

# Deaths caused by alcohol, stimulant, opioid, and benzodiazepine toxicity in Ontario

The trends and circumstances surrounding accidental fatal substance-related toxicities from 2018 to 2021

 **8,767** 

Accidental substance toxicity deaths between **2018** and **2021**


**85%** involved **opioids**

**60%** involved **stimulants**

**13%** involved **alcohol**

**9%** involved **benzodiazepines**

**2,886** Substance toxicity deaths in 2021

Accidental **substance-toxicity deaths** were **5 times higher** than the number of accidental **motor vehicle deaths** reported by the Ontario Ministry of Transportation 

**In 2021 opioids contributed to:**

Over **80%** of **alcohol** and **stimulant** toxicity deaths

Over **95%** of **benzodiazepine** toxicity deaths

## Opioid co-involvement

Opioid co-involvement in **alcohol**, **benzodiazepine**, and **stimulant** toxicity deaths **increased** from 2018 to 2021

## From January 2018 to December 2021

 Nearly **2-fold** increase in **overall substance toxicities**

Deaths involving

**one substance doubled**  
**two substances tripled** 

## Opioids and stimulants

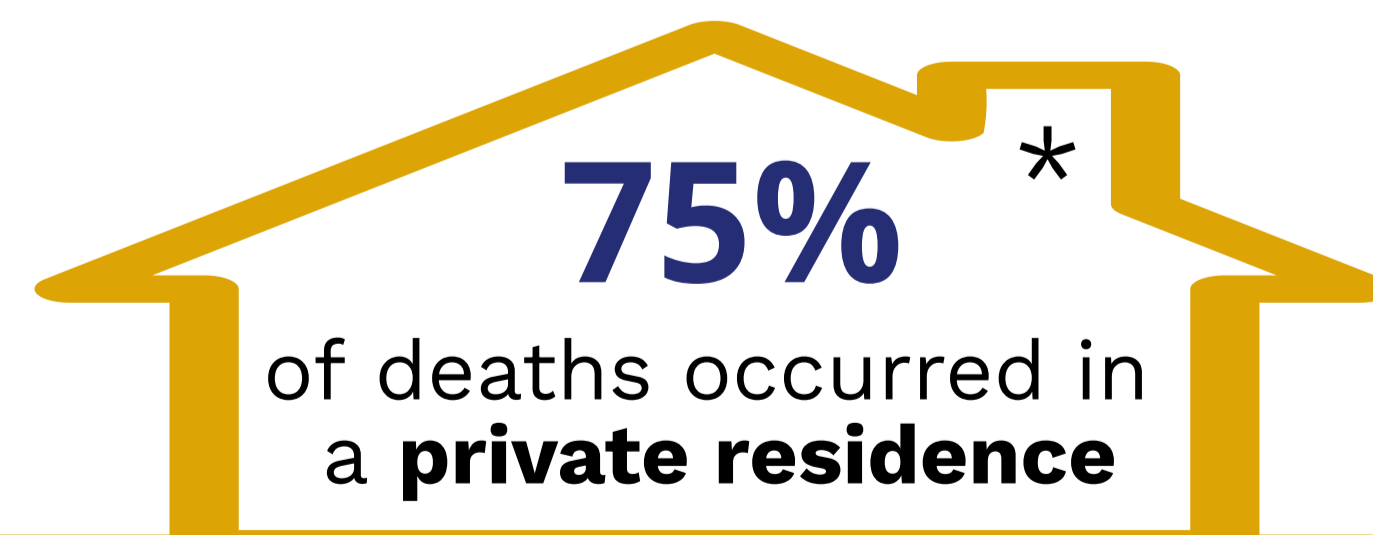
**43%** of deaths involved **opioids and stimulants** together during the COVID-19 pandemic  
Represented the **largest increase** in deaths from the **pre-pandemic to pandemic period** 

