Introducing 'more patient reality' into NHS spending decisions

January 24 2013

A study by health economists at the University of York has, for the first time, produced an estimate of the impact on other NHS patients of new and more costly drugs and other treatments.

This research suggests a refinement of the way the National Institute for Health and Clinical Excellence (NICE) gauges the cost-effectiveness of new interventions. It also has implications for the prices that the NHS can afford to pay for new drugs when the value-based pricing scheme for all new drugs is introduced by the Government in 2014.

The project was funded by the Medical Research Council Methodology Research Programme to establish methods that can estimate the cost-effectiveness threshold for NICE using routinely available data.

NICE assesses the health benefits of new drugs and other treatments. It also assesses whether these benefits are greater than the health likely to be lost for other NHS patients as other treatments are displaced to accommodate the additional NHS costs. To make this assessment NICE uses a 'threshold', which represents how much additional NHS cost would displace an amount of health; measured by quality-adjusted life years (QALY).

Since 2004 NICE has used a threshold range of £20,000 to £30,000 per QALY. It has been widely recognised for many years that this range is not based on evidence. The researchers at York have estimated a more accurate threshold to be £18,317 per QALY (based on 2008

expenditure).

Analysis of the uncertainty surrounding this estimate indicates that the chance the threshold is less than £20,000 per QALY is 64 per cent and the chance that it is less than £30,000 is 92 per cent.

Although there are other sources of uncertainty, there are good reasons to believe that £18,317 per QALY is, on balance, likely to be an overestimate of the 'true' threshold especially for new drugs that impose greater costs on the NHS. The research found no evidence that the threshold had increased with the NHS budget (2007 to 2008) and found some evidence that the threshold is likely to fall as the NHS comes under greater financial pressure.

The analysis also provides estimates of where and what 'type' of health is likely to be lost. It quantifies the additional deaths, life years lost and the impact on quality of life of those with different types of disease as a result of the introduction of new products. For example, based on a QALY threshold of £18,317, the approval of Ranibizumab for the treatment of diabetic macular oedema would have imposed up to £80 million on the NHS each year when it was first considered by NICE. This would have displaced the equivalent of 4,367 QALYs equating to 295 additional deaths and 1,337 life years forgone, most of which were likely to occur among patients suffering from cancer or circulatory, respiratory or gastro-intestinal disease.

These methods also allow other aspects of health outcome to be incorporated in the estimate of the threshold. For example, the value based pricing scheme due to be introduced by the Government in 2014 may include some additional weight for health benefits in diseases which impose a large health burden and/or where there are wider social benefits for patients, their carers and the wider economy. The methods developed in this research will allow the same weights to be also attached

to the type of health that is lost and estimate the wider social benefits that are likely to be lost when the NHS must accommodate the additional costs of new drugs.

Co-author Professor Mark Sculpher said: "It is crucial that the cost effectiveness threshold is seen as representing health forgone as the additional costs of new technologies are imposed on the fixed budgets of local commissioners. For decisions made by NICE and many policy options considered by the NHS and Department Health, this is the key to establishing the value for money of new services."

Co-author Professor Karl Claxton added: "The work demonstrates that the threshold to gauge cost-effectiveness and how much the NHS can afford to pay for benefits offered by new drugs is a scientific question that can be informed by evidence and analysis.

"This study also starts to make the other NHS patients, who ultimately bear the opportunity cost, less abstract so they can be properly taken into account when decisions about new health technologies are being made."

Provided by University of York