use your oldest supplies first. Store in a dry, dark cool space.

Food:

- Easily prepared foods (ie: add water and boil) like pasta and rice dishes; canned goods such as soups, vegetables, chilli, stew, ravioli, tuna, and tomato sauce. Be sure to have a manual can opener.
- Dried foods like powdered milk, potato flakes, dried fruit, oatmeal, herbs and spices.
- Bulk basics such as flour, sugar, salt, rice, pasta, beans, baking soda, and cooking oil (probably not too much unless you plan to prepare foods from scratch).
- Illness foods, easily digestible foods that you can eat when sick (Jello, soup, etc)

Beverages:

- Water
- Kool-Aid or other powdered drink mixes.
- Sports drinks
- Coffee, tea and powdered creamer
- Canned drinks.

Household Supplies:

- Paper products (toilet paper, paper towels, Kleenex)
- Bleach and other disinfecting cleaners
- Dishwashing and laundry soap
- Matches or lighters
- Candles (never leave unattended when lit)
- Flashlight and batteries
- Backup cooking fuel such as charcoal or firewood.

-Saran Wrap -Plastic Boxes -Plastic Bags
 -Waxed Paper -Cooking Pans -Storage containers
 -Aluminum Foil -Elastic -Fire Extinguishers

-Note: Aluminum containers are corroded away by acidic liquids like orange juice and tomato juice. The result is that aluminum leaches into your food and has been credited as contributing to Alzheimer's Disease.

Personal Products:

- Toothpaste, shampoo, shavers, bar soap, deodorant

Child Care/Baby Products:

- Baby food, formula, diapers, baby wipes, children's medicines

Medicine/Health Care Supplies:

- Tamiflu – if you can get it (current shelf life 5 years) talk to your doctor. Recommended dose is 1 capsule twice daily for 5 days with treatment starting as soon as flu symptoms appear.
- Prescription medication
- Over-the-counter flu medication
- Pain reliever (Tylenol or Motrin) – avoid taking aspirin for viral infections (Reye Syndrome) described later on.
- Vitamin C or multivitamin
- Masks/respirators – N95 is the rating recommended for SARS and what most health workers recommend for a flu pandemic.
- Disposable surgical gloves in quantity, and a few pairs of latex gloves that can be disinfected and reused
- Antibacterial soap and hand sanitizers like Purell
- General first aid supplies

Gasoline:

- Store only in approved containers, and as far away from the house as possible. Add stabilizer if stored for more than six months.

Pet Food and Supplies:

- Cat food, dog food, fish food, bird food, etc.

Additional items:

- Any special products or supplies that you and your family use on a regular basis.

Assume Water Will Be Unavailable:

Having bottled water on hand is a must. Unless you live near a body of fresh water or have a well, consider collecting rainwater from your house's rain gutter system. Learn how much Javex you'll need to keep mosquito larva out of your rain barrel. Javex is a powerful chemical. You'll be surprised at how little you need.

Assume Electricity Will Be Unavailable:

How will you cook your food? Fireplace, woodstove and a propane barbecue are good alternatives. If the hydro outage is in summer, you'll have to live without air-conditioning; if winter, you'll have to improvise heat. Many people would die from carbon monoxide due to burning fuel indoors without adequate ventilation. CDC predicts that winter is the most likely scenario. In 1918, ten times as many Americans died in October than any other month that year. Is that significant? Who knows!

- Since boiled water tastes flat, consider flavouring with coffee or other ingredients.
- Keep plenty of candles or oil lamps and matches on hand.
- Be sure everyone has plenty of winter clothing on hand.

Assume Sewer Service Will Be Disrupted:

What would you do with human waste produced by you and your family if it could not simply be flushed away? You may have to resort to buckets and a deep hole in the backyard. Camping toilets and no-water composting toilets may offer alternative options.

Assume Schools Will Close For Several Months:

Check with your child's school to see if they have a plan for home studies. At the very least, your child's activities will be restricted, but he or she must have a healthy way of entertaining himself or herself. Make sure you have plenty of games and home-work on hand.