## Demographics

 **75%** of deaths occurred among **males**



The median **age** at death was **40 years**



**75%\*** of deaths occurred in a **private residence**

**Highest** concentration of deaths were among those living in neighbourhoods in the **lowest** **income quintile** 

Death rates were **3x higher** in **Northern vs. Southern Ontario**

\*Among cases where location of incident was known

# Alcohol toxicity deaths

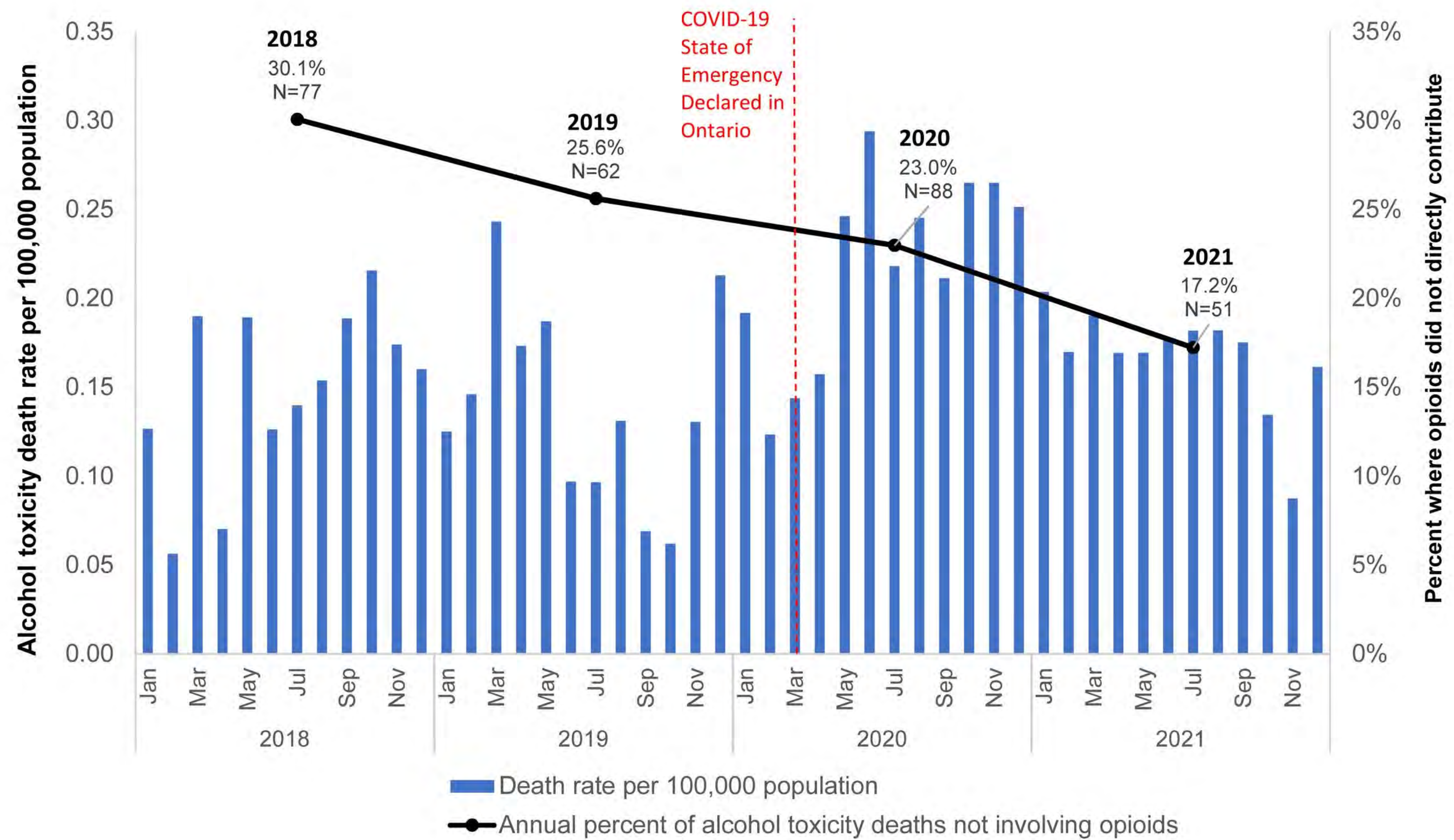
Trends & characteristics

# SUMMARY

**16% Increase** in the number of alcohol toxicities from 2018 to 2021

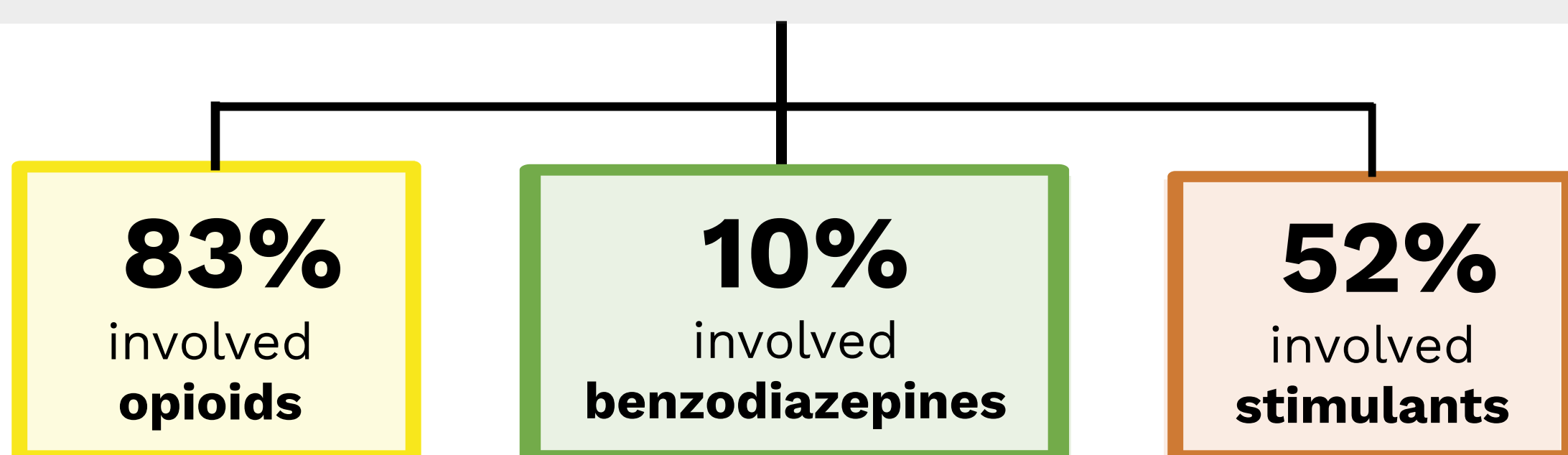
**13%** of all substance-related deaths from 2018 to 2021 **involved alcohol** as a direct contributor to death

