

# Extreme Heat, HVAC & People labelled with Intellectual or Developmental Disabilities

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## EXECUTIVE SUMMARY

- × The number of Very Hot Days has **doubled since 1980**, and are modelled to increase annually regardless of global climate mitigation efforts.
- × People with intellectual or developmental disabilities are more likely to have comorbidities that **increase risk of heat-related stress and death**.
- × Current congregate settings policies for heating, ventilation and air conditioning policies (HVAC) are **insufficient to mediate environmental risks**.

## STATEMENT OF ISSUE

People labelled with intellectual or developmental disabilities at increased risk for adverse health events and death as a result of extreme heat. Two significant risk factors for people labelled with I/DD are the use of congregate living settings and the high rates of prescription psychotropic medication. Preliminary evidence from extreme weather events in the last twenty years demonstrates the need for institutional and regulatory changes to mitigate harm to people labelled with I/DD.

## BACKGROUND

On August 4, 2021 the International Panel on Climate Change (IPCC) issued a “Code Red for Humanity”,<sup>1</sup> acknowledging that extreme heat waves and other major climate events are going to continue to accelerate in the coming years and decades. In Canada, the number of days with extreme temperatures is set to increase exponentially over the coming

decades with continued high emissions.<sup>2</sup> Climate predictions note that even in the best case scenario for lowering global emissions, substantial increases in daily temperatures are anticipated. The high levels of morbidity associated with extreme weather were evidenced by record breaking heat waves in the summer of 2021. In B.C. alone, it is estimated that more than 600 people died during the six day heat wave.<sup>3</sup>

People labelled with intellectual or developmental disabilities are particularly at risk for adverse outcomes associated with extreme weather, including loss of power, heat stroke and fire risk.<sup>4</sup> This risk factor increases for people who live in congregate settings without access to central air conditioning. Congregate settings have heightened risk factors because of: 1) high density;<sup>5</sup> 2) higher rates of prescription of antipsychotic medications.<sup>6</sup>

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## KEY CONSIDERATIONS

The majority of deaths associated with heat waves have occurred indoors in homes or congregate settings without air conditioning.<sup>7</sup> Congregate settings consistently have worse health outcomes and higher rates of mortality for people labelled with intellectual or developmental disabilities compared to adequately funded independent living.<sup>8</sup> While changes need to be made in both private and public dwellings, provincial regulatory regimes for congregate settings enable increased health and safety outcomes in the face of extreme weather.

One particular risk factor for people labelled with intellectual or developmental disabilities is the disproportionate usage of prescription drugs that limit the body's ability to naturally thermoregulate. Among the most common of these drugs are antipsychotic/psychotropic medications which limit thermoregulation capacity and hydration in individuals.<sup>9</sup> Substantial evidence recognizes the over-prescription of off-label use psychotropic medications for people labelled with intellectual or developmental disabilities.<sup>10</sup> Estimates of the population of people labelled with I/DD are on prescription antipsychotic range between 25-42%. This estimate increases for people who live in congregate settings.<sup>11</sup> During the 2018 heat wave in Quebec, 25% of heat related mortalities were people with schizophrenia diagnosis, despite accounting for less than 1% of the population.<sup>12</sup>

Proper heating, ventilation and air conditioning systems will be essential to minimizing the harms associated with rapidly increasing global temperatures. Alongside the need for temperature regulation systems, ventilation systems have been integral to minimising the risks for COVID-19 and aerosol transmissible diseases.<sup>13</sup> Regulatory shifts regarding HVAC have the possibility to have a positive impact on the health outcomes of people living in congregate settings.

## RECOMMENDATIONS

High rates of mortality and risk of heat-related health events for people labelled with intellectual or developmental disabilities should be combated through regulatory changes for provincially funded congregate settings. Following recommendations from long-term/nursing care facilities necessitate the need for central air through both common areas and private rooms. Given the high costs associated with the installation and maintenance of air conditioning, provincial and federal governments should provide subsidies for agencies to improve their HVAC systems.

Alongside the need for improved HVAC systems, maximum indoor temperature standards are another mechanism to improve health outcomes in the face of extreme temperatures. Scientific consensus demonstrates that building temperatures between 18-24°C have minimal impact on health outcomes.<sup>14</sup> Building standards, particularly for residential tenancy should include standards on maximum indoor heating.

The mitigation efforts for institutional settings point to the need for a robust housing strategy for people with intellectual or developmental disabilities. The reliance on congregate settings for the housing of people labelled with intellectual/ or developmental increases risk and exposure to the harms associated with extreme heat. Forthcoming federal housing supports for people labelled with intellectual or developmental disabilities must address the more than 100,000 labelled people in acute housing need.

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## ENDNOTES

- 1 IPCC. (2021). Sixth Assessment Report. <https://www.ipcc.ch/report/ar6/wg1/>
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- 6 Gomes T, Khoo W, Tadrous M, et al Antipsychotic initiation among adults with intellectual and developmental disabilities in Ontario: a population-based cohort study *BMJ Open* 2019;9:e028125. doi: 10.1136/bmjopen-2018-028125
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- 10 Robertson J, Emerson E, Gregory N, et al. Receipt of psychotropic medication by people with intellectual disability in residential settings. *J Intellect Disabil Res*2000;44(Pt 6):666-76.doi:10.1111/j.1365-2788.2000.00307.x
- 11 Lunskey Y, Elserafi J.(2012). Antipsychotic medication prescription patterns in adults with developmental disabilities who have experienced psychiatric crises. *Research in Developmental Disabilities* 33:32-8.
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## APPENDIX A

**Table 1:** Temperature Regulations in Congregate Living Facilities

Province	Regulation	Temperature Regulations
Ontario	Quality Assurance Measures	One common area cooling room with temperature below 36 degrees Celsius.
Alberta	Supportive Living Accommodation Standards	In common areas the Facility is maintained within a temperature range of 22 to 28 degrees Celsius.
Manitoba	Residential Care Licensing Manual	N/A
British Columbia	Community Care and Assisted Living Act, Residential Care Regulation	A licensee must ensure that the temperature in each bedroom, bathroom and common room is safe and comfortable for a person who is carrying out the types of activities that would be reasonably expected in the ordinary use of the room.
Saskatchewan	The Adult and Youth Group Homes Regulations	Each bedroom is to have at least one mirror, at least one outside window that may be opened for fresh air and adequate ventilation, lighting and heating.
Nova Scotia	Homes for Special Care Regulations	All rooms in a home for special care which are used by aged persons or person receiving nursing care, shall be maintained at a temperature of not less than 22 degrees Celsius during the day and not less than 20 degrees Celsius during the night.
Prince Edward Island	Community Care Facilities And Nursing Homes Act	A facility shall be kept weatherproof, dry, free of pests, adequately heated, ventilated and lighted, in a state of good repair and sanitation, and in general safe, clean and reasonably comfortable for residents.

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