Assume Someone In Your Family Will Fall Ill:

The last place you want them to be is in a hospital unless their life is really threatened. Medical services may not be readily available. Keep plenty of over-the-counter medications on hand. A book on first aid is good. Avoid becoming sick yourself. Isolation is the key. If you must go out in public, protect yourself by wearing a mask and gloves. You can get more than one day's use out of a mask by storing it in a zip-lock bag after each use. Latex gloves can be reused, by disinfecting with a bleach solution, drying and storing in a plastic bag.

Waterless hand sanitizers should be carried everywhere and used regularly especially when gloves are not worn. When in public, avoid touching "common" surfaces like counter tops, money, railings, gasoline pump handles, etc. and then touching your face, mouth or eyes. Wash hands often, using antibacterial soap. Assume every surface you touch is contaminated.

Consider advising your neighbours that in the event of a pandemic, you will be communicating by phone only and not in person. This will reduce the possibility of a panicked neighbour appearing at your door.

Don't confuse virus with bacteria. Viruses, which are what we're talking about, flourish in dry conditions. Bacteria thrive on moist environments. If you wake up at night with your tongue stuck to the roof of your mouth, you live in a dry environment. If your wooden furniture is coming apart because the glue no longer holds, you probably have a dry environment. Consider using a humidifier. A humidistat reading of 50 is perfect for human health. However, that would be too high in winter because water would condense on the inside of your windows and run down your walls. Avoid creating a moist environment that will generate mould. A piece of furniture up against an outside wall will often create a dead air space where mould might grow.

Knowledge is power. Sharing what we know about preparing a response to a pandemic with our friends, family and neighbours will aid in protecting our communities.

Hygiene

Hygiene is the key to avoiding bacteria and viruses. Health and fitness are keys to fighting a virus once you get it. The germs and viruses that we come in contact with daily actually keep our immune systems active and strong. Unless you are among those at high risk;

- Over 50 years of age
- Children 6-23 months
- Women more than 3 months pregnant
- Anyone living in a long-term care facility
- Anyone with chronic heart, lung, or kidney conditions, diabetes or weakened immune system.

You should not take extra precautions during common flu season except for a flu shot. Let your immune system strengthen itself by fighting off cold germs etc. For those that are in the high-risk category, you should know that 36,000 Americans and 6,000 to 8,000 Canadians die every year from the common flu. Once we know that the Bird Flu can spread human-to-human, everyone should practice extreme hygiene. **Note: People can still catch the bird flu from birds. Over 200 have died from it at the time of this writing.**

- Men are the worst at washing hands. We tend to wet them and either wipe them on our pants or towel. We should be using soap and rubbing all around our fingers and side of the palm to the length of the song Happy Birthday. Even though I've known this for months now, I still have to make a conscious effort to wash my hands properly. Hey, I had a flu shot.
- Antibacterial soap is not effective unless it contains 70% alcohol or more. Antibacterial soap that does not contain alcohol usually contains chemicals that are antibiotics, which viruses become immune to.
- Do we use separate towels and face cloths in our family, and do we wash them regularly? Remember, once the symptoms are observed, you've already been spreading the virus for two days or more.
- Do we hang wet towels to dry or do we leave them in a bundle to breed germs?
- Do we change our sleepwear regularly?
- Is our workstation clean? Dr Charles Gerba, a University of Arizona microbiologist, recently led a study that showed bacteria on several surfaces in an office environment;
 1. Phone --- approximately 25,127 microbes living per square inch.
 2. Desk Surface --- approx 20,961 microbes living per square inch.
 3. Keyboards --- approx 3,295 microbes living per square inch.
 4. Mouse --- approx 1,676 microbes living per square inch.
 5. Fax machine --- approx 301 microbes living per square inch.
 6. Toilet Seat --- approx 49 microbes per square inch. Interesting eh?

The more you share your knowledge of these things with family and friends, the safer you and your community will be.

Shelf Life of Foods

I don't usually read labels, but I got a can of no name tuna off of my kitchen shelf. Product of Thailand, interesting! I phoned President's Choice Customer Service and gave them the bar code numerals. They assured me that the product has a 3-year shelf life. I checked my peanut butter (no preservatives, lard or icing sugar) and it expired last month. Since it is refrigerated, I will continue to eat it until April when it should be empty. I always have to microwave the last of it to get it to spread.

