Refined avoidable mortality for comparative health systems performance assessment: an impact study

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Background:
Avoidable mortality is headline indicator of relative health system performance in European Union policy processes. However, the reliability of this indicator for cross-national comparisons of health system performance is limited by the lack of control for cross-country differences in population health status, and the challenges in selecting causes of death and age limits. This study examined the feasibility and impact of several refinements of avoidable mortality addressing these concerns.

Methods:
Using a sample of 30 European countries, including EU Member States, United Kingdom, Norway, and Iceland, we examined the feasibility and impact of adjusting avoidable mortality for cross-country differences in disease prevalence and disease stage, using extended age thresholds, and calculating the avoidable burden of disease. We measured the impact of the feasible adjustments by calculating the average absolute change in country ranks compared to the 2014 country ranking based on the standard avoidable mortality.

Results:
Given publicly available data, only the calculation of years of life lost due to avoidable causes of death and using different age thresholds to calculate avoidable mortality are currently feasible. The impact of the feasible adjustments varied between countries with no visible geographic pattern. Including deaths due to avoidable causes at all ages changed the country ranks by an average of 1.9 places in men and 2.8 in women. Using years of life lost due to avoidable causes of death changed the rank by an average of 8.1 places in men and 8.7 in women.

Conclusions:
Country rankings are highly sensitive to the type of refinement. However, a full assessment of refinements was not possible due to missing data. To ease the implementation of morbidity-based refinements of avoidable mortality, we recommend that a shorter list of avoidable causes of death is developed.

Key messages:
- A continuous refinement of relative health system performance measures and improving the availability of internationally comparable health data are critical to effectively support policy making.
- Updating the age thresholds used to calculate avoidable mortality and using years of life lost due to avoidable causes of death are currently feasible and have a sizeable impact on country rankings.