



# **Preparation for Forest Fires and the Assessment of Health Effects from Forest Fire Smoke**

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Guidelines for Health Staff in  
Northern Saskatchewan Communities

**2016**

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## Introduction

Smoke from forest fires can pose a health risk. Being prepared can help prevent harm. It is important to make preparations for forest fire or other threats to the community in advance. Spring is a good time to review your preparedness for the forest fire season.

Various decisions and actions may be required when fire or smoke threatens a northern community. The decision to evacuate a community because of smoke is complex. Before evacuating, it is important to assess health risks. Evacuations can be risky, disruptive and costly. They should happen only when health benefits outweigh all risks.

This document is to assist health workers in northern Saskatchewan in their support to northern municipalities, First Nations and community members during forest fire season.

## Emergency Decision Making for Fire and Smoke Threats to Communities:

The responsibility and authority in a community for the declaration of an emergency lies with the mayor, Chief, or designate. Sometimes decisions need to be made quickly for evacuation because of immediate threats of fire. When smoke threatens a community, but the fire is not a direct imminent threat, decisions regarding actions to take to help ensure the safety of the public can be discussed and planned. Consultation can include (but not limited to):

- Emergency Management and Fire Safety
- Health Emergency Management Branch of Ministry of Health
- Wildfire Management (Ministry of Environment)
- Ministry of Social Services
- Regional and First Nations' Medical Health Officers
- Regional Health Authorities' and First Nations health authorities' Emergency Preparedness Coordinators
- Government Relations - Northern Municipal Services (for Northern Settlements).
- Ministry of Highways and Infrastructure
- Saskatchewan Crown Utilities (SaskPower, Sask Energy, Sasktel)
- Indigenous and Northern Affairs Canada.

During times of forest fire activities, these groups may be pulled together through a Provincial Emergency Operations Center to coordinate provincial activities and to provide support to local and regional Emergency Operation Centers.

## Health Effects of Wildfire Smoke

**Particulate matter exposure** is the principle public health threat from short-term smoke exposure. Health effects can range from eye, nose or throat irritation to serious problems such as reduced lung function, bronchitis, exacerbation of asthma and even a risk of death. People who are otherwise healthy may have irritated eyes, increased mucous production in the nose or throat, and/or coughing or difficulty breathing, especially during exercise. People with existing respiratory or cardiovascular conditions may experience aggravation of existing conditions.

Carbon monoxide exposure may happen to anyone close to a fire, especially if it is shouldering. Fire fighters and people with cardiovascular disease are at increased risk. Symptoms of carbon monoxide exposure may include headache, weakness, dizziness, confusion and visual impairment. Prolonged or heavy exposure may result in a coma and death.

Chemicals contained in the smoke such as formaldehyde, polycyclic aromatic hydrocarbons or benzene, can irritate eyes and the respiratory system, and may trigger asthma. They may increase cancer risk over a lifetime.

## Populations at Risk:

People at increased risk for adverse health effects include:

- People with existing respiratory conditions – such as asthma, lung cancer, chronic obstructive lung disease (COPD) which includes chronic bronchitis and emphysema.
- People with existing cardiovascular conditions including angina, previous heart attack, congestive heart failure, or irregular heartbeat.
- Infants and young children may be at risk because they have faster breathing rates and immature immune systems that may make them more at risk.
- The elderly tend to be more at risk because their respiratory, cardiovascular and immune systems are not as strong as they may have been.
- During pregnancy, both mother and fetus may be harmed by forest fire smoke because the smoke contains many of the same compounds as cigarette smoke.
- People with diabetes are at risk because they may have underlying conditions such as cardiovascular disease.
- Smokers may have compromised lung functions.
- Outdoor athletes and workers are at risk if they are breathing deeply and rapidly.

### People at increased risk for adverse health effects from smoke:

**Sensitive People:** people who may experience more severe or prolonged symptoms when exposed to smoke:

- People with existing lung or heart conditions
- Infants and young children
- Elderly
- Pregnant women
- Others (those with diabetes)

**Vulnerable People:** people who cannot comfortably or safely use standard emergency resources and for whom evacuation may require extra planning:

- Critically ill
- Elderly
- Physically or mentally disabled
- Socially isolated
- Medically or chemically dependent
- Homeless or street-involved

## Roles and Responsibilities of Health Staff:

### a) Preparation/Preplanning prior to forest fire season:

As health workers in the community, preparation for the forest fire season could include:

