



## National guidance and local decision-making: is health technology assessment a help or a hindrance?

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**The use of health technology assessments to generate national guidance on the adoption of new technologies inevitably deals with national averages. However, this does not mean that such analyses are not helpful to local decision makers.**

**E**ven in the most centrally controlled healthcare systems, regional and local variation in the organisation and delivery of services can be observed. The reasons for these differences can be historical, where differing clinical approaches have evolved; geographical, resulting from differences in population density; epidemiological, where the incidence and prevalence of diseases varies; and financial, where resources are unequally distributed. The modern trend towards evidence-based medicine (EBM) and more rigorous evaluation of health services using methods such as health technology assessment (HTA), has led to increased questioning of the legitimacy of local differences. Confusingly, the pressure for scientifically supported policy-making has been accompanied, in some countries, by political rhetoric about increasing consumer choice and devolving decision-making closer to the patient [1]. Faced with these apparently conflicting signals, how can local healthcare managers and decision makers judge what is best for their community? Hospital pharmacists involved in decisions on the utilisation of new drugs will often find themselves in this type of situation.

### Decisions based on cost-effectiveness

Most HTAs are conducted by national agencies or government departments using data which reflects the average values of costs and benefits across the health system. The standard methodology of cost-effectiveness analysis (CEA)

estimates the incremental cost and benefit of the new technology over existing practice, typically as a ratio of cost/unit of health gain. For example, in England and Wales, the National Institute for Health and Clinical Excellence (NICE) uses cost per quality-adjusted life year (QALY) [2]. Interpretation of these results requires a judgement on the value of the health gain, i.e. is it worth the cost? This judgement can be based on one of two different approaches: estimating the loss of health benefit from diverting resources from existing services to the new technology; or estimating society's willingness-to-pay (WTP) extra for the marginal health gains from the new technology. Either of these approaches can give a 'threshold' cost per unit of health gain, below which a technology is considered worth adopting. If the healthcare budget is of the right magnitude and is being allocated efficiently then the two methods will give the same ratio of cost/unit of outcome. If the societal WTP for a QALY is less than the amount saved per QALY lost (opportunity cost) by reducing current services, those services are not cost effective and the healthcare budget should be reduced. If the WTP is greater than the opportunity cost then new services with cost-effectiveness ratios up to the WTP threshold are worth funding and the total healthcare budget should be increased. Efficiency is achieved when all services have a cost-effectiveness ratio less than or equal to the cost/QALY threshold.

### Application of cost-effectiveness thresholds

No healthcare system has the complete information on its services which is

needed to establish that such an optimal situation exists. Moreover, they are constantly faced with demands to introduce new technologies. One way to make CEA operational in decision-making is to determine a cost-effectiveness threshold value and assume that services currently provided deliver benefits at least at the threshold rate. To be acceptable, new technologies must also produce benefits at least at the threshold rate. This means that, if the budget is fixed in the short term, the acceptance of a new technology which meets the threshold test, will at worst, not reduce health gain, and probably increase it. The use by NICE in England and Wales of a threshold range of GBP 20,000 (Euros 22,994) to GBP 30,000 (Euros 34,491) per QALY is an example of this approach. This has been criticised by several authors, e.g. see [3], who contend that current services deliver benefits well within the threshold rate. Thus, by displacing these services to fund new NICE recommendations health gain is being reduced. Critics argue that there should be local discretion about the implementation of national guidance [4]. This prompts the following questions:

- is the NICE threshold too high?
- is the healthcare budget too low?
- do local decision makers really know the opportunity cost of their programmes?

### Local implementation

Implementation of any resulting national guidance is the responsibility of regional and local managers involved in

the delivery and financing of health care, who must work with clinicians to provide appropriate care to the populations which they serve.

The ease of implementation will depend on the nature of the guidance, the decision context and the type of health system. If the guidance is against using a technology the general assumption is that it will be followed, although this is not always the case. Clinical specialists may be keen to use a new drug, even though its cost-effectiveness has not been established, particularly if they have been involved in its development and early use. They may be able to put pressure on management to go against national recommendations, particularly with support from patient groups. If the guidance is positive patient expectation