

**MEMO FROM THE MEDICAL OFFICER OF HEALTH**

AUGUST 29, 2019

**TO: Cornwall Fire Chief, Pierre Voisine**

**RE: Effects of Wood Smoke**

As Medical Officer of Health of the Eastern Ontario Health Unit, I have been asked to provide an opinion on the health effects of outdoor wood burning stoves and similar appliances by Fire Chief Voisine who is proposing a new By-law to prohibit open-air burning of solid fuels within the boundaries of the municipality. Cornwall is growing and consequently newer residential properties will be increasingly closer to each other. As such, the new bylaw needs to take this growth into account. It is important to note that neighbouring municipalities have already enacted by-laws regulating open fires and outdoor wood burning appliances. In fact, the city of Ottawa bans all outdoor wood burning stoves/appliances and only allows approved outdoor appliances that burn other fuels such as propane or natural gas in all urban and suburban areas. As a supplement to this memo, I enclose a very relevant a reference document: *Code of Practice for Residential Wood Burning Appliances*, published by The Canadian Council of Ministers of the Environment (2012).

***Wood smoke contents***

The smoke from solid wood burning is made up of gases and fine microscopic particles, referred to as particulate matter (PM). In addition to particle pollution, wood smoke contains several toxic harmful air chemicals including benzene, formaldehyde, and polycyclic aromatic hydrocarbons (PAHs). These microscopic particles and chemicals can enter a person's eyes and respiratory system.

***Wood smoke health effects***

The immediate symptoms of exposure to wood smoke include burning eyes, runny nose, irritation of the airways, coughing or difficulty breathing, and worsening of pre-existing lung conditions (asthma and chronic bronchitis). Long-term exposure to wood smoke has been associated with reduced lung function, the development of bronchitis, premature death, heart attacks, irregular heartbeat, cancer, infant mortality and low birth weight. Although wood smoke can affect everyone, young children, the elderly, people with lung disease, including asthma and COPD, people with heart diseases, and expectant mothers and their unborn babies are the most vulnerable.



### ***Wood smoke effects on the environment***


When wood is burned it produces black carbon (“soot”) which is considered to be responsible for a significant portion of current global warming and climate change. Black carbon can cause global warming by absorbing sun rays, thus warming the surrounding air. Soot can also be carried by wind over long distances and settle in the ground or water. This results in a variety of environmental consequences including making lakes and streams acidic, changing water nutrient balance, soil nutrient depletion and forest/farm crop damage.

### ***Wood smoke as a nuisance***

Wood smoke can also be a nuisance, causing haze and odour problems; when numerous wood burning appliances are being used in an area visibility can be obscured by fine PM and other chemicals and the scent of burnt wood may be noticeable across a neighbourhood, both indoors and outdoors. This can have real impacts on personal health as well as general quality and enjoyment of life.

### ***Concluding remarks***

There is plenty of solid scientific evidence confirming the harmful effects of wood smoke both on human health and the environment. It is my hope that the city of Cornwall enacts a comprehensive bylaw that can protect its population and natural environment, against the effects of wood smoke generated by outdoor burning activities/appliances.



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