

## Estimating the real burden of cardiovascular mortality in diabetes

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### OBJECTIVE

To compare different methods assessing the burden of cardiovascular mortality in diabetes mellitus, which is usually underestimated by standard mortality statistics based on the underlying cause of death.

### PATIENTS AND METHODS

All residents in the Veneto Region (Italy) aged 30-89 years with co-payment exemption for diabetes in January 2010 (n=185,341) were identified and linked with mortality records (2010-2015). The underlying causes of death, as well as all the diseases mentioned in the death certificate (multiple causes), were extracted. The standardized mortality ratios (SMR) were computed with regional rates as a reference.

### RESULTS

After grouping diabetes and circulatory diseases as the underlying cause of death, the mortality rates were highly increased, especially among patients aged 30-54 years: SMR 4.24 (95% confidence interval 3.57-5.00) and 9.84 (7.47-12.72) in males and females, respectively. After re-assignment of the underlying cause in deaths from diabetes, the percentage of overall mortality caused by circulatory diseases increased from 33.8% to 41.7%. Based on multiple causes, the risk of death was increased for several cardiovascular diseases, including causes rarely emerging from standard mortality statistics such as atrial fibrillation/flutter.

### CONCLUSIONS

The re-assignment of the underlying cause and the analyses of the multiple causes of death allowed to estimate the whole burden of mortality associated with cardiovascular diseases.

### FULL TEXT

<https://www.europeanreview.org/wp/wp-content/uploads/6700-6706.pdf>