

Introduction

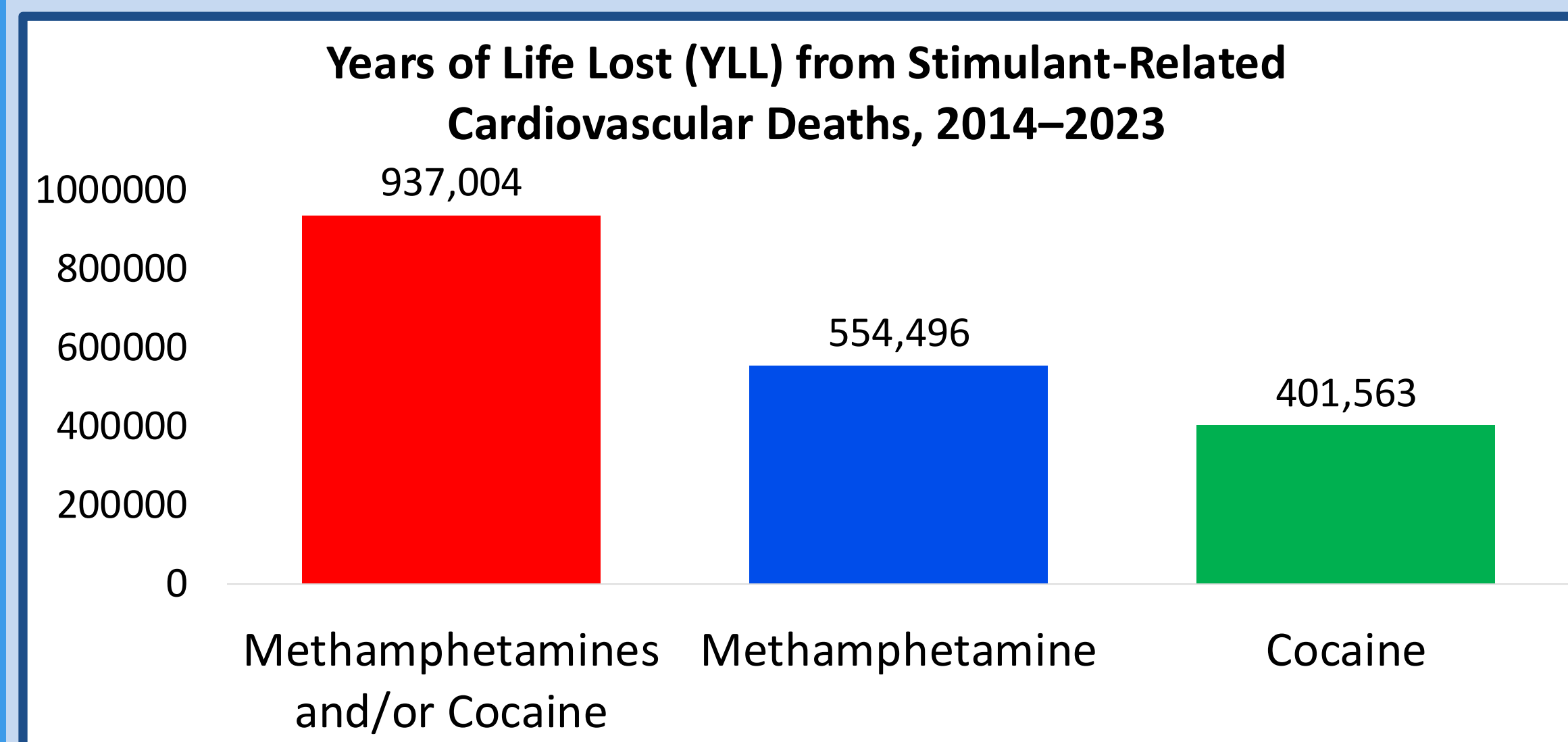
- Mortality from drug misuse is shifting, with stimulants like methamphetamine and cocaine increasingly contributing to deaths.
- Cardiovascular disease (CVD)-related deaths involving stimulants are underreported despite their cardiotoxic effects.
- This study evaluates trends in stimulant-related CVD deaths, quantifies years of life lost (YLL), and examines age-specific YLL changes over a decade (2014–2023).

