# Trends in drug poisoning deaths and differences between men and women

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Health Research Board

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# Background

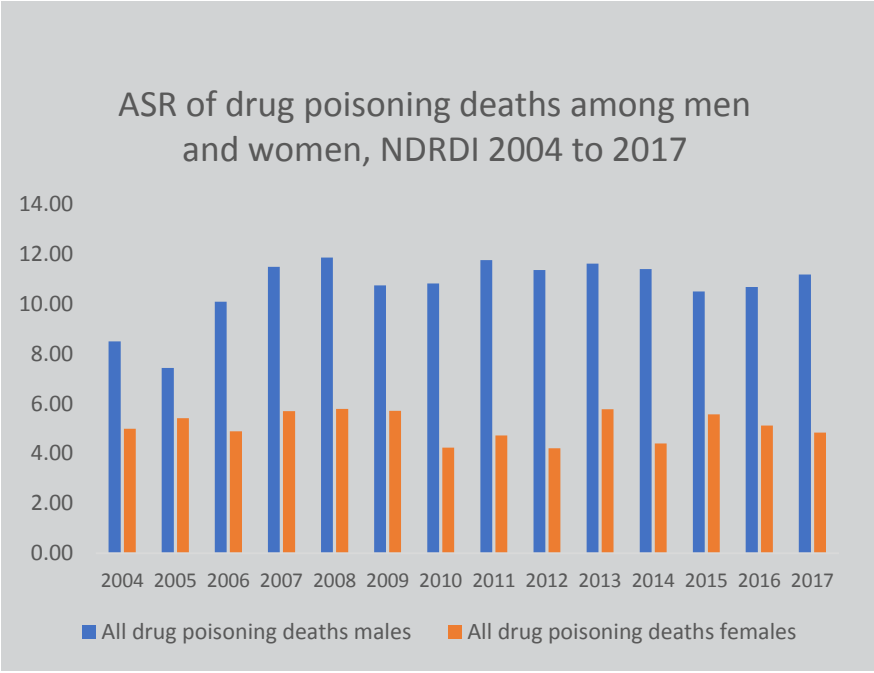
## Drug poisoning deaths in Ireland

- No significant decrease in drug poisoning deaths among men or women

- Scoping review:

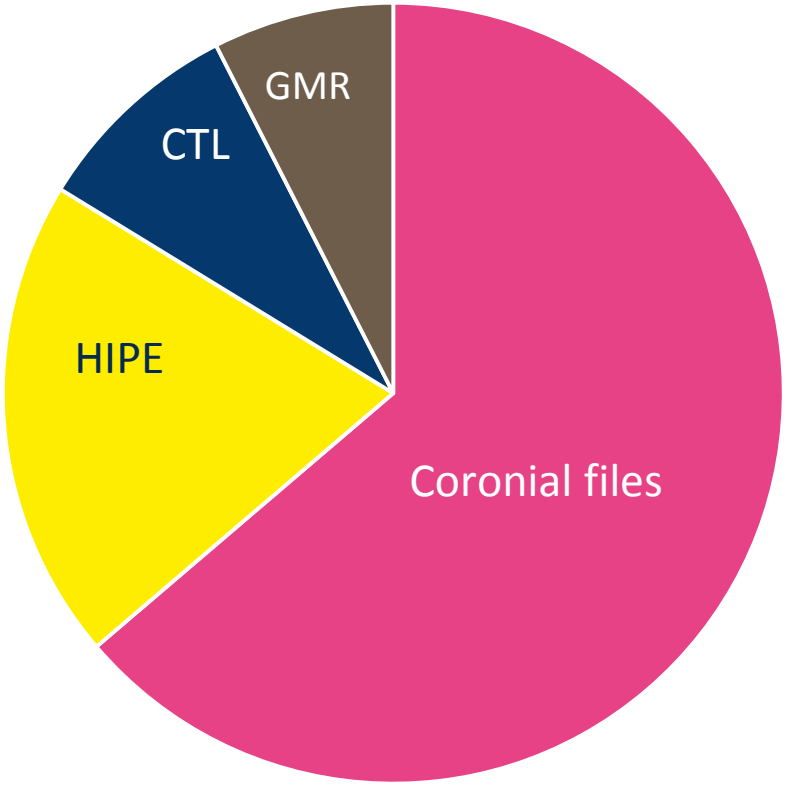
‘Drug Poisoning Deaths Among Women: A Scoping Review’

- Importance of stratifying by sex: Data dominated by men - Masking of specific issues related to women




# National Drug-Related Deaths Index (NDRDI) Data sources

- Closed coronial files
- Hospitals within HIPE system
- Central Treatment System
- General Mortality Register through the Central Statistics Office



