



FOR IMMEDIATE RELEASE: August 30, 2010

## **Fact Sheet: Air quality and hospital visits – Fairbanks study**

### **What is PM<sub>2.5</sub>?**

Particulate Matter (PM) is a mixture of small particles and liquid droplets that is made up of a number of components such as dust, soot, and unburned fuel suspended in the air. Particulate matter is categorized by size; PM less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) is referred to as “fine” particulate matter.

### **How can PM<sub>2.5</sub> affect my health?**

PM<sub>2.5</sub> is small enough to travel deep into the lungs. Research shows that exposure to elevated levels of PM<sub>2.5</sub> is associated with serious health effects, including increased risk of heart attack and stroke, lung inflammation, reduced lung function, asthma-like symptoms, and asthma attacks. Persons at greatest risk include people with heart or lung disease, and older adults. Even people who are healthy may have temporary symptoms such as irritation of the eyes, nose and throat; coughing; phlegm; chest tightness; and shortness of breath.

### **How might I come into contact with PM<sub>2.5</sub>?**

PM<sub>2.5</sub> particles are released into the atmosphere during combustion processes from power plants, automobiles, forest fires, wood stoves and other sources and are inhaled into the lungs.

### **Are PM<sub>2.5</sub> levels regulated?**

Yes. The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set regulatory standards for air pollutants. In 2006, EPA lowered the 24-hour PM<sub>2.5</sub> standard. EPA designates areas as “nonattainment” if they do not meet current regulatory PM<sub>2.5</sub> standards, and these areas are subject to further regulatory requirements. In 2009, EPA designated an area within the Fairbanks North Star Borough (FNSB) as a PM<sub>2.5</sub> nonattainment area based on air quality data collected from 2006 to 2008.

### **What did the Section of Epidemiology study find?**

This study was designed to answer the question, “Is there a relationship between daily PM<sub>2.5</sub> concentrations and hospital visits for selected heart and lung conditions in the

Fairbanks North Star Borough?” We focused on hospital visits related to heart and lung conditions, stroke, and asthma.

We found that the risk of hospitalization increased with each 10 microgram per cubic meter of atmosphere increase in ambient PM<sub>2.5</sub> levels for the following conditions:

- 7 percent increased risk for a stroke-related visit in people under the age of 65 years
- 6 percent increased risk for a stroke-related visit in people 65 years of age and older
- 6 percent increased risk for a respiratory tract infection-coded visit in people under the age of 65 years

It is important to note that this study did not look for associations between daily PM<sub>2.5</sub> concentrations and deaths.

### **Why didn't you look at death?**

Studies of this kind usually require a large number of cases. We did not have enough data to study this question because of the relatively small population of Fairbanks.

### **Who might be at risk for health events due to elevated PM<sub>2.5</sub> levels?**

Those who might be at risk include people:

- With heart disease
- With heart disorders
- Who have had or are at risk for strokes
- With clogged or congested arteries
- With respiratory tract infections
- Who have had or are at risk for pneumonia, bronchitis or emphysema
- Who have asthma

### **How many hospital visits were included in the study?**

Over the time period evaluated, a total of 5,718 hospital visits consisting of 1,596 emergency room visits and 4,122 hospitalizations at Fairbanks Memorial Hospital were analyzed.

### **What do the results of this study mean to me?**

If you are at risk for heart or lung disease problems due to elevated PM<sub>2.5</sub> levels, pay attention to the air quality index in your area, and follow any health advisories.

### **How do I find out what the current Air Quality Index is where I live?**

Contact the appropriate authority in your area to get the most current information.

Fairbanks North Star Borough:

<http://www.co.fairbanks.ak.us/airquality/>

907-459-1312

Anchorage:

<http://www.muni.org/departments/health/environment/airq/Pages/default.aspx>

907-343-4899

State of Alaska:

[http://www.dec.state.ak.us/air/am/aq\\_sr.htm](http://www.dec.state.ak.us/air/am/aq_sr.htm)

907-269-7676

For additional information about air quality in the Fairbanks North Star Borough:

<http://www.aqfairbanks.com/>

For additional information on PM<sub>2.5</sub> levels in Fairbanks:

[http://dec.alaska.gov/air/anpms/pm/pm2-5\\_fbks.htm](http://dec.alaska.gov/air/anpms/pm/pm2-5_fbks.htm)

###

Contact: Greg Wilkinson (907) 269-7285, Cell (907) 382-7032,

[gregory.wilkinson@alaska.gov](mailto:gregory.wilkinson@alaska.gov)

Dawnell Smith (907) 269-4541, [dawnell.smith@alaska.gov](mailto:dawnell.smith@alaska.gov)