**296** Alcohol toxicity deaths in 2021

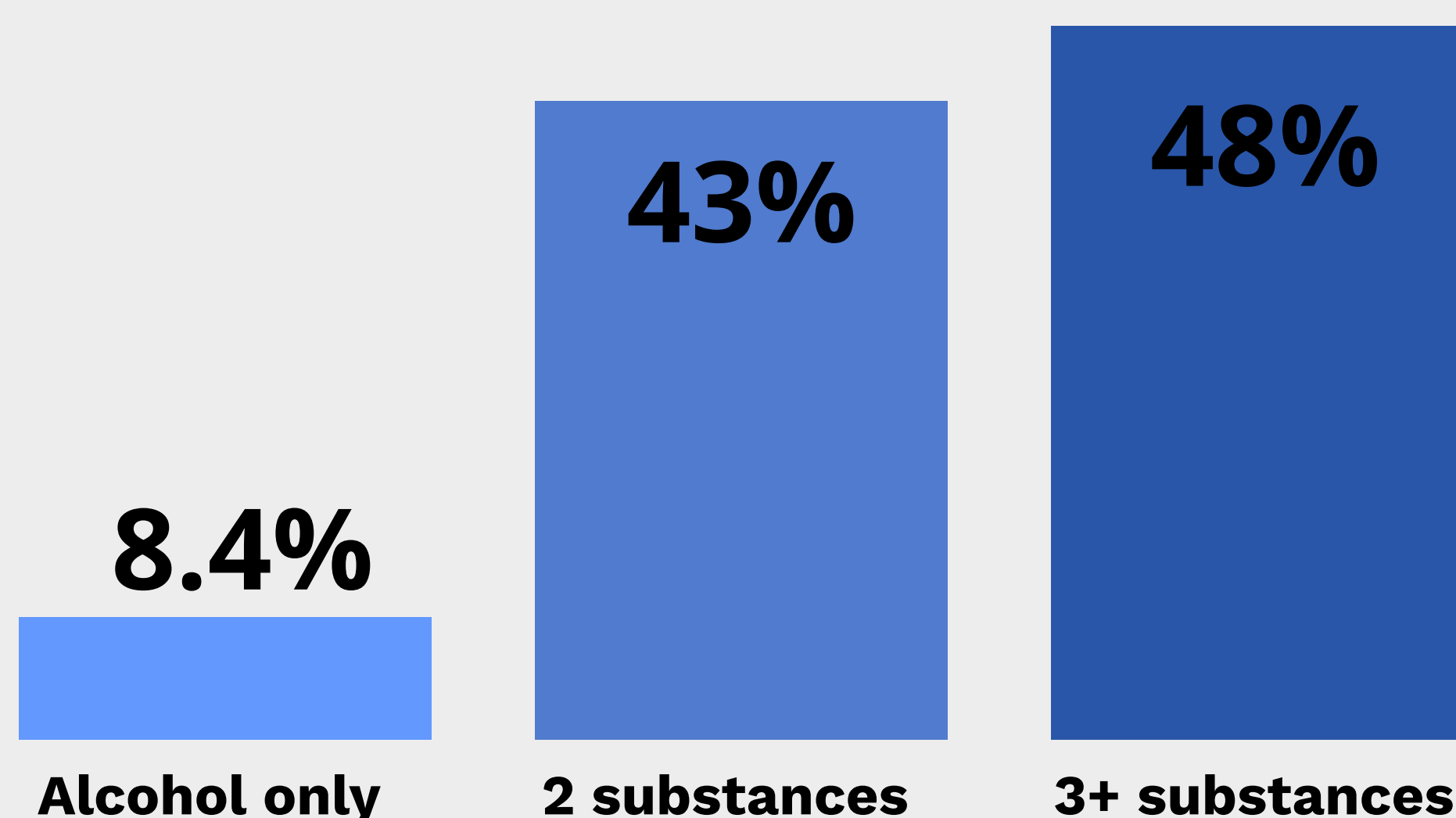


## Alcohol Toxicity Deaths in 2021

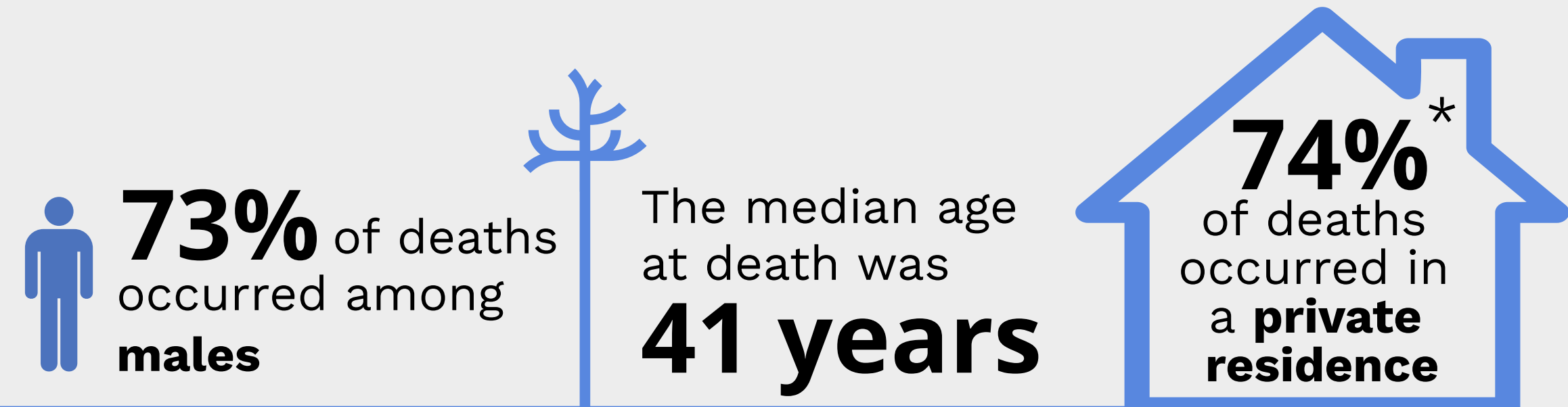
**92%** of deaths had **other substances** directly contribute to death



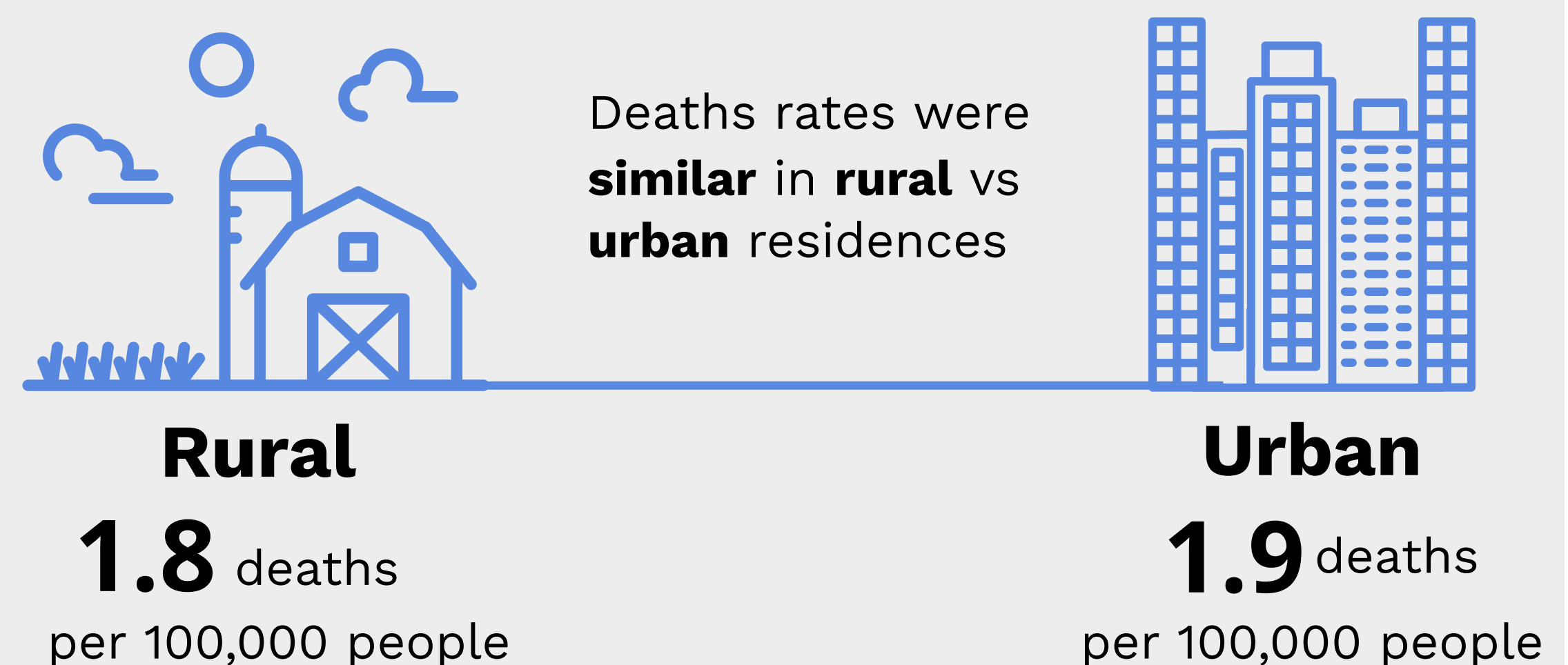
Proportion of deaths by **number of substances** directly contributing to death



