

Measuring premature and avoidable mortality: ONS proposals for national indicators

Response to the Consultation

Office for National Statistics

15th September 2006

In November 2005 ONS published proposals for the development of separate indicators of premature and avoidable mortality. To inform the development of these new indicators, users were invited to comment on the issues raised during a 12 week period of consultation which ended on 17 February 2006.

Background

Although much work has been done internationally in recent decades to measure levels of avoidable or premature mortality within populations, there has been a lack of consensus on how these deaths should be defined. To inform proposals for the development of indicators for use in National Statistics in England and Wales ONS examined recent research into premature and avoidable mortality. This work was summarised in the consultation document and presented with specific questions on options for new indicators. Responses to these questions are summarised below.

Responses

There were eleven responses to the consultation. Although the proposals were for the development of indicators for use in England and Wales views were also sought from across the UK: four responses were received from representatives of organisations in Scotland, Wales and Northern Ireland. Three responses were from academics and three from bodies with responsibilities for monitoring public health (including two Public Health Observatories). There was also one internal ONS response from the UK Centre for the Measurement of Government Activity.

While some of the replies were coordinated responses from organisations others were personal comments from individuals.

Question 1: (a) *What age ranges should be used to measure premature mortality?* (b) *Should males and females (given their different life expectancies) be measured against different age ranges?*

Five respondents directly addressed this question. Three favoured using the same age ranges for both males and females while two recommended that they should be different. Suggestions for the age ranges to be used included all deaths before age 75, all deaths before age 80, and deaths before age 70 for males but age 73 for females. One respondent also considered that a measure of premature mortality should exclude infant deaths. One response favoured linking premature mortality to current life expectancy but also suggested that an alternative could also consider deaths before the expectation of life based on when someone was born (i.e. cohort life expectancy rather than current period life expectancy.)

One respondent also noted the use elsewhere of probabilities of survival between ages 15 and 65. Two respondents suggested age ranges for specific causes of death for use in a definition of avoidable mortality.

Question 2: (a) *Which causes of death should be considered 'avoidable'?* (b) *At which ages?*

There were few replies to this question with most respondents noting that they lacked the specific medical knowledge necessary to make judgements of this kind.

One respondent did suggest a list of causes based on those from Appendix A of the consultation document with the addition of selected causes from Appendix D. The suggested upper age limit for many of these causes, beyond which deaths could not be considered avoidable, was 64. Another response however noted that this age limit should be judged to have increased in recent years. Although age 74 was now favoured, this choice was considered somewhat arbitrary and so the response suggested that possibilities should be examined when decisions on the indicator are made.

Question 3: *What causes of death not previously considered as amenable to medical intervention could now be included in this category?*

Two responses noted that infections often associated with healthcare, such as MRSA, should be considered. Although these may always have been amenable to medical intervention they have not been included in earlier definitions of

avoidable mortality, possibly because they have only re-emerged as a serious public health problem in recent years. One of these two respondents also noted that pulmonary emboli were an important cause of hospital death which are amenable to intervention and potentially avoidable.

Question 4: *Are there some causes where only a proportion of deaths may be considered avoidable?*

Few responses directly addressed this question but one noted that proportions of deaths considered related to external factors (attributable fractions) have been calculated for some causes. This response advised that if ONS were to consider the use of attributable fractions for some causes that these should be developed holistically rather than individually.

Question 5: *Should deaths from injury and poisoning be considered avoidable causes of death?*

Question 6: *Should other causes of deaths which are open to primary prevention (e.g. lung cancer) be reported on?*

All four of the responses which addressed these questions favoured measures which did include both deaths from injury and poisoning and other causes which are open to primary prevention.

Three of the respondents suggested conditions, including causes both linked to lifestyle such as smoking and alcohol misuse (e.g. lung cancer and liver cirrhosis) and causes preventable through legal or social interventions (such as traffic and industrial accidents). One of these respondents noted that lists of preventable causes have in the past often been limited to causes such as lung cancer, liver cirrhosis and traffic deaths and that there was particular scope to reconsider what could be included in this category.

Question 7: *Which criteria should be used to assess which causes of death are included in the definition of avoidable mortality?*

Only two respondents directly addressed this question with one suggesting that there should be clear evidence of a relationship with given risk factors. The other response discussed in more detail how the criteria employed will be critically dependent on the definitions used, e.g. if measuring deaths which are avoidable through health care what is meant by 'health care.'