Methodology

- **Data Source:** CDC-NVSS data from 2014–2023.
- **Inclusion Criteria:** Deaths where CVD was the underlying cause and stimulants were contributing factors.
- **Analysis:**
 - YLL calculated for stimulant CVD deaths.
 - Joinpoint regression to estimate annual percent change (APC) and average annual percent change (AAPC).
 - Trends analyzed using Cuzick's non-parametric test.

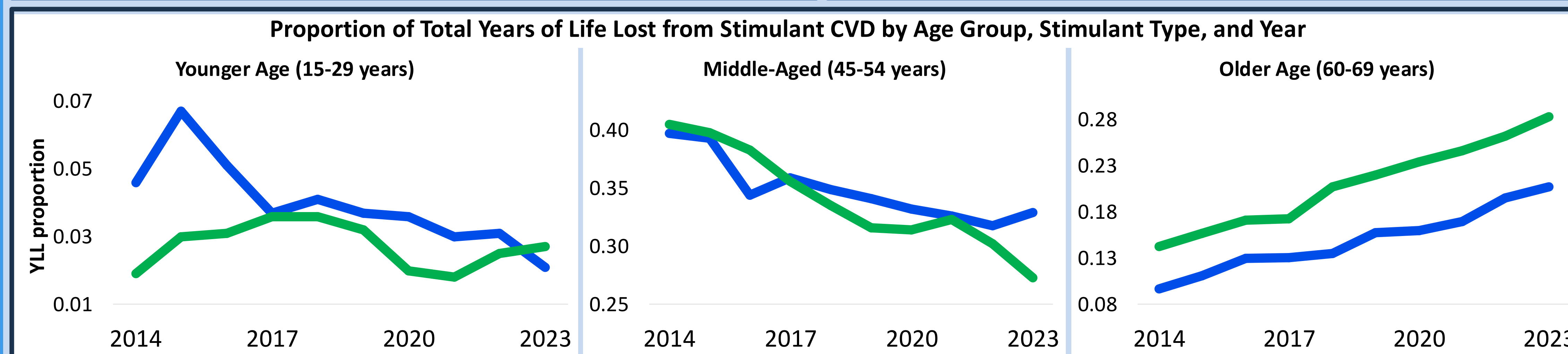
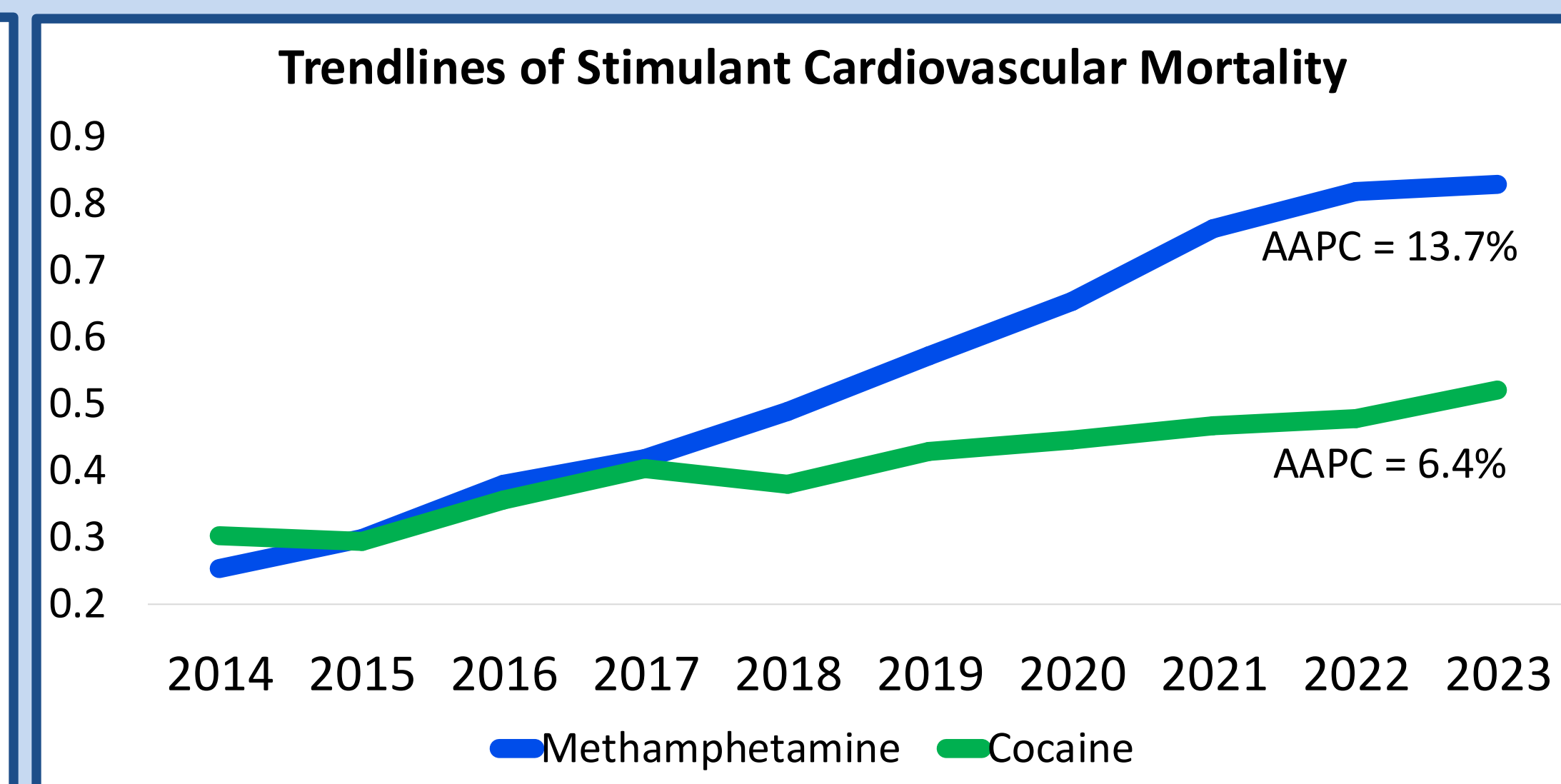
Stimulant CVD Mortality and Years of Life Lost