- **Pulling together** the health center's emergency operations committee to review the overview of the plan for each community health center and review the roles and responsibilities of health staff;
- **Arranging for a discussion** with the local municipality's/community's emergency preparedness committee or contact person (often through the Village/Town/Northern Settlement/Band Council Office) regarding plans for the upcoming season;
- **Updating the list of** the locally available and regional trained persons, eg. nurse, teacher, police, first responders, social workers, etc. with their contact phone numbers;
- **Reviewing** your stock of emergency supplies such as first aid, oxygen and oxygen delivery systems, emergency kits, etc.;
- **Updating** the list of vulnerable patients: those with pre-existing chronic health conditions or disabilities. This would include the patient's health information and their specific care needs. At the time of smoke exposure risk, a priority listing for respiratory risks will be required, and this preparatory work will greatly assist that process. In larger communities, several care providers may be involved in the preparation of these lists (e.g. primary care nurses, public health nurses, community health educators, home care, hospital, physician clinics, etc). Individual forms partially filled out in advance can greatly assist in the event that a selective or full evacuation is required (see form for 'Evacuation of Clients with Special Needs'). These sheets should be sent with the evacuee and a copy kept at the clinic;
- **Discussing with the municipality or First Nations emergency measures contact or Mayor/Chief or designate:** the availability of facilities within the community that could be used as CLEANER AIR SHELTERS in the event of short-term smoke conditions within the community (could include educational facilities, large commercial buildings, halls or anyplace with central air conditioning and filtration), and arrangements made through the community's emergency preparedness committee to ensure that they would be available for use in an emergency situation (Resource: Evidence review: home and community clean air shelters to protect public health during wildfire smoke events, BC Centre for Disease Control, March 2014);
- **Assessing** distances from a common vision point, this will allow you to assess changes in visibility due to smoke conditions. This should ideally include the capacity to see an object at about 8 kilometers or more, 5 kilometers, 2 kilometers, and 1.2 kilometers from your vision point. One way is to establish the distance to various points seen from the front of the health center (e.g. across the lake to an island could be determined to be 5 kilometers, a certain building at the edge of town 2 kilometers and another building at 1.2 kilometers – this can be used then to determine approximate smoke concentrations and risk as in the section on Assessment of Smoke Conditions).

## b) Role of health staff during forest fire season:

**General health information during forest fire season:** Health staff can assist in advising community members, through the community emergency committee/group, the local council, or through the health center, using local media, handouts and posters. It is beneficial to provide information on health effects of smoke and what can be done to reduce your exposure to smoke or to reduce the impact of smoke (See appendix: *Health Effects of Smoke Exposure due to Forest Fires*)

**If there is a fire threat:** If fire begins to threaten a community, the Mayor/Chief or designate will monitor and determine action in consultation with others. Health workers assist with community education in regards to preparations of community members in case of evacuation. (See appendix: *Suggested Preparations for Evacuation*). If an evacuation order is declared by the Mayor/Chief or designate, health staff provide special assistance to those with health ailments/disability including elders and those at special risk. This involves insuring that those with chronic medical conditions have appropriate medication and documentation to take with them (see form in appendix: *Evacuation of Client with Special Needs*). Decisions would be required to determine whether health center would be closed (secured, message left on answering machine, etc.) – this decision would be made depending on severity of situation.

**If there is a smoke threat:** If smoke threatens a community (without imminent fire risk), health center staff may be asked for an opinion regarding the threat to health and the potential need to evacuate ‘at risk’ populations. This decision can proceed through a series of steps based on the severity of the smoke:

### **Actions:**

- a) Regular assessments of the severity of smoke conditions (see ‘Assessment of Smoke Conditions’) to get a rough idea of air quality concerns and what actions could be considered;
- b) General recommendations to the community to reduce their exposure to smoke (see page 8 for ‘Recommendations for Heavy Smoke Conditions and page 12 for Health Effects of Smoke Exposure due to Forest Fires’), and for individuals to have preparations made for the event that evacuation is required (e.g. bag packed, ensuring adequate amounts of regular medications, etc.);
- c) A mayor/chief or designate may recommend a selective evacuation of ‘sensitive’ or ‘at-risk’ populations. Evacuation is not without risk during smoky situations so this decision needs to be made in light of information from other agencies regarding the nature of the smoke distribution, weather predictions, where the smoke is coming from, road visibility, etc. This information can be from the Ministry of Environment Fire Management office or the Emergency Operations Center. In order to ensure coverage for expenses of transportation and accommodation, it is important to do this in a consultative manner with either:
  - Saskatchewan Ministry of Health Emergency Management;
  - Regional Medical Health Officer or Emergency Planning Coordinator; **and**
  - Social Services (See Northern Emergency Contact List for contact numbers).

This consultation should include discussions of the type of transportation arrangements for more severely ill clients.

- d) If an individual comes to the attention of the health workers because of health concerns aggravated by smoke - **Action:** the health worker deals with this situation on an individual basis. This can include treatment, local measures to reduce exposure to smoke, or, at times, referral to another medical facility. This is done on an individual case by case basis in the usual manner of treatment and referral if needed. If there is a client with a medical condition that requires further immediate assessment or treatment, the usual process for medical evacuation by road or air applies. If there is a desire to have an individual evacuated from a community because of the risk from smoke, without an community evacuation order for sensitive or 'at-risk' clients, prior approval from Saskatchewan Health Emergency Planning or Social Services is required for any reimbursement or coverage of travel or accommodation expenses. Individuals are free to make their own arrangements but for financial coverage, an evacuation order or prior approval from Social Services is required.

