

Cause-specific Mortality: “Deaths of Despair” in Spain



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** Presenter





Outline

- Background
- Data and methods
- Results
- Conclusions
- Future Research



Background

- After increasing for decades, life expectancy in the **US** as a whole began to marginally decline around 2014. The decline was driven in part by a surge of “Deaths of despair” (HMD; Case and Deaton, 2015, 2017).



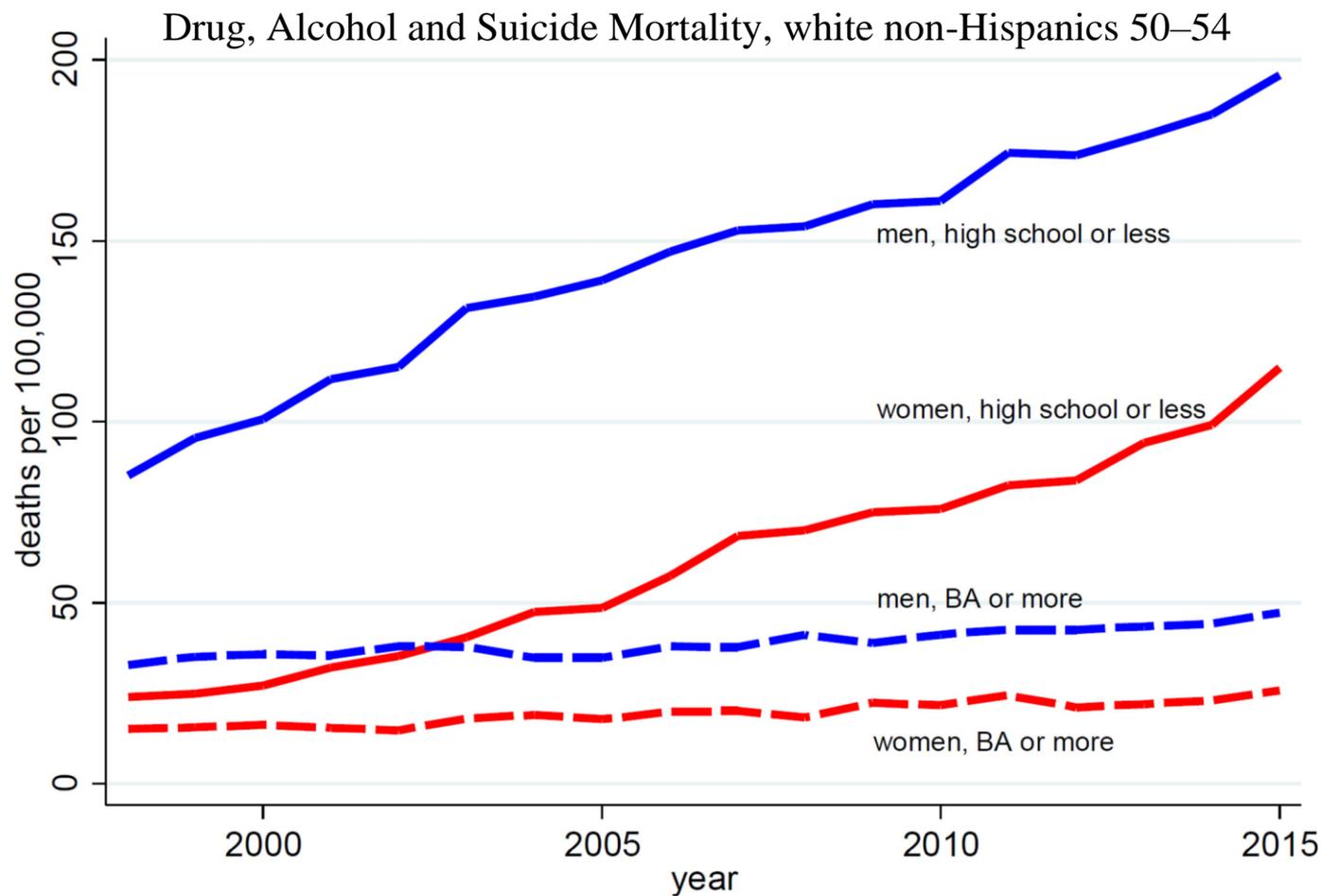
Among **midlife NH Whites** mortality has been increasing since the late 1990s, especially due to increases in suicide, drug and alcohol poisonings, and chronic liver diseases and cirrhosis.