# NDRDI definition of drug poisoning

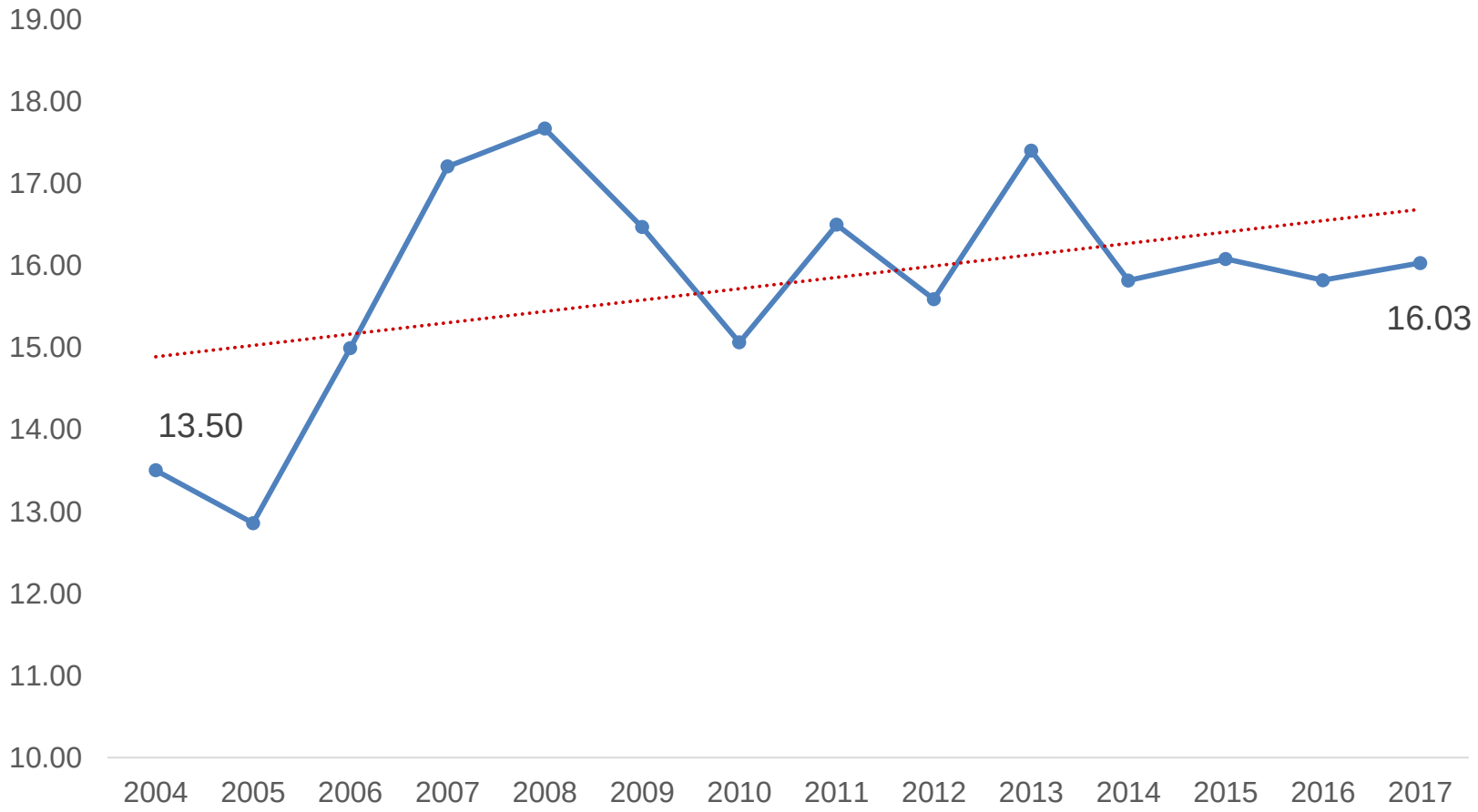
# Methods: analysis

- Age-standardised rates: allows comparisons without being affected by differences in age distributions for the different years

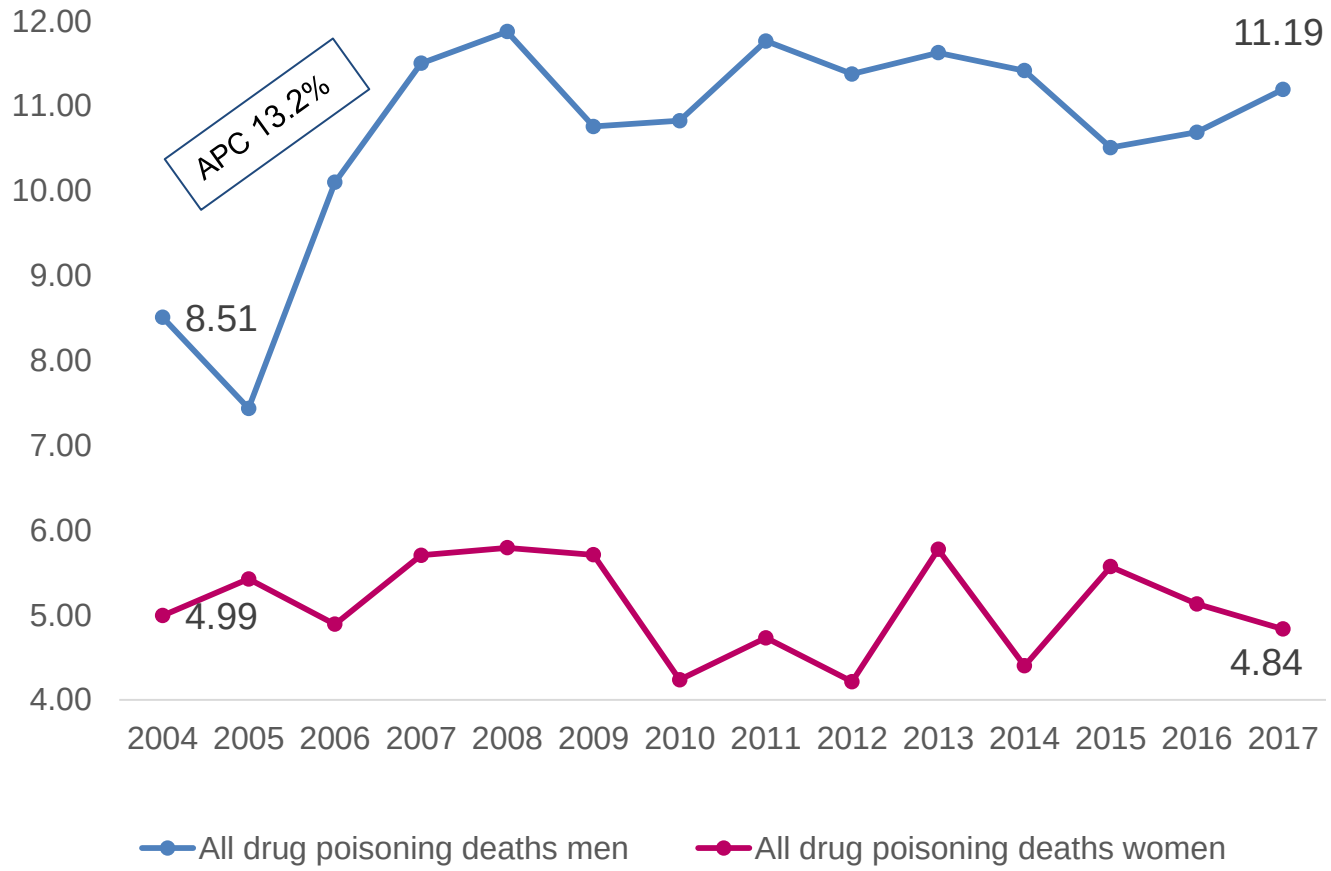
- Age-standardised rates per 100,000 of the general population for all drug poisoning deaths and for the main drugs/drug groups, stratified by sex: years of death 2004 to 2017

