



An Investigation in BC Paramedics' Perspectives on Climate Change Impacts and Evidence-based Adaptation Measures

Statement of Intent: To investigate the lived experience of ambulance employees in BC with regards to climate impacts, focusing on how environmental hazards impact their response and the health of the communities they respond to

This project was conducted on the lands of the ləkʷəŋən speaking peoples, who uphold community and environmental health in spite of colonial oppression.

Previous Literature

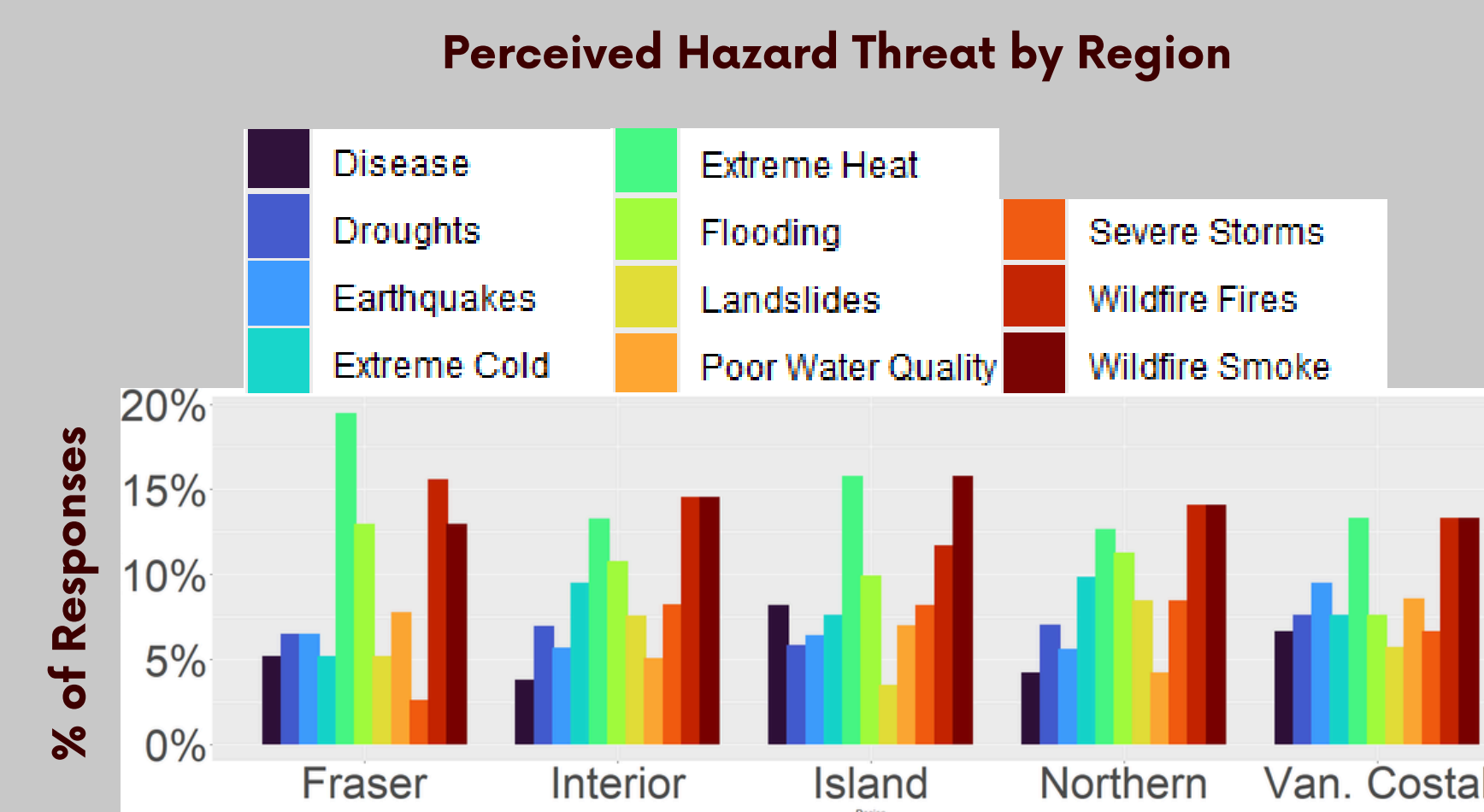
Previous research has recognized the significant impact of climate change on clinical medical personnel. Despite pre-hospital employees having a different scope of care that often involves working outdoors, they have been neglected in these studies.

