

Coping with Extreme Heat

Recommendations and Challenges for Aging

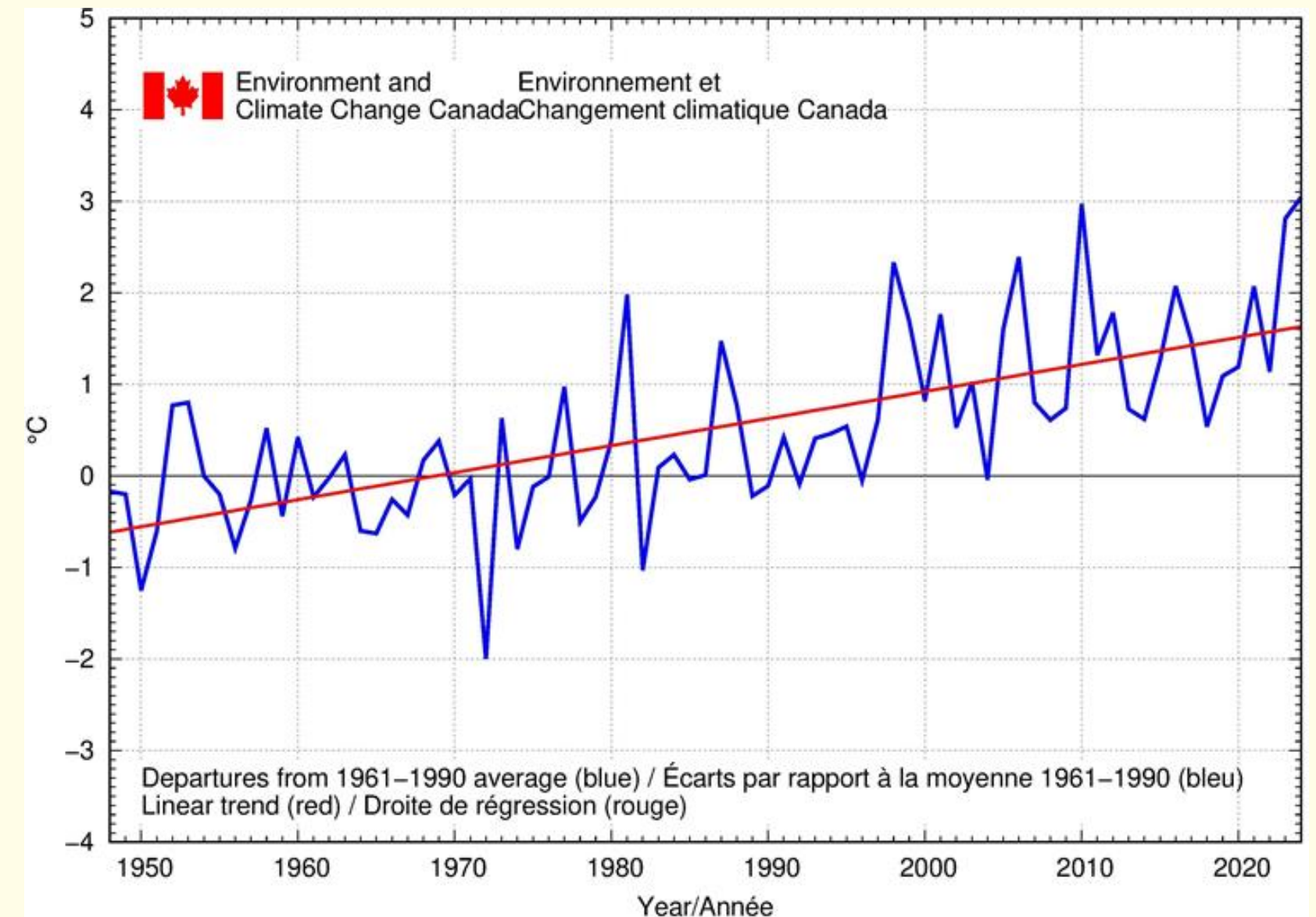
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Are the summers really getting hotter?

- heat waves & heat domes are becoming more frequent, severe, & prolonged
- record-breaking temperatures are increasingly common
- 86 days per year (on average) pose heat-related health risks



Who is at risk?

→ Geographic Regions :

- historically moderate climates (e.g., Vancouver, Canada; London, England) have limited adaptation in homes and infrastructure



Who is at risk?

→ **Age:**

- 54% rise in heat-related deaths in those aged 65+ in the past two decades
- age alone does not denote risk



Who is at risk?