Some dry pasta packages have best-before dates in code so you have to call the manufacturer. The old college staple Kraft Dinner prints it plainly and mine reads September 2006, but I don't know how long it's been on the shelf; probably got it on sale. I'll just boil it anyway. I think I'd better start rotating my supplies. Pop, like gasoline is produced at the same rate every day. Consumers don't consume at the same rate every day. Therefore, you will often see sales of canned pop. If you check the best-before dates you'll notice that they haven't left you much time on the sale products. Canned pop usually has a shelf life of one year before it starts to taste tinny.

Bottled water usually has a 2-year shelf life. Of course this can depend on the source, storage, temperature and lighting. Darkness helps to preserve. The right amount of UV rays will kill bacteria while a small amount will stimulate bacteria growth. I just found a bottle of water from Pennsylvania that expired in 2001 and just for the team I drank it. I'm now waiting to see if I need an iodine chaser. I even drank it without chilling and it tasted good. My canoeing partners and I (Alpine Barking Spider Canoe Club) drank river water for years on wilderness trips since the seventies. Who knows what sewers emptied into these waterways? We boiled our water for five minutes and let it cool overnight before we continued paddling the following day. We all survived, so far. Spider Greg (some of you will remember was the first to roast me at my retirement) and I preferred to portage gallons of wine in bags on our trips. Bags were a safety feature to ensure we didn't break bottles and ruin the mood of the adventure. We wrote daily logs so we could remember what we did and where we had been. The CDC recommends boiling water for one minute to ensure that it is bacteria free; ten minutes if it's from a questionable source. I suppose you could take ten year old water off the shelf and boil it one minute to be sure. So far, no need for a chaser.

The following companies were contacted to determine shelf life norms:

- President's Choice 1-888-495-5111
- Heinz 1-877-574-3469
- E.D. Smith 1-800-263-9246
- ACH Foods 1-866-435-5276 ,,, 1-800-964-8663
- Quaker Oats 1-800-267-6287

- Best Foods (Unilever) 1-800-858-2511
- Con Agra 1-800-461-4556
- Kraft – Primo 1-800-668-2253 ,,, 1-800-461-0094
- General Mills 1-800-767-5350
- Clover Leaf 1-877-893-9880
- Connor Bros 1-866-727-3463
- Campbell's 1-800-410-7687
- Smuckers 1-800-567-1897
- Lipton 1-800-259-0522 ,,, 1-800-457-7095 ,,, 1-877-695-4786
- Maple Leaf Foods 1-800-494-8599 ,,, 1-800-663-1595
- Effem Foods 1-800-667-2424
- Uncle Ben's 1-800-734-3226
- Dole 1-800-541-2349 www.dolenutrition.com Healthy Heart
- Nestle Foods 1-800-387-4636
- Hormel Foods 1-800-523-4635
- Kellogg's 1-888-876-3750
- Unilever 1-800-565-7273
- Excelsior Foods 1-800-845-5636
- Carnation 1-800-387-4636
- Bick's Pickles 1-800-268-3232

Note that dry packaged food products shelf life (best before dates) generally represents when the manufacturer believes that flavour may diminish. Actual use of the product and nutrients useful for nutrition last a lot longer.

Dry Packaged

- Dry soups like Knorr - 12 to 15 months
- Other dry soup mixes - 15 to 18 months
- Corn Starch - Unlimited shelf life if package is in tact.
- Dry Pancake Mixes - 12 months
- Dry Oatmeal - 12 months
- Cereal - 12 months
- Muesli 5 grain cereal - 12 months
- Nutr-Grain cereal bars - 8 months
- Rice (dry packaged) - 24 months
- Rice (dry) flavoured - 12 months
- Hot Chocolate - 24 months
- Hot Chocolate light - 15 months (flavour enhanced)
- Tea - 20 months
- Coffee - 18 – 30
- Coffee beans - 6 months
- Ovaltine - 24 months
- Crackers (salted) - 6 months
- Cookies - 12 months

