1.K. Oral session: Mortality data, life expectancy and DALYs

Forecasting the extent of future public health challenges using the Scottish Burden of Disease study

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Background:
Over the next 25 years in Scotland there is expected to be negative natural change in population growth in a rapidly ageing population. Recent evidence has highlighted the slowing of life expectancy gains and worsening trends in self-assessed general health. We have adapted the Scottish Burden of Disease study to forecast how demographic and health trends will shape future public health challenges. This is important in order to inform policy, service and workforce planning to meet anticipated needs.

Methods:
For a baseline period of 2014-16 Disability-Adjusted Life Years (DALYs) were estimated for 132 causes of burden using routine data sources and patient-level record linkage techniques. Disability weights and disease models used to calculate Years Lived with Disability (YLD) were largely based on those from the Global Burden of Disease study, with life tables used to facilitate calculations of Years of Life Lost (YLL). The leading 20 causes were identified and trends in the occurrence of morbidity and mortality are currently being estimated up until 2019, and forecast to 2040, using age-period-cohort modelling. Crude and age-standardised rates will be used to monitor changes due to demography and exposure to the wider social determinants of health.

Results:
In 2014-16, the leading causes of burden were ischaemic heart disease, neck and low back pain, depression, lung cancer and cerebrovascular disease. The leading 20 causes represented 68% of all-cause DALYs with ill-health and disability causing almost half of the burden.

Conclusions:
Insights of the future trajectory of population health equip us with strong evidence to influence the need for a strong policy response on prevention. Estimates of the future occurrence of morbidities can be embedded in planning to ensure that services and the care workforce are proportionately designed to meet the increasing needs of a vulnerable ageing population.

Key messages:
- The most recent assessment highlighted that non-fatal and fatal health states approximately contribute equally to the overall disease burden in Scotland.
- Evidencing how future demographic and population health trends interact allows us to ensure that policy responses, care services and the care workforce can be designed based on anticipated needs.