## Demographics



Alcohol toxicity death rates were **3X higher** in Northern vs Southern Ontario



\*This proportion is among cases where location of incident was known

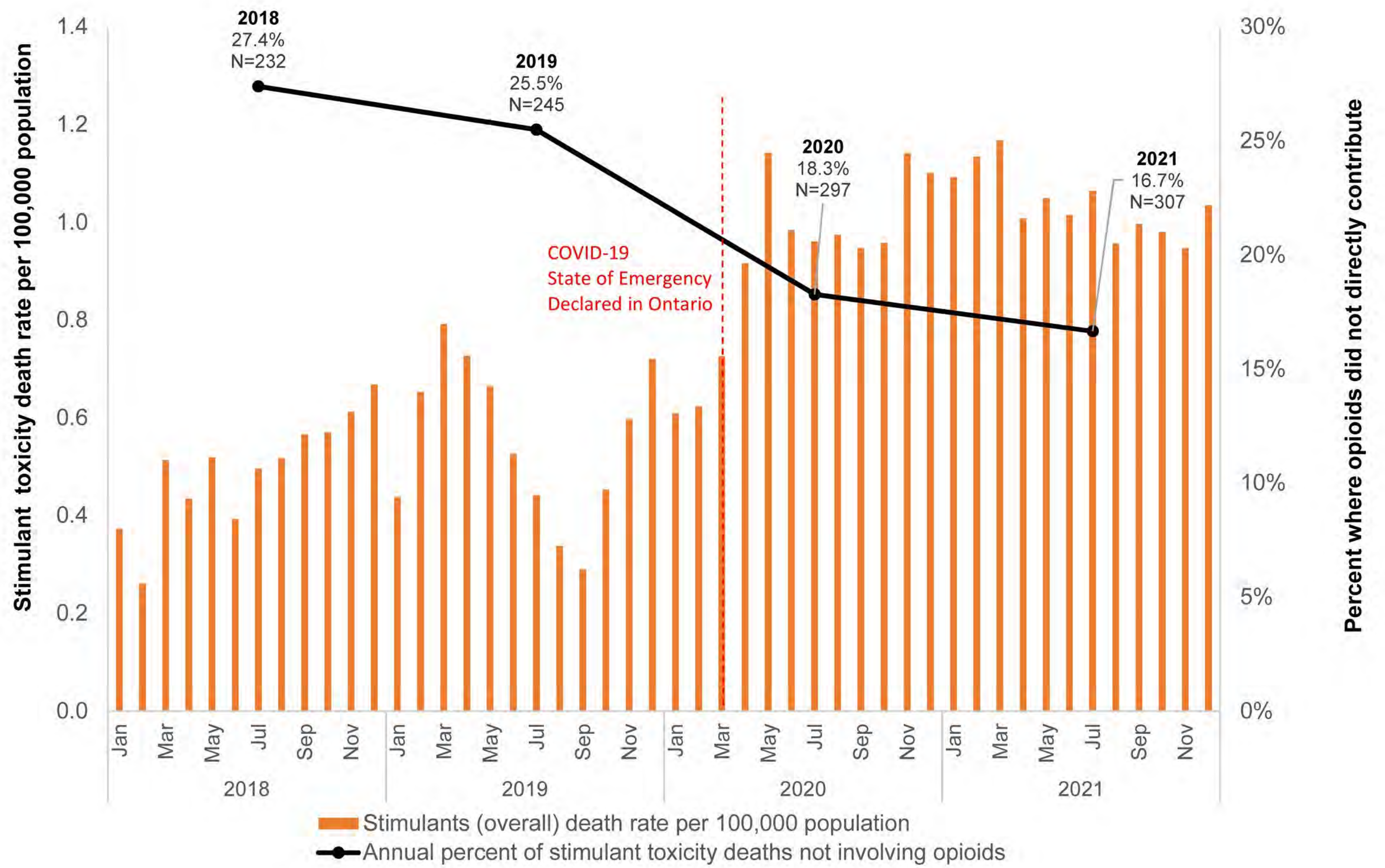
# Stimulant toxicity deaths

Trends & characteristics

# SUMMARY

**2X Increase** in the number of stimulant toxicity deaths from 2018 to 2021

**60%** of all substance-related deaths from 2018 to 2021 **involved stimulants** as a direct contributor to death

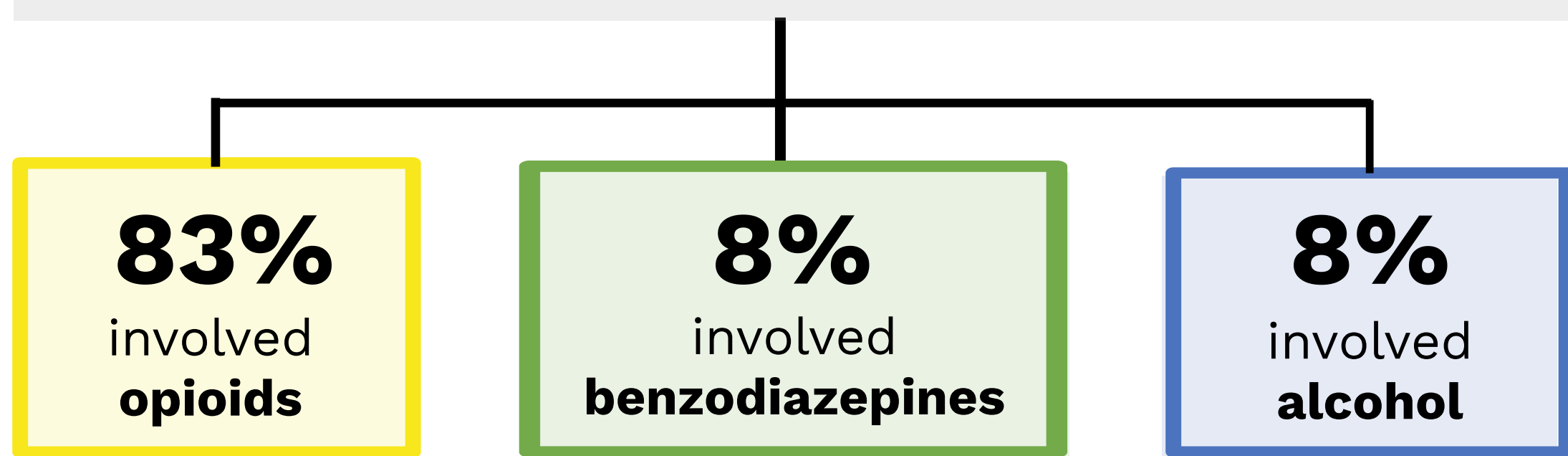


**1843** Stimulant toxicity deaths in 2021

- 68% Cocaine
- 48% Methamphetamine
- 17% Both cocaine and methamphetamine
- 7% Amphetamine

## Stimulant Toxicity Deaths in 2021

**85%** of deaths had **other substances** directly contribute to death



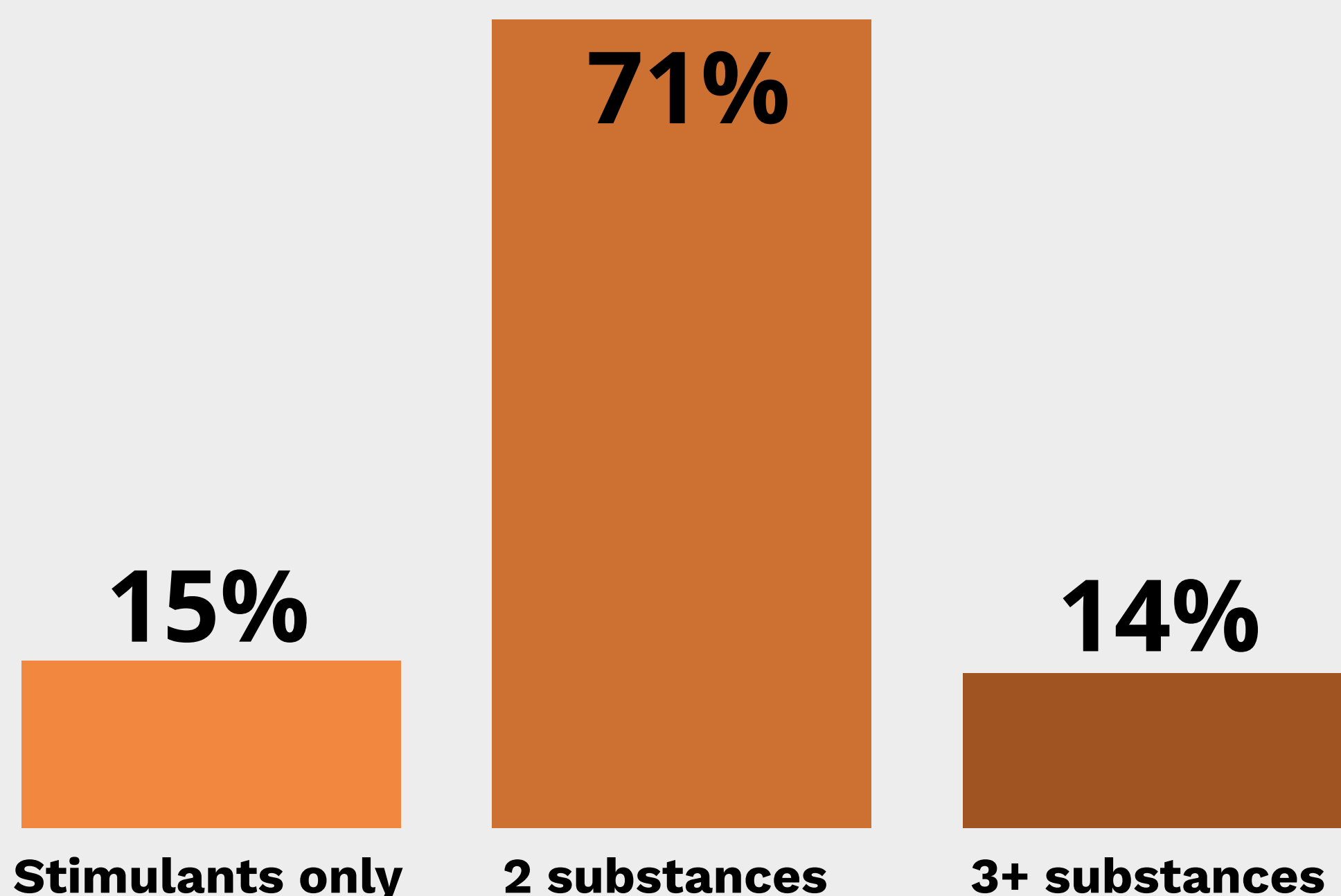
## Demographics

**75%** of deaths occurred among **males**

The median age at death was **40 years**

**73%\*** of deaths occurred in a **private residence**

Proportion of stimulant-related deaths by **number of substances** directly contributing to death