Methodology

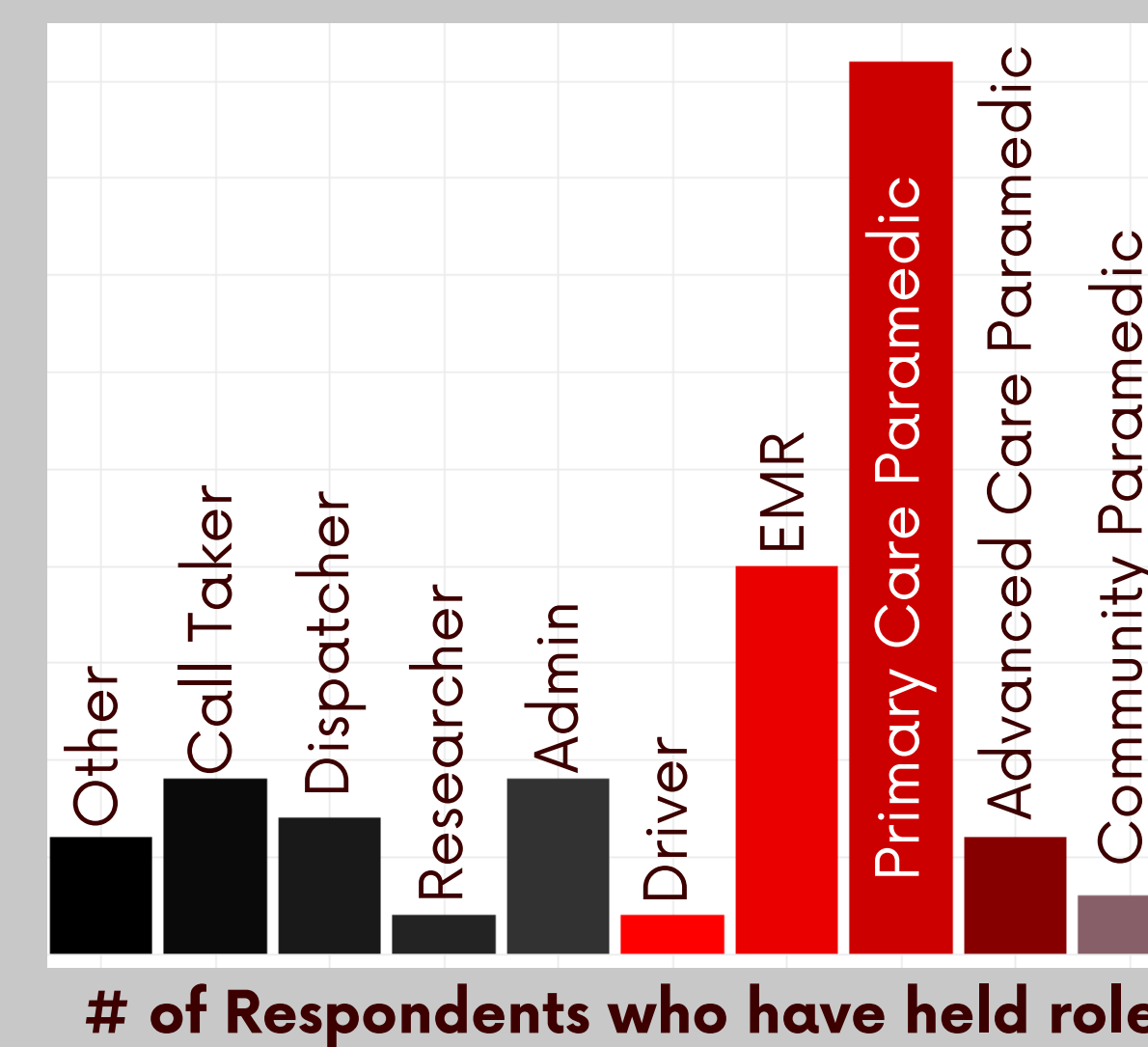
This project operated with mixed-methods, utilizing quantitative survey analysis (via REDCap and R) and semi-structured interviews with BCEHS employees. The core theoretical framework for this study is the Social-Ecological Systems theory that highlights the relationship between social structures, participants, and their environment.

