

Effects of Heatwaves on Chinese Mental Health and Wellbeing Losses and damages

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1. Background

- **Heatwaves** are more intensive and frequent due to climate change.
- The resulting rising temperatures lead to individuals' **non-economic losses and damages (NELDs)** such as wellbeing and mental health problems (MHPs).

Category	Subcategories
Individuals	Life, Health, Human Mobility
Society	Territory, Cultural Heritage, Indigenous Knowledge, Societal/Cultural Identity
Environment	Biodiversity, Ecosystem Services, Others

Figure 1 Main types of NELD[1]

- Heatwave-induced mental health problem has been widely recognized. The negative impacts can be either **direct or indirect, manifest** over short or long durations, and affect **diverse population groups**.
- Despite the urgency, this issue remains **underfunded and underexplored** in literature, revealing several research gaps.
- Chinese might suffer from such mental health problems more frequently. **China's exposure** to heatwave is enlarging, while an increasing number of Chinese people suffer from mental health problems.
 - ✓ As of December 2022, about 920 million Chinese people (~70% of the total population) are living in urban areas where more concurrent compound daytime and nighttime heat extremes has occurred [2].
 - ✓ According to the *People's Republic of China Fourth National Communication on Climate Change*, the average duration of heatwave rose by 4.5 days compared to the 1986-2005 period.
 - ✓ It is estimated that 54 million people in China suffer from depression, and about 41 million suffer from anxiety disorders [3].

2. Research Gaps

- **Growing concerns** about the heatwaves' impact on mental health have become more pronounced, and several significant reports recognise its importance.

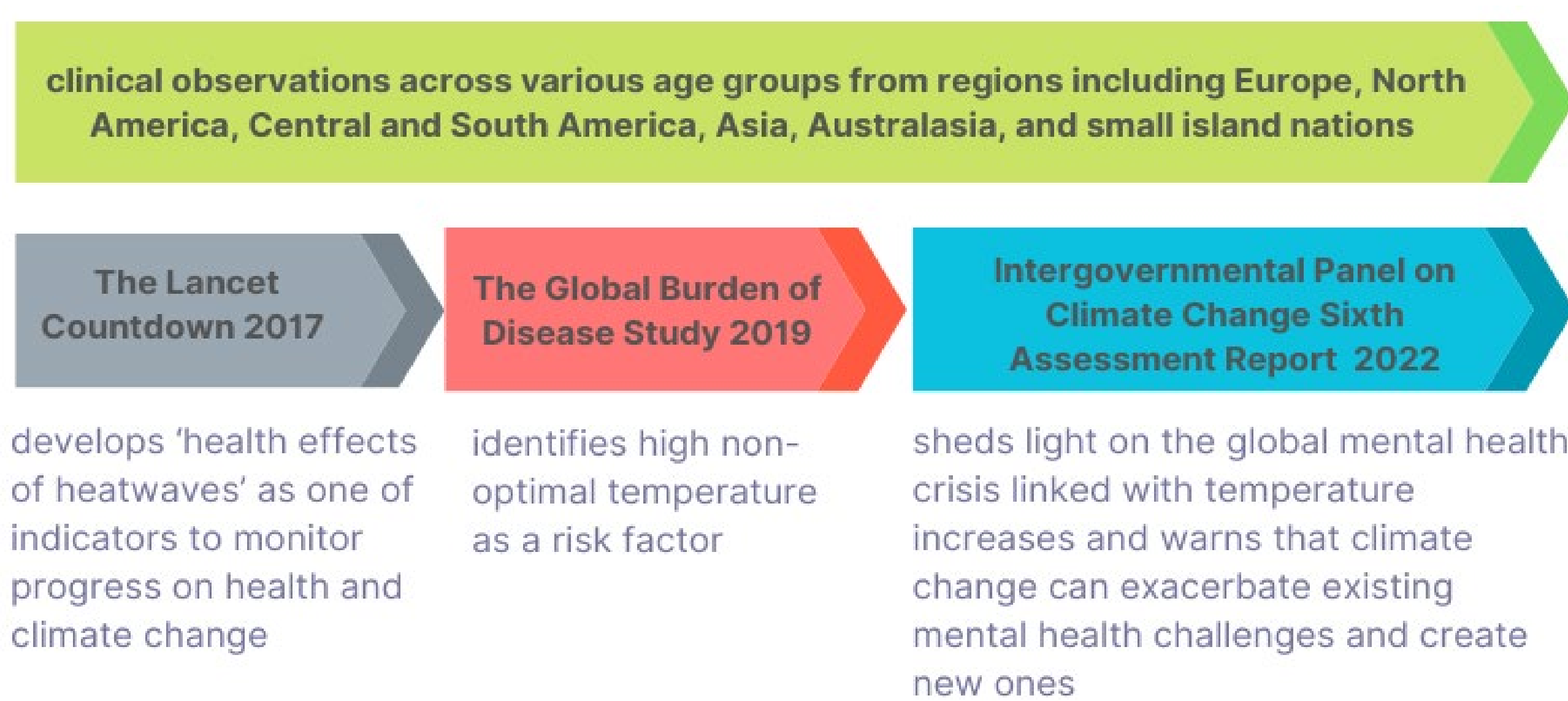


Figure 2 Recognition about the heatwaves' impact on mental health

- There are **several research gaps** in terms of MHPs caused by heatwave:
 - ✓ there is a noticeable shortage of studies focusing on MHPs within the health system under the context of climate change;
 - ✓ the geographic distribution is limited, with a particular need for more frequent and in-depth discussions on China;
 - ✓ the impact of studies on mental health governance in response to climate change is limited;
 - ✓ there is an absence of analysis on the empirical evidence of Chinese experience and perceptions of heat-related wellbeing and mental health NELDs.