Death rates for **cocaine** and **methamphetamine** were

**3X** higher in **Northern** vs. **Southern Ontario**



**Rural**

**11** stimulant deaths per 100,000 people



**Urban**

**12** stimulant deaths per 100,000 people

Deaths rates were **similar** in **rural** vs **urban** residences

\*This proportion is among cases where location of incident was known

# Opioid toxicity deaths

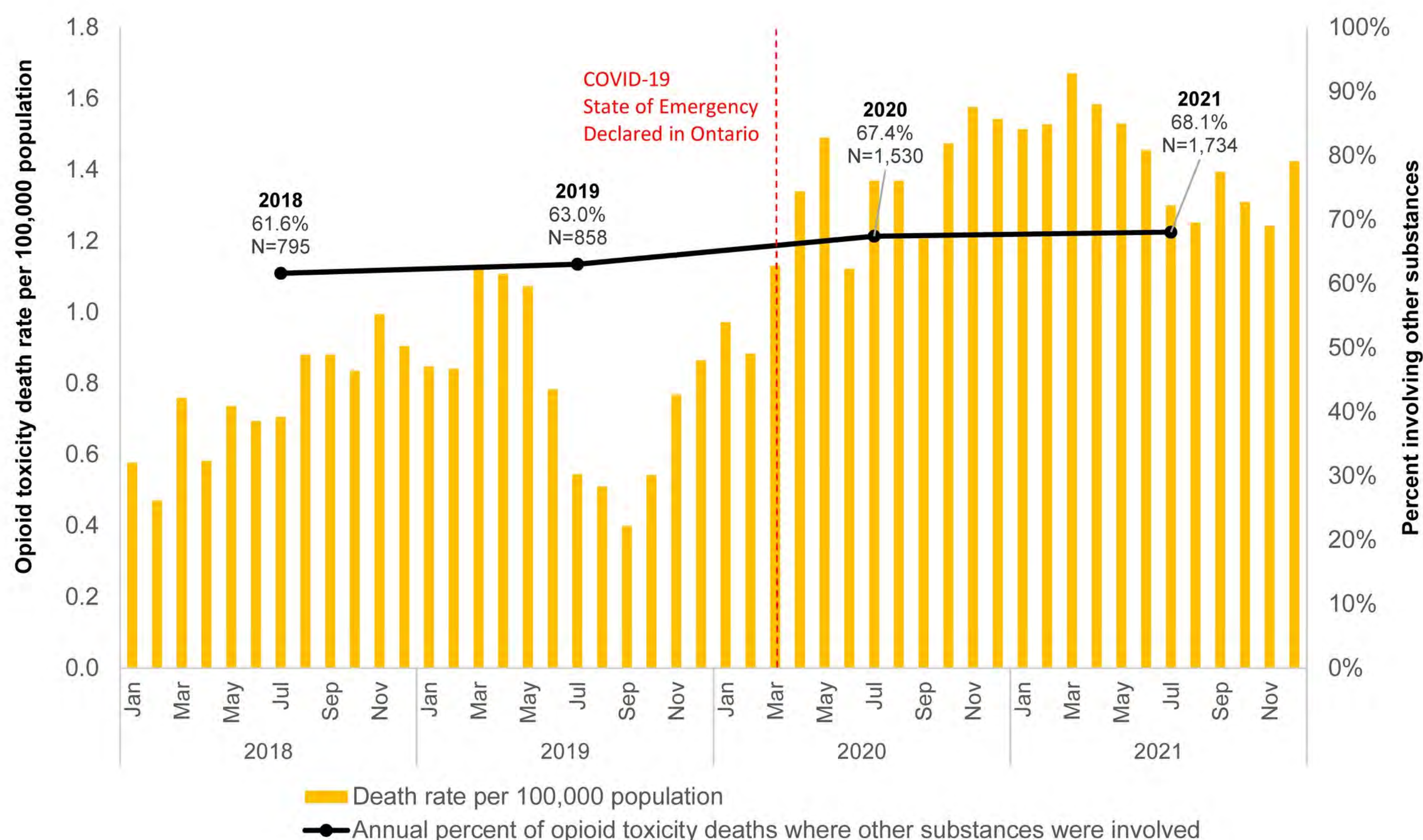
Trends & characteristics

# SUMMARY

**2X Increase** in the number of opioid toxicity deaths from 2018 to 2021

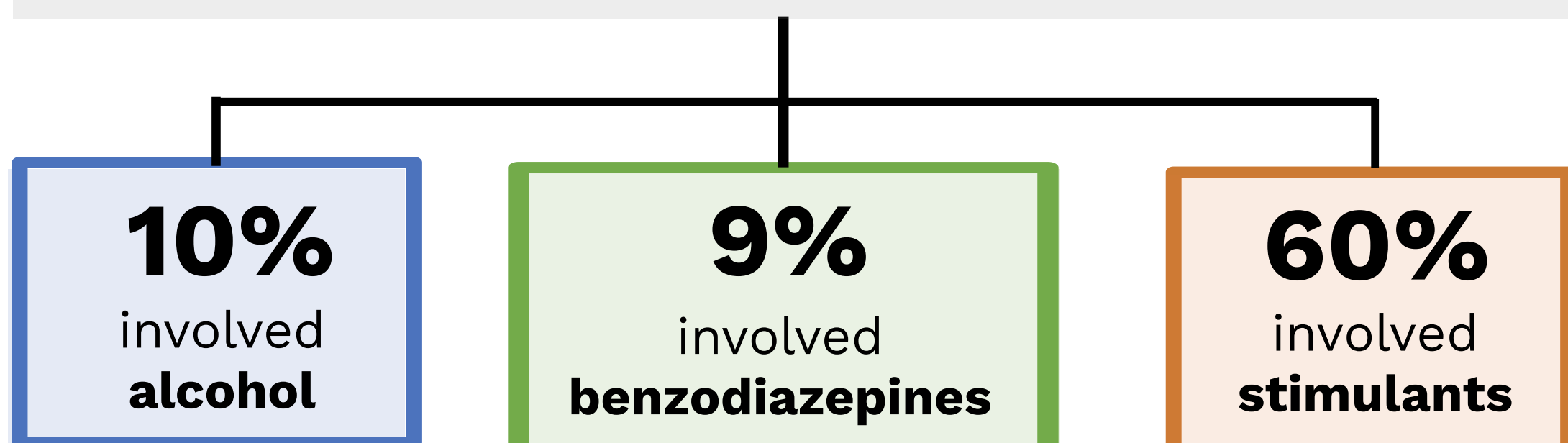
**85%** of all substance-related deaths from 2018 to 2021 **involved opioids** as a direct contributor to death

