

# UNTANGLING THE KNOT: STRENGTHS AND BARRIERS IN DEVELOPING MENTAL HEALTH INTERVENTIONS FOR CLIMATE/WEATHER EXTREMES

Jacqueline Guo, Gayoung Park, Daniel Palisoc, Sherilee Harper, Hannah Bayne, and Breanne Aylward  
School of Public Health, University of Alberta

## BACKGROUND

- Globally, there has been an increase in the prevalence, frequency, and severity of climate and weather extremes (1).
- Although climate and weather extremes have adverse impacts on mental health, these outcomes have historically been overshadowed by a focus on physical health (2).
- An international, interdisciplinary network could address gaps and formulate effective climate-mental health strategies.

## OBJECTIVE

Identify existing strengths and barriers in conceptualizing, developing, and implementing effective, suitable, and equitable mental health interventions pre-, during, and post- climate and weather extremes

## METHODOLOGY

### RESEARCH APPROACH

Using a deliberative dialogues approach (3-5), we held an international, interdisciplinary workshop in the summer of 2024 in Edmonton, Canada.

### SAMPLING

We used purposive sampling to select researchers, practitioners, and policymakers (n=24) in relevant fields from Canada, the UK, Australia, and the US.

### DATA COLLECTION

We used a three-step interview matrix activity to generate data in the form of response sheets and flip-charts (see Fig. 1) (6). We asked the participants four questions about current emergency preparedness and response.



Fig. 1: Steps in the interview matrix activity

### QUALITATIVE ANALYSIS

- We thematically analyzed (TA) response sheets and flip-charts aligned with Braun and Clarke's framework (7).
  - Specifically, we used a theoretical and semantic approach to coding and creating themes (7).
- We assessed the prevalence of each code using the response sheets.
- We assumed that participants provided generally well-backed responses based on their expertise and workshop goals.
- Google Docs and Google Sheets were used for the TA, with response sheets for coding and creating themes and flip-charts solely for theme creation.
- Consequently, our findings provide a "detailed account of one particular aspect" of the workshop (7).

## CONCLUSION

### KEY TAKEAWAY

A major barrier is the fundamental incompatibility between our current approaches and mindsets and the nature of mental health issues related to climate and weather extremes.

### NEXT STEPS

Future research is needed to explore the qualities of effective, suitable, and equitable mental health interventions.

## PRELIMINARY FINDINGS

We identified two overarching themes: **The Nature of Mental Health and Climate/Weather Extremes** and **Entrenched and Colonial Approaches/Mindsets, Systems, and Institutions**. Four themes stemmed from the latter overarching theme (**Awareness and Attitudes, Knowledge, Relationships and Groups, and The Healthcare System**), and sub-themes were indicated for all overarching and stemming themes (see Fig. 2). We found areas of contradiction among three sub-themes (see Fig. 3).

One participant describes current emergency preparedness and response as "a tangled knot" and asks what "first step[s]" we should take. To untangle this knot – and begin tackling this "wicked problem" – we must first analyze how it is tangled.