Increases in deaths of despair were by far the largest for those with the **least education** (\leq High School).



Case and Deaton 2017





Background

- Deaths of Despair: explanations for self-destructive behaviors (Case & Deaton 2015, 2017; Stein et al. 2017; Knapp et al. 2019):
 - Low level of education
 - Economic insecurity
 - Living in deprived areas
 - Marriage and child outcomes
 - (Bad) health
 - Widespread availability of opioides
- Does this narrative apply to Spain?



**cumulative
disadvantage**



Aim

- To examine trends in all-cause and cause-specific mortality (*“deaths of despair”*) in Spain, from 1980 to 2019, by gender and age.
- To quantify educational differences for the years for which such data are available (2017-19).

Methods: Data sources & Study Population

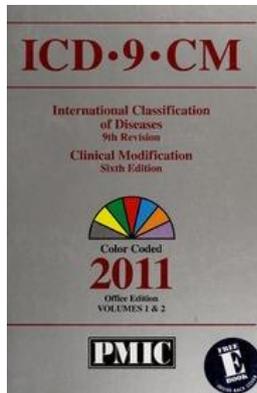


- Data trends on all-cause and cause specific mortality were derived from:
 - National Statistics Institute (INE), database from 1980-2019
 - Deaths at age 25-64 (all-age, single age, 25-44, 45-64)
 - Stratification by gender and education*
- *Educational attainment data from 2017-2019
 - **Low** (less than secondary education)
 - **Middle** (secondary education and intermediate vocational training)
 - **High** (higher vocational training and university)

Methods: Data sources & Analysis



- Causes of death, by ICD-9 (1980-98) and ICD-10 (1999-2019) codes



- Standardized mortality rates per 10,000 population, using the 2013 European Standard Population.
- Confidence Intervals (CI's) 95% for educational differences



