

Productivity-adjusted life-years: new measure of disease burden

Productivity-adjusted life-years (PALYs) are proposed as a new measure of disease burden which address a knowledge gap for which disability-adjusted life-years (DALYs) and quality-adjusted life-years (QALYs) are not appropriate, say authors of a Commentary published in *PharmacoEconomics*.

The PALY is calculated by multiplying a 'productivity index' (ranging from 0 [completely unproductive] to 1 [completely productive]) by years lived. PALY estimates have been published for health conditions including diabetes mellitus, coronary heart disease, hypertension, smoking, occupational-related hearing loss, pneumococcal disease, familial hypercholesterolaemia, epilepsy and migraine, and are now being developed for low back pain, cancer, COVID-19-related depression and acute myeloid leukaemia. To date, they have been produced for Australia and seven countries in Asia. PALY models have only incorporated workforce data, simulated over the working lifetime (usually 16–65 years of age), but robust population-level data on unpaid work would enable a more complete definition of productivity.

"The PALY is not intended to replace the disability-adjusted life-year or the quality-adjusted life-year. Instead, it offers a novel, but now well-tested, approach to quantifying the population-level impact of disease on productivity (arising from unemployment, days off work, reduced efficiency at work and premature death) and the broader economy . . . For the first time, there exists an opportunity for decision making in health to be explicitly informed by the productivity burden of disease and the potential for productivity gain with effective intervention," said the authors.

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