- Joinpoint regression - trend analysis: annual percentage changes (APCs) and average annual percentage changes (AAPCs)

# Age-standardised rates of All drug poisoning deaths, per 100,000 of the general population, 2004 to 2017



# ASR of All drug poisoning deaths, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex




**Men**

- Significant increase
- AAPC: 2.6% (0.2 to 5.1)

**Women**

- No significant increase or decrease

# Drugs involved in poisoning deaths

# ASR of drug poisoning deaths involving cocaine, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex

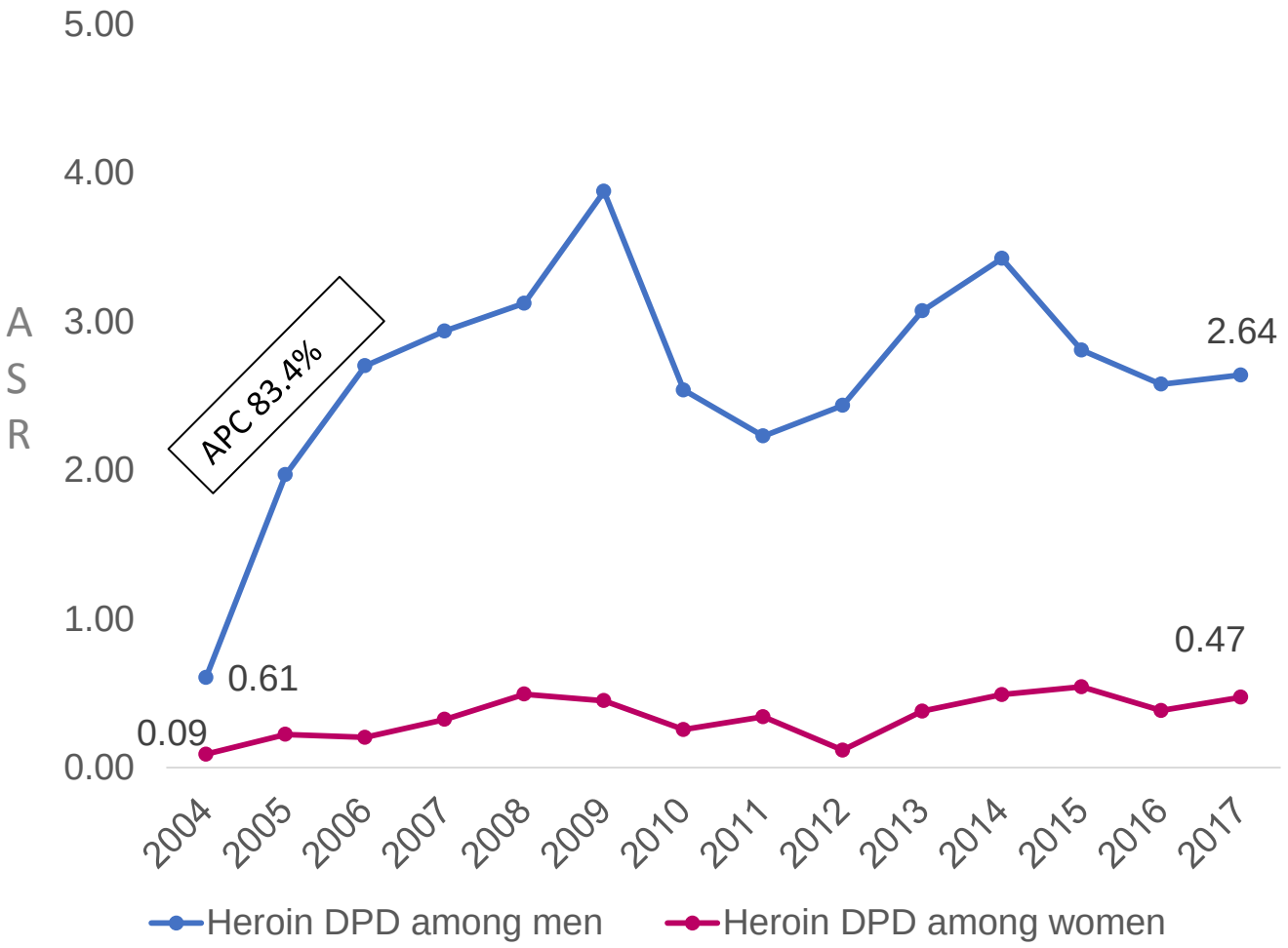

**Men**

- Statistically Significant increase 2004-06
- ↑ 2010-17
- AAPC: 7.7%

**Women**

- No overall statistically significant increase or decrease
- ↑ 2011-17

# ASR of drug poisoning deaths involving heroin, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex



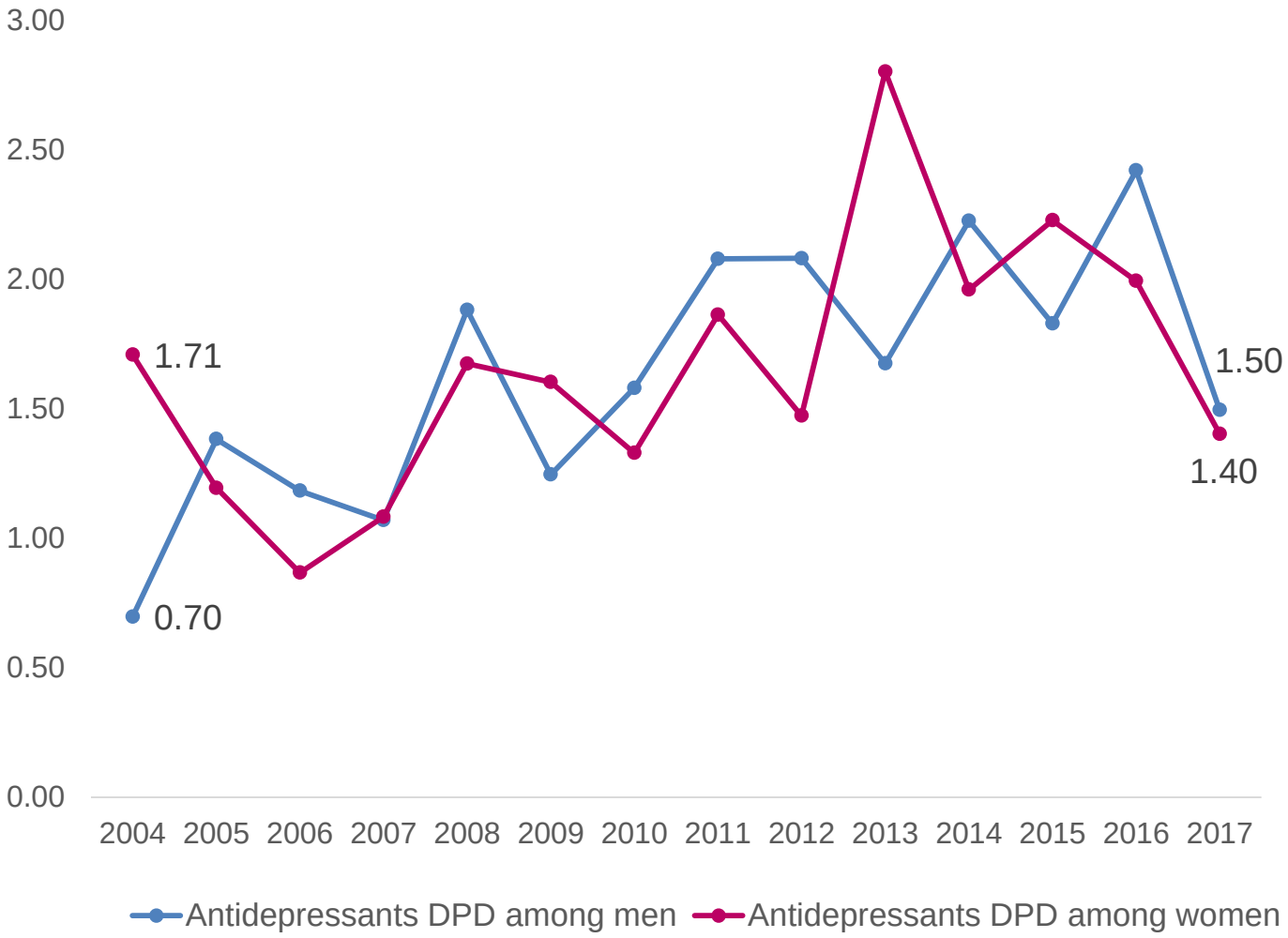