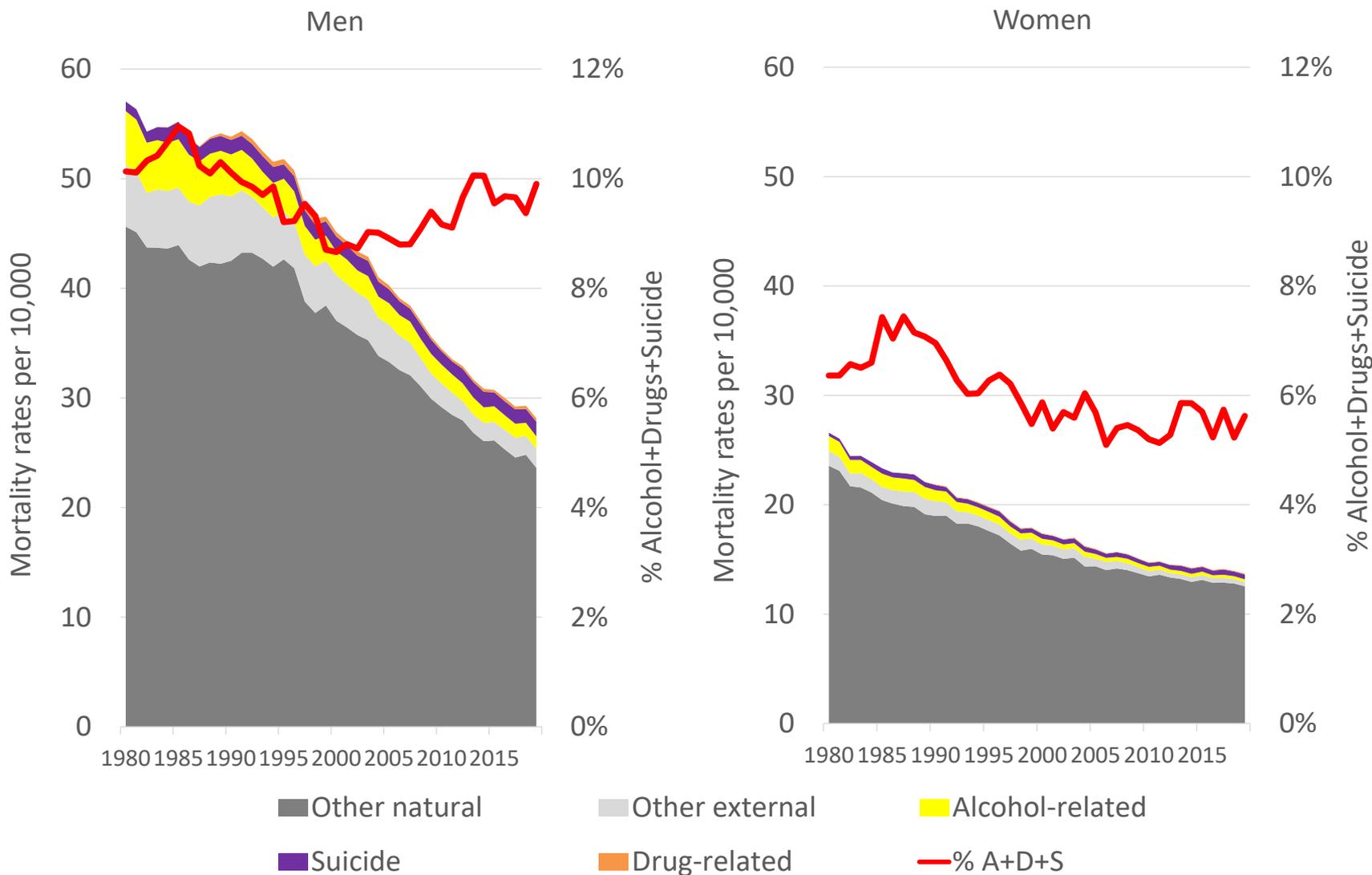
Methods: Classification Causes of Death

5-groups of causes of death

- Alcohol-related
 - Drug-related
 - Suicide
 - Other Natural
 - Other External
- Deaths of Despair**

