

### BC Coroners Service (BCCS) Heat-Related Deaths – Knowledge Update

The following summarizes the number of heat-related deaths reported to the BC Coroners Service between June 18, 2021 and August 12, 2021 with a focus on deaths that occurred from June 25<sup>th</sup> to July 1<sup>st</sup> (heat dome related deaths). <https://www2.gov.bc.ca/gov/content/life-events/death/coroners-service/statistical-reports>

**Caveats:** As the BCCS operates in a live database environment, the data are considered preliminary and subject to change as coroners’ investigations conclude. These data were compiled by date of death, which may differ from the date of injury. In some cases, the death may occur days or weeks after injury.

**Methodology:** The data presented in this report are based on the aggregated results of coroners’ investigations into the circumstances of a death.

**Definition:** A heat-related death is defined as a death where:

- The localized environment or body temperature is keeping with hyperthermia (ICD10 T670); or
- There is no direct temperature at the time of death but there is evidence (circumstantial, scene environment, medical history) to support that heat played a significant causal effect on the death (ICD10 T679).

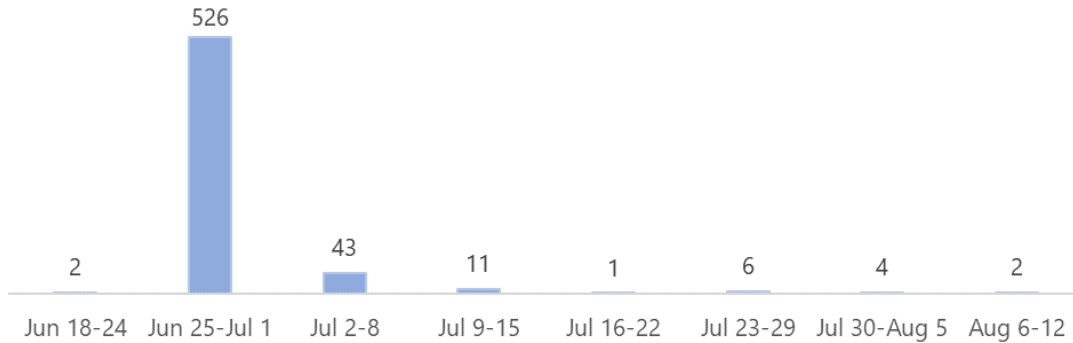
**Summary:**

- In B.C., between June 18 – August 12, 2021, there were 595 heat-related deaths (*Table 1*).
  - Most deaths (526) occurred during the period of June 25 – July 1 (*Table 1*).
- Some of the deaths recorded in the days and weeks following June 25-Jul 1 would have been due to injuries sustained during the June 25-Jul 1 period.

Table 1. Heat-Related Deaths by Week of Death, Jun 18 – Aug 12, 2021			
	# of Heat-Related Deaths, 2021 <sup>1</sup>	# of Coroner Responded Deaths, 2021 <sup>2</sup>	# of Coroner Responded Deaths, 2020 <sup>2</sup>
Jun 18-24	2	197	235
Jun 25-Jul 1	526	818	232
Jul 2-8	43	333	235
Jul 9-15	11	237	234
Jul 16-22	1	252	263
Jul 23-29	6	264	240
Jul 30-Aug 5	4	215	231
Aug 6-12	2	269	238
<b>Total</b>	<b>595</b>	<b>2585</b>	<b>1908</b>

<sup>1</sup>Heat-related deaths were compiled by date of death which may occur days or weeks after injury.

<sup>2</sup>Coroner responded deaths were compiled by the date that the death was reported to the BCCS.



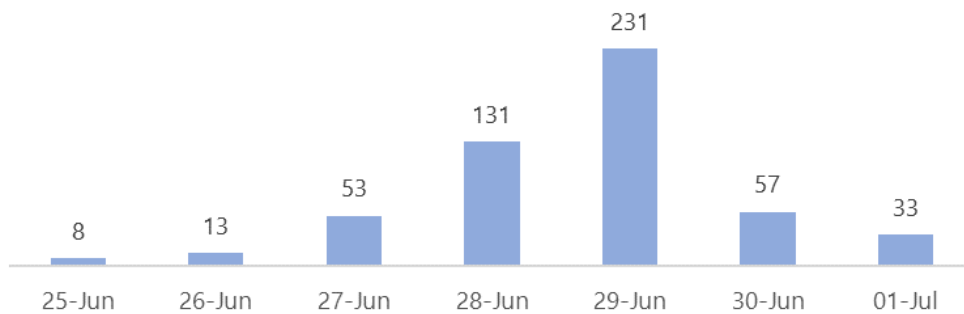
**Fig. 1.** Number of Heat-Related Deaths by Week of Death, Jun 18 – Aug 12, 2021<sup>1</sup>

<sup>1</sup>Data were compiled by date of death which may occur days or weeks after injury.