## The Assessment of Smoke Exposure Risk:

The following guidelines are meant to assist in situations where smoke from forest fires is a concern to the health of members of the community. In these situations, health staff and/or the Medical Health Officer may be asked by the mayor or chief or designate to give advice regarding preventative measures, or the need to evacuate individuals with special health needs. These guidelines are not for situations where the fire itself is a danger to the community.

- 1. Local Assessment Committee:** In the event that the smoke from a distant forest fire envelops the community, it is recommended that assessments of health risks from the smoke be done in consultation with the health authority's Emergency Planning Coordinator or Medical Health Officer, or Saskatchewan Health's Emergency Management. Locally, assistance with this assessment may be available from a local committee, consisting of municipal/community officials, and the local nurse in charge in consultation with the Emergency Planning Coordinator or Medical Health Officer. The decision to evacuate a town in the event of smoke should be done in consultation with the Emergency Planning Coordinator, Medical Health Officer or Saskatchewan Health Emergency Medical Services. If the Medical Health Officer/Emergency Planning Coordinator or his/her alternate is not immediately contactable, the manager on call for the Health Region should be contacted.
- 2. Assessment of Smoke Conditions:** It is important to assess the health risks from the forest fire smoke prior to calling for an evacuation. An evacuation is not without risk. Evacuation causes considerable community disruption and is done at significant expense. It is important to assess and balance these risks. This assessment would be carried out on the basis of the following criteria:
  - a) Perceived Air Quality:** As equipment for measurement of various air pollutants is usually not present in a community, assessment of this parameter could be based on **VISIBILITY**. An increase in air pollutant concentration usually accompanies decreased visibility during smoke incidents. Elevated concentrations of pollutants have been observed when visibility 1.6 km or less. Therefore, assessment would be based upon a scale ranging from slightly obscured visibility (1.6 km) to severely obscured visibility (near zero).

Prior to the fire season, health or EMO members could designate specific landmarks for the basis of assessing visibility (e.g. estimating distance across the lake, to an island, to specific buildings near town). However, in the absence of prior designation of specific landmarks in a given area that could serve for this, individuals in outlying areas may just have to rely on common sense in assessing smoke conditions (e.g. mild, moderate, heavy smoke). The following is an approach to health risk assessment by using visibility as a surrogate measure for air particulate pollution from the smoke:

## Using Visibility as an Indicator for Particulate Pollution Levels

Air Quality Category	Visibility (object completely obscured at this distance)	Particulate level (average 1 hour, ug/m3)
Good	15 kms & up	0 – 40
Moderate	10 to 14 kms	41 - 80
Unhealthy for Sensitive Groups	5 to 9 kms	81 – 175
Unhealthy	2.5 to 4 kms	176 - 300
Very Unhealthy	1.5 kms	301 - 500
Hazardous	Less than 1 km	over 500

Reference: Wildfire Smoke: a guide for public health officials [www.oehha.ca.gov/air/risk\\_assess/wildfire.html](http://www.oehha.ca.gov/air/risk_assess/wildfire.html)

- b) **Symptoms of Residents:** This parameter would be used to assess the effects of the smoke on the local residents. Symptoms to be assessed include increased reports of coughing, nose, throat and eye irritation, or aggravation of pre-existing respiratory or cardiac conditions.
- c) **Duration of Smoke:** Determine how long the smoke has been affecting the community, and how long it is expected to remain in the area. Information to be assessed would include whether smoke exposure is continuous (all day) or intermittent (only overnight or for a few hours daily), and current weather forecasts for the area. This information on the fire and weather situation is available through Sask Environment's local Fire Management Center and/or the Fire Control Center (See contact numbers sheet).

This combined approach, assessing air quality, maybe ok, maybe symptoms of residents and estimated duration of smoke, will permit decisions to be made by the local committee with input from health professionals locally.

### Recommendations for Heavy Smoke Conditions:

The following table provides probable health effects at each level of smoke concern, and associated recommended cautionary statements. This can be used to determine the type of cautionary statement that can be made for the general public. (Adapted from Source: Wildfire Smoke: a guide for public health officials – revised July 2008; [http://www.oehha.ca.gov/air/risk\\_assess/wildfire.html](http://www.oehha.ca.gov/air/risk_assess/wildfire.html))