→ Risk Factors with Older Age

- thermoregulation (e.g., reduced sweating)
- chronic conditions and medications
- mobility limitations restricting access to cooler spaces
- limited financial resources
- social isolation restricts access to community support and emergency preparedness systems



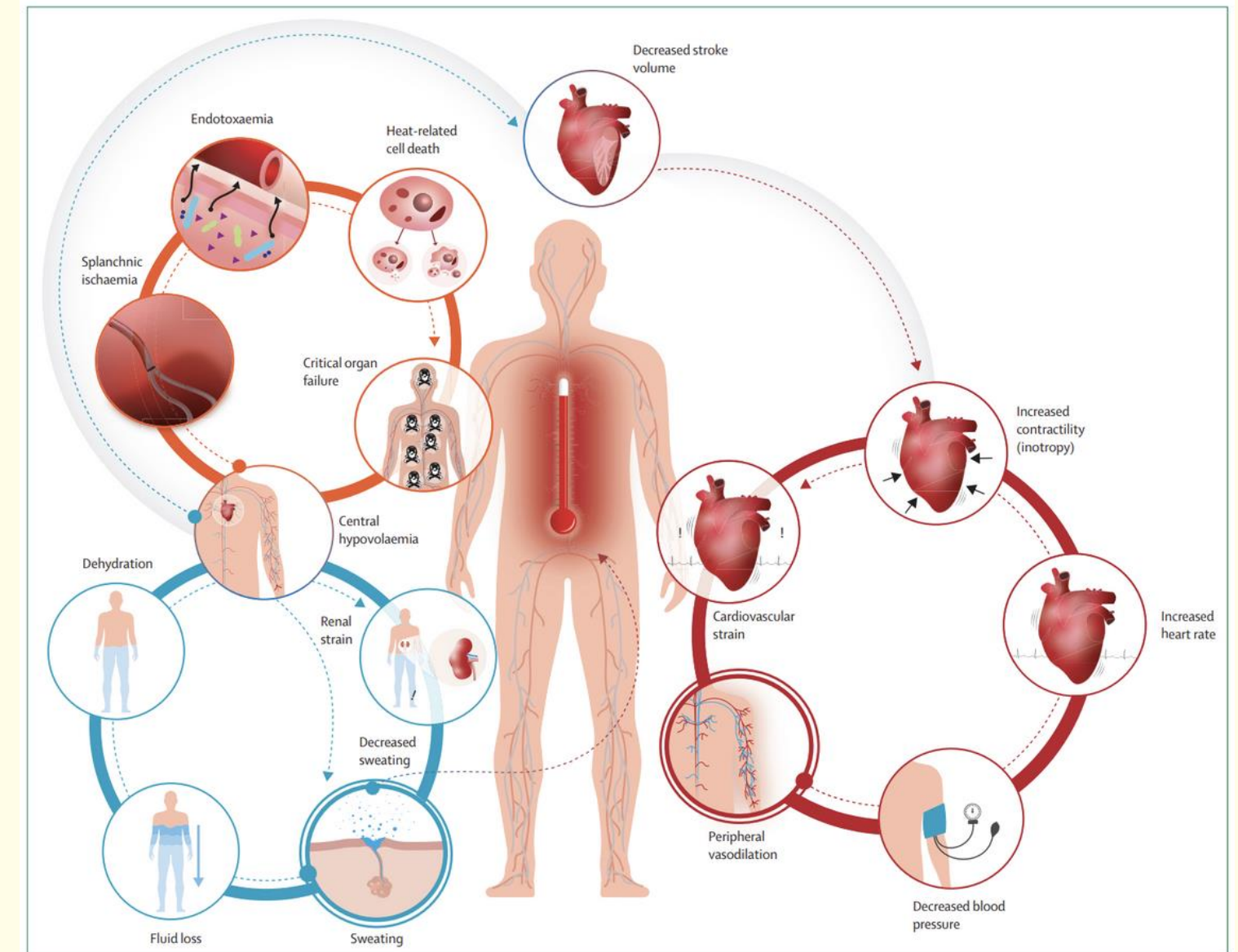
How the body handles heat

- A healthy body temperature is about 36.5 – 37°C
- The body cools itself during heat through two pathways:


