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Assessing Health Concerns & Obstacles to Diesel Exposure Reduction in Vermont Diesel Vehicle Operators

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BACKGROUND AND OBJECTIVES
Diesel vehicle idling reduction is an important national environmental and legislative issue. Exposure to diesel exhaust is associated with significant morbidity and mortality, including:  
- Lung & esophageal cancer
- Asthma
- Cardiovascular disease
- Neurotoxicity
- Decreased sperm count & testosterone deficiency

Drivers of diesel vehicles have specifically been shown to have increased incidence and death from lung cancer.

Diesel engines emit a number of known hazardous chemicals, including carbon monoxide, nitric oxide, sulfur dioxide, benzene, formaldehyde, and acrolein, into the air supply.

While public health efforts to reduce diesel idling in Vermont and elsewhere have identified employers’ significant financial incentives in fuel conservation, perhaps there is also a role for appealing to drivers themselves the people who are incurring the most direct exposure. It is unknown, however, whether Vermont diesel vehicle operators are aware of the health effects of diesel exhaust – or, more significantly, whether they are concerned about it.

In order to identify potential targets for future interventions to reduce diesel idling in Vermont, this study aims to probe the following:  
- Have Vermont drivers been educated about exhaust exposure?
- Are they concerned about potential health effects of diesel?
- Are they satisfied with their understanding of the health impact of diesel fuel?
- What are their health concerns, more generally?
- What resources for health information do they respect?
- What are their specific obstacles to idling reduction?

METHODS: SURVEY DESIGN & SAMPLE
Anonymous surveys were administered by medical student researchers to 67 local delivery adult drivers, ranging from ages 24-67, at 7 diesel fleets in the Greater Burlington and Rutland, Vermont areas during November – December 2009 before morning delivery routes. Businesses were targeted on the basis of lacking a no-idling policy and employing a diesel fleet of > 10 drivers. All participants completed surveys voluntarily, and surveys with >1 question skipped were excluded. Of 72 surveys returned, 67 met criteria for inclusion in data analysis.

Figure 1: “HOW CONCERNED ARE YOU ABOUT POTENTIAL EFFECTS OF DIESEL EMISSIONS ON YOUR HEALTH?”

Figure 2. VERNON DRIVERS REPORT THEIR “MOST CREDIBLE” SOURCES OF HEALTH INFORMATION

Table 1. “Why do I idle?”

Driver-Reported Barriers to Idling Reduction

<table>
<thead>
<tr>
<th>Reason</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>To keep myself warm/cool</td>
<td>64%</td>
</tr>
<tr>
<td>I am only stopping a few minutes</td>
<td>34%</td>
</tr>
<tr>
<td>It is better for the engine</td>
<td>12%</td>
</tr>
<tr>
<td>I am unloading my truck</td>
<td>12%</td>
</tr>
<tr>
<td>I am keeping my truck’s contents warm/cool</td>
<td>5%</td>
</tr>
</tbody>
</table>

REFERENCES