## Recommendations for Heavy Smoke Conditions:

Air Quality Category	Health Effects	Cautionary Statement	Other Actions for Health Team
Good	None	None	
Moderate risk	Possibility of aggravation of heart or respiratory disease.	People with heart or lung disease should pay attention to symptoms. If symptoms increase contact, your health care provider.	Issue PSA advising public about health effects and symptoms, and ways to reduce exposure.
Unhealthy for Sensitive Groups	Increasing likelihood of respiratory symptoms and aggravation of lung disease such as asthma.	People with respiratory or heart disease, the elderly and children should avoid physical exertion and limit time spent outdoors. If symptoms of heart or lung disease (repeated coughing, shortness of breath or difficulty breathing, wheezing, chest tightness or pain, heart palpitations, unusual fatigue or lightheadedness), contact your health care provider.	If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters. <u>Prepare</u> evacuation plans for sensitive groups.
Unhealthy	Increased respiratory symptoms and aggravation of lung and heart diseases; possible respiratory effects to general population.	People with respiratory or heart disease, the elderly and children should <u>avoid</u> prolonged exertion and stay indoors when possible; everyone else should <u>limit</u> prolonged exertion and time spent outdoors. If symptoms of heart or lung disease (as above), contact your health care provider.	Consider canceling public events, based on public health and travel considerations (e.g. number of people, physical exertion event, etc)
Very Unhealthy	Significant increase in respiratory symptoms and aggravation of existing lung and heart disease; increasing likelihood of respiratory effects of general population.	People with respiratory or heart disease, the elderly and children should <u>avoid</u> any outdoor activity; everyone else should <u>avoid</u> physical exertion and stay indoors if possible. If symptoms of heart or lung disease (as above), contact your health care provider your health care provider.	Cancel outdoor events (e.g. competitive sports) Consider having sensitive groups go to cleaner air shelters in community.
Hazardous	Serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; serious risk of respiratory effects in general population.	Everyone should <u>avoid</u> any indoor and outdoor exertion; everyone should remain indoors whenever possible. If symptoms of heart or lung disease (as above), contact your health care provider.	If smoke projected to continue for a prolonged time, consider evacuation of sensitive groups.

Adapted from Wildfire Smoke: a guide for public health officials: [http://www.oehha.ca.gov/air/risk\\_assess/wildfire.html](http://www.oehha.ca.gov/air/risk_assess/wildfire.html)

## Actions for smoke risk:

- a) It is recommended that advice be provided to community members in the form of an "Air Quality Alert", which may be disseminated through local media (e.g. radio station) or through leaflets. Advice provided would include:
- i) remain indoors if possible
  - ii) keep doors/windows closed (avoid vacuuming, frying or broiling foods, using paints or solvents or other indoor pollutants)
  - iii) reduce physical activity,
  - iv) avoid smoking or avoid exposure to second hand smoke
  - v) conserve energy, avoid fatigue

Locally available accommodation with climate control (eg. schools, community halls) could be used as temporary shelter as required while smoke conditions last.

- b) When a community is experiencing heavy smoke and it appears (following discussion with the Fire Management and Protection officers) that the heavy smoke will remain for some time, a selective priority evacuation of those at particular risk (after careful screening by local health professionals) would be considered advisable. Special consideration should be given to keep family units, caregivers and support people together especially for Priority #1 and #2 groups.

Consideration should be given to the following individuals, in order of priority:

### Priority #1:

- People experiencing symptoms such as worsening cough, shortness of breath beyond what is usually experienced, difficulty breathing without exertion, chest pain or tightness, fluttering in the chest or feeling lightheaded, significant weakness or fatigue
  - People with respiratory and / or cardiac conditions
- Further information for people with respiratory conditions can be found in the following link:  
<https://sk.lung.ca/protect-your-lungs/air-quality/forest-fires-and-lung-health-fact-sheet>

### Priority #2:

- Elderly, frail or unwell
- People who have difficulty walking
- Newborns, infants and children (5 years of age and under)
- Pregnant women
- People requiring special care and supportive care (e.g. wheelchair, stretcher, institutional residents, those on dialysis, homecare)

### Priority #3:

- People without symptoms who have chronic illnesses that are not cardiac or respiratory
- Others case-by-case

Consideration should be given for keeping family units together.

Note: Caution, common sense, and flexibility should be key criteria in the decision making process. If decisions are made to evacuate, movement of evacuees should only be undertaken when safe to do so.

## Infection Prevention and Control for Shelters

Health authorities' staff can support the work of the Canadian Red Cross and Social Services in the emergency shelters.

### Return of evacuees:

Re-entry of evacuated individuals would be considered when the following criteria have been met:

- a) the smoke/fire emergency which necessitated the original evacuation should be over for all practical purposes. This usually involves:
  - no further threat of fire (in consultation with Forest Fire Management Branch)
  - good air quality (in consultation with the Medical Health Officer)
- b) community infrastructure is in place for returning evacuees including:
  - electrical, water and sewage systems functional;
  - gas lines functional (with Sask Energy approval to return);
  - emergency health care services fully functional along with suitable health care services for vulnerable populations (e.g. home care services in place, primary care services, pharmacy services); and
  - other community infrastructure in place such as safe food supplies in local stores.