Redirecting blood flow to the skin

Sweating

Fatalities and injuries occur when thermoregulatory capacity is exceeded

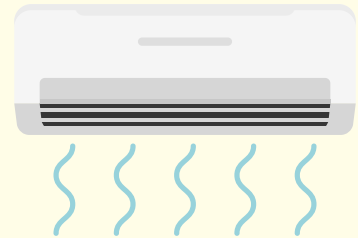


Heat Illness

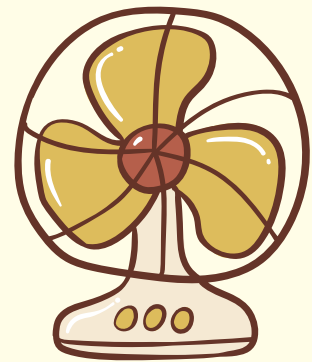
A blanket term for illness resulting from high body temperature (e.g., heat edema, heat-cramps, heat rash, heat exhaustion, heat stroke) range in seriousness, from  mild discomfort to injury to death



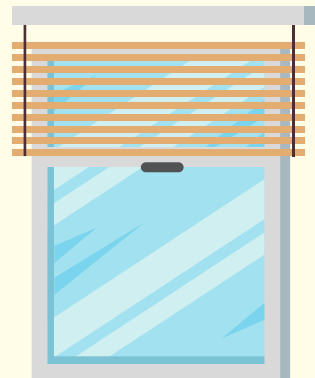
Heat Protective Strategies



Air conditioning



Electric fans



(strategically) Opening windows or
closing blinds



Eating water-rich foods



Using cooling centers or other air-
conditioned public spaces



Minimizing physical activity



Increasing water intake

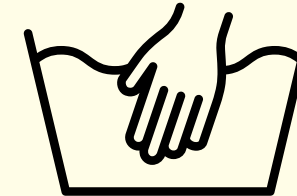
Heat Protective Strategies



Avoiding alcohol and caffeine



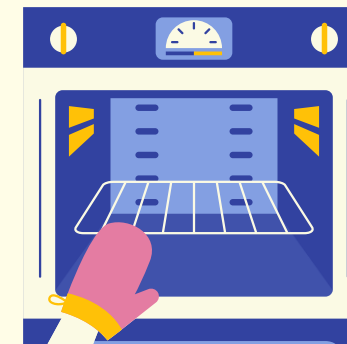
Arranging for regular visits by family members, neighbours, or friends on very hot days in case you need help



