An age–period–cohort–interaction analysis of meth/amphetamine-related deaths in Australia, 2001–2020

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I ACKNOWLEDGE THE TRADITIONAL CUSTODIANS OF THIS LAND, THE ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES OF THE FIRST NATIONS. I EXPRESS MY GRATITUDE TO THE NGUNNAWAL PEOPLE WHOSE LAND WE ARE ON TODAY, AND THE CUSTODIANS OF THE LANDS THAT MY WORK WAS COMPLETED ON.

Background

Australia: One of the highest rates of meth/amphetamine dependence globally. [1] [2]

Use: More people are using crystal meth/amphetamine due to rising purity at reduced cost and in more harmful usage patterns. [4] [5]

Increases in meth/amphetamine-related **hospitalisations, treatment episodes** and **deaths**. [6] [7] [8]

Increases in the age of meth/amphetamine-related deaths. [8]

International trend: Increasing meth/amphetamine use and harms. [9] [10] [11] [12]

Describe the age, period and cohort patterns of Australian meth/amphetamine-related mortality between 2001 and 2020.

Age effects

Age effects are changes that happen as a person gets older.

Period effects

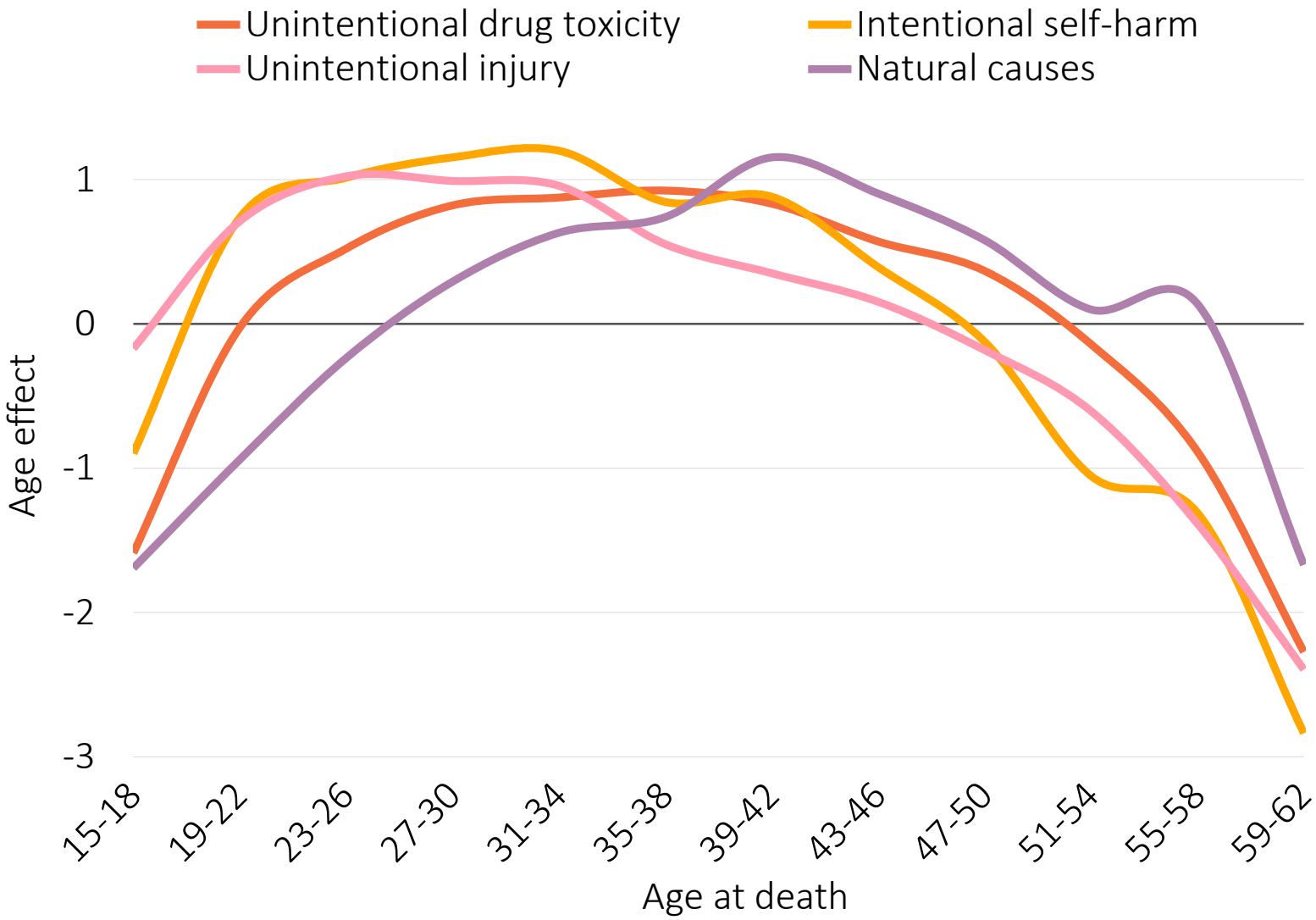
Period effects are changes that affect everyone at the same time.