This response also discussed the approach taken by Tobias and Jackson¹ which used a process based on consensus between experts, and the limitations associated with this. A more pragmatic approach was suggested which could define 'treatable' conditions as those where medical intervention comes in after the condition has developed and 'preventable' conditions as those for which there are effective means of preventing the condition from occurring in the first place.

Question 8: What statistical measures should be used to report indicators of premature and avoidable mortality?

Six responses were received to this question. One respondent favoured use of directly age-standardised mortality rates, pointing out that these would facilitate comparisons with deaths which are not avoidable/premature. Another response noted though that directly-age standardised rates may be unstable and unreliable if calculated using small numbers of deaths. This respondent also thought that, despite its limitations, Potential Years of Life Lost (PYLL) was a useful and readily comprehensible measure that gave due weight to deaths at younger ages. Four other responses also favoured the use of PYLL, although some thought it should be one of a range of different measures, including mortality rates and life-table based indicators.

One response also suggested that an effective geographical measure could be derived by comparing mortality to the best-performing area. E.g. the number of deaths in Area A that would have been prevented if avoidable mortality rates were the same as in Area B.

Question 9: How will these indicators address user needs, such as assessing the effectiveness of interventions?

Many of the respondents welcomed the ONS proposals to produce new mortality indicators as they would add to public health intelligence, provide an important mechanism for assessing performance in terms of public health and quality of care, and could have the potential to contribute to development of public health policies, including prioritisation.

One respondent noted the potential uses of measures of premature and avoidable mortality, which included:

- 1) Geographical comparisons as a measure of quality of health care provided.
- 2) Comparisons of time trends to assess changes in quality of health care.
- 3) Assessment of quality of clinical care between areas or over time.

- 4) Assessment of policies in control of behavioural/environmental/clinical factors, such as smoking, obesity, immunisation.

This respondent also noted that user needs could only be adequately met if mortality rates for avoidable causes were reported individually for each condition rather than as part of an aggregate index of these deaths. As the reasons for variations in particular causes may be very different, only by considering them separately could the influence of national or local policies on treatment or prevention be assessed.

Two respondents discussed the clarity of the ONS proposals, in particular the distinctions made between premature and avoidable mortality, and the possibility of distinguishing 'preventable' and 'treatable' deaths in the latter. One of these responses also asked whether the proposed indicators would measure the effectiveness of health services or would be a means of quantifying the burden on these services.

Several respondents noted that for their needs as users of the indicators to be met, they should be available geographically at both national and sub-national levels, preferably for all four countries of the UK.

Question 10: What should the indicators be called?

No respondents suggested any alternative to the term 'premature mortality' but there was some discussion of the terminology of avoidable deaths, particularly if they were divided into 'preventable' and 'treatable.' One suggestion was:

- 1) Deaths preventable by medical intervention
- 2) Deaths preventable by population (or public health) intervention.

Smoking-related mortality

The consultation document on proposals for indicators of premature and avoidable mortality also noted that ONS was considering whether to develop an indicator of smoking-related mortality.

Five responses commented on this proposal with two saying that they strongly-supported it. Two noted that there are currently a number of ways in which smoking-related deaths are being estimated. It was recommended that ONS should devise a standard set of smoking-related attributable causes which could

be used for analysis in the UK. One response though considered that a smoking-related mortality indicator risked confusing a measure of avoidable mortality.

Future Plans

Premature and avoidable mortality

We have considered the literature and the responses to the consultation and are currently analysing data for England and Wales using a variety of methods to help inform the development of indicators. Once work has progressed sufficiently, we will consult with users on firm proposals for indicators for both premature and avoidable mortality.

Smoking-related mortality

Although the consultation revealed support for an indicator of smoking-related deaths ONS currently does not have the resources to take forward this development. Causes which are clearly related to smoking, such as lung cancer, will however still be considered for inclusion in the definition of avoidable deaths.

ONS is grateful to all who responded to the consultation for their assistance in helping us to reach decisions about the future development of these new measures of mortality.

References:

1. Tobias M and Jackson G. Avoidable mortality in New Zealand, 1981-97. *Aust NZ J Public Health* 2001; **25**: 12-20.