3. Research questions and preliminary findings

This research aims to answer the following questions:

- What does the current **research landscape** reveal about the intersection between heatwaves and mental health?
- How do people in China **perceive and experience** mental health and wellbeing losses and damages in the context of heatwaves?
- What are **policy recommendations** that enable China to better support people mental health and wellbeing in the context of heatwaves?

Preliminary findings

- Debates of NELDs are becoming **broad**, but many aspects such as concepts, assessment, and directions for policy are still **vague**.
- Physical health, mental health and wellbeing are **interconnected**, a problem in health can diminish overall wellbeing, and vice versa [4].
- Indicators to measure mental health conditions are suicide rate, **self-rating mental health**, the incidence of mental health conditions etc. Self-assessment as an indicator is suitable for area with inadequate records of impacted individuals [5].
- It's important to track people's **perceptions and reactions** over time to identify factors that may exacerbate or mitigate mental health conditions induced by heatwaves [6].

4. Next Steps

- Conduct **quantitative method** to explore the relations between heatwave and mental health impacts based on public data.
- Based on the literature which have conducted the interview, **qualitatively analysing** people's perceptions and experiences on mental health losses and damages towards heatwaves.
- To employ 'policy cycle' or other methodologies to outline mental health and NELDs **policy framework** in China.

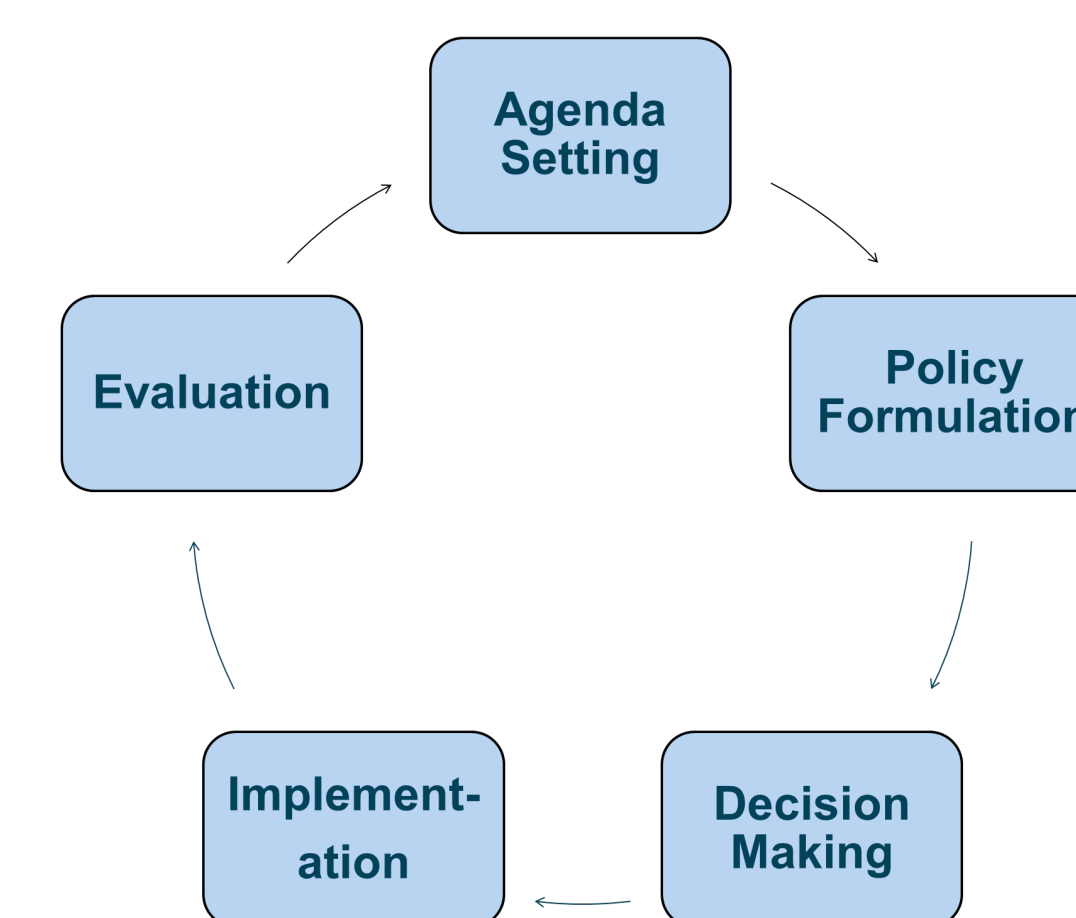


Figure 3 Policy Cycle

- Propose corresponding policy suggestions to mitigate or address mental health losses and damages.

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