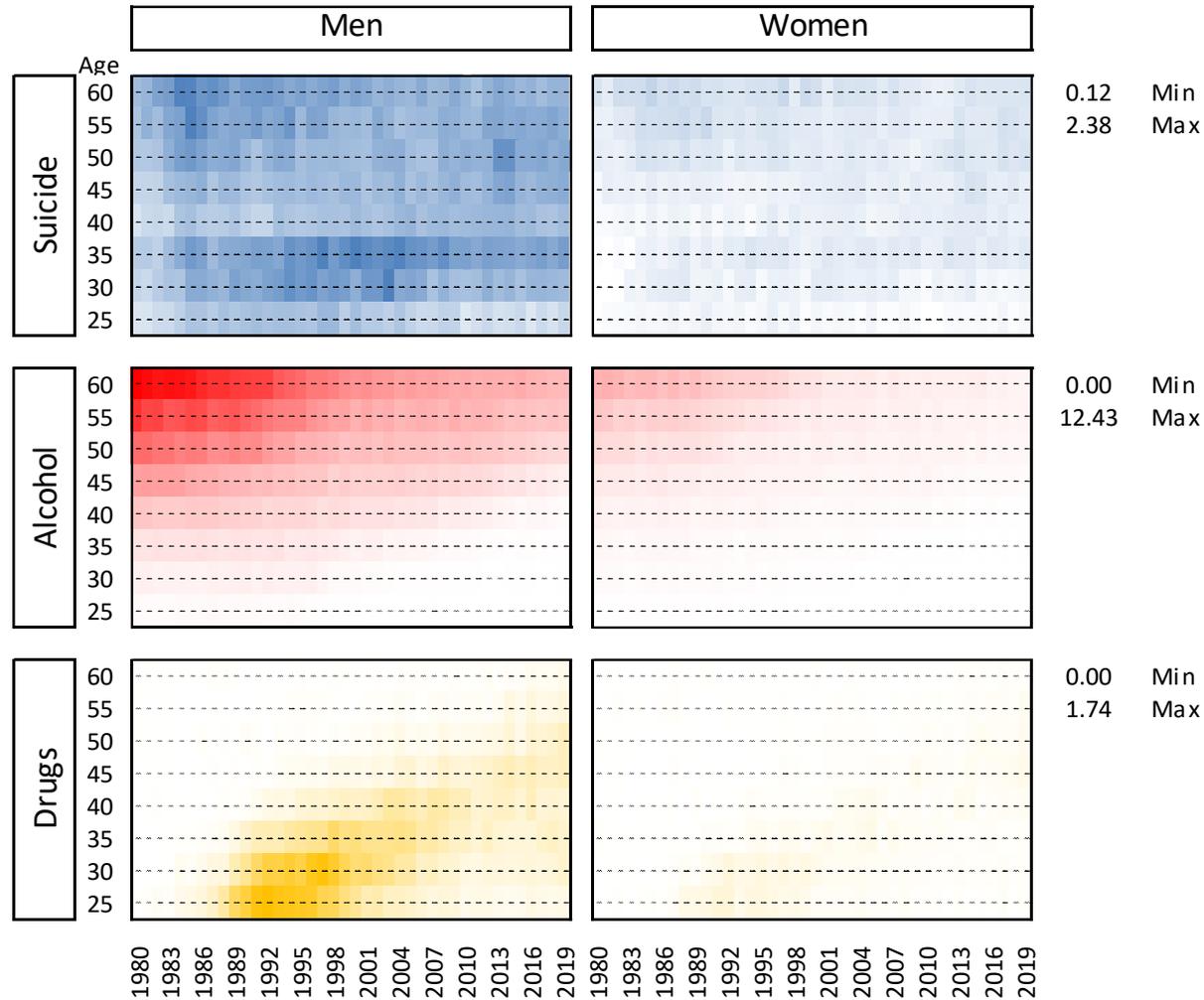
The cause-of-death groupings are an adaption from the works by Case and Deaton (2015, 2017) and Allik et al. (2020). See Extra Slide for more detail.

RESULTS: Age-standardised mortality rates for Spanish men and women aged 25-64, 1980-2019



