

# Circumstances surrounding sudden and unexpected sleep-related infant deaths, 2015 to 2020

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In Canada, from 2015 to 2020, there were approximately 1,700 deaths per year among infants under the age of 1. On average, 1 in 15 (110) of these deaths occurred while the infant was sleeping. While a number of deaths that occurred during sleep were of natural causes, such as respiratory diseases or congenital defects, the majority (83%) were sudden and unexpected and occurred in otherwise healthy infants. Sudden and unexpected sleep-related deaths are either caused by a threat to breathing such as suffocation or strangulation, or an undetermined cause, where a cause of death cannot be determined from the investigation or autopsy. While sleep-related deaths of undetermined cause have historically been referred to as sudden infant death syndrome (SIDS), this term has not been used for the classification of infant deaths in most provinces and territories in Canada since 2012.

Understanding the circumstances surrounding sudden and unexpected sleep-related infant deaths can inform preventative measures to reduce harm to infants in Canada. The Joint Statement on Safe Sleep, developed in a partnership between the Public Health Agency of Canada, Health Canada, the Canadian Paediatric Society and Baby's Breath Canada, provides health practitioners with current evidence-based information so they may offer guidance to parents and caregivers to help reduce the risks of sudden infant death during sleep. The Joint Statement on Safe Sleep was updated in October 2021 and summarizes the key "principles of safe sleep," based on modifiable factors in the sleep environment (e.g., safe sleep space, sleep position) and home environment (e.g., smoke-free home, breastfeeding, avoiding overheating) known to reduce the risk of sudden and unexpected sleep-related infant deaths.

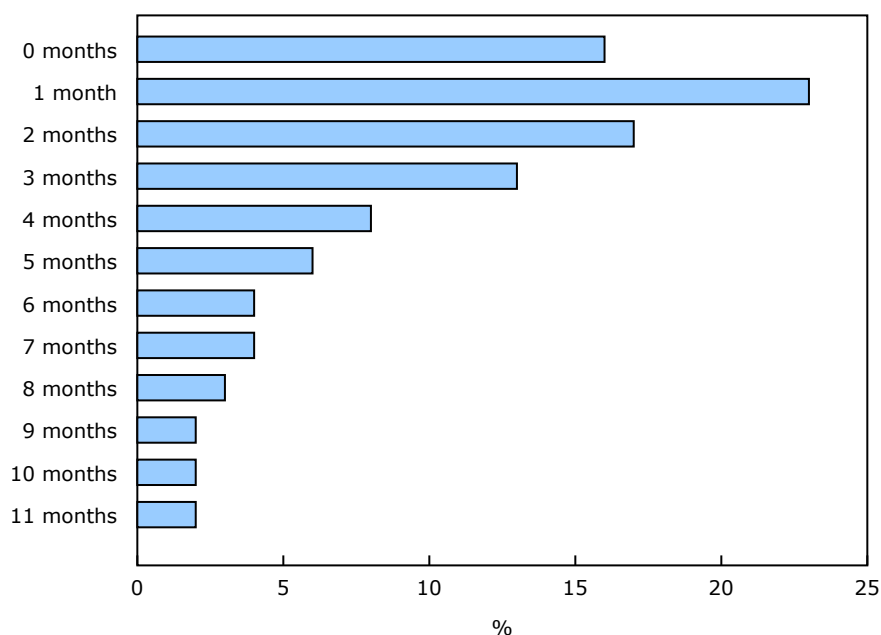
Although the circumstances or details surrounding the death are not always known, insights can be had from findings reported by coroners and medical examiners who investigated these tragic events. The results in this report are based on new insights released today from the Canadian Coroner and Medical Examiner Database (CCMED) from 2015 to 2020.

## **The majority of sudden and unexpected sleep-related deaths occur among infants under four months**

Sleep-related deaths affect infants of all ages. However, 70% were among infants under four months of age, with most occurring between the first and second month of life. In 54% of deaths, the infant was male and in 46% of deaths, the infant was female. This trend is consistent with the proportion of male and female total infant deaths across Canada and most parts of the world.