**2547** Opioid toxicity deaths in 2021  
**90%** were caused by **non-pharmaceutical** opioids



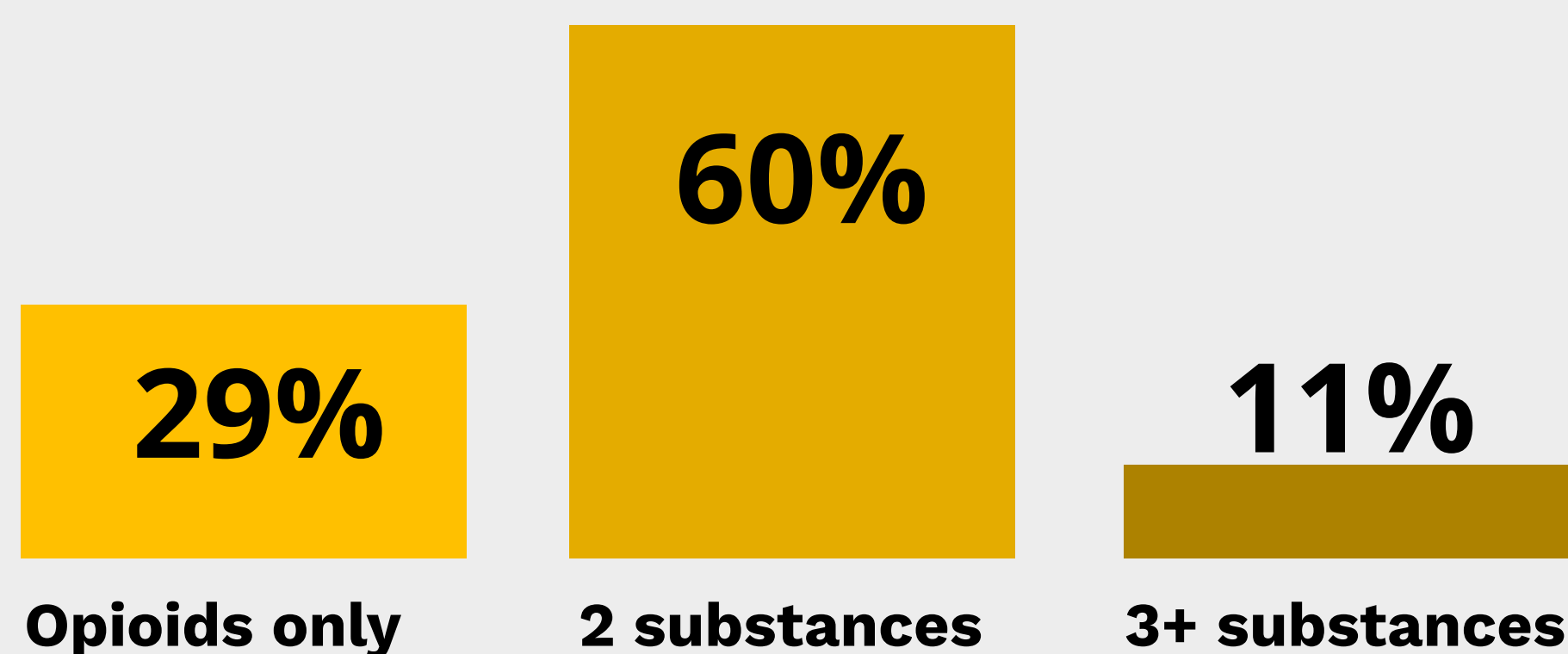
## Opioid Toxicity Deaths in 2021

**68%** of deaths had **other substances** directly contribute to death

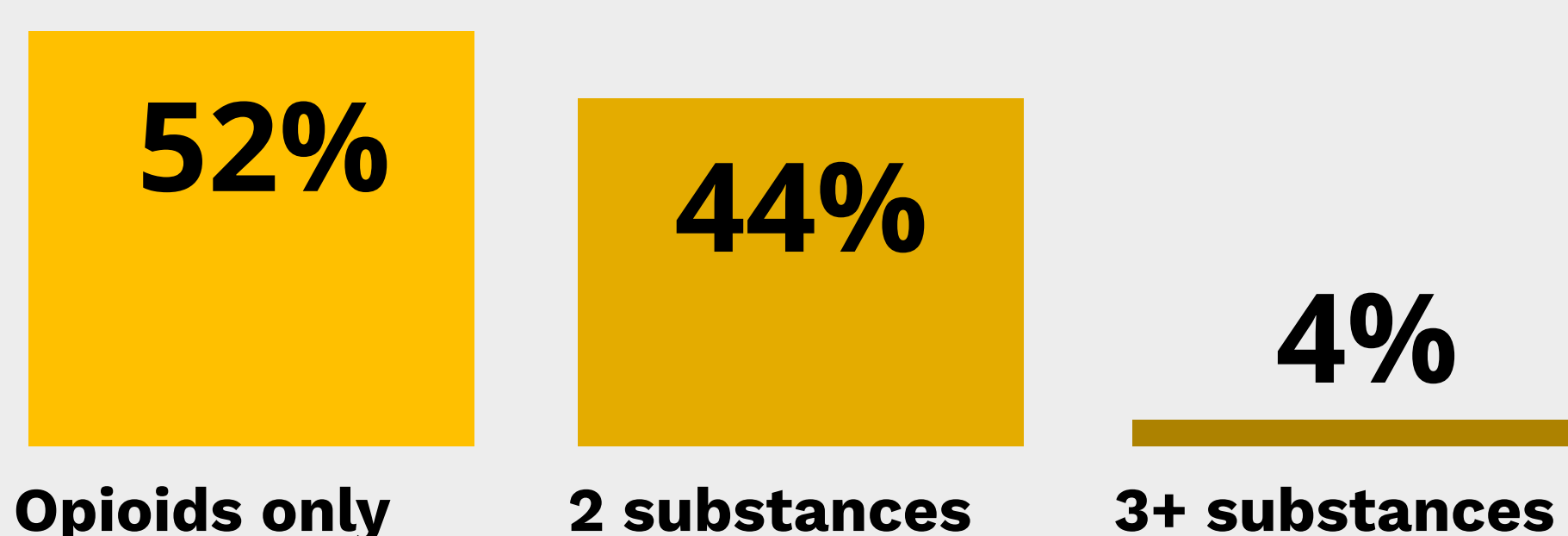


Proportion of deaths by **number of substances** directly contributing to death

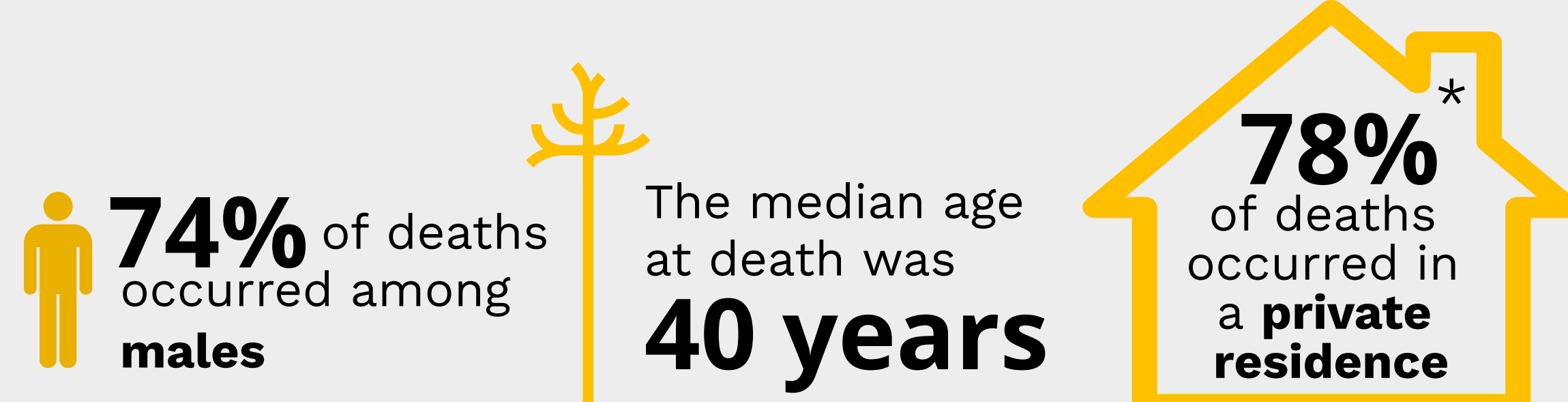
**Non-pharmaceutical opioids** N = 2,303



