Country differences in past trends in alcohol-attributable mortality in Europe

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Background
Both levels and trends in alcohol-attributable mortality have been heterogeneous across European countries, but detailed studies are lacking. We study country differences in past alcohol-attributable mortality trends in Europe by period and cohort, and assess whether differences become smaller (convergence) or bigger (divergence).

Methods
Age-standardized liver cirrhosis (from 1950 onward for 8 selected countries) and alcohol-attributable mortality (from 2000 onward for 20 European countries) were estimated using population level cause-of-death data. We assessed convergence by applying various dispersion measures and applied age-period-cohort analysis to examine country differences in cohort effects and cohort patterns.

Results
Levels and trends of alcohol-attributable mortality clearly differed across European countries and between sexes, especially for men. Western European countries had lower and more stable alcohol-attributable mortality rates, whereas countries from Central and Eastern Europe showed higher rates and more dissimilar trends across the countries. Birth cohorts made significant contributions to liver cirrhosis mortality (P < 0.001), but the patterns were different between most of the country pairs (P < 0.001). Birth cohorts at higher risk of liver cirrhosis mortality were the older cohorts in Nordic countries, as compared to the younger cohorts in Eastern and Southern countries. Divergence in alcohol-attributable mortality rates showed up until 2007 and convergence thereafter, for both men and women.

Conclusions
Clear differences between European countries in levels, time trends, and cohort patterns of alcohol-related mortality exist. Due to declines in alcohol-related mortality in Central and Eastern European countries, alcohol-related mortality is converging since 2007 in Europe.

Key messages:
- Alcohol-attributable mortality in Europe is recently turning from divergence to convergence.
- Birth cohort effects are crucial to understand alcohol-related mortality trends.