Consider the threat of drinking water contamination (if there was a potential for disruption of the usual treatment e.g. power outage, etc.); review with Public Health Inspector, Environmental Health Officer and/or Water Security Agency whether a drinking water advisory is recommended. Consider need for public information on food safety if there was a prolonged power outage.

### Assessment/Evaluation - Post Fire/Smoke Situation:

When the fire/smoke emergency is over the whole experience should be assessed by the local committee, and as well, by the health authority emergency preparedness committee, and the emergency plans should be updated in light of that experience.

Complete this form and send it with the client being evacuated

Health Center / Clinic stamp or Client ID:

Health Information on Client with Special Health Needs

Name: \_\_\_\_\_ Age: \_\_\_\_\_

Address: \_\_\_\_\_ HSN: \_\_\_\_\_

\_\_\_\_\_

Treaty No.: \_\_\_\_\_ Cell Phone #: \_\_\_\_\_

Name of Next of Kin: \_\_\_\_\_

Phone number and / or cell number of next of kin: \_\_\_\_\_

Health Concerns or Diagnosis: \_\_\_\_\_

\_\_\_\_\_

Special Diet: \_\_\_\_\_

Medications: (or a photocopied list of medications)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Required care: (appointments, prescriptions, treatments, etc.)

\_\_\_\_\_

\_\_\_\_\_

Information provided by: \_\_\_\_\_

Health Centre location: \_\_\_\_\_ Health Centre phone #: \_\_\_\_\_

Physician Name & Clinic phone #: \_\_\_\_\_

\_\_\_\_\_

Date filled out: \_\_\_\_\_

## Be Prepared!

### Suggested Preparations for Evacuation for Community Members:

During forest fire season, there are times in which fire may threaten a community and evacuation is sometimes required. In some situations, you might be given very short notice if there is a sudden increased threat.

In preparation for such event you should plan ahead with your family and even consider packing a bag to have available at short notice:

1. Pack all usual medications for all people living in your home. If you are running short of medication that is required regularly, refill your medication at the pharmacy or local health center if time allows.
2. Pack one change of clothing, personal toiletries (e.g. tooth brushes, etc), eye glasses, and health cards for all family members. Include one small favorite toy for young children. (see checklist)
3. Leave instructions for care of pets and your cell phone number if you have one on a note attached to the door of your home.
4. Keep track of where family members are and any cell phone numbers. Plan a meeting place and an alternate for the family in the event that a community evacuation order is given. If you have a vehicle, keep the gas tank fairly full. Be alert to public services announcements.
5. Your town council and / or Chief and council will be responsible to give an evacuation order and to help organize transportation. They will also determine when people will be allowed to return home.
6. In the event of an evacuation, be sure to register at an evacuation registration site even if you are not going to use the services of an evacuation center. Some registration sites may be in your home community to allow registration prior to departure.



**Social Services along with the Red Cross will assist you with daily living needs during your time away from your home community.**

#### Some items to consider for an evacuation:

<input type="checkbox"/> Easy to carry shoulder bag	<input type="checkbox"/> Comfort items (a toy of a child or cards, book)
<input type="checkbox"/> Prescriptions for at least 5 days	<input type="checkbox"/> Small amount of water per person for the trip
<input type="checkbox"/> Warm set of clothing (sweater or jacket)	<input type="checkbox"/> Healthy food snack for the trip
<input type="checkbox"/> Basic toiletry items (toothbrush, toothpaste)	<input type="checkbox"/> Small amount of cash, debit and credit card
<input type="checkbox"/> Small flashlight with extra batteries	<input type="checkbox"/> Small radio (battery operated)
<input type="checkbox"/> Photocopy of important documents (photo identification, health card, list of medication)	<input type="checkbox"/> Items for infants (formula, baby food, diapers) for the trip



## FACT SHEET:

### Health Effects of Smoke Exposure due to Forest Fires

In the first minutes or hours, smoke causes sore eyes, tears, cough and runny nose. If the smoke lasts days to weeks or is very heavy, it can cause lung or heart problems.

The unhealthiest material in smoke is the small particles. They can make heart and lung diseases like asthma, chronic bronchitis, emphysema and congestive heart failure worse. The small particles may make it harder to breathe, or make you cough. Elders and the very young are also at increased risk.

Here are some things you can do if smoke begins to bother you:

1. Don't work outside if it makes you tired or short of breath. Don't let the kids play outdoors.
2. Don't smoke. Stay away from people who do smoke.
3. Stay inside with the windows and doors closed.
4. If you have room air cleaners with HEPA filters turn them on.
5. Don't burn anything, including wood stoves, gas stoves and even candles. This can make the problems worse. Don't fry or broil foods.
6. If you are in your car or truck, keep the windows closed and put the air system on "re-circulate" so you don't suck smoky air inside.
7. If you have chest tightness, chest pain, shortness of breath or severe fatigue, see your health provider. You should do this even if you don't usually have heart or lung problems.
8. If you have neighbours, friends or relatives that live alone, check to make sure they are OK. Elders and people with heart or lung conditions may get sick from the smoke.
9. Be extra careful about heat in houses of people who live alone. When they close their doors and windows to keep the smoke out, their houses may get very hot. This can give them heat exhaustion or heatstroke. They can use fans to move air around inside their houses.
10. Most masks are not helpful. The particles are so small they can go right through them. It is better to stay inside with the windows closed and consider the use of a portable HEPA air cleaner in a room.