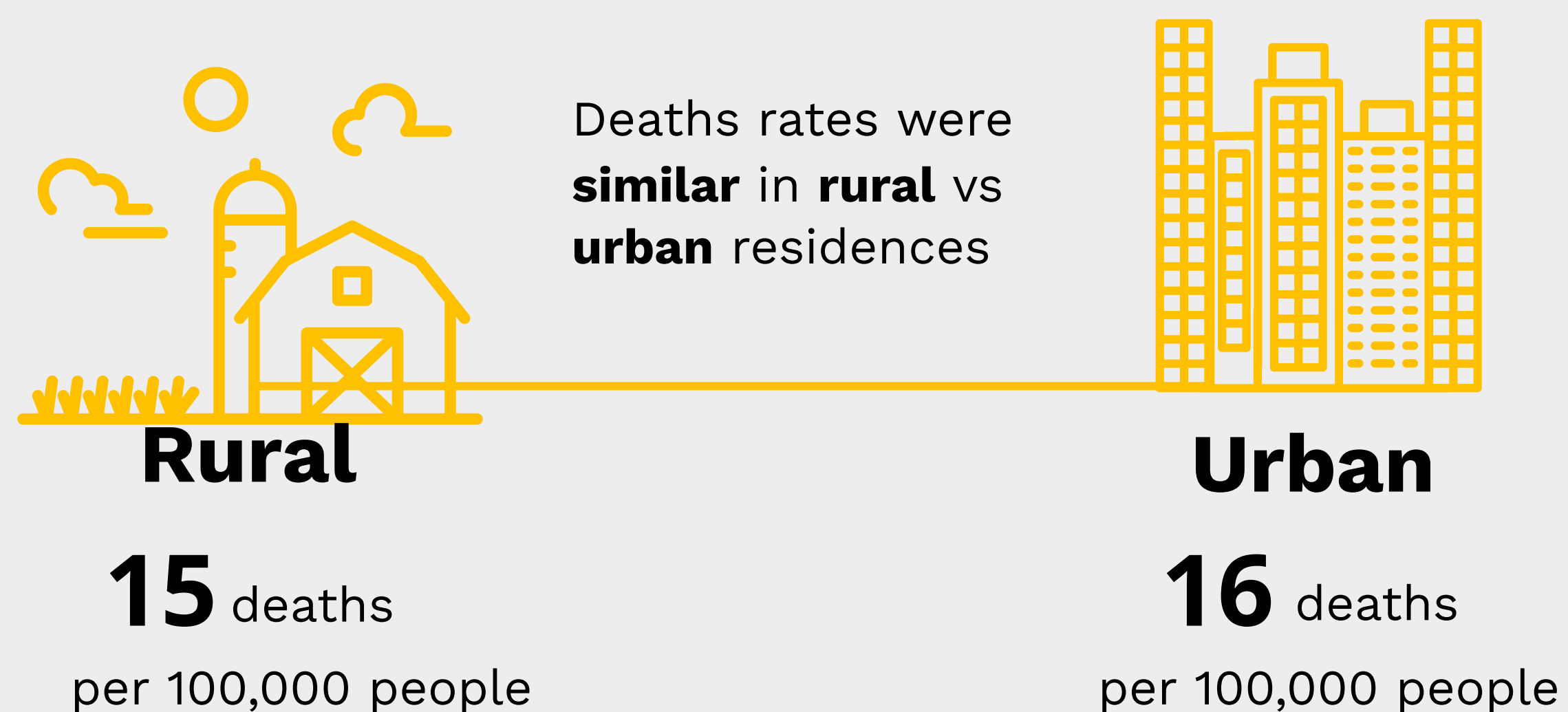
**Pharmaceutical opioids only** N = 204



## Demographics



Death rates for **non-pharmaceutical** and **pharmaceutical** opioids were **3x higher** in **Northern** vs. **Southern Ontario**



\*This proportion is among cases where location of incident was known

This infographic provides a high-level overview of the findings of the report. The complete methods and results are available at <https://odprn.ca/research/publications/characteristics-of-substance-related-toxicity-deaths-in-ontario/>