**Chart 1**  
**Sudden and unexpected sleep-related infant deaths, by age (months), Canada, 2015 to 2020**



**Note(s):** Data were not available for all jurisdictions for all years (see Note to readers).  
**Source(s):** Canadian Coroner and Medical Examiner Database (5125).

### More than 9 in 10 infants who died suddenly in their sleep were in an unsafe sleep environment

An unsafe sleep environment includes an environment where at least one risk factor was present (i.e., where at least one principle from the Joint Statement on Safe Sleep was not followed) or where the coroner or medical examiner reported it to be unsafe. Coroners and medical examiners often include some of their investigative findings in the narrative report submitted to the CCMED, but the level of detail in the report varies by certifier and by jurisdiction. If the information for a given risk factor is missing, then the presence of that risk factor is "unspecified," while the absence of a risk factor can only be considered when the coroner or medical examiner has indicated that a given factor was not present.

The investigative findings that were more commonly reported by coroners and medical examiners include: whether the infant was sleeping on a surface intended for infant sleep (crib, cradle or bassinet); whether the infant was sleeping on their back; whether soft or loose items were present in the sleeping environment; whether the infant was exposed to tobacco smoke (in the womb or after birth); and whether the child was bed-sharing with at least one other person.

From 2015 to 2020, 92% of infants who died in their sleep from an unintentional threat to breathing or undetermined cause were reported to be in an unsafe sleeping environment (risk factor information was unspecified in the remaining 8% of deaths). In 75% of all deaths, at least two risk factors were reported, while at least three risk factors were present in 36% of all deaths. Finally, four or more risk factors were reported in 10% of all sudden and unexpected sleep-related infant deaths.

## **Nearly 7 in 10 sudden and unexpected sleep-related deaths occurred on a surface not intended for infant sleep**

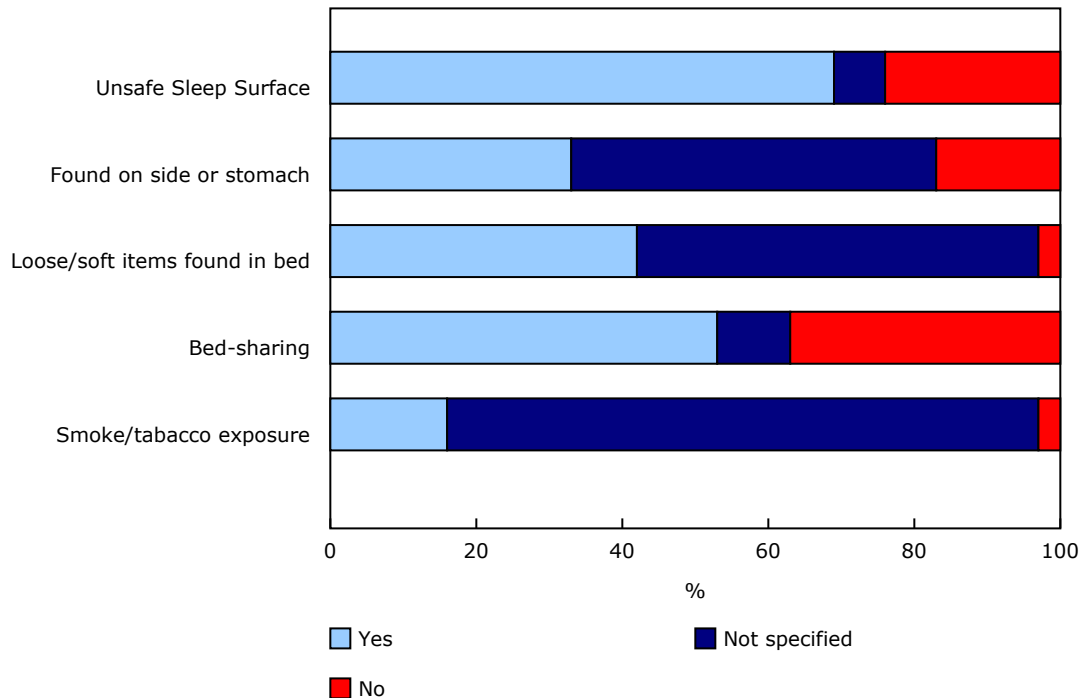
According to the Joint Statement on Safe Sleep, the safest place for an infant to sleep is in a crib, cradle or bassinet that meets current Canadian regulations. Almost 7 in 10 (69%) sudden and unexpected sleep-related deaths occurred on a surface not intended for infant sleep, such as an adult bed or mattress (52%), a couch, sofa or armchair (9%), or an infant product not intended for sleep, such as a playpen, infant chair, car seat or stroller (6%). Suffocation may occur on soft sleeping surfaces when an infant's airway is blocked by the child's positioning in the soft material or on an adult bed, couch, or armchair, where an infant may become trapped or wedged. Infants were reported to be sleeping in a crib, cradle or bassinet in less than one-quarter of sleep-related deaths. In 7% of sudden and unexpected sleep-related deaths, information on the sleep surface was unspecified.