People with heart or lung conditions can also do the following:

11. If you have asthma, heart or lung disease, be especially careful about monitoring your condition. Take all of the medicine you are supposed to take and do everything your nurse or doctor tells you to do. Make sure you have a week's supply of your medication available. Have a written asthma management plan if you or a family member has asthma.
12. Be sure to keep at least 5 day supply of medication on hand.
13. Talk to your nurse or doctor if you have any other concerns about your health

#### For further information:

You can also call the Health Line at **1-877-800-0002**

Or see <http://www.environment.gov.sk.ca/fire/>



## Returning Home after Being Evacuated due to Forest Fires

It is important to be aware that a number of health hazards may exist following a return to your home after a forest fire evacuation. On returning home after you are authorized to do so, be aware that some hazards may be as a result of power outages, persistent smoke odours in the home, drinking water concerns or even persisting soot and ash in the home.

The impact on you and your family will vary according to your situation but all returning evacuees are advised to be alert for public service announcements and advice from local agencies. You also want to ensure your food and water is safe when returning to your home.

### CLEANING

- If there is fire damage or lots of ash or soot in your home, wear personal protective equipment such as an N95 mask/respirator (available in hardware stores), eye goggles, rubber gloves and long sleeved shirts and pants when cleaning or coming into contact with soot or ash.
- Wipe surfaces such as counters, window sills, tables, stoves, etc. using a cloth with warm water and detergent. For food contact surfaces as well as dishes and utensils, wash with warm soapy water, rinse and sanitize with a chlorine solution for two minutes and allow to air dry. A chlorine solution can be made by mixing 1 tablespoon of 5-6% household bleach into 1 litre of water.
- Clean floors with a damp or wet mop. Avoid initial cleaning with a vacuum if the exhaust goes inside the home as it could increase the fine dust in the air. For rugs, if you need to vacuum, be sure to have good ventilation with the windows and/or doors open.
- Avoid initially spraying deck surfaces, picnic tables or children's structures if ash is present as this may spread fine ash into the air. Dampen surfaces then wash with soapy water.
- Smoke odour:
  - o Cleaning with water and vinegar **or** baking soda may help reduce the smoke odour.
  - o Launder clothing, towels and bedsheets as smoke odours can linger in fabrics
  - o Change air filters for your heating, ventilating, air-conditioning units and vacuum cleaners.
  - o Keep windows and doors open to help remove smoke odour if the outdoor air is clear.
  - o Using a portable air cleaning unit can be helpful.

## FOOD SAFETY

If the power has been out in your home the food in your fridge or freezer may no longer be safe to eat. The following tips will help you determine if food has been affected:

- Ideally fridge temperatures should remain at 4 degrees Celsius or colder and foods in the freezer should remain at -18 degrees Celsius or colder and remain frozen solid.
- In a power outage, a refrigerator can usually keep food cool for up to four hours and a freezer can keep food safe for a few days – if it is kept closed.
- If you don't have a thermometer or if you don't know how long your fridge or freezer was without power:
  - o Check the products in the fridge for spoilage or souring
  - o Milk and other dairy products that have spoiled or become sour are good indicators that the fridge has been off and all food should be discarded
  - o Ice cream that has thawed and refrozen is a good indicator that the freezer has been off. Frozen foods that have thawed must be discarded as they may no longer be safe to eat.
  - o Food in the freezer that has thawed should not be refrozen.
- Throw away:
  - o unwrapped foods exposed to fire/high heat, smoke, fire retardants or other chemical agents that are hazardous to human health;
  - o food that has any unusual texture, colour or odour; and any damaged, split or bulging cans and jars.

**Remember, if in doubt – throw it out. Do not take any chances with the safety of your food.**
- If you have home insurance, contact your insurance provider. Make a list of items discarded and photograph those items (if possible).

## DRINKING WATER SAFETY

- For residents on a community water system, the local municipality or First Nation will provide advice on the safety of the local water system. Pay attention to public service announcements as a drinking water advisory may be in place (such as to boil your drinking water) after an extended power outage. Provincial and Health regulated advisories can be found at [www.SaskH2O.ca](http://www.SaskH2O.ca)
- For residents with individual surface water or individual wells that suspect that their water supply was affected by the fire, it is recommended that they should boil their water or use an alternative source for drinking water until the water source can be assessed or tested.
- When you return to your home, flush your water lines at each water tap for at least two minutes. This is especially important for the hot water.

For more information, contact a Public Health Inspector at the Population Health Unit 306-425-8512.