**Men**

- Overall no statistically significant change

**Women**

- Overall no statistically significant change

# ASR of drug poisoning deaths involving antidepressants, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex



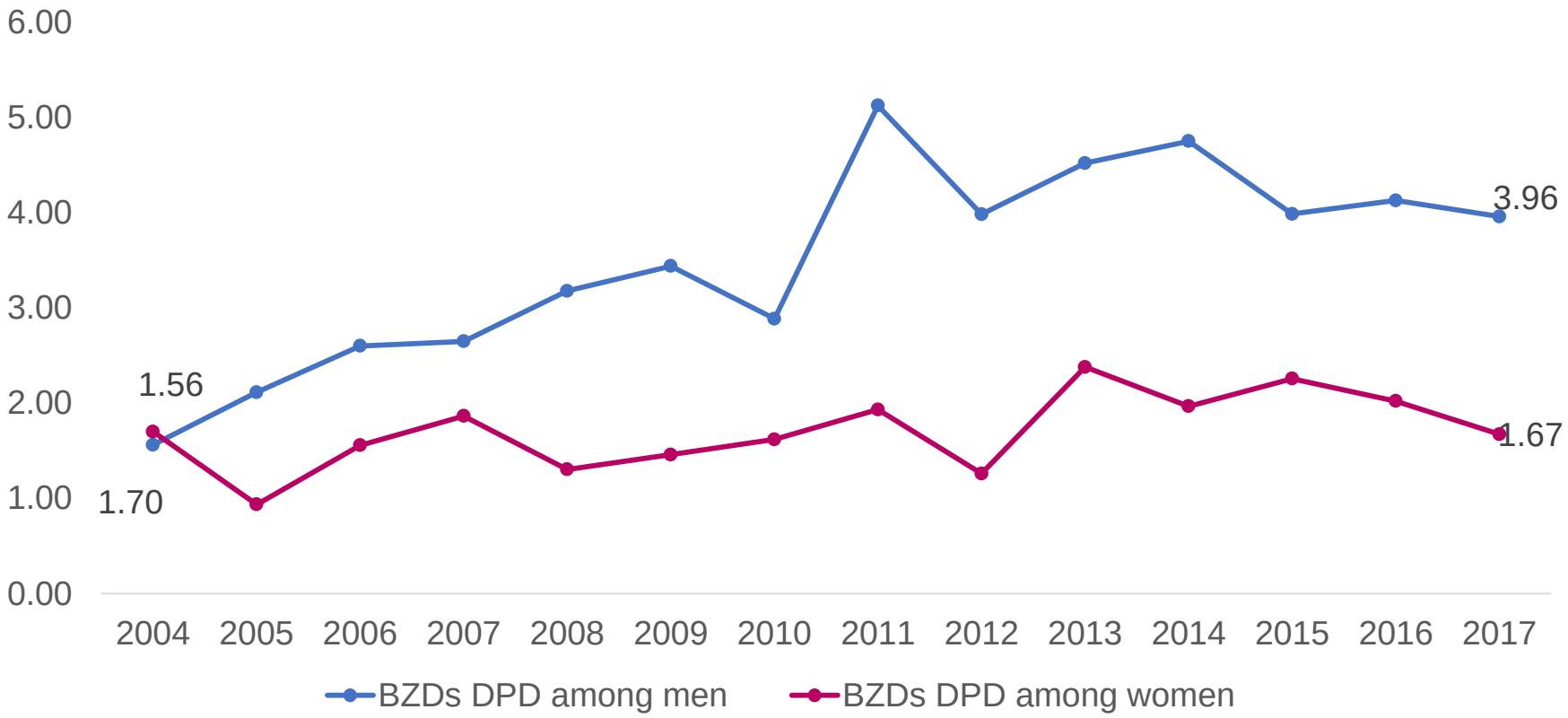

**Men**

- Overall significant increase
- AAPC = 6.1%

**Women**

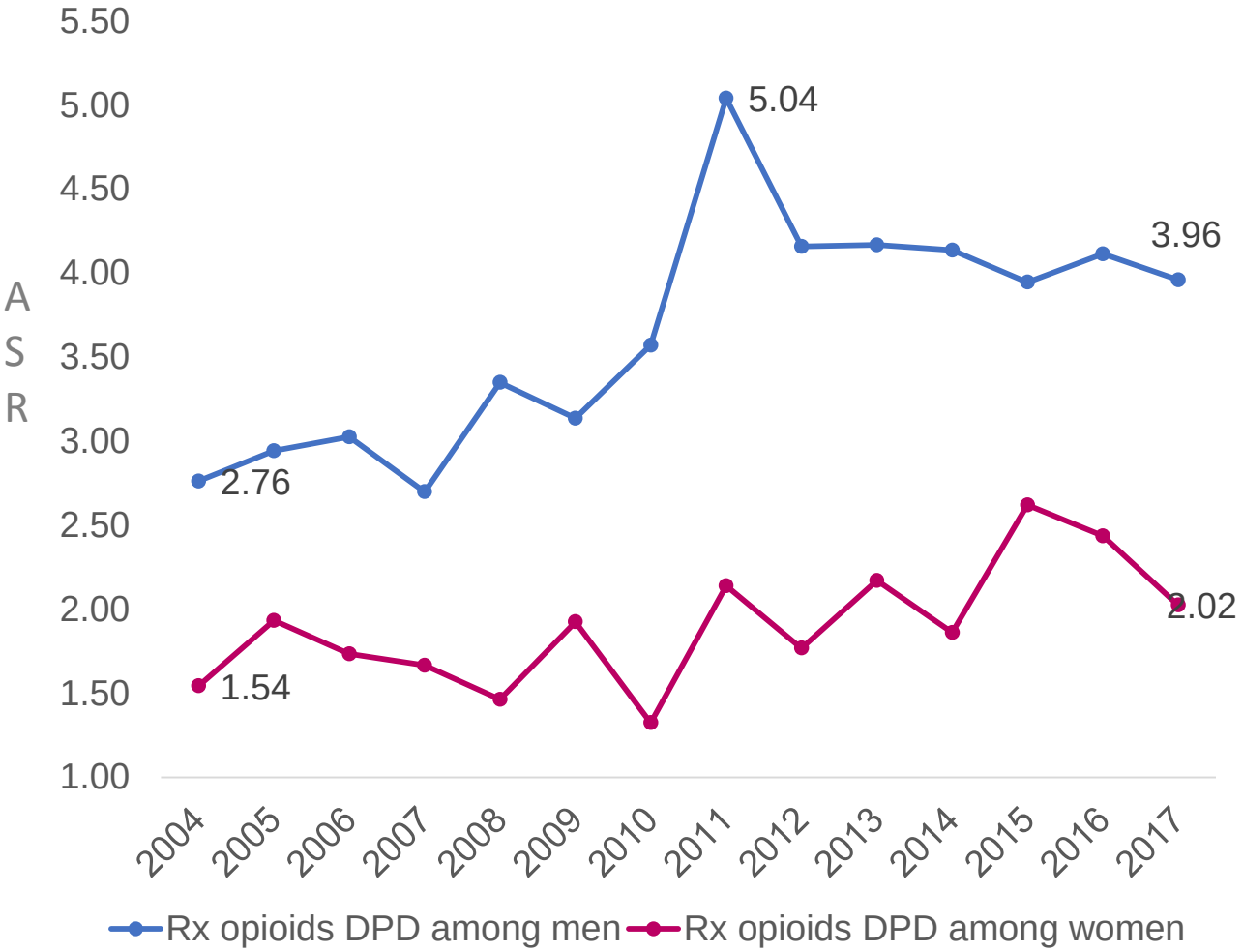
- Overall significant increase
- AAPC = 4.2%