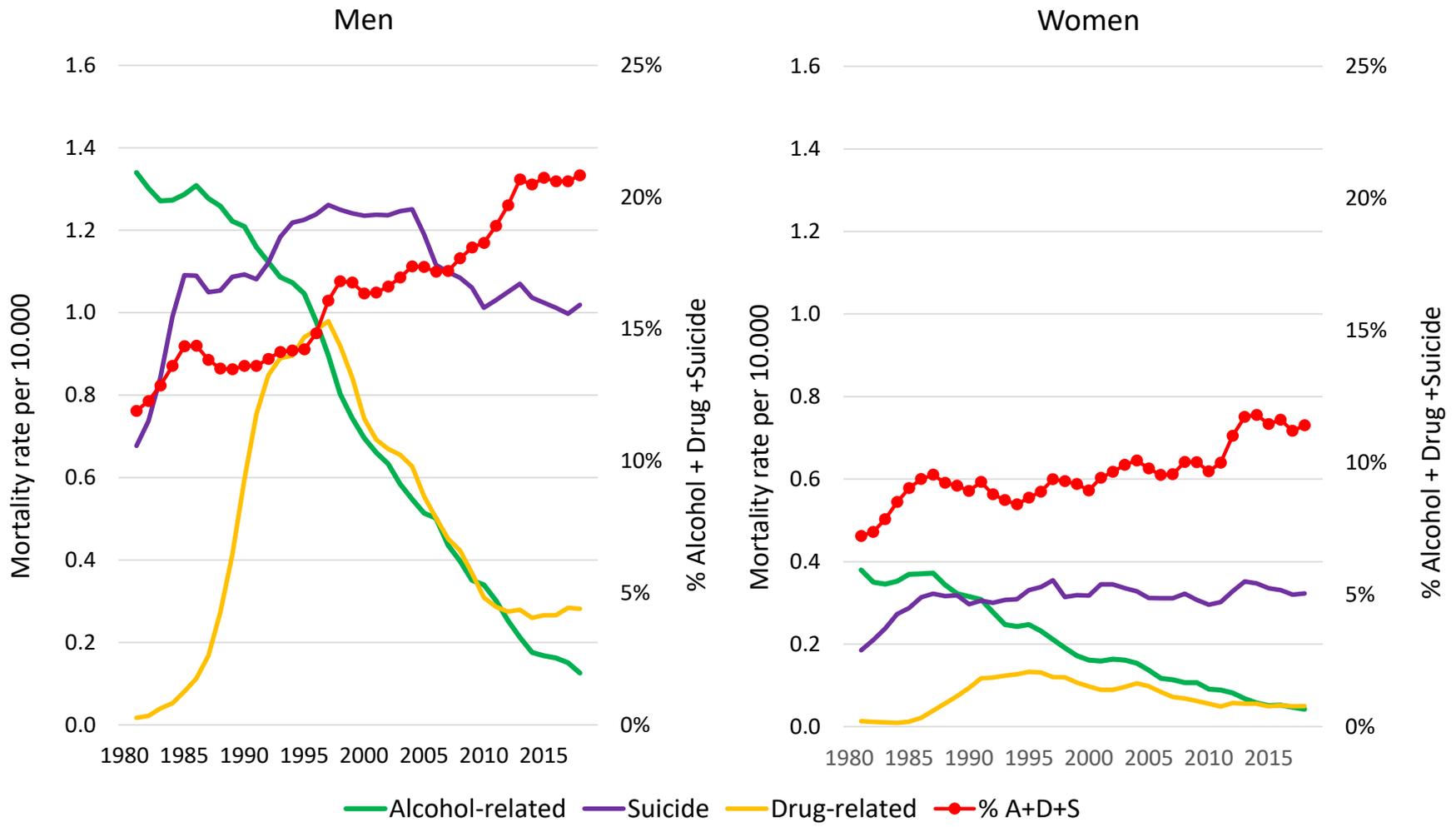


RESULTS: Heatmap of age-specific mortality rates per 10,000. Spanish men and women aged 25-64, 1980-2019.

