Mapping clinical outcomes to generic preference-based outcome measures: development and comparison of methods

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Plain English summary

Developing and comparing mapping methods

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Coherent decisions about which health services and treatments to provide rely on economic analysis to weigh potential health benefits against costs. For decisions to be consistent across the whole health service, benefits need to be counted in the same way for patients with different health problems. This is accomplished by using a unit of measurement for treatment outcomes called the quality-adjusted life-year. The best way to calculate quality-adjusted life-years is to ask patients taking part in clinical studies to fill in specially designed questionnaires to describe their health in a simple, standardised way. However, clinical trials often record patient outcomes in different ways, leaving economic analysts without the necessary information to calculate quality-adjusted life-years. A way to overcome this problem (known as 'statistical mapping') is to use the available clinical data to predict the responses that would have been made by trial participants to the standard questionnaire. This requires analysis of data from an additional study in which patients have provided both types of outcome data to construct a statistical 'mapping model'.

Mapping is widely used in practice, but it is often based on simple mapping models that in some circumstances systematically mispredict and may consequently give a false picture of the real health benefits of treatments. This is important because it influences decisions about which treatments are available in the NHS; it has real effects on patients, clinicians, industry and the general public.

Our objectives are to develop promising new statistical mapping models specifically designed for different clinical contexts and to compare them using patient data in different disease areas. We have also developed an approach for judging the outcome of a mapping study. We find that the new methods work better than existing methods in terms of their ability to fit the data and avoid systematic bias.

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This report

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