Survey Statistics - Summary

Region: Fraser: 13.8%, Interior: 22.9%, Island: 27.5%, Northern: 11%, Van. Coastal: 16.5%
Gender: Men: 38.5%, Women: 54.1%, Non-Binary: 2.8%

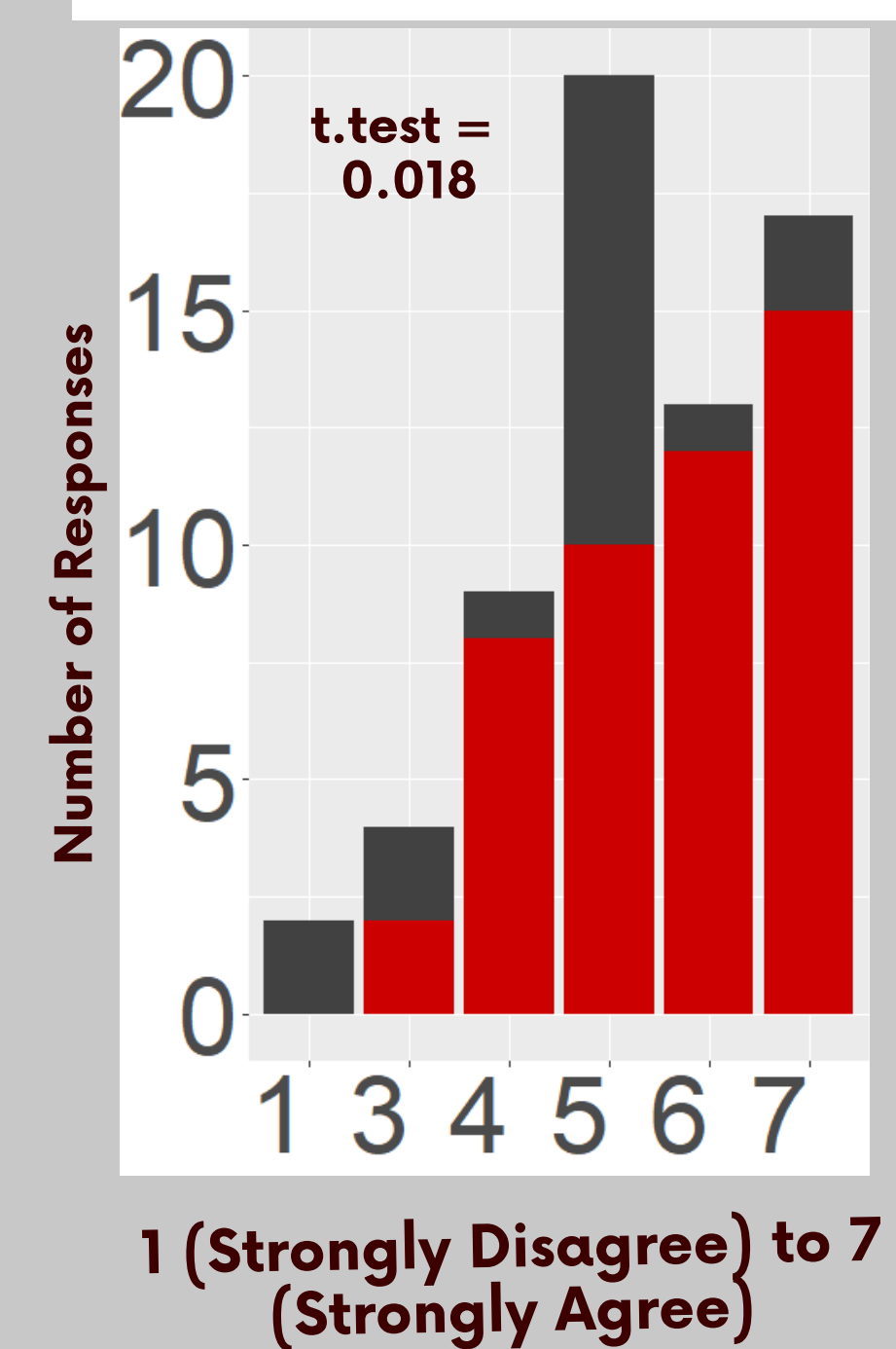


Total responses: 109



