

HOW WOULD YOU LIKE YOUR GAIN IN LIFE EXPECTANCY TO BE PROVIDED? French survey evidence on how people value policies to reduce mortality risks

Conventional ways of working out how much people value policies that improve their life expectancy may be flawed, according to research by **James Hammitt** and **Tuba Tunçel**, to be presented at the annual congress of the European Economic Association in Mannheim in August 2015. Their study surveyed around 1,000 French people aged 20 to 69 years, asking them questions about how they would prefer a life-extending policy's effect to be distributed over their lifetime.

These options ranged from policies that would mostly affect them soon (such as vaccinations), later in life (such as reducing air pollution) or equally over their lifetime (such as transport safety). The research finds that people are fairly equal in their preferences, with each of three options (plus the option of flat-out indifference) receiving around 20% of the votes (the remaining 20% were unclear).

Generally speaking, older and more patient people prefer policies that would affect them later in life, but otherwise there is still a lot of variation in what people say they would be happiest with. The authors comment:

'Our results imply that conventional measures of the benefit of mortality-risk reduction such as life years or quality-adjusted life years gained, are not likely to provide accurate measures of the value of life-saving interventions to most individuals.'

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The objective of this project is to investigate whether the timing of a reduction in mortality risk plays a role in individuals' evaluation of that risk reduction. The researchers conduct a survey with a random sample of the French population asking them to make choices between different policy interventions.

They find substantial coherence and heterogeneity among individuals in their preferences across different policy interventions. The results suggest that using conventional measures in evaluating the benefits may lead to inaccurate measures of the value of life-saving interventions to most individuals.

Benefit-cost analysis is a useful tool for evaluating public policies. When those policies are designed to reduce mortality risk, it is necessary to compare the value of reducing mortality risk with the costs of the project. But the value of reduced mortality risk may depend on its timing. Some policies, like vaccination for a flu epidemic, reduce the chance of dying for a limited duration. Some other policies offer a continuing risk reduction.

For example, interventions like improvements in transport safety or protection from relatively exogenous risks (fires, earthquakes, hurricanes), reduce the mortality risk roughly constantly as an individual ages. Some policy interventions, like those that improve air quality, reduce the chance of dying more as the baseline risk of dying increases – that is, as people get older or their health deteriorates.

The project is to explore how people value reductions in mortality risk that differ in how the risk reduction is distributed over time. The objective of this work is to help understand public preferences for different patterns of mortality risk reduction. This may lead to more accurate evaluation of the benefits of different policies.

It is inspired by an innovative paper by Nielsen et al entitled 'How would you like your gain in life expectancy to be provided?' The researchers survey a random sample of the French population – around 1,000 individuals, aged 20 to 69 years – asking questions about their preferences for alternative programmes of risk reduction that provide the same increase in life expectancy, but for which the distribution of risk reduction differs over time.

The study considers three primary policy interventions that reduce the mortality risk. The first, the 'transient scenario', reduces the chance of dying for a limited duration. The second, the 'additive scenario', decreases the mortality risk constantly over the lifespan. And finally, the 'proportional scenario' reduces the chance of dying over the lifespan, in proportion to the baseline mortality risk.

The authors find substantial heterogeneity in preferences with respect to the time pattern of mortality-risk reduction: 19% of the respondents preferred to get the risk reduction early in their future life, whereas 21% wanted to get the risk reduction late in their future life. Another 21% preferred the risk reduction distributed constantly over their future life and 23% were indifferent across the policy interventions (the remaining respondents did not provide coherent choices).

The preferences were correlated with some individual characteristics. For example, older respondents and those who express higher consumption-discount rates are less likely to delay risk reduction.

The results imply that conventional measures of the benefit of mortality-risk reduction such as life years or quality-adjusted life years gained, are not likely to provide accurate measures of the value of life-saving interventions to most individuals. This suggests that heterogeneity in how people value different time-paths of risk reduction should be considered in policy evaluation alongside other sources of heterogeneity in valuing mortality risk.

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Preferences for Life-Expectancy Gains: Sooner or Later?
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