- Dry fruit - 12 months
- Powdered milk - 15 months
- Sugar - 24 months +

Glass or Plastic Bottles

- Bottled Pancake Syrup - 12 to 18 months (no sugar added)
- Bottled Pancake Syrup - 24 months (sugar is a bit of a preservative)
- Heinz Ketchup bottled - 18 months unopened – 6 months opened and refrigerated.
- Soya Sauce - 2 yrs unopened, - 1 yr after opening
- Olive Oil - 2 yrs cool, dry, away from light and unopened.
- Corn Syrup - Unlimited, refrigerated or not
- Pickles - 24 months (after opening 3 months)
- Jam - 2 yrs

NB. Any product with tomatoes can develop into a Ptomaine Poison if left open and unrefrigerated.

Canned Goods

- Spaghetti and meat sauce - 24 months
- Pork & Beans - 24 months
- Tomato Sauce - 24 months
- Stew - 24 months
- Tuna (in water) - 36 months
- Tuna (in oil) - 5 years
- Sardines - 36 months
- Salmon - 6 years
- Green Beans - 24 months
- Peas - 30 months
- Fruit - 24 months
- Soup - 24 months
- Ham - 24 months
- Spam - 5 years
- Corned Beef - 5 years

Pet Food

- Dry mix - 18 months
- Plastic container - 18 months
- Canned - 36 months

Note that some packaged mixes like hot chocolate, soup or pancake mix may begin to lump up after their shelf life reaches the above limits for flavour. Most best-before dates are coded and require you to contact the manufacturer unless you know how to read code.

In a group of letters and numbers there may be a letter and 4 numbers in a group. If the letter comes first it usually is the first letter of the manufacturer ie: L4329 (Lipton). The next number, for instance a 4 would indicate the year (2004). The next three numbers will indicate the day (329th day). With some manufacturers ie: 0285C it might mean (28th day of 2005 Carnation). If in doubt, call the manufacturer. No name corned beef is clearly marked with the date of manufacture and best-before date. The Alaska salmon was clearly marked JN 2011.

In checking the food in our kitchen, I came across a can of tomato juice that had leaked and was in a pool of black, sticky goo. While checking dates, I tried to determine how long this can had been on the shelf. Since there were no markings, the manufacturer suggested that it might be ten to fifteen years old. Gotta start rotating stock! For the most part, everything I've bought recently has been under six months old, with the exception of a jar of pickles. It was eighteen months old. Some years ago we were hosting a motorcycle rally at Mansfield. For breakfast we thought fruit cups might be nice so we went to Costco the day before and bought plastic jars of mixed fruit. While preparing bowls of fruit for 200 people in the Mansfield kitchen, we discovered that each of the jars had already started to ferment. I don't remember if dates were marked on the containers or not. It's just a reminder that you should shop where stock turns over regularly and be careful of sale items. If there is a sale, there is usually a good reason.

Bulk carrots can be obtained through most farm supply companies. Here in Bolton we have Maple Farm Supply 8112 King Rd. W. (east of Humber Station Rd.) 905-857-2000. Ask for Sue or Gary to order carrots in bulk. Grocers will tell you that the shelf life is 2 to 4 weeks, but we know that the farmers in Holland Landing store their crops sometimes for 6 months before they go to market. For freshness, make sure you order the current season's crop.

Drugs & Medicine

Drugs have widely varying shelf life. Coated pills have less shelf life than uncoated pills. Since the health care facilities will be overloaded with sick people and turning away many who have a cough or are sneezing, it will be important for you to know the telephone connection to the provincial health service set up for just such advice to circumvent overcrowding of emergency clinics. That number is: **1-866-797-0000.**

Some Examples of Shelf Life

Robaxial: 4 years
Advil Sinus: 4 years
Advil Caplets 4 years

Note: Wyeth products display expiry dates plainly.
1-800-387-8647

Tylenol Allergy Sinus 5 years
Tylenol Cold 2 years
Tylenol Extra Strength 6 years

Note: Expiry dates are due to the expected life of the active ingredient. New formulations are generally 2 years until they can determine the true life of the active ingredient. Expiry dates on Tylenol products are clearly marked.
1-800-265-7323

Pepto Bismol liquid 2 years
Pepto Bismol tablet 3 years

Note: Expiry date is clearly marked.
1-800-717-3786 They would not comment on what happens to the formulation after expiry. Carolyn however, is still using a large bottle that expired in 2002. She feels that if it's still pink it's okay.

