

# SHIFTS IN MORTALITY DURING A HOT WEATHER EVENT IN VANCOUVER, CANADA: RAPID ASSESSMENT USING CASE-ONLY ANALYSIS

Tom Kosatsky, *BC Centre for Disease Control, Canada*

Sarah Henderson, *BC Centre for Disease Control, Canada*

Sue Pollock, *Public Health Agency of Canada*

**Background:** During the summer of 2009, greater Vancouver (in British Columbia, Canada) experienced several days of unusually hot temperatures. Episodes of extreme heat in other northern cities have been associated with considerable excess mortality, especially among the most elderly, and those living in dense, and/or disadvantaged urban neighbourhoods.

**Methods:** A case-only analysis was used to compare characteristics of individuals who died during the hottest week of 2009 with those who died (1) during earlier summer weeks in 2009 and (2) during the same calendar weeks in the summers of 2004-2008.

**Results:** Risk of mortality during the hot weather event was significantly higher in the 65-74 age category than in the 85+ category (OR = 1.50; 95%CI = 1.09-2.06). Deaths at home were increased over deaths in hospitals or institutions (OR = 1.39; 95%CI = 1.06-1.80). Densely populated administrative health areas were more affected.

**Conclusions:** A significant shift towards deaths at home suggests that home-based protective measures should be part of planning for hot weather in Vancouver. Targeting should be considered for persons in the 65-74 age category. The case-only approach is quick and easy to apply, and it can provide authorities with useful information about patterns of mortality during localized, time limited events