East Palestine Train Derailment Health Tracking Study: Addressing Exposure and Health with and for the residents following the disaster

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Many questions -

• Who was exposed?
• Could we collect data now that could eventually be used to characterize exposure?
• What health symptoms were experienced?
• How far from the derailment site were symptoms experienced?
• What are residents' concerns and research questions?

Answers require community partnership -
If you are 18 or older and you live in Columbiana, Mahoning, Stark, Carroll, Jefferson, Lawrence, Hancock or Beaver County

You are invited to participate in a brief online survey

To participate in our research go to bit.ly/ukep-study

Or point your phone’s camera at this QR code
<table>
<thead>
<tr>
<th>New symptoms as of 9/14/2023</th>
<th>ADULTS, N=386 N(%)</th>
<th>CHILDREN, N=114 N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upper airway:</strong> nose irritation/sinus drainage/sinusitis/eye irritation/lacrimation/sore throat</td>
<td>247 (64%)</td>
<td>72 (63%)</td>
</tr>
<tr>
<td>Headache, non-sinus headache</td>
<td>225 (58%)</td>
<td>69 (61%)</td>
</tr>
<tr>
<td>Shortness of breath/decreased exercise tolerance</td>
<td>109 (28%)</td>
<td>16 (14%)</td>
</tr>
<tr>
<td><strong>Lower airway:</strong> cough, wheezing</td>
<td>176 (46%)</td>
<td>48 (42%)</td>
</tr>
<tr>
<td>Asthma exacerbation, bronchospasm</td>
<td>42 (11%)</td>
<td>13 (11%)</td>
</tr>
<tr>
<td><strong>GI:</strong> nausea, vomiting, abdominal pain, diarrhea</td>
<td>120 (31%)</td>
<td>32 (38%)</td>
</tr>
<tr>
<td>Rash</td>
<td>91 (24%)</td>
<td>29 (25%)</td>
</tr>
<tr>
<td>Lethargy/Tiredness/weak</td>
<td>123 (32%)</td>
<td>26 (23%)</td>
</tr>
</tbody>
</table>
Survey Respondents, n=386

New upper respiratory symptoms since derailment
- Yes
- No

NOTE: Points indicating homes of survey respondents have been randomly shifted by several hundred feet to maintain confidentiality.
Perceived Stress Scale 4, n=327

<table>
<thead>
<tr>
<th>Perceived Stress Scale 4 (PSS-4)</th>
<th>mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>6.6 ± 4.96</td>
</tr>
<tr>
<td>Average score ≥6</td>
<td>198 (61%)</td>
</tr>
</tbody>
</table>
### Post-Traumatic Stress Disorder Screening, n=339

<table>
<thead>
<tr>
<th>Post-traumatic Stress Score</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4</td>
<td>207 (61%)</td>
</tr>
<tr>
<td>≥4</td>
<td>132 (39%)</td>
</tr>
</tbody>
</table>

Kimerling, R. et.al., 2006 *J Gen Intern Med.*
Biological Pilot Study, n=20
July 17-18, 2023
First United Presbyterian Church

• **Blood:**
  • Dioxins
    • Centers for Disease Control and Prevention, National Center for Environmental Health, Division of Laboratory Sciences

• **Urine:**
  • *Developing new methods* for vinyl chloride and acrolein metabolites and butyl-acrylate and 2-ethylexyl acrylate
    • Wayne State University
84 silicone wristbands
July 16-23

PAHs and dioxin: Duke University, HHEAR Lab
Butyl-acrylate, 2-ethylhexyl-acrylate: Wayne State University, CLEAR Lab
Paired Community-Led Air Monitoring with VOC badges

Carrier Air Quality Monitor

$120.00

Our smart indoor air quality monitor can detect the air quality in your living space. Its design makes it easy to place within different rooms throughout your home.

• Detects fine particles (PM2.5), which are often inhaled by people with allergies and asthma.

• Monitors relative humidity, room temperature, and Total Volatile Organic Compounds (TVOCs).

• Provides 24-hour air monitoring.

• Use the Carrier Home app to monitor your air quality from anywhere.
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