Cohort effects

Cohort effects are the impacts of events or social changes that affect people differently based on when they were born.

Data source: All Australian deaths from the National Coronial Information System (NCIS) from 2001 to 2020 involving meth/amphetamine

Age effects



Unintentional drug toxicity

23 – 50 year olds had significantly higher rates.

Intentional self-harm

19 – 46 year olds had significantly higher rates.

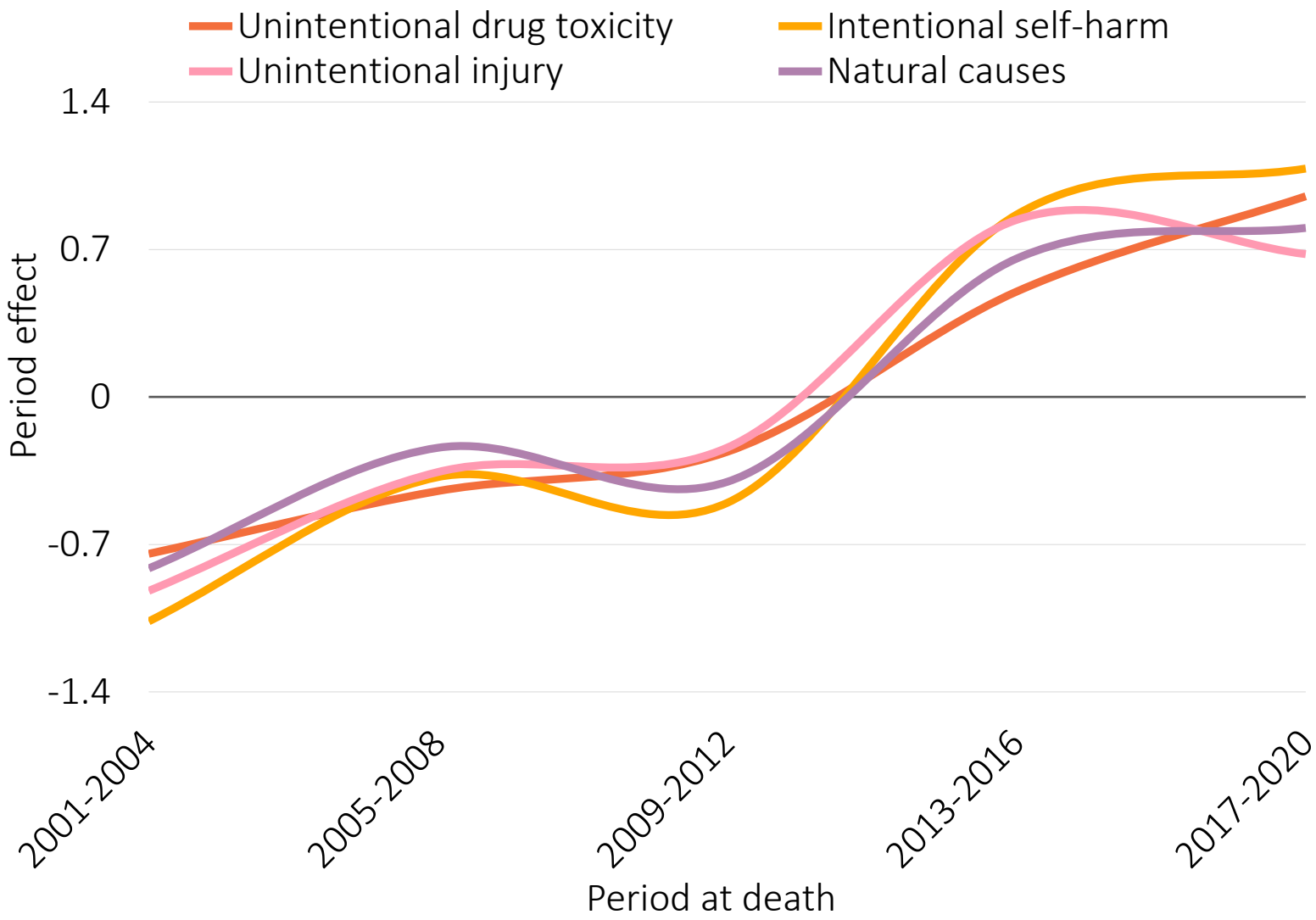
Unintentional injury

Significant peak 23 – 26 year olds.

Natural causes

Significant peak 39 – 42 year olds.