**Summary of Deaths between June 25 - July 1**

Of the 526 deaths:

- The highest numbers of deaths were recorded on June 29<sup>th</sup> (231 deaths) and June 28<sup>th</sup> (131 deaths) (Fig. 2).
- Individuals aged 70+ accounted for 69% of deaths (Fig. 3). There were no heat-related deaths reported among children (<19 years).
- The percentage of female (51%) and male (49%) heat-related deaths were similar (Fig. 4).
- Fifty-two percent (52%) of deaths occurred in the Fraser Health Authority region, followed by Vancouver Coastal Health region (23%) (Fig. 5).
- The highest rates by Health Authority were in Fraser Health (13.9 per 100,000) and Vancouver Coastal Health (9.6 per 100,000) (Table 4).
- The highest rates by Health Service Delivery Area (HSDA) were in Fraser North (17.4 per 100,000), Fraser East (15.1 per 100,000), and Vancouver (13.7 per 100,000) (Table 5).
- The three townships experiencing the highest number of deaths are Vancouver (99 deaths), Surrey (67 deaths), and Burnaby (63 deaths) (Table 6).
- Ninety-six percent (96%) of heat-related injuries occurred in a residential setting (Fig. 6).



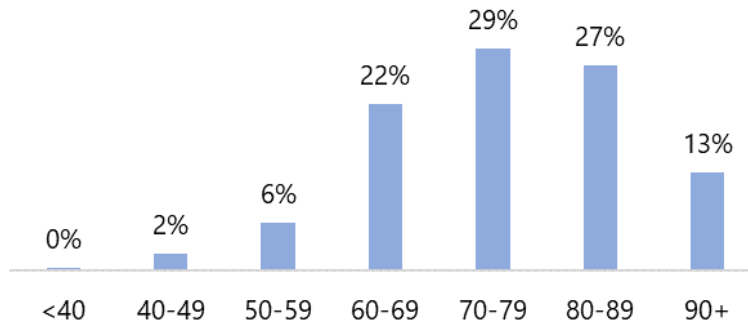
**Fig. 2.** Number of Heat-Related Deaths by Date of Death, Jun 25 – Jul 01, 2021

## Heat-Related Deaths in B.C. Knowledge Update

**Table 2. Heat-Related Deaths by Age Group and Health Authority (HA) of Injury, Jun 25 – Jul 1, 2021<sup>1</sup>**

	Interior	Fraser	Vancouver Coastal	Island	Northern	Total
<40	0	1	1	0	0	2
40-49	4	3	3	1	1	12
50-59	4	16	6	3	4	33
60-69	18	57	20	12	8	115
70-79	23	78	32	14	7	154
80-89	10	80	39	12	1	142
90+	5	38	19	6	0	68
<b>Total</b>	<b>64</b>	<b>273</b>	<b>120</b>	<b>48</b>	<b>21</b>	<b>526</b>

<sup>1</sup>HA is derived from injury township. Death township is used in cases of unknown injury township.



**Fig. 3. Heat-Related Deaths by Age Group as % of Total, Jun 25 – Jul 1, 2021<sup>1</sup>**

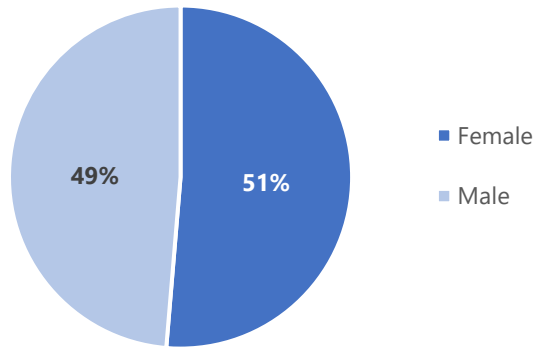
<sup>1</sup>Percentages may not sum to 100 due to rounding

**Table 3. Heat-Related Deaths by Sex and Health Authority (HA) of Injury, Jun 25 – Jul 1, 2021<sup>1</sup>**

	Interior	Fraser	Vancouver Coastal	Island	Northern	Total
Female	24	143	69	22	12	270
Male	40	130	51	26	9	256
<b>Total</b>	<b>64</b>	<b>273</b>	<b>120</b>	<b>48</b>	<b>21</b>	<b>526</b>

<sup>1</sup>HA is derived from injury township. Death township is used where injury township is unknown.

### Heat-Related Deaths in B.C. Knowledge Update

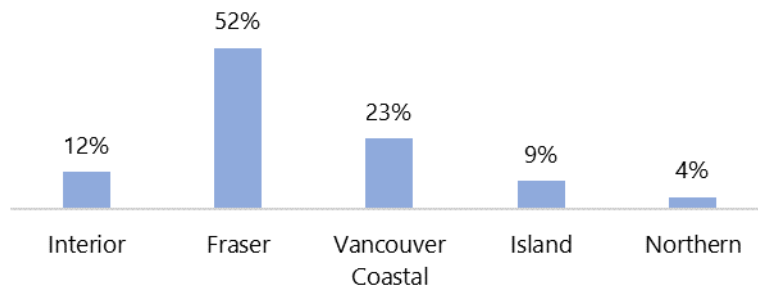


**Fig. 4.** Heat-Related Deaths by Sex as % of Total, Jun 25 – Jul 1, 2021

Table 4. Heat-Related Deaths and Rates by Health Authority (HA) of Injury, Jun 25 – Jul 1, 2021 <sup>1,2</sup>		
	# of Deaths	Crude Rate per 100,000
Interior	64	7.8
Fraser	273	13.9
Vancouver Coastal	120	9.6
Island	48	5.5
Northern	21	6.9
<b>Total</b>	<b>526</b>	<b>10.1</b>

<sup>1</sup>HA is derived from injury township. Death township is used where injury township is unknown.