Check with your pharmacist for shelf life of prescription drugs. I still use a prescription drug named Lomotil that I got in the 70's for canoe trips. Its shelf life is unlimited.

Bibliography

Part of the preceding pages is a summary of hundreds of pages gleaned from the following websites during February 2006. As these websites update their information when changes take place, you should access them for up-to-date information.

<http://www.who.org>

<http://www.cdc.gov/flu/avian>

<http://www.pbs.org/wgbh/amex/influenza>

<http://cbc.ca/fifth/nextpandemic/answers.html>

Since 1997 scientists have been warning us of the potential for a pandemic. Now that we are paying attention, there are those who are saying, "Don't panic. The bird flu may not be the pandemic we expect." Regardless, the bird flu does kill and we can catch it from infected birds. What can make it a pandemic is when it develops into a disease that we can pass from one to another. That is something no one can accurately predict when or if it will happen. Read the following March 2006 articles for a second opinion. All we ask is that you be informed and prepared.

For obtaining new plastic drums with removable cover for rain barrels and reconditioned steel barrels for incinerators, call Andre at Universal Drum 905-822-3280. The plastic drum site is at 2460 Royal Windsor Dr. Mississauga and the steel drums are at 10 Scarlet Rd. Etobicoke.

Health Canada reminds us that up to 8,000 Canadians die from the flu every year. Their prediction of the effects of a pandemic are, that the death rate is expected to be 1.4 to 8 times normal. When you take the median predictions of WHO, CDC and Health Canada, it translates into the following numbers for Team MSM:

- Up to 50 people at MSM might be confined to bed for a week at some point in time over the expected 18 months of three phases. (not all at once of course)
- Up to 100 people at MSM might be required to stay at home for a week or so to take care of family members.
- Up to three or four team members may die from the flu during a pandemic.
- Up to eight to twelve team members may mourn the loss of a loved one at this time.

N.B./ No one can accurately predict the outcome of a pandemic, but with scientific models, this is the outcome predicted if and when a pandemic strikes. Our hope is that with knowledge and preparedness we will mitigate or even eliminate our losses should the scientific community's predictions become reality.

Home Care

Most victims of pandemic flu will be able to remain at home during the course of their illness, and will be cared for by a family member. When care is provided by a household member, basic infection control precautions should be emphasized, (e.g., segregating the ill patient, hand hygiene and the wearing of a mask by the caregiver for example).

The flu usually begins abruptly with a fever of between 102 and 106 F, with adults at the lower end of the spectrum. Keep in mind that unless the patient has handled infected birds, recently been in a country infected or the local community is in a confirmed state of pandemic, it's not likely that the symptoms are that of the bird flu.

Uncomplicated influenza gets better with or without treatment of people with a healthy immune system. However, symptoms like fever should be treated to relieve the patient of unnecessary suffering. Some believe that fever is the body's natural fight against a virus and should be left alone. This is the furthest from the truth. A fever is a by-product of the immune system fighting whatever it is up against. A fever unchecked can cause serious problems such as convulsion and even brain damage. Motrin and Tylenol are generally recognized as safe and effective. **Never give aspirin to a child or teenager who is suspected of flu symptoms.** Acetylsalicylic Acid or the chemical cousins, other salicylates, can cause a rare but serious illness called Reye Syndrome. Consult a doctor.

Decongestants such as phenylephrine and pseudoephedrine produce a narrowing of blood vessels. This leads to clearing of nasal congestion, but may also cause an increase in blood pressure in patients who suffer from high blood pressure.

One of the most important treatments is keeping the patient hydrated. A normal person should consume two quarts (40 oz per quart) of non-alcoholic, non-caffeinated liquids per day; more if they have a fever. Drinking a lot at one time is not good. Start with sips. Electrolyte solutions available in drugstores are usually best. Sports drinks contain a lot of sugar and can cause or worsen diarrhea. Avoid over the counter diarrhea medications unless specifically instructed to use one by your doctor. Certain infections can be made worse by these drugs. Avoid tobacco, alcohol and second hand smoke.