Period effects

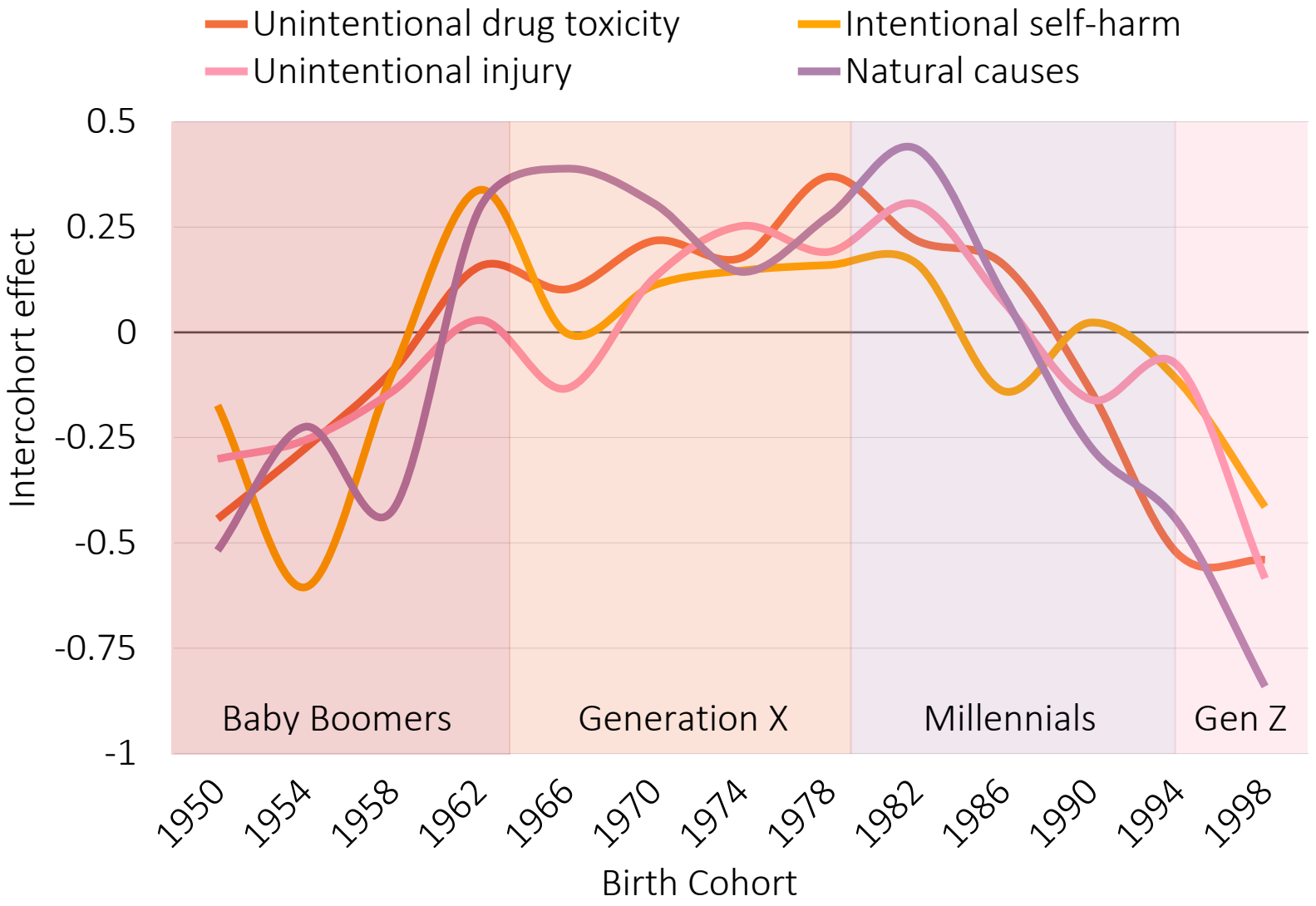


All causes of death show significantly higher mortality rates between 2013 and 2020.

Unintentional drug toxicity and natural cause deaths period effects peak in 2017 – 2020.

Intentional self-harm and unintentional injury deaths period effects peak in 2013 – 2016.

Cohort effects



Negative cohort effects among the baby boomer cohorts.

Positive effects for Generation X.

Declining effects among Millennials and Generation Z cohorts.

Cohort deviations are highest among natural cause deaths.

Discussion

Age and Period: There were variations in age effects between the causes of death, and positive period effects between 2013 – 2020 may be due to market changes and shifting consumer preferences impacting **all** causes of death. [2] [12]

Generation X high mortality risk: High prevalence of amphetamine (speed) injecting initiation in the late 1990s/early 2000s may have **increased** Generation X's mortality risk with the shift to crystal methamphetamine in the 2010s. [13]

Younger generations decreasing mortality risk: May be part of a broader trend of **decreasing** risk behaviours among young people seen in Australia, combined with **increased** stigma towards meth/amphetamine. [14]

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Thank you

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