- **32,765 stimulant CVD deaths resulted in 937,004 YLL.**
- **Methamphetamine: 18,933 deaths (554,496 YLL)**
- **Cocaine: 14,482 deaths (401,563 YLL).**



Trend lines in Stimulant CVD Mortality:

- **Methamphetamine CVD deaths had the highest growth rate (AAPC: 13.71%).**
- **Cocaine CVD deaths rose steadily (AAPC: 6.35%).**
- **All stimulant CVD mortality increased (AAPC = 10.0%)**



Proportion of Total Years of Life Lost by Age Group, Stimulant Type, and Year

- **Younger age (15–29 years): Moderate but significant decline in methamphetamine CVD YLL (p<0.05)**
- **Middle-aged groups (45–54 years): YLL declined for methamphetamine and cocaine (p<0.05)**
- **Older adults (60–69 years): Strong increase in YLL for methamphetamine and cocaine (p<0.01).**

Conclusions

- Stimulant-involved CVD mortality has risen dramatically over the past decade, resulting in over 900,000 YLL.
- Rising mortality in older adults highlights the need for targeted interventions addressing long-term cardiovascular risks and comorbidities.

Recommendations:

- Accelerating research on FDA-approved treatments for stimulant use disorder.
- Integrating cardiovascular screening into substance use care.

Limitations:

- Potential miscoding of death causes and incomplete drug data on certificates.
- Difficulty distinguishing acute vs. chronic stimulant effects.

Selected References

1. Tobolski J et al., Heart Fail Rev, 2022.
2. Arenas DJ et al., Sci Rep, 2020.
3. SAMHSA National Survey on Drug Use and Health, 2024.

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Conflict of Interest Disclosures

None