# ASR of drug poisoning deaths involving benzodiazepines, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex




- Benzodiazepines are the 2nd most common drug group in drug poisoning deaths
- Significant increase for both men (AAPC 7.2%) and women (APPC 3.3%)
- Does the data show an impact of 'street' BZDs?

# ASR of drug poisoning deaths involving prescribable opioids, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex – 61% involved methadone (4 in 10 prescription methadone)



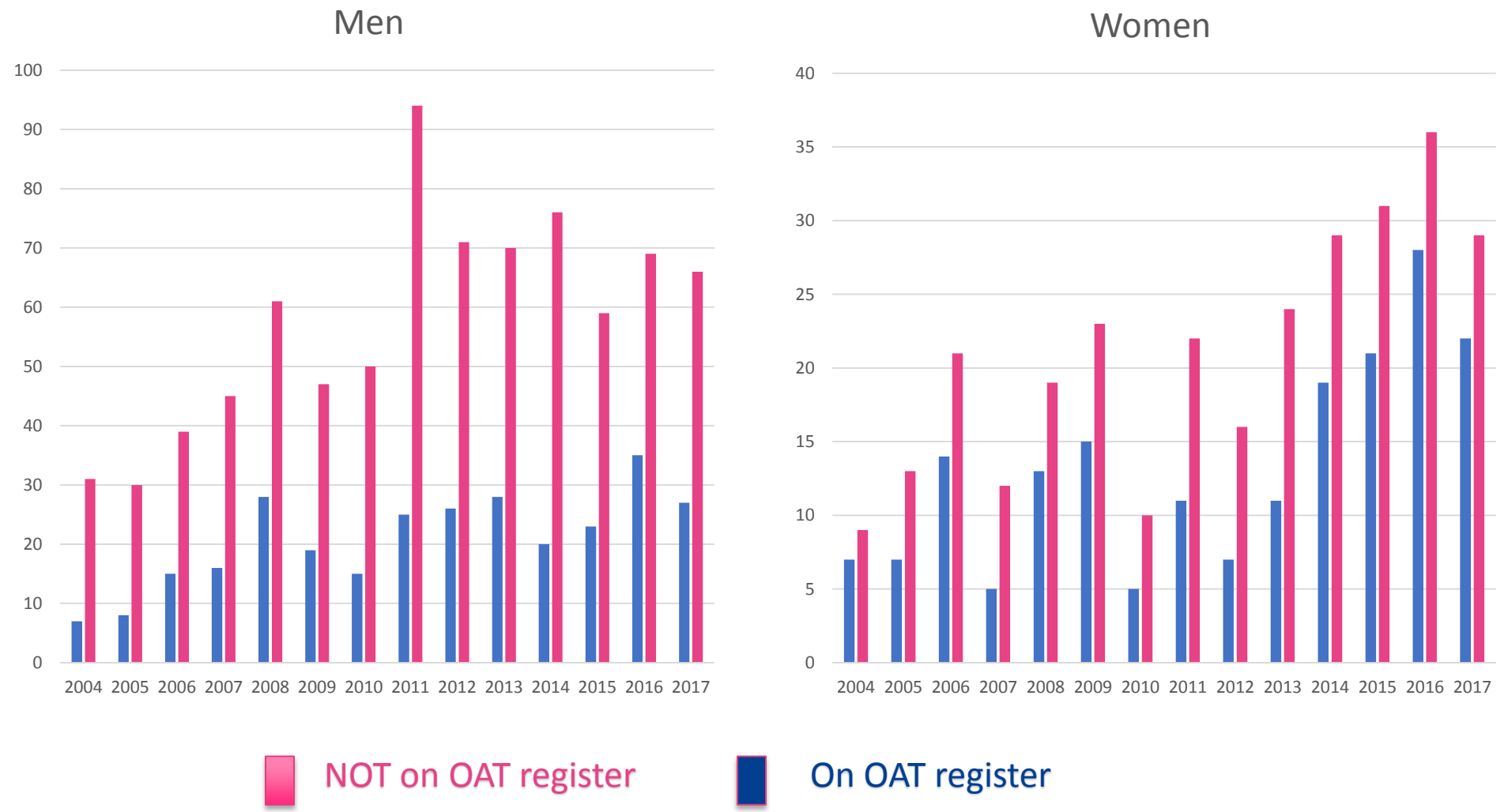

**Men**

- Significant increase
- Methadone: 1 in 3 (36%) were on prescribed methadone
- AAPC = 3.5%

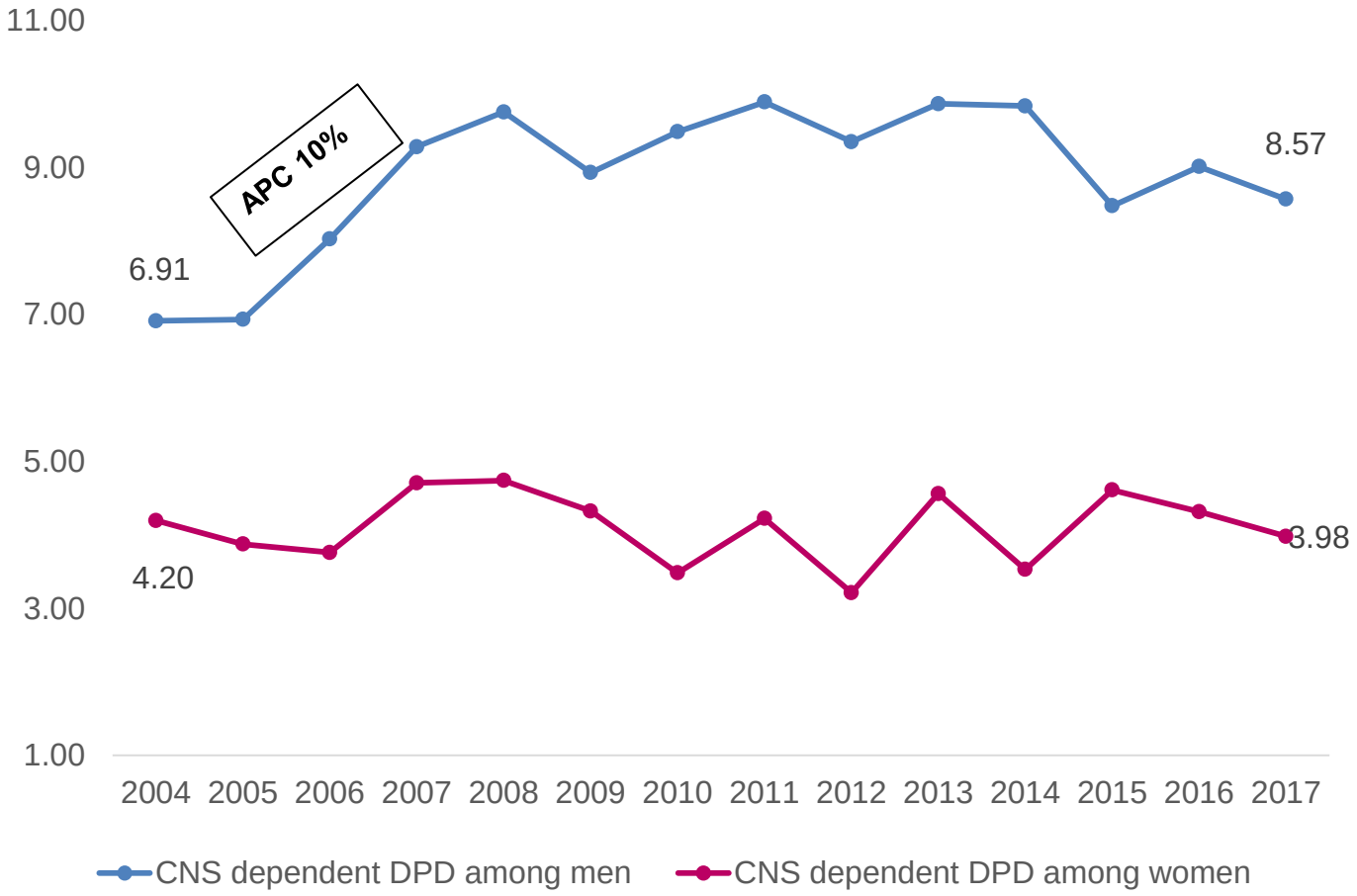
**Women**

- Significant increase
- Methadone: **2 in 3** (63%) were on prescribed methadone
- AAPC = 3.0%