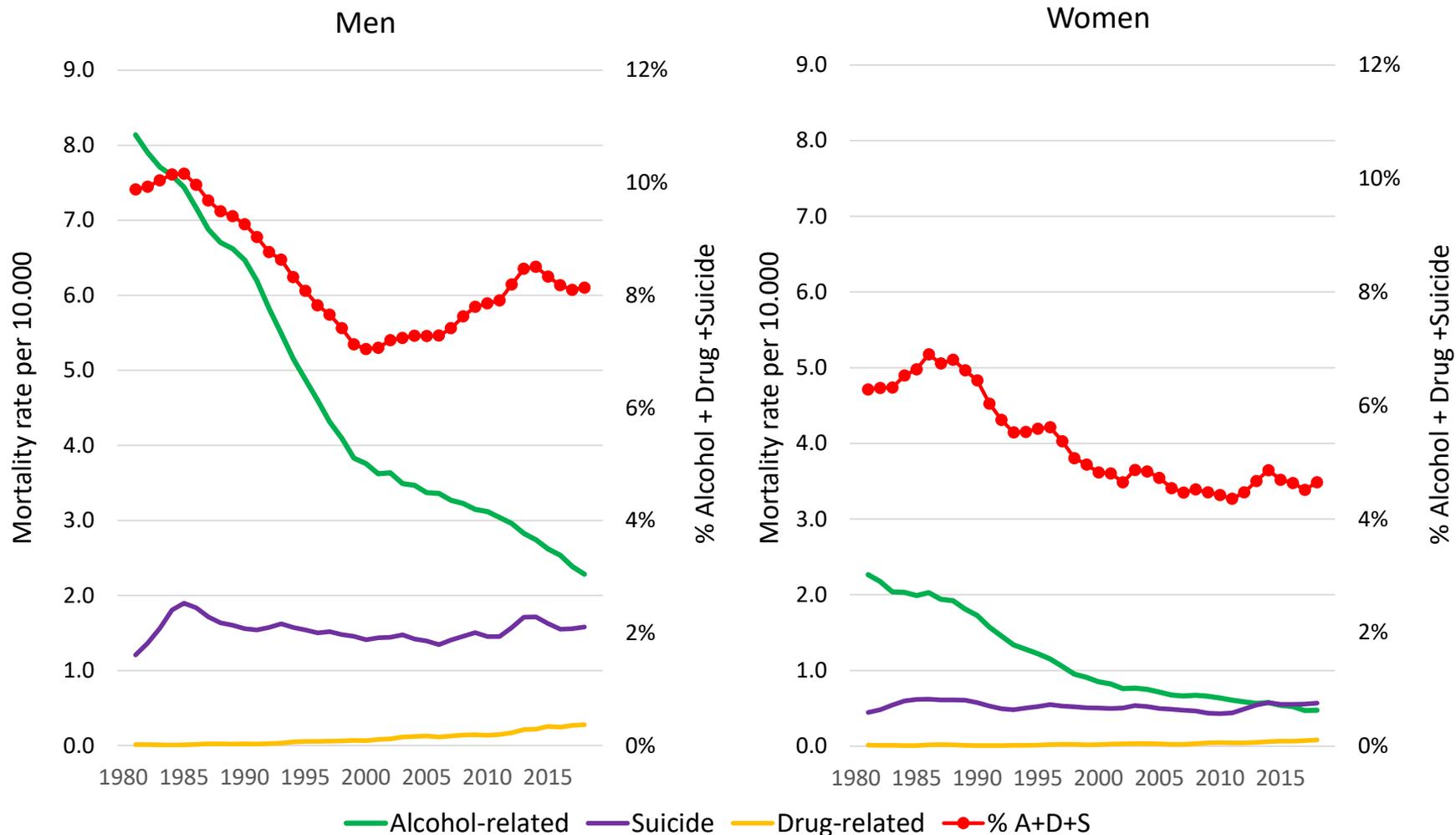




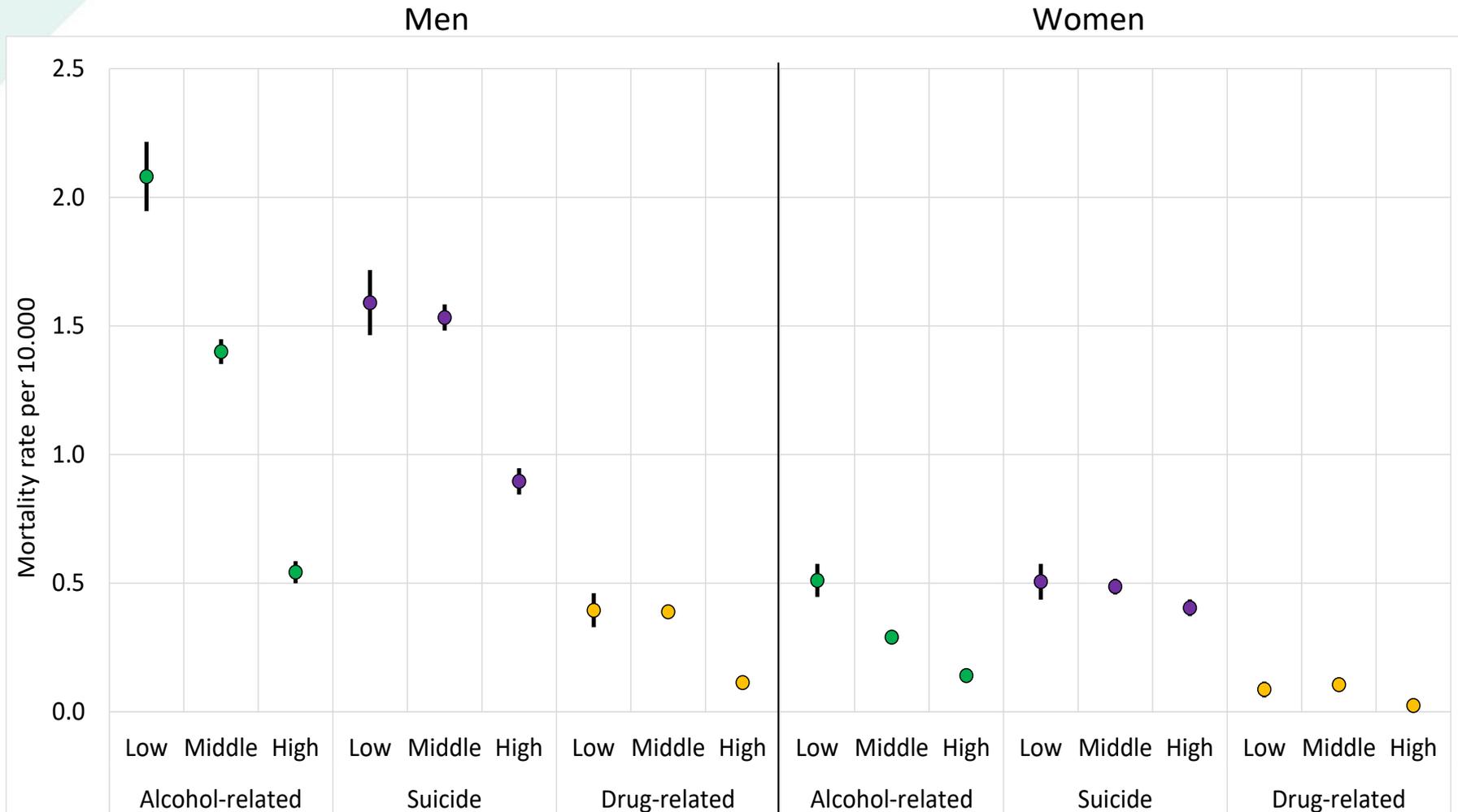
RESULTS: Age-standardised mortality rates for Spanish men and women aged 25-44, 1980-2019



RESULTS: Age-standardised mortality rates for Spanish men and women aged 45-64, 1980-2019



Educational inequalities in deaths of despair, men and woman aged 25-64, 2017-2019





Conclusions

- In Spain, we do not see the same pattern than in the US. Possible explanation –generous safety net (family and, to a lesser extent, state)? But lack of improvement in suicide is a concern.
- Overall, mortality rates are substantially higher in men than in woman (gender differences), with little change over time.
- There are educational inequalities in deaths of despair, especially levels among low-educated men are worrisome. Among women, suicide and alcohol deaths among low educated are relatively high.
- Reduction of premature deaths (alcohol, suicide, and drugs) among low-educated, especially young adults should clearly be an important public-health priority.



Future research

- The COVID-19 pandemic can be considered a major stressful event that could affect the mental health and the well-being of the population. Therefore, future studies should monitor the trends in these specific and perhaps other “deaths of despair” that may have been a consequence of the pandemic.



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Conflict of Interest

- The authors declare no conflict of interest.



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Thank You!

