Stakeholder Engagement to Improve Wildfire Smoke Messaging in Canada

Workshop Summary

Optimizing Wildfire Smoke Communications: Stakeholder-Informed Strategies

Wildfires in BC and Canada are increasing in frequency, duration, and intensity. Local and long-range transport of wildfire smoke can deteriorate local air quality for hours to weeks. Smoke exposure can lead to adverse health effects among people particularly susceptible to the impacts of wildfire smoke, such as people living with lung or cardiovascular disease, older adults, pregnant women, infants and children, and marginalized populations. During wildfire smoke events, government organizations disseminate advisories and public health advice to Canadians. This information is intended to provide information about current and forecast conditions and to guide the public on how to reduce their exposure and potential health risk. In 2020, Legacy for Airway Health evaluated the effectiveness of wildfire smoke and public health communications in BC. A survey was conducted to determine how people receive, understand, and implement wildfire smoke and public health communications. The key findings are summarized in Figure 1 and data are available here: https://ehs-bccdc.shinyapps.io/2020smoke_survey/.

The survey findings were shared at a two-part workshop series in February 2022 that engaged 30 stakeholder organizations and members of the public from across BC and Canada. Stakeholders identified the following strategies to optimize wildfire smoke communications: 1) coordination, 2) data and evidence collection, 3) message content development, and 4) message delivery (Figure 2). Coordination between organizations was identified as foundational for addressing the other identified needs. Addressing data needs and evidence gaps (e.g., accurate regional data) would provide the information necessary to address message content needs, particularly to provide customized and actionable messages for diverse people and places.

Key Findings

Stakeholders prioritized strategies to address the needs identified in the survey, and highlighted associated challenges.

Strategies:

- Reach out to high-risk populations (e.g., Indigenous, rural, and remote communities)
- Translate messages to multiple languages (e.g., Punjabi, Chinese, and Indigenous languages)
- Use diverse modes of communication (e.g., radio, TV, and social media)
- Simplify message content
- Provide actionable public health advice that takes into account diverse populations
- Increase the frequency of messages before and during wildfire season

Challenges:

- Lack of clarity about roles and jurisdictional responsibility leads to less efficient coordination of communications between and within organizations
- Limited local air quality monitoring makes it difficult to provide customized messages for communities
- Human and financial resource constraints limit optimal wildfire smoke communications
FIGURE 1: SUMMARY OF WILDFIRE SMOKE COMMUNICATION SURVEY RESULTS.
Coordination

- Develop a central organizing model between organizations
- Create a wildfire smoke response framework
- Identify roles and responsibilities and be transparent
- Do outreach to build relationships to develop a higher resolution network
- Create a one-stop-shop for info and resources
- Create a user-driven web interface
- Coordinate messages to address mistrust and misinformation

Data needs & evidence gaps

- Develop a funding and implementation plan to expand air quality monitoring network
- Continue to develop evidence to understand how to protect diverse people and places

Message content

- **Before wildfire season**
  - Develop creative, customized, actionable, and simple messages for diverse people and places
  - Plan, generate, and obtain approvals for messages
  - Create messages provides preparation and health effects information
- **During wildfire season**
  - Plan for messages to media to be consistent, triaged, and focused on safety
  - Address competing hazards in messages

Message delivery

- Develop a delivery plan that considers these features:
  - Timely and sustained with consistent messages
  - Uses diverse and creative modes to reach diverse people and places

FIGURE 2: NEEDS AND STRATEGIES TO OPTIMIZE WILDFIRE SMOKE COMMUNICATIONS IN CANADA.
RESOURCES
Wildfire smoke resources for the public

1) Air Quality Alerts
   - Metro Vancouver
   - Other regions in BC: https://aqss.nrs.gov.bc.ca/subscription.html
   - AQHI Alerts app
     i. Apple
     ii. Google Play

2) BCCDC Wildfire Smoke bccdc.ca/wildfiresmoke
   - Health effects of wildfire smoke
   - How to prepare for the wildfire smoke season
   - Portable air cleaners for wildfire smoke
   - Wildfire smoke and air quality
   - The composition of wildfire smoke
   - Wildfire smoke and outdoor exercise
   - Wildfire smoke and Air Quality Health Index (AQHI)
   - Home-made box air fan filters
   - Face masks for wildfire smoke
   - Translated Content

3) Air Quality Maps
   - https://www.env.gov.bc.ca/epd/bcairquality/readings/find-stations-map.html
   - https://cyclone.unbc.ca/aqmap/#5/64.979/-147.371 (includes corrected Purple Air data; developed by UNBC supported by ECCC)

4) Air Quality Summary https://weather.gc.ca/airquality/pages/provincial_summary/bc_e.html

5) Alerts https://weather.gc.ca/warnings/index_e.html?prov=bc

6) More info
   - https://www2.gov.bc.ca/gov/content/safety/wildfire-status
   - http://www.metrovancouver.org/services/air-quality/current-air-quality/wildfire-smoke/Pages/default.aspx

7) Health Canada
   - Wildfire smoke, air quality and your health
   - Stay informed during smoke events
   - Wildfire Smoke 101

8) HealthLink BC
   - Wildfires and Your Health
   - Wildfire: Its Effects on Drinking Water Quality
   - Particulate Matter and Outdoor Air Pollution
   - Disinfecting Drinking Water
   - Caring for Seniors in Long-Term Care in an Emergency
Community Evacuation Information for Seniors
Beat The Heat
Your Health This Summer

9) Vancouver Coastal Health
   - www.vch.ca/wildfiresmoke
   - Long-term care facilities and wildfire smoke
   - Child care facilities and wildfire smoke
   - Schools and wildfire smoke

Wildfire smoke resources for public health practitioners and/or forecasters

1) BCCDC Smoke Response Planning: [http://www.bccdc.ca/health-professionals/professional-resources/wildfire-smoke-response-planning](http://www.bccdc.ca/health-professionals/professional-resources/wildfire-smoke-response-planning)
   - Decision maker guide
   - Multi-agency coordination example
   - Key info [video](http://www.vch.ca/wildfiresmoke)

2) Forecast systems
   - [https://weather.gc.ca/firework/index_e.html](https://weather.gc.ca/firework/index_e.html)
   - [https://firesmoke.ca/](https://firesmoke.ca/)