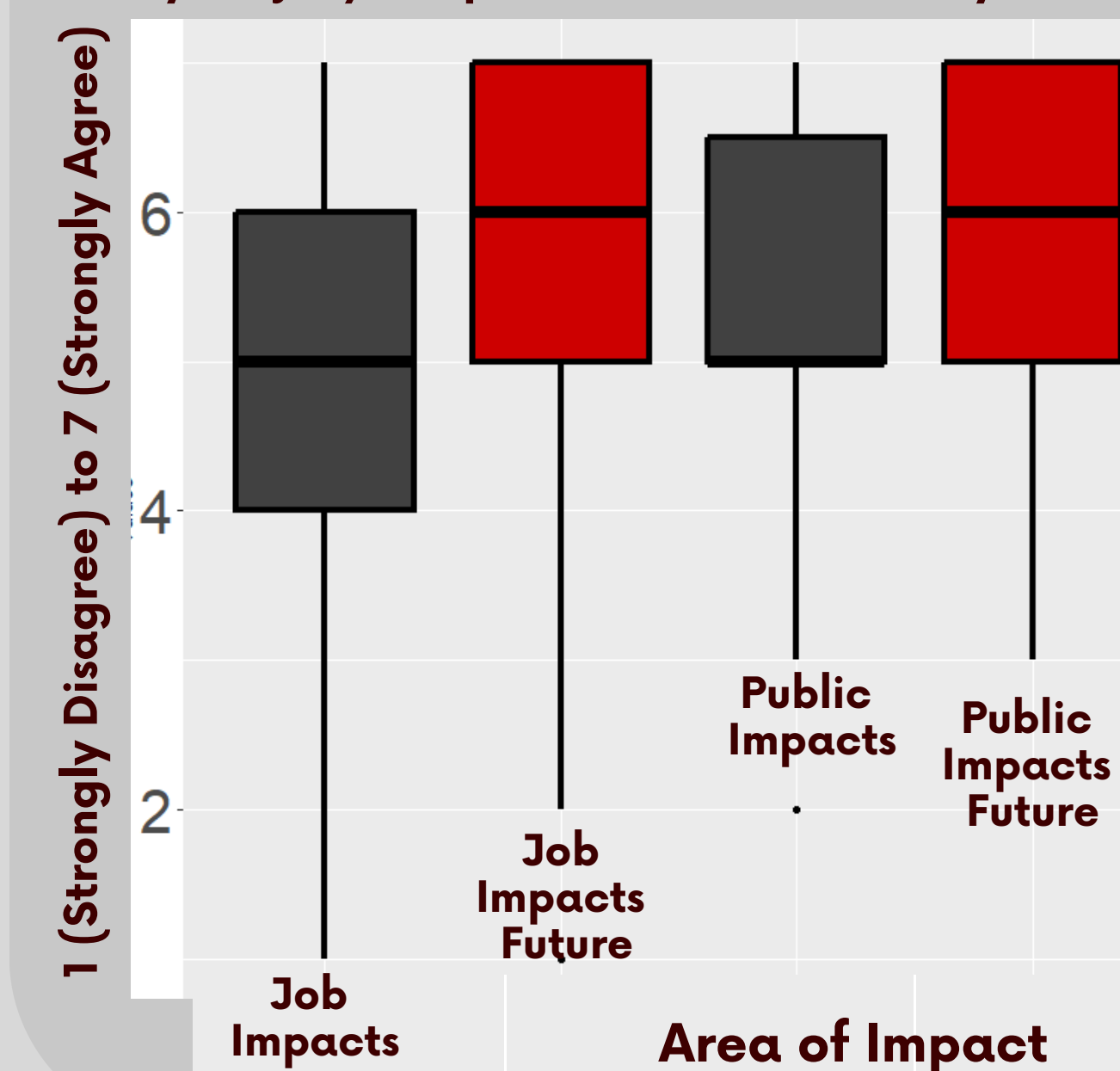
"Should healthcare professionals be consulted on climate adaptation planning?"

Legend: Climate Change is a Natural Process (Grey), Climate Change is Caused by Humans (Red)