# Trends in poisoning deaths involving methadone, NDRDI, 2008 to 2017



# ASR of drug poisoning deaths involving CNS depressant drugs, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex



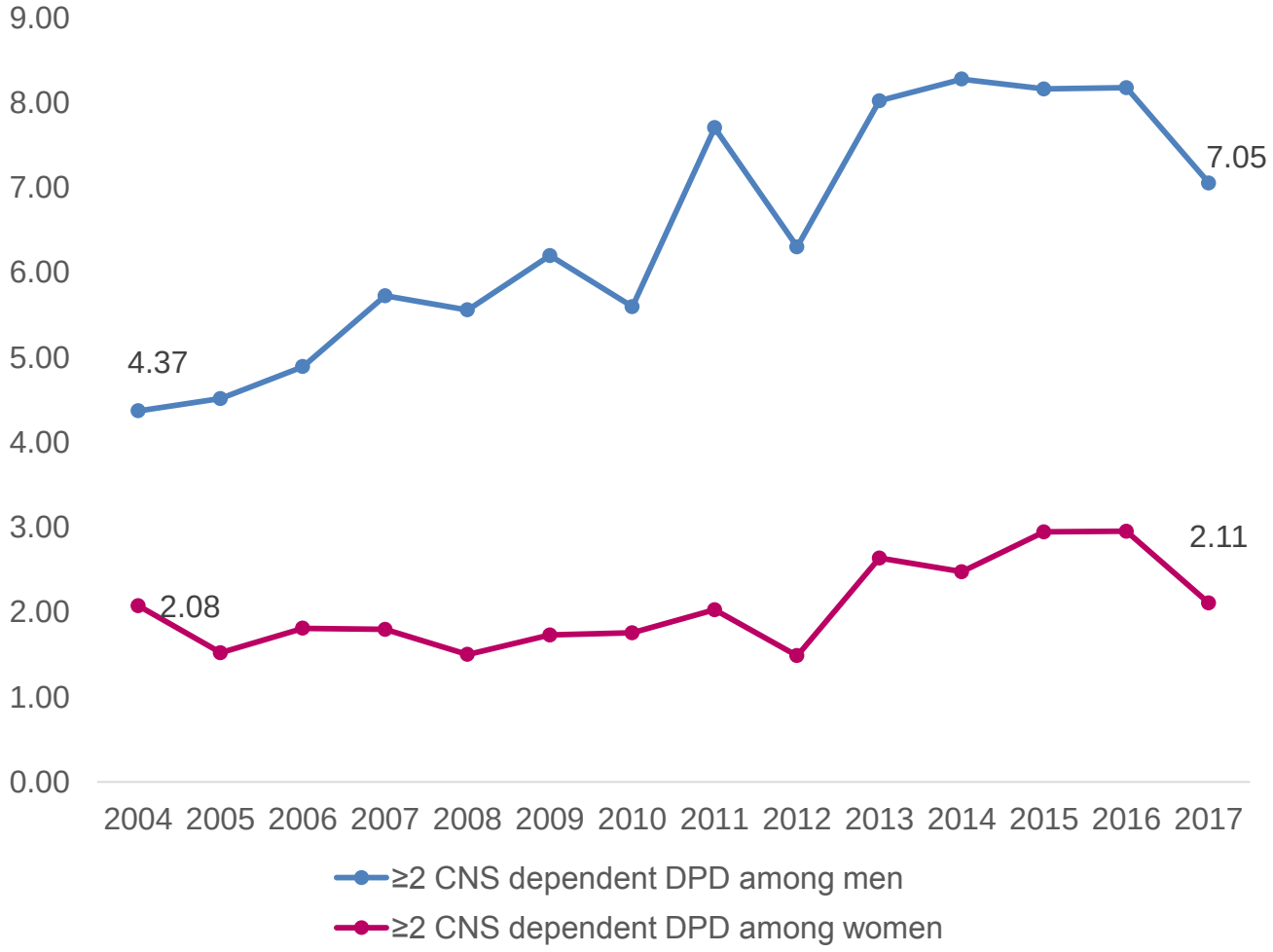

**Men**

- Overall significant increase
- 2004-08 APC = 10%
- AAPC = 2.2%

**Women**

- No statistically significant AAPC

# ASR of drug poisoning deaths involving ≥ 2 CNS depressant drugs, per 100,000 of the general population, with APCs and AAPCs, 2004 to 2017, stratified by sex




**Men**

- Overall increase
- AAPC = 5.6%

**Women**

- Overall increase
- Physiological sex differences – metabolism/drug action
- AAPC = 4.0%

# Pregabalin – included in CNS depressant drug group

**People who died of a drug poisoning death and -**

- had a history of **opioid misuse** - were 1.7 times more likely to have pregabalin on toxicology, this risk factor remain statistically significant for men (AOR 1.8) but not for women

- were in receipt of **treatment for substance misuse** were twice as likely (AOR 2.0) to have pregabalin on toxicology, with this risk higher for women (AOR 2.6) relative to men (AOR 1.8)

- had pregabalin on tox – 98% had **other CNS dep drug** (85% ≥2 other CNS dep drugs) with women 3 times more likely to have ≥2 other CNS dep drugs on toxicology than men

# Conclusions

- Using ASR – there is an overall increase in drug poisoning deaths
- Increase in drug poisoning deaths mainly driven by deaths among men
- Highest AAPC - Men: cocaine / benzos / antidep / prescription opioids
  - Women: antidep / benzos / prescription opioids
- Increasing trend of ≥ 2 CNS depressant drugs involved in drug poisoning deaths among men and women is of concern

**Reference: Lynn E, Cousins G, Lyons S, Bennett KE. (2021). Trends in drug poisoning deaths, by sex, in Ireland: a repeated cross-sectional study from 2004 to 2017. *BMJ Open*. 11:e048000. doi:10.1136/bmjopen-2020-048000**

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