People 65 and older or people of any age with chronic (lasting a long time) medical conditions and very young children are more likely to get complications from influenza.

Pregnant women also have an increased risk for pneumonia, lung insufficiency and death after an influenza infection.

Aside from treating a patient's symptoms to make them more comfortable, they need to be reassured that everything will be alright. Stress is a powerful force that can do major damage to our physical and mental health. Ensure that you and your patient avoid unnecessary stress. The greatest remedy for stress is a strong social support system. Communicate regularly with family and friends. Take your mind off the crisis through

distractions like reading a mystery or watching comedy on television. If your spouse is not part of the support system, he or she is probably your biggest stressor.

For more details check out this web site: http://www.globalsecurity.org/security/ops/hsc-scen-3_flu-pandemic-home-care.htm

Doctor Grattan Woodson MD, FACP suggests in his 34 page document on the flu pandemic, that we create a Flu Survival Kit. Most of it is out of reach for the average person. For instance, 2 Tamiflu tablets per day per person for 5 to 10 days at \$20 US per tablet, and the shelf life is five years. He does however, have a lot of good information. A copy will be available in the MSM library in April.

One of the survival kit items is Valium for anxiety, muscle aches or insomnia. This would be good to have on hand for someone who doesn't cope very well with stress.

He reinforces the warning of dehydration saying, "It must be prevented, as this can be fatal in a patient who would otherwise survive." Later on page 24 he writes, "Eating is not really important because the patient will be breaking down their own muscle and fat for energy. The flu takes the appetite away so the patient probably won't be hungry." If the patient asks for food, this is a good sign. "With sick patients like these, you really have to push the fluids so don't let your guard down." If a patient is dehydrated, a Basic Fluid Solution should be made from water, sugar and salt. The homemade formula is:

- 4 cups of clean water
- 3 tablespoons of sugar or honey
- ¼ teaspoon of table salt

If juice is available, you can substitute 1 cup of it for 1 cup of water and cut the sweetener in half. Try to get 2 to 3 quarts of fluids into the patient every day. Page 26 "symptoms and assessment" from Dr. Grattan's work follows.

Symptom or Sign	Likely Assessment	Remedy
Low urine output	Dehydration	Push fluids
High pulse rate (>80 but especially > 90) '	Dehydration or fever	Push fluids
Shortness of breath	Pneumonia	Push fluids
Shaking chills and shivers	Viremia (virus in the blood) or pneumonia	Keep warm
Cyanosis (skin turns blue)	Respiratory failure, death likely	Keep as comfortable as possible, Give hydrocodone with promethazine for comfort, give diazepam for anxiety
Bleeding from mouth, coughing up blood, passing red blood per rectum. Severe bruising.	A severe blood clotting abnormality has occurred due to the virus (DIC) . Death is likely	Keep as comfortable as possible. Give hydrocodone with promethazine for comfort, give diazepam for anxiety
Vomiting	Virus affecting GI tract	Use promethazine for vomiting, push fluids
Diarrhea	Virus affecting GI tract	Push fluids, clear liquid diet
Severe stomach cramps	Virus affecting GI tract	Use hydrocodone and promethazine for comfort
Headache		Ibuprofen and/ or acetaminophen or hydrocodone if very severe
Fever		Ibuprofen, acetaminophen, push fluids, keep warm or cool, consider tepid water baths if > 102 F. OK if < 101 as this may help kill virus.
Sore throat		Gargle with hot salt water, drink hot tea or hot water, ibuprofen and or acetaminophen.
Cough		Push fluids, drink hot tea for affect on breathing tubes, use hydrocodone 1/, tablet with or without half promethazine to suppress cough if needed

(Swine Flu also produces symptoms of vomiting and diarrhea.)

Each day start with the patient's vital signs. Include their temperature, pulse rate, breathing rate, and blood pressure, Repeat the vital signs routinely 4 times daily (for instance at 0800, 1200, 1600, and 2000). These vital signs should be measured more often in very sick patients. You can get a really clear picture of how the patient is doing using these simple measurements.