The Joint Statement on Safe Sleep includes a recommendation that the sleep surface be free of loose, soft items. In 42% of sudden sleep-related deaths, the infant was reportedly sleeping with at least one loose item present. Additional items in the sleep environment, such as pillows, toys and blankets, may trap infants or block their airways, which increases the risk of suffocation. Blankets may also increase the risk of overheating the infant. Overheating is recognized as a risk factor for infant deaths during sleep.

In addition to sleeping on a safe surface free of loose items, the Joint Statement on Safe Sleep recommends that infants always be placed on their back for every sleep. In 33% of sudden sleep-related deaths, the coroner or medical examiner reported that the infant was found on their side or stomach. Sleeping on their stomachs is recognized as a risk factor for infant deaths during sleep.

In 72% of sudden and unexpected deaths where the infant was reported to be sleeping in a crib, cradle or bassinet, additional unsafe circumstances were reported (baby found on side or stomach; object found in sleeping area; or deemed an unsafe environment by the reporting coroner or medical examiner).

**Chart 2**  
**Presence of risk factors in sudden and unexpected sleep-related infant deaths, Canada, 2015 to 2020**



**Note(s):** "Unsafe sleep surface" was indicated when the coroner or medical examiner reported that the infant was not sleeping in a bed designed for infant sleep. "Found on side or stomach" was indicated when the coroner or medical examiner reported that the infant was found sleeping either on their side or stomach (face down). "Loose/soft items found in bed" was indicated when the coroner or medical examiner reported that there was at least one item in the sleeping area with the infant (blanket, pillow, toy). "Bed-sharing" was indicated when the coroner or medical examiner reported that the infant was sleeping on a surface with at least one other person. "Smoke exposure" was indicated when the coroner or medical examiner reported that the infant was exposed to second-hand smoke during pregnancy or postpartum. Data were not available for all jurisdictions for all years (see Note to readers).  
**Source(s):** Canadian Coroner and Medical Examiner Database (5125).

### Over half of infants who died suddenly in their sleep were sharing a bed

From 2015 to 2020, 53% of infants under the age of 1 who died suddenly in their sleep were sharing a bed with one or more people. The vast majority of these infants (82%) were under 4 months of age. Most commonly, the sleep surface was shared with parents, and in some instances, the sleep surface was shared with siblings. In just over half of these bed-sharing deaths, the infant was sharing a bed with one other person, while over one-third of deaths involved two other people, and 5% involved three or more people.

Bed-sharing is a fairly common practice. According to data from the Canadian Community Health Survey from 2015 to 2016, one-third of mothers indicated their last child shared a bed with them or anyone else, every day or almost every day, when the child was under 12 months of age. There are known risks to bed-sharing with infants, including an infant getting trapped or wedged, or the body of another person rolling over and suffocating the infant.

In 32% of cases where bed-sharing was reported in the sudden sleep-related death of an infant, the sleeping surface included pillows, blankets, or other objects. In 16% of bed-sharing deaths, the coroner or medical examiner reported that the infant was sharing a couch, sofa or armchair, while 79% involved the infant sharing an adult bed. It was also reported that 23% of bed-sharing infant deaths involved alcohol or drugs (i.e., an infant sharing a bed with

an adult who was a regular consumer of drugs or alcohol, an infant sharing a bed with an adult who had consumed drugs or alcohol the night of the event, or an infant whose toxicology report indicated the presence of alcohol or drugs).