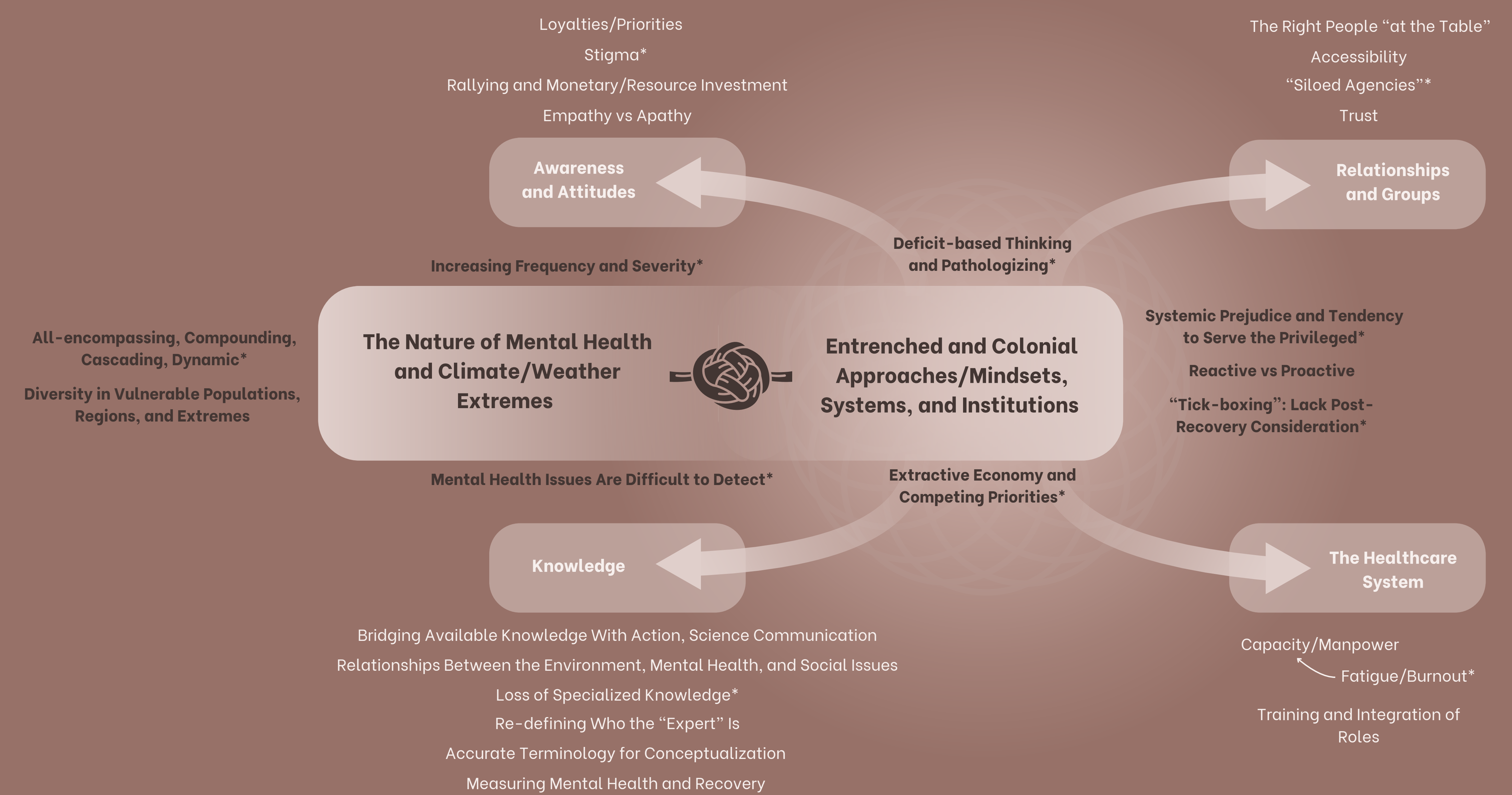


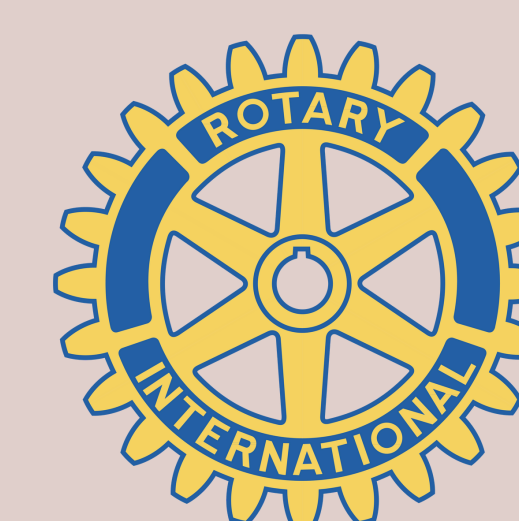
Fig. 2: Thematic Map – black = overarching themes and associated sub-themes; white = stemming themes and associated sub-themes; sub-themes that were exclusively barriers are indicated with an ending \*.



Fig. 3: Areas of contradiction in sub-themes

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## References

1. Seneviratne, SI, et al. *Climate Change 2021: The Physical Science Basis*. 1513–1766.
2. Cissé, G, et al. *Climate Change 2022: Impacts, Adaptation and Vulnerability*. 1041–1170.
3. Boyko JA, et al. *Soc. Sci. Med.* 2012, 75(11), 1938–45.
4. Plamondon KM, et al. *Qual. Health. Res.* 2015, 25(11), 1529–39.
5. Plamondon KM, et al. *ANS. Adv. Nurs. Sc.* 2018, 41(1), 18–29.
6. O'Sullivan, T, et al. *Structured Interview Matrix (SIM) Facilitators' Guide*. 2022.
7. Braun, V, et al. *Qual. Res. Psychol.* 2006, 3(2), 77–101.