It is very important to keep up with the patient's fluid intake and their output so record the fluid they are taking in and passing out in a notebook. Intake is pretty easy since you are giving them the fluids but output can be difficult to accurately record. Have the patient save all their urine by urinating in a bucket, pot, or basin instead of the toilet. Measure the urine output using the kitchen-measuring. In healthy individuals, the "normal" amount of urine

passed every day should be nearly equal to the intake of fluids for that day. For example, if your intake of all fluids totals two quarts, then the urine output should be nearly two quarts. The output may be reduced somewhat if there is excessive fluid loss from sweating, vomiting or diarrhea.

Many people are in the habit of drinking large quantities of fluid. This may be helpful in certain conditions such as kidney stones and urinary tract infections, but in general it provides little health benefit. Healthy kidneys are capable of excreting up to 25 quarts of urine per day in response to large fluid intakes. However, patients with kidney, heart, or liver disease may not be able to produce this large volume and may need to restrict their intake of fluids.

Certain diseases may result in an increase or decrease in urine output. Some forms of kidney failure, including bladder and prostate disease, can cause a reduction in urine volume. Diabetes often is associated with a large increase in urine output, which in turn stimulates thirst. symptoms in every case.

Are these the right treatments for these symptoms in every case? Of course not! I am providing you with my best guess of how to manage the average very sick flu patient but not every very sick flu patient. I recognize that for some like those with ADRS for instance, these suggestions will not be helpful and would be considered harmful under usual circumstances. You will not be able to tell when you start dealing with one of these rare patients. So, what should you do? For most patients, following the advice will do a lot of good and makes the most sense under unique circumstances. All you can do is try the best you can do. So do that with a satisfied mind.

Water Purification

Water supply and purification as previously mentioned is one of the things that I've had considerable experience with. I held many a pool chemical seminar for Eatons and Simpsons back in the seventies, and my wilderness experiences also required a knowledge of water purification. Please excuse the personalization of this part.

We'll assume for the moment that tap water is unavailable and that the water in question is from a lake, river, rain barrel or puddle. The first thing we want to do is remove any solids as much as possible. This is so the chlorine we add later can concentrate on any bacteria instead of wasting itself on solids. The filtration can be done by passing the water through a cotton T-shirt folded several times or a paper coffee filter. Next we add the purifying agent chlorine (sodium hypochlorite). Liquid chlorine for pools has an 11% concentration of chlorine. Household bleach has up to 5.25 % chlorine. Don't use bleach that contains other ingredients like detergents or perfumes. It can play havoc with your stomach. To a quart of water add 2 drops of bleach, or one teaspoon to ten gallons of water. Double the amount of bleach if the water is cloudy or if you plan to store the water for more than 48 hours. The neutral PH of water is 7. For chlorine to purify water it must react with alkaline so you need a pH level of 7.2 to 7.4. Anything higher and the chlorine becomes trapped by alkaline and won't purify. Anything below 7 is acidic and the acid works against chlorine just like UV rays. On our canoe trips we would treat the water, let it stand in the shade for 30 minutes then put it in the sun to burn off any chlorine left over from killing bacteria. Taste is important. If we had the luxury of fire we preferred to boil water for 5 minutes; 10 if it was swampy. Boiling is the only thing that prevents Beaver Fever, a parasite that lives off of beavers. You don't want one of these creatures alive in your belly. BF aside, iodine will also purify water, but it tastes as bad as Buckley's. Boiled water tastes flat so shake it up to put oxygen back in or add flavouring.

Other sources of water are from your hot water tank, toilet reservoir, but according to experts not the toilet bowl. If you are thirsty, you'll use the toilet bowl water too, just purify it. Be advised that the water in the toilet bowl is the only thing stopping sewer gasses from coming into your house. Shut off hydro or gas to your water heater and don't restart unless the water supply in your pipes is back on. Be warned that there will be sludge in the bottom of your water heater. If you have a rain barrel, keep it covered to keep mosquito larvae out. This is an extreme case scenario so let's get back to a more likely scenario. Fill your bath tub and other vessels and replace every few days. Experts say that you'll need a gallon a day per person and that includes the water needed to boil food.