### **Exposure to tobacco smoke was reported in more than one in six sudden and unexpected sleep-related infant deaths**

A smoke-free home environment is recommended both during pregnancy and after birth. From 2015 to 2020, at least 6% of sudden sleep-related deaths occurred among infants whose mothers smoked during pregnancy and an additional 12% occurred among infants exposed to tobacco smoke after birth.

### **Additional factors that may influence a sudden and unexpected sleep-related infant death**

There may be factors involved in a sudden and unexpected sleep-related infant death other than those discussed here, such as underlying genetic, metabolic or other biological factors. In addition, the full circumstances surrounding infant sleep-related deaths is not always known, as the event is not often witnessed.

Being aware of the recommendations concerning safe sleep for infants is important in reducing risk of tragic death and harm.

## Note to readers

The Canadian Coroner and Medical Examiner Database (CCMED) was developed at Statistics Canada in collaboration with the 13 provincial and territorial Chief Coroners and Chief Medical Examiners and the Public Health Agency of Canada. Currently, it combines data from all provincial and territorial databases, with the exception of Manitoba.

For the provinces and territories included in the report, data are not available for all years. Data for Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta, British Columbia, Yukon, and the Northwest Territories are available from 2015 to 2020. Data for Prince Edward Island are available from 2015 to 2019, data for Nunavut are available for 2015 to 2018 and data for Newfoundland and Labrador are available for 2020. All data are considered preliminary and include only closed cases. Closed cases refer to those whose investigation or inquest is complete and the cause and manner of death are final.

At the time this report was written, 660 sleep-related infant deaths were documented in the CCMED from 2015 to 2020. This value was used for reporting on the circumstances surrounding sudden and unexpected sleep-related infant deaths. CCMED data coverage varies from one variable to another.

The number of records for more recent years will be lower than what may be expected as only closed cases are published. Moreover, as the source of non-response and the completeness of the available information varies both between and within jurisdictions, users are advised to exercise caution when comparing data between years and across provinces and territories.

The proportion of unspecified data (where the detail for a given risk factor is not documented in the CCMED narratives) by variable is as follows:

- Risk factor information: 8%
- Baby sleeping location: 7%
- Items in the sleep environment: 55%
- Sleep position found: 50%
- Unsafe circumstances while sleeping in a baby bed: 20%
- Bed-sharing: 10%
- Bed-sharing, number of people in bed: 4%
- Bed-sharing, items in the sleep environment: 66%
- Bed-sharing, sleep location: 5%
- Bed-sharing, alcohol/drugs: 72%
- Tobacco smoke exposure: 81%
- Tobacco smoke exposure pre-partum: 90%
- Tobacco smoke exposure post-partum: 85%

The average number of deaths among infants under 1 year in this report was calculated using data from table 13-10-0713-01 ([Infant deaths and mortality rates, by age group](#)). The number of infant deaths in Canada varies from year to year. The reference years used to calculate this average are from 2015 to 2019.

The "Principles of safe sleep" from the [Joint Statement on Safe Sleep: Reducing Sudden Infant Deaths in Canada](#) can be found on the Public Health Agency of Canada's website. The document was developed in a partnership between the Public Health Agency of Canada, Health Canada, the Canadian Paediatric Society and Baby's Breath Canada. A complementary "[Safe Sleep for Your Baby](#)" booklet for parents and caregivers is also available.

Information on the proportion of mothers indicating their last child shared a bed with them or anyone else, every day or almost every day, when the child was under 12 months of age, is from the Canadian Community Health Survey ([Infant bed sharing in Canada](#)).

Counts referenced in this report were rounded to a neighbouring multiple of five.

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**Definitions, data sources and methods: survey number [5125](#).**

**Available tables: [13-10-0386-01](#) and [13-10-0387-01](#).**

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; [infostats@statcan.gc.ca](mailto:infostats@statcan.gc.ca)) or Media Relations ([statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca](mailto:statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca)).