<sup>2</sup>Rates should be interpreted with caution due to small numbers.



**Fig. 5.** Heat-Related Deaths by Health Authority of Injury as % of Total, Jun 25 – Jul 1, 2021<sup>1,2</sup>

<sup>1</sup>HA is derived from injury township. Death township is used in cases where injury township is unknown.

**Table 5. Heat-Related Deaths and Rates by Health Service Delivery Area (HSDA) of Injury, Jun 25 – Jul 1, 2021<sup>1,2</sup>**

	# of Deaths	Crude Rate per 100,000
East Kootenay	4	4.6
Kootenay Boundary	3	3.6
Okanagan	32	7.8
Thompson Cariboo Shuswap	25	10.3
Fraser East	51	15.1
Fraser North	124	17.4
Fraser South	98	10.8
Richmond	8	3.7
Vancouver	99	13.7
North Shore/Coast Garibaldi	13	4.2
South Vancouver Island	20	4.6
Central Vancouver Island	20	6.7
North Vancouver Island	8	5.9
Northwest	4	5.2
Northern Interior	14	9.1
Northeast	3	4.1
<b>Total</b>	<b>526</b>	<b>10.1</b>

<sup>1</sup>HSDA is derived from injury township. Death township is used where injury township is unknown.

<sup>2</sup>Rates should be interpreted with caution due to small numbers.

**Table 6. Heat-Related Deaths by Townships of Injury, Jun 25 – Jul 1, 2021<sup>1</sup>**

	# of Deaths
Vancouver	99
Surrey	67
Burnaby	63
New Westminster	28
Langley	23
Chilliwack	22
Abbotsford	20
Victoria	18
Coquitlam	14
Kamloops	14
Kelowna	12
Prince George	12
Nanaimo	11
Maple Ridge	10
North Vancouver	9
Richmond	8
Port Coquitlam	7
Mission	6
Vernon	5
Other Township	78
<b>Total</b>	<b>526</b>

<sup>1</sup>Death township is used where injury township is unknown. Other township includes townships with <5 deaths.

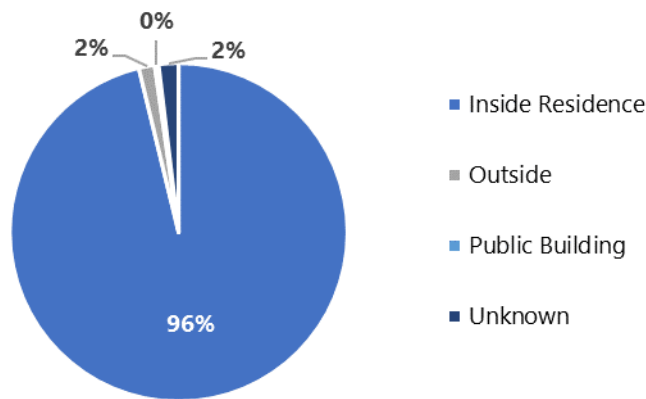
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**Table 7. Heat-Related Deaths by Injury Location and Health Authority of Injury, Jun 25 – Jul 1, 2021<sup>1</sup>**

	Interior	Fraser	Vancouver Coastal	Island	Northern	Total
Inside Residence	57	265	118	46	20	506
Outside	3	2	1	1	1	8
Public Building <sup>2</sup>	1	1	0	0	0	2
Unknown	3	5	1	1	0	10
<b>Total</b>	<b>64</b>	<b>273</b>	<b>120</b>	<b>48</b>	<b>21</b>	<b>526</b>

<sup>1</sup>Health authority is derived from injury township. Death township is used in where injury township is unknown.

<sup>2</sup>Includes injury location occurring on or near the ground of a public building.



**Fig. 6.** Heat-Related Deaths by Injury Location as % of Total, Jun 25 – Jul 1, 2021

**Inside Residence** – includes either decedent’s own or another’s residence, hotels/motels, rooming houses, SRO (single room occupancy), shelters, social/supportive housing, seniors’ homes, long term care facilities, nursing homes, etc.

**Outside** – includes vehicles, streets, sidewalks, parking lots, public parks, wooded areas, and campground

**Public buildings** – includes restaurants, community centres, post offices, businesses, etc.



**Notes:**

1. Health Region breakdowns can be found at: <https://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/administrative-boundaries/health-boundaries>
2. Population estimates were taken from: <https://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/population/population-projections>

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