Adapted from Interior Health – BC, Yukon Health Services and Northern Intertribal Health Authority.





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*Healthy People,  
Healthy  
Communities*

## FOR SUPPLIERS OF FOOD TO THE PUBLIC: After Wildfire Events

There are many things to consider when re-opening a food premises (**food distribution, public eating establishment or food processor**) after an evacuation due to wildfires. The owner/operator of a food premises must clean thoroughly, removed spoiled food, ensure drinking water is available and safe for consumption and ensure that all equipment is operating normally. This fact sheet contains information about cleaning up after a fire/evacuation and information for owners/operators of a food premises business. Please contact your local public health inspector at the number or email above if you have questions.

### Food

Make a list of anything you discard, including non-food items; you may also wish to photograph these items. It may be necessary to contact your insurance provider with this information. Consider the nature of the food product, the type of packaging, the amount of food, the proximity to fire/high heat and the exposure to smoke and soot when deciding to discard or salvage food.

#### What should I discard?

- Throw away unwrapped foods exposed to fire/high heat, smoke, water, fire retardants or other chemical agents that are hazardous to human health.
- Throw away food that has any unusual texture, colour or odour.
- Throw away dried goods with damaged packaging or directly exposed to smoke contamination.
- Throw away any damaged, split or bulging cans or jars.
- Throw away soft or leafy fruits and vegetables that have been exposed to smoke, high heat or temperature abuse.
- Dried goods with damaged packaging or directly exposed to smoke contamination should not be salvaged.
- Throw away foods that are past their expiry dates.
- Throw away any food that has been in the "Temperature Danger Zone" (above 4°C and below 60°C) for four hours or longer.
- Food that is wrapped in plastic may not be safe if it's been exposed to high heat. It may also be designed to be permeable.
- Foods not stored in original sealed packaging should be discarded such as: bulk foods, candies, flour, cereal products, bakery products, dried beans, rice, nuts, other grains.
- "When in doubt, throw it out."

#### What can I save?

- If the power supply to your community has NOT been disrupted, foods stored working freezers may be salvaged provided that the freezer doors have been tightly closed and temperatures have been maintained at -18°C or below.
- If the power HAS been out, food in the refrigerator and/or freezer may no longer be safe to eat. (Consider the "Temperature Danger Zone") Foods that have thawed should not be re-frozen.
- Cans and jars that are not damaged and have not been exposed to heat may be cleaned and wiped down with a sanitizer.
- All food products in commercially sealed, undamaged, unopened, water-proof and airtight packaging may be saved once they are cleaned and sanitized.

## Cleaning

Following an evacuation, food premises owners/operators want to resume operation as soon as possible. It is important that all appropriate steps are taken to protect public health before resuming business operations. Cleaning is, of course, a vital step.

- Throw away all exposed single-service items that have been exposed to smoke.
- Clean and sanitize all areas exposed to smoke and/or high heat: utensils, cookware, dishware, food contact surfaces (including shelves), food preparation equipment, floors, 3-compartment sinks, furniture, etc.
- Recommended cleaning and sanitizing method:
  - Brush visible dirt or soot off when dried
  - Thoroughly wash with soap and water (do NOT add bleach to cleaning solution)
  - Rinse with clean water
  - Sanitize by either immersing or wiping with:
    - 100 mg/L solution of unscented house-hold bleach containing 5.25% sodium hypochlorite or one (1) tablespoon of unscented house-hold bleach per gallon of water), or
    - 200 mg/L of quaternary ammonium solution
    - Hot water of 77C (170F) or hotter
  - Air dry
- Avoid initial cleaning with a vacuum, clean floors with a damp mop.
- WASH YOUR HANDS FREQUENTLY

## Water

- Run water from all faucets for at least two minutes each. Remember to put water into floor drains and janitor sinks; p-traps may have dried up.
- Your community may have had a water service disruption and/or depressurization and now be under a Precautionary Drinking Water Advisory (PDWA). Contact our office, the Water Security Agency or check [www.SaskH2O.ca](http://www.SaskH2O.ca) to find out if there is an Advisory or Emergency Boil Water Order issued for your community.
- **Water Vending Machines:** may require cleaning, sanitizing and maintenance before resuming operation. Contact the manufacturer and your local public health inspector for advice.
- Sewers may back-up and immediately drain out again due to fire-fighting operations. When inspecting basements and coolers with floor drains, it is important to check for debris/sewage particles along walls and on low surfaces for the presence of sewage odours.

Please contact your public health inspector at the Population Health Unit if you have any questions about resuming normal operations. Phone #: 306-425-8512

Other food safety authorities include:

Canadian Food Inspection Agency:

[www.inspection.gc.ca](http://www.inspection.gc.ca)

Saskatchewan Health and Healthy Living:

[www.saskatchewan.ca/live/health-and-healthy-living/health-topics-awareness-and-prevention](http://www.saskatchewan.ca/live/health-and-healthy-living/health-topics-awareness-and-prevention)

## SUMMARY: FIRE SEASON PREPARATION FOR HEALTH CENTERS

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### Health Centre Activities in Preparation for each Fire Season

1. Review fire preparations with health staff prior to each fire season to review everyone's responsibilities in case population protection activities may be required.