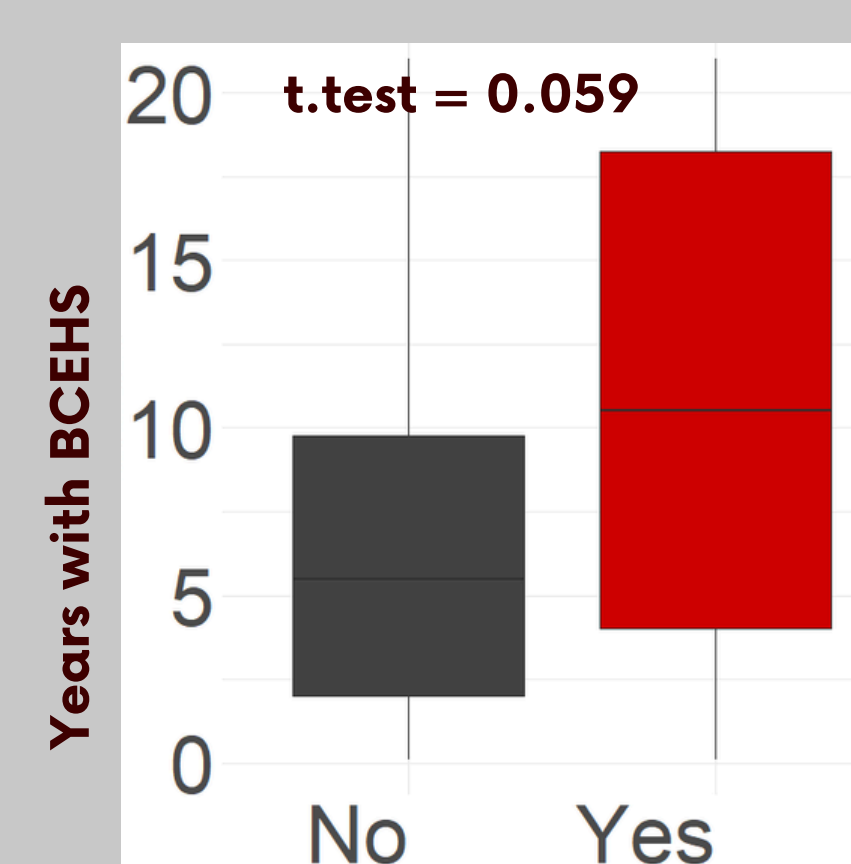


Analysis - Bivariate

Do you agree climate change is impacting your job/the public now and in five years?



Years at BCEHS by Perceived Hazard Increase



"Have you seen an increase in hazards while with BCEHS?"

Proposals and Solutions

- Consider a proactive approach that sees disasters as a when as opposed to an if.
- Increased access to first aid and healthcare knowledge is needed within the public to reduce the stress on EMS during crisis.
- Improve communication between EHS management and "street crews" (the paramedics on duty).
- More wellness initiatives post-disaster that do not require self-selection including multi-incident stress debriefs.
- Better uniform options to cater to cold and hot weather, increase awareness of environmental threats to paramedics on duty.
- Better plans in place for Mass Casualty Incidents: who goes where, when, with what.
- Increase in on-call personnel for large-scale Mass Casualty Incidents.
- Change management of poverty to not confiscate survival materials from unhoused individuals.
- Increase funding for research studying out-of-hospital care and resilience.

Interview Findings

Hazards to Public Health

- Biggest impacts on community health are hot and cold emergencies.
 - Cold-deaths -> Outdoor
 - Heat-deaths -> Indoor
- Cold-related illnesses are not often counted in the same way as they are usually co-morbid with other illnesses.
- Smoke exacerbates underlying conditions such as asthma and COPD.
- Wetter weather has brought on a rise in moisture-related injuries such as skin breakdown similar to trench foot.
- There is a lack of basic first aid knowledge in the general public that reduces community capability to handle injury and illness.
- BCEHS does not go into evacuated areas, so individuals choosing to stay assume responsibility for their well-being.
- While flooding rarely results in high-acuity calls, it restricts access to patients by EHS

Hazards to EHS

- Hazards to EHS do not always align with greatest impact on public health:
 - rainfalls, landslides, log jams, high wind, wildfires
- Environmental emergencies are a large source of occupational stress
- High call volume during peak weather stretches an already-overwhelmed personnel base.
- Need for more personnel, however limited by number of hospital beds available.
- Critical emphasis on resource management during peak call times.
- Environmental training focuses mostly on patient risks as opposed to weather-related risks to responders.
- Critical Incident Stress (CIS) debriefs can be activated for any individual call, but many of the wellness options for long-term stress require self-selection into.

Intersecting Crises

- The worsening impacts of environmental hazards are made worse by compounding issues such as the opioid crisis, healthcare instability and overwhelm, economic turmoil, and current methods of managing homelessness.
- Poverty greatly increases the risk of mortality, especially without access to shade areas, proper outdoor equipment, or management of underlying illness

Survey Comments

- "Working the heat dome has left lasting PTSD"
- "A logistical nightmare"
- "EMS lacks planning for environmental emergencies"
- "If there are plans in place, they don't seem to be communicated to frontline staff"
- "There's not enough resources as it is."
- "The impacts of climate change are an inevitability."