Hand/forearm immersion



Foot immersion



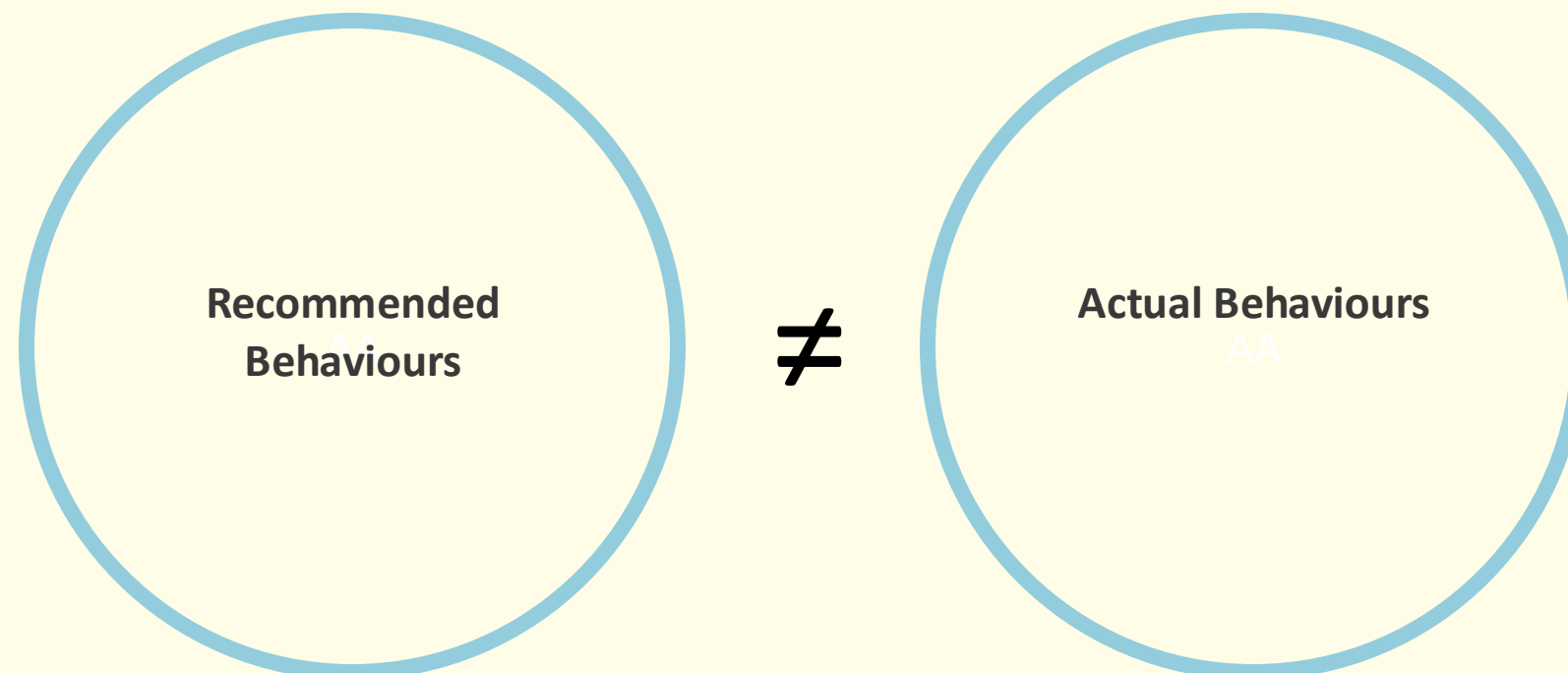
Avoiding using the stove/oven



Self-dousing with water

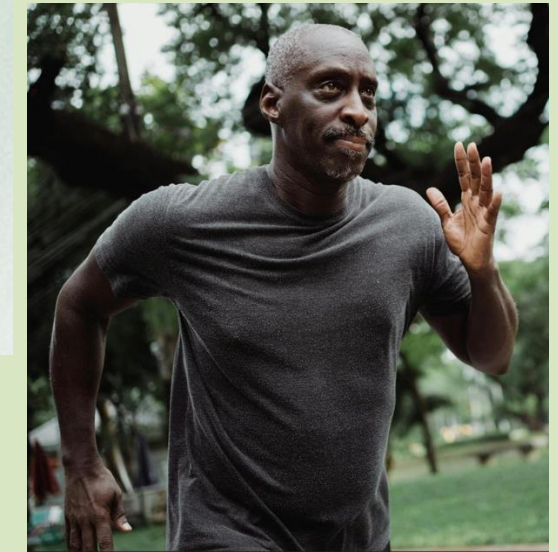
Few Seniors Use Heat Protective Strategies

- low uptake of heat protective strategies by people aged 65+
- few use cooling centers (8%) or wet cloths for cooling (8-16%)
- in a study of individuals with chronic conditions, only two-thirds used air conditioning despite having it at home
- many rely on opening windows and using fans



How can we fill the gap?