Example:

- Who is the key contact person in your community that authorizes evacuation?
- Is there a facility in the community that could be used for a 'clean air shelter' if smoke becomes a concern in the community?
- Who distributes evacuation preparation guidelines and when?
- Are emergency supplies for fire season collected and files updated?
- Who takes the emergency supplies and accompanies the evacuees?
- Who tags the children at departure?
- Who from the community can be appointed to assist the group during the evacuation? A familiar face as interface between evacuees and helping authorities is very beneficial.
- Review emergency contact phone list including manager-on-call phone contact (MHO/Manager on Call answering service) for after hours and weekends.

Review supplies and ensure you have adequate emergency supplies for your area.

Review the distance to various visible points between 1 and 5 kilometers from health center or other close landmark (to assist with assessment of air quality).

2. Update files you will need in the event that evacuation is recommended for "sensitive groups":  
This includes:
  - Listing of high-risk clients based on lung or heart conditions (e.g. info from chronic disease lists, Homecare, etc)
  - Completing the form "**Evacuation of Clients with Special Needs**" and making 2 copies (one to go with the client upon evacuation and one to stay at the clinic)
  - Listing those at risk because of age: infants and preschoolers; seniors
3. Prepare copies of a check list for people being evacuated. This includes items they should take with them (one change of clothing, medication, personal toiletries, one small toy for each child, etc). See handout sheet "**Suggested Preparations for Evacuation**")
4. Prepare our own family plan in case of evacuation – even if there is only a selective evacuation of high risk but you have a family member in this group. Review "**Suggested Preparations for Evacuation**" with your family.
5. Have an 'in transit' medical kit available if a nurse is asked to travel with the evacuation group. Consider having name tags (or arm bands) and a felt pen in this kit to make it possible to tag all children under 12 with their name and parents name at departure to avoid separation of families.

## **COMMUNICATIONS AND RESPONSIBILITIES during Forest Fires:**

1. Mayor &/or Chief is responsible to declare the evacuation order (partial evacuation of high-risk or full evacuation) in consultation with other agencies including Saskatchewan Public Safety – Sask 911 and Social Services, and to organize transportation through Social Services. They will also determine when people will be allowed to return home.
2. Social Services will assist in the coordination of transportation and living quarters set up to receive people.
3. Health Staff:

Inform the health authority's manager-on-call or health authority's Emergency Operations Center contact of forest fire or smoke threat to the community.

a) For Smoke Threat:

- Provide your assessment of the smoke hazard to the municipal or FN emergency operations group / Mayor / Chief in consultation with Saskatchewan Health Emergency contact or the health authority's Emergency Planning Coordinator or Medical Health Officer (based on visibility, and symptoms seen in clinic);
- Provide information to community members on smoke risk and things that individuals can do to reduce exposure and risk (public service announcements, handouts, etc). Encourage community members to take precautions, make some preparations for a possible evacuation, and to be sure to keep a supply of medications on hand if people or on medications (5 day minimum supply)
- Curtail activities in the health center to essential services and urgent care (in consultation with the Health Authority's senior manager or Emergency Operation Center contact).
- Continue doctors days if travel is safe
- Discuss with the municipality or First Nation, the availability of a community "Cleaner Air Shelter".
- Refer clients to Cleaner Air Shelter if municipality or the First Nation has developed and opened a facility.

b) Evacuation order for 'high-risk' or 'sensitive' groups:

- Advise manager-on-call or Health Authority's Emergency Operations Center contact.
- Assist with documentation of health needs for clients with ***Evacuation of Client with Special Needs*** form and on an as-needed basis; ensure a supply of medication.
- Work together with the community; document the number of clients being sent out by category (e.g. names with number of young children, number of elders, number of individuals with chronic health conditions, etc.)
- For those clients that would require special transportation arrangements or special arrangements at an evacuation site because of serious chronic medical condition and disability, either 1) advise Saskatchewan Health Emergency Branch contact of the special need or 2) if client's condition warrants an emergency evacuation for urgent medical care needs, utilize usual medical evacuation process.
- Maintain essential services at the health center.
- Continue to monitor health effects of those community members not determined to be high-risk
- Maintain communication with communities Emergency Operations Center and with the Health Authority's Operation Center (EOC) contact
- Consider the need for a nurse/EMT or other health care worker to travel with those with significant medical care needs in consultation with your manager or Health Authority's EOC.

## c) General evacuation order:

- Prepare self for evacuation along with other community members.
- Notify Health Authority's Emergency Operations Center contact to determine role at evacuation site.
- Keep Narcotics locked in the clinic when the community is evacuated.