* * *

A quarantine sign to put on your front door will be useful as a deterrent to thieves wanting to break in to steal food or keys to your car in the driveway. Home invasion seems to be coming more common in the GTA during normal times. Can you imagine what a disaster would do to the crime rate? US experts recommend firearms and plenty of ammunition.

* * *

Experts recommend reviewing your insurance and updating your will. A good idea at the best of times.

* * *

Viruses are known to survive on non-porous surfaces such as steel and plastic for up to 24 to 48 hours after contamination, and on cloth, paper and tissue up to 8 to 12 hours. Viable virus can be transferred from non-porous surfaces to hands for 24 hours and from tissue to hands for 15 minutes.

* * *

Adults are typically infectious the day before symptoms begin, through approximately 5 days after illness onset. Children will shed the greatest amount of virus, and are likely to present the greatest risk for transmission. Children can be infectious for more than 10 days, and young children can shed virus for up to 6 days before the onset of symptoms. Severely immune-compromised persons can shed virus for weeks or months.

Influenza can be transmitted by large droplets (greater than 10 micrometers), which generally travel 3 to 6 feet by coughing or sneezing openly and without covering one's mouth and nose. Smaller droplets (5 micrometers or less) can remain suspended in air longer and travel farther. There is no evidence that influenza transmission can occur across long distances (i.e. ventilation systems) or through prolonged residence in air, as seen with airborne diseases such as tuberculosis.

* * *

Aside from actually being coughed or sneezed upon by an infected person, the most common way to catch the flu is by touching something, which has been coughed or sneezed upon by an infected person. For instance, the person that used the shopping cart before you had the flu. They covered their mouth with their hand when they coughed, then used that very hand to push the cart around the store. Now your hands are touching the same spot on the cart. Without thinking while shopping, you rub your eye or nose and introduce the virus to the most vulnerable point of infection. Good hand washing does more to prevent the spread of flu than anything else.

* * *

Get your finances in order. The economy will be severely altered by a pandemic. Some companies will succumb to a quick demise while others will downsize in an attempt to survive. Make sure you can sustain a financial drought for a short period of time.

* * *

Vaccine production is dependant on eggs and the H5N1 strain is so lethal that it kills chicken embryo before there is enough time to raise a good yield of viral particles. Coupled with a shortage of egg laying chickens because of the bird flu means that the usual 6 months to develop a vaccine and produce a supply will be extended for months. A vaccine may not be available until after the second wave.

* * *

Herbal remedies are available to reduce the symptoms of flu. A study has shown that Sambucol, a black elderberry extract, reduced the duration of flu symptoms to 3-4 days. See your health food stores. I've read that other remedies are available like Colostrum , Olive Leaf Extract, Beta 1-Glucan and Arabinogalactan. Consult your doctor.

* * *

Surgical masks are not respirators and can't be guaranteed to fully protect the wearer from an airborne virus. However, the N-95 mask and glasses or goggles will give the average person the best possible protection. The primary purpose of the surgical facemask is to help prevent biological particles from being expelled by the wearer into the environment. Beards, long moustaches and stubble may interfere with a good seal and cause leaks around the mask.

* * *

The Federal Emergency Management Agency (FEMA) has an article on Family Disaster Supplies Kit (6 pages) at <http://www.survivetheflu.com/list.html> .

New site as of April : <http://www.pandemicinfluenza.gc.ca/>. links to Peel plan etc.

Also note Personal Preparedness <http://www.avoidbirdflu.com/article.php?id!=5232>.

Survive The Flu: <http://www.survivetheflu.com/whattodo.html>.

Food, Water, Medicines: <http://www.survivetheflu.com/food.html>.

Storage and recipes: <http://www.providentliving.org/content/list/0,11664,2003-1,00.html>.

Just a note from my wilderness no-trace-camping experience: The top eight inch layer of earth is where biodegradable activity takes place. Human and pet feces will degrade very rapidly in that layer of earth. On top, it will air dry and take forever to degrade. Below eight inches it will be out of sight but will degrade much slower. If you have a small backyard and you are relegated to disposal there, you may have to dig up the same spot from time to time. It will be much better if what you have previously buried has already composted.

* * *