What works for health behaviour change in general



Individual Interventions

- knowledge
- skills
- beliefs
- attitudes
- emotions
- habits

Social-Structural Interventions

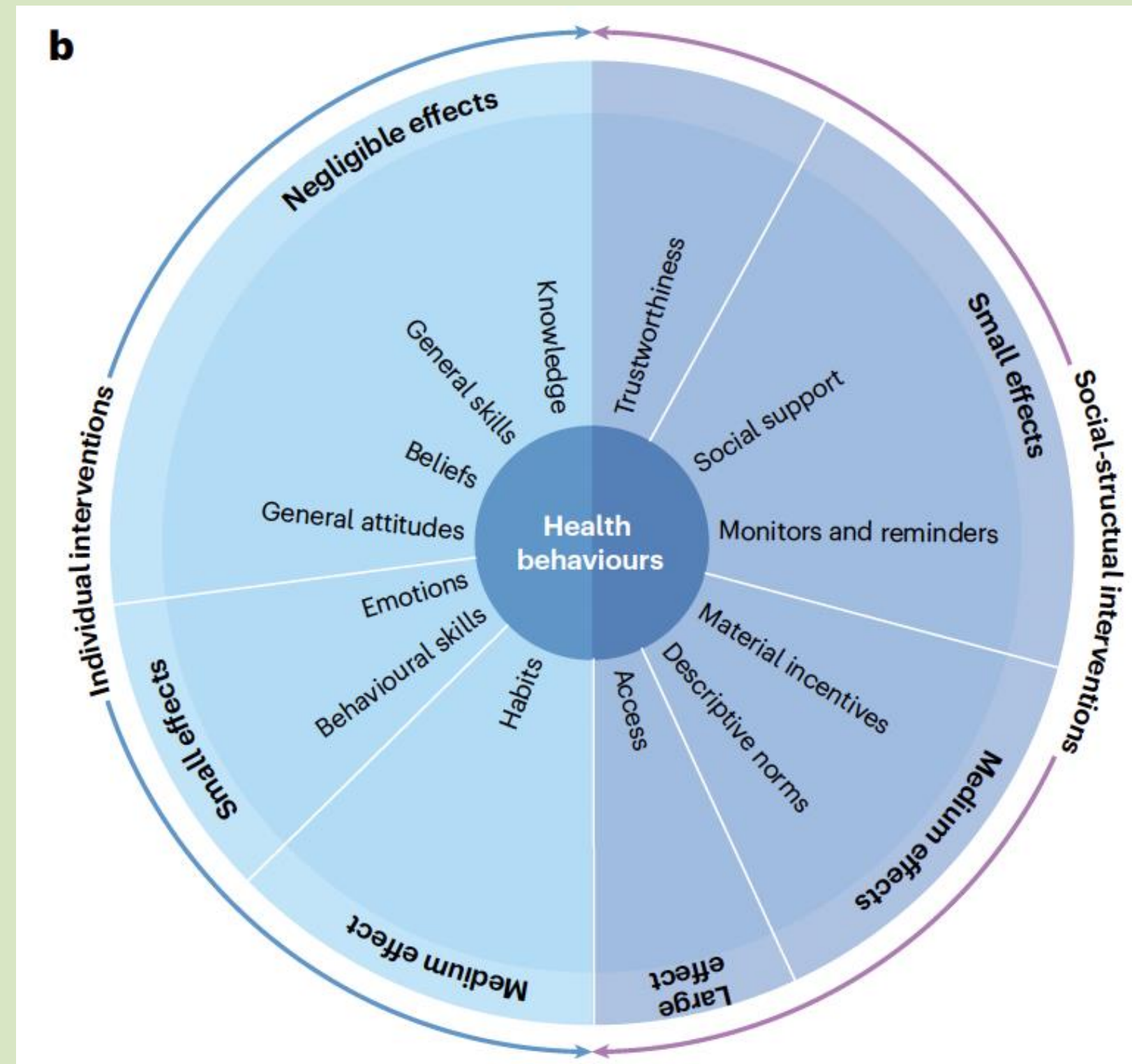
- support
- monitors & reminders
- trustworthiness
- material incentives
- social norms
- access

How can we fill the gap?



Most Effective Interventions

- **Habits**
 - automatic routines
- **Access**
 - material or logistic resources
- **Material incentives**
 - (non) financial rewards
- **Descriptive norms**
 - perceptions of what others would do



Heat-Specific Interventions

Educational Interventions

→ effective for increasing risk awareness

- Individual-based
- Moderately effective for increasing heat protective behaviour
- Increasing knowledge by itself does not translate into an increased ability to use that knowledge



Heat-Specific Interventions

Heat Action Plans

→ most effective for reducing heat-related illness

- Multifactorial, often include several components:
 - identifying & monitoring at-risk individuals
 - heat health warning systems
 - improving health care capacity & coordination
 - informational campaigns
 - cooling spaces
 - building community networks
 - heat help lines



Applied Example of a Heat Action Plan

Connect & Prepare (BC)



<https://www.resilientneighbourhoods.ca/wp-content/uploads/2023/06/prepare-together-for-extreme-heat.pdf>

Heat-Specific Interventions

Most Effective Features of Heat Action Plans

- Making climate-controlled spaces not only available, but welcoming
 - Offering fun activities, connection points
- Focus efforts on those who most need it
- Engage community residents to build trust and target specific needs
- Reach people where they are
- Build on what communities already have



Other Helpful Resources

Cooling Center Map:

- <https://vancouver.ca/files/cov/keep-cool-locations.pdf>

BC Hydro Free Air Conditioner Program:

- <https://www.bchydro.com/powersmart/residential/rebates-programs/savings-based-on-income/free-air-conditioner.html>

How to Check-In and Support Others During Hot Weather:

- <https://ncceh.ca/resources/evidence-reviews/health-checks-during-extreme-heat-events>
- <https://www.vch.ca/en/media/13701>
- <https://www.youtube.com/watch?v=yjxDxjQpPWM>
- <https://www.youtube.com/watch?v=yLNq4m5sEWA>

Vancouver Coastal Health Resource Page for Extreme Heat:

https://www.vch.ca/en/extreme-heat#heat_warnings_and_extreme_heat_emergencies

More research is needed!

We're looking for participants aged 60+ to help us learn about strategies for coping with extreme heat.

What does it involve?



In-person meetings (flexible locations)



For 10 days at home:

- short smartphone surveys 3x/day
- wearing a smartwatch
- small sensors passively track ambient conditions

What do participants get out of it?

- Up to \$150 compensation (gift card or donation)
- “Health Feedback” letter
- Educational Resource Booklet



Contact Us



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