Wildfires and Health: Assessing the Toll in Northern California

WHAT-Now CA?

A project of the UC Davis Environmental Health Sciences Center

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2017 Northern California Wildfires: Immediate Impacts

- October 8: Extremely dry conditions & high temperatures, with a severe wind advisory
- Wildfires broke out in Butte, Lake, Mendocino, Napa, Nevada, Solano, Sonoma, and Yuba counties
- 44 people died
- Close to 10,000 structures destroyed
- Over 245,000 acres burned
- Well over 100,000 people evacuated
- Gusts up to 80 mph carried burning embers for miles
- Many residents were awakened in the middle of the night
- Some deaths occurred in vehicles as people tried to flee the area and got trapped by the fires

October 8, 2017
Concerns over Long-term Impacts

Unusual fires: rapid spread, high temperatures, urban setting

Exposures
- Rapidly moving fire
- Heavy smoke – first responders & residents – acute exposures
- Potential for release of toxic chemicals from combustion of building materials & interior furnishings – solvents, glues, formaldehyde, metals, halogenated compounds
- Residents trying to salvage personal effects, debris
- Debris – long-term

Overall goals
- Understand experiences & needs of those affected directly
- Assist county health departments, communities, NGOs & medical professionals
- Determine nature of the exposures
- Describe health consequences
- Establish cohorts to follow forward for long-term impacts on health
Activities

• Online survey for all households in NoCal
• Door-to-door survey - scientific sample of households in at least one county
• Describe impact on different neighborhoods. Assess if neighborhood sociodemographic factors modify long-term effects on health
• Collect blood samples
• Collect information and blood samples from women who were pregnant when fires broke
• Collect & analyze ash and ambient air samples for chemical composition
• Collect & analyze locally produced foodstuff
• Communicate results to diverse audiences

Survey

• Household - Basic Information, location, members of household
• When the Fires Broke Out
• Evacuation Details - respondent, others
• Recovery Period, includes needs
• Handling Debris from the Fire
• Employment Status
• Health Status – before, during & since
• Demographic Characteristics
• Contact Information - for f/u studies
Online Survey - Preliminary Descriptive Results

- 1607 respondents, 16 counties, includes 8 with fires
- 57% of responding households had someone who evacuated
- Among evacuees, 15% relocated to 3+ locations in first 6 weeks
- Among evacuees, about 2/3 had returned to their home.
- 62% of respondents had homes that were not damaged, for 12%, their home was completely destroyed.
- 23% lost cell phone coverage for 2+ days
- 10% were without safe drinking water for 2+ days

Concerns expressed regarding:

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<thead>
<tr>
<th>Concern</th>
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<tbody>
<tr>
<td>Air quality or contamination due to the fires</td>
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<td>Other health concerns or questions</td>
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Preliminary Descriptive Results

- What health concerns or questions would you like to see addressed by local officials?

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- What symptoms did you experience?