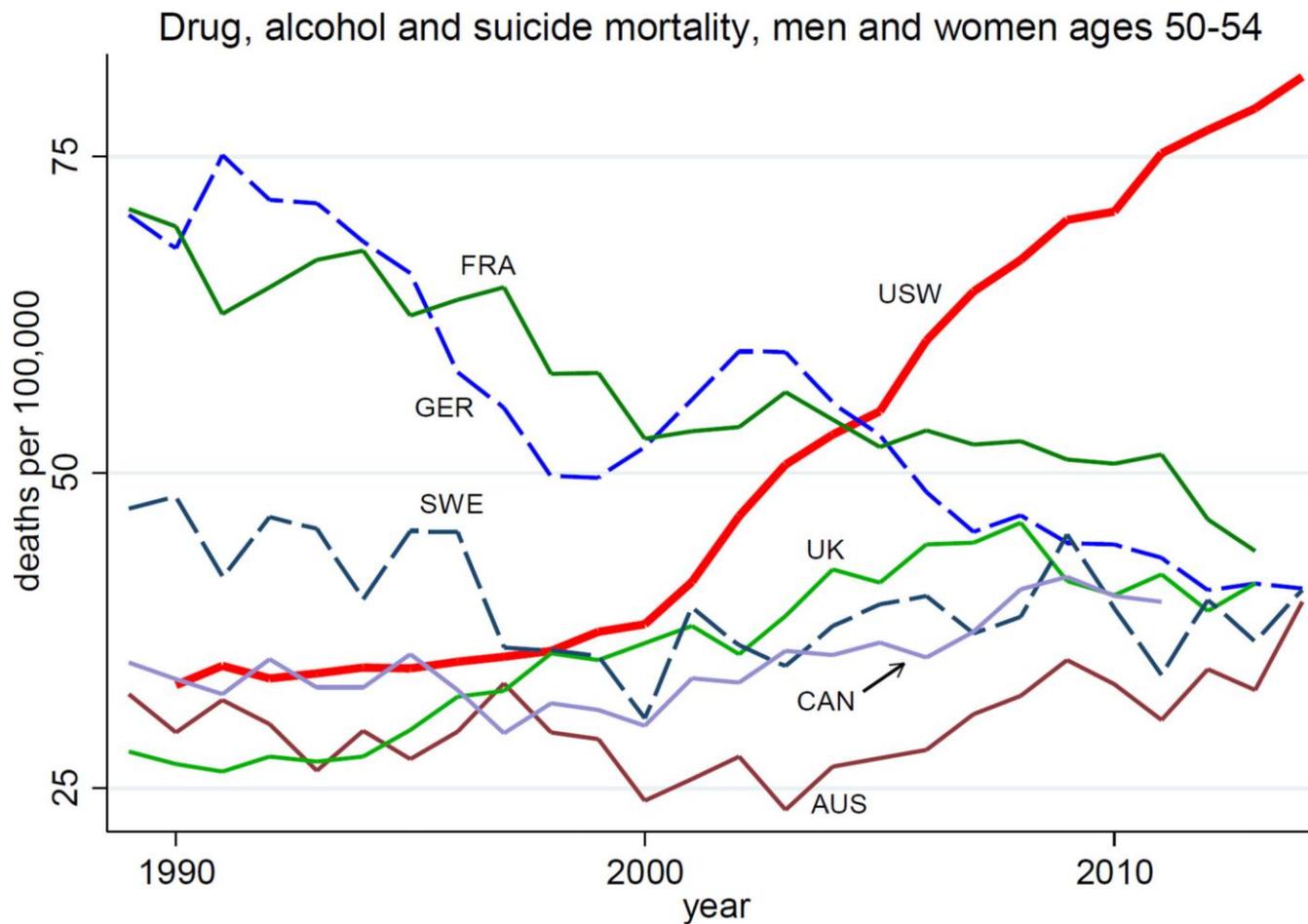




Extra slides



Case and Deaton 2017



Classification of main causes of death



	ICD-9 codes	ICD-10 codes
Alcohol	291, 303, 305.0, 357.5, 425.5, 535.3, 571(excluding 571.6), E860	F10, G31.2, G62.1, I42.6, K29.2, K70, K73, K74.0, K74.2, K74.6, K86.0, X45
Drugs	292, 304, 305.2-305.9, E850-E858	F11-F16, F18-F19, X40-X44
Suicide	E950-E959, E980-E989	X60-X84, Y10-Y34, Y87.0, Y87.2

Note: The cause-of-death groupings are an adaption from the works by Case and Deaton (2015; 2017) and Allik et al. (2020). Main difference is that we have tried to quantify the contribution of alcohol and drugs to overall mortality patterns and improve comparison across ICD classifications.