# Benzodiazepine toxicity deaths

Trends & characteristics

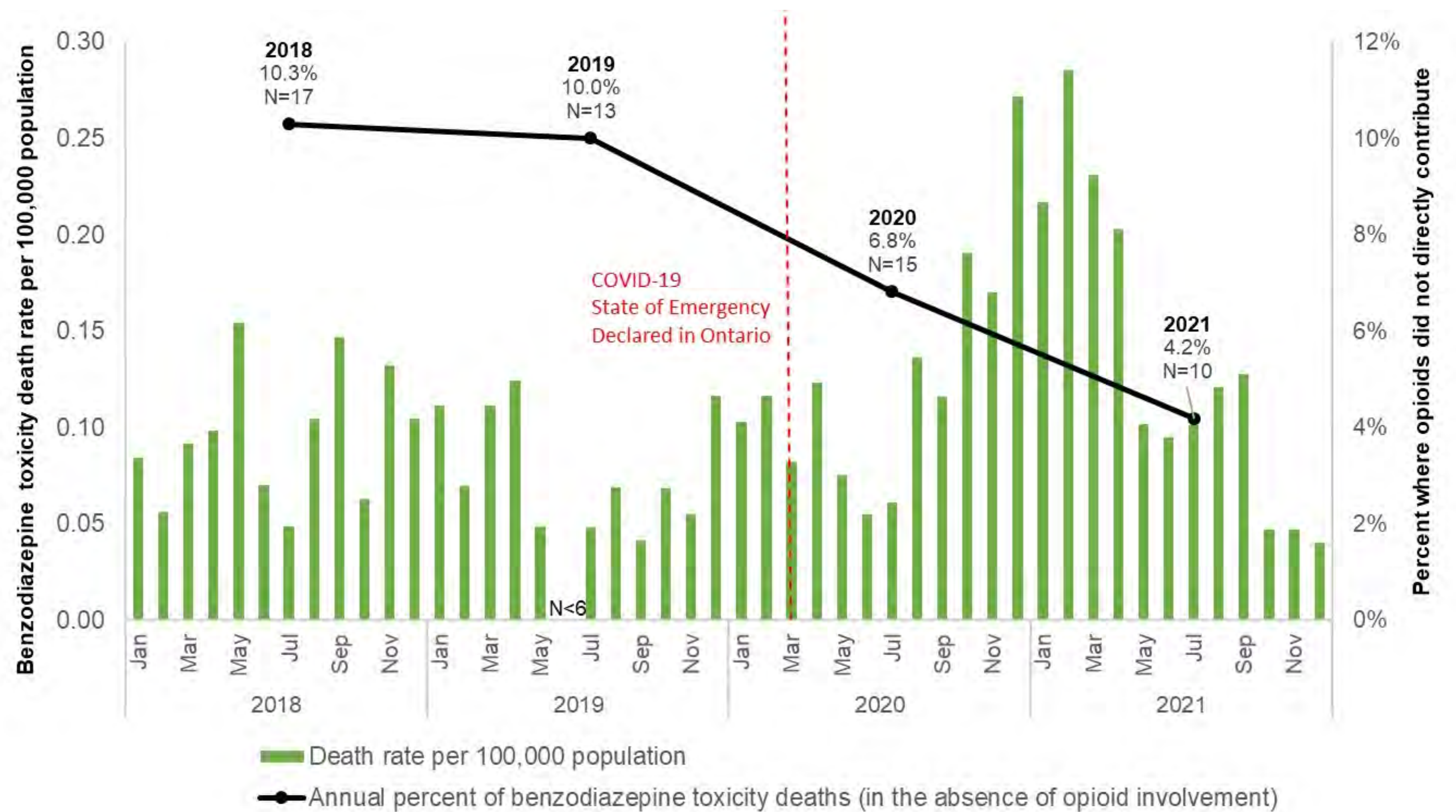
# SUMMARY

**45% increase** in the number of benzodiazepine toxicity deaths from 2018 to 2021

**9%** of all substance-related deaths from 2018 to 2021 **involved benzodiazepine** as a direct contributor to death

**239** benzodiazepine toxicity deaths in 2021

**82%** were caused by **non-pharmaceutical** benzodiazepines



## Benzodiazepine Toxicity Deaths in 2021

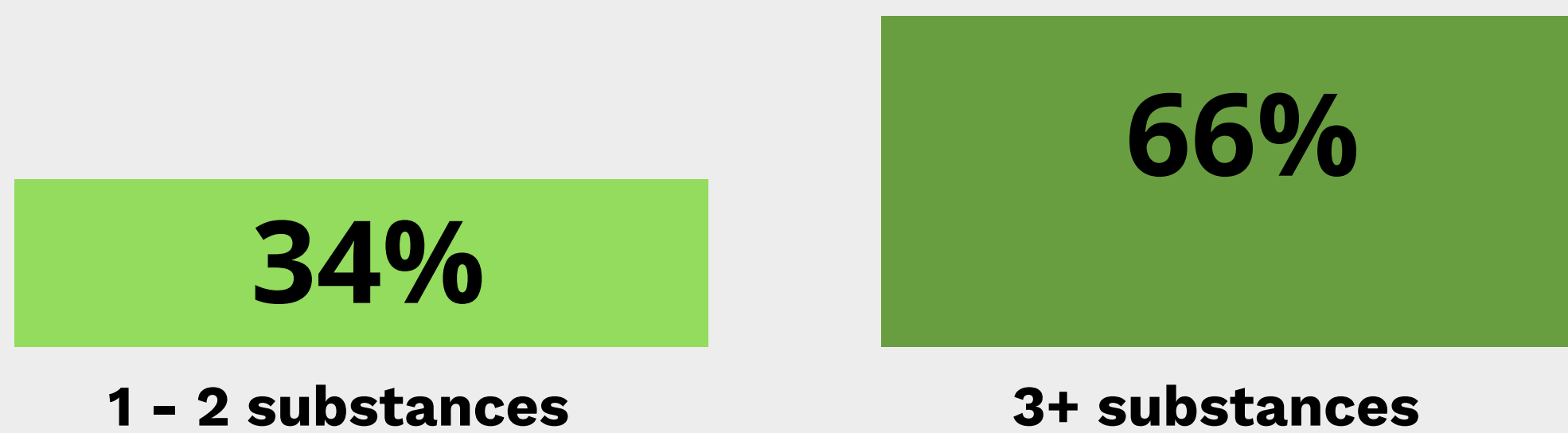
*It is very rare to die from benzodiazepine toxicity alone*

**>98%** of deaths had **other substances** directly contribute to death

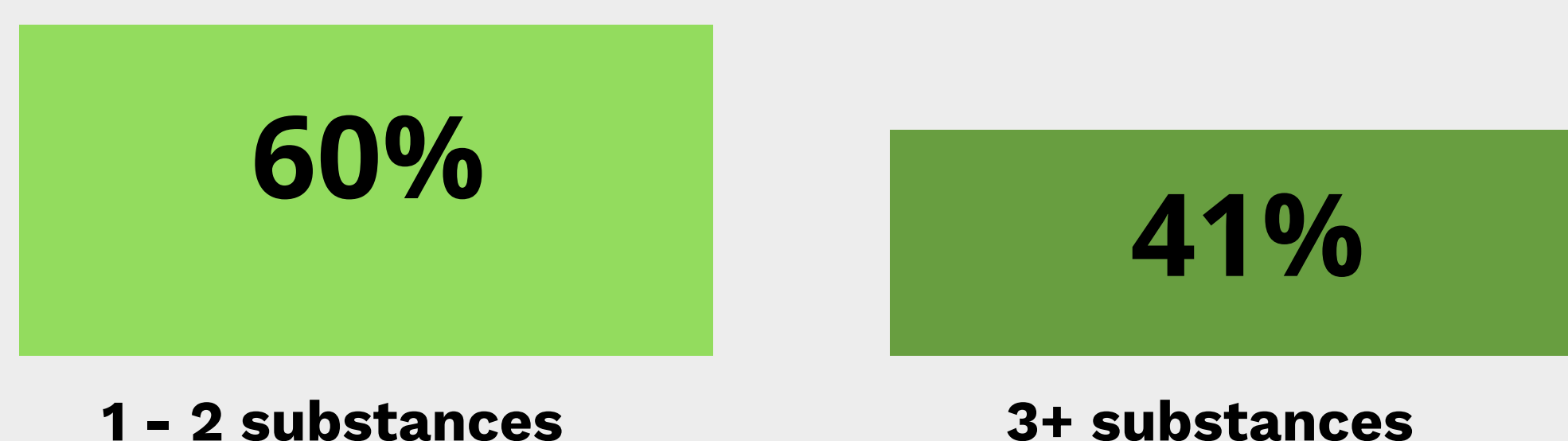


*Proportion of deaths by number of substances directly contributing to death*

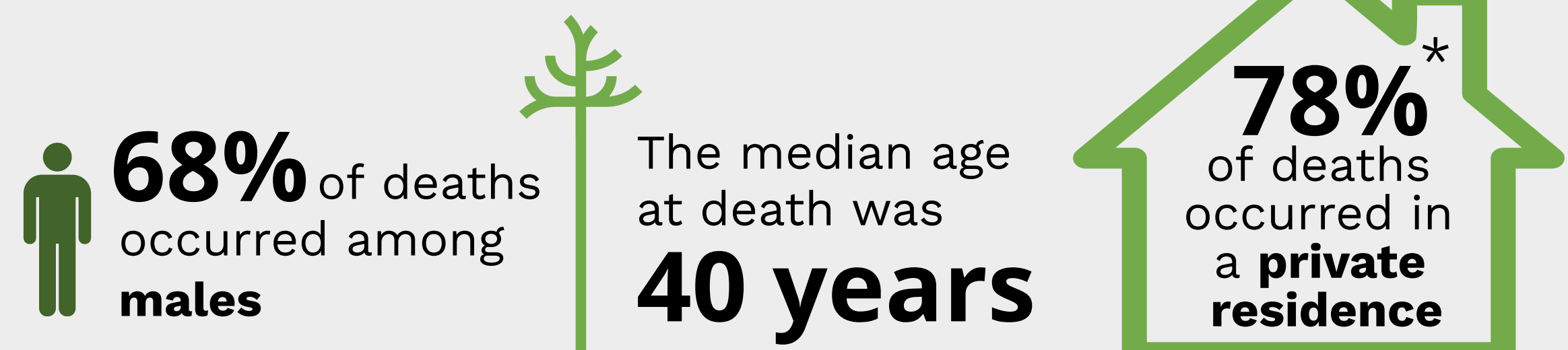
**Non-pharmaceutical benzodiazepines** N = 197



**Pharmaceutical benzodiazepines** N = 42



## Demographics



Death rates for **non-pharmaceutical** benzodiazepines were **2.3X** higher in **Northern** vs. **Southern Ontario**



Death rates for **pharmaceutical** benzodiazepines were **7X** higher in **Northern** vs. **Southern Ontario**



**Rural**

**1.2** deaths per 100,000 people

Deaths rates were **similar** in **rural** vs **urban** residences



**Urban**

**1.5** deaths per 100,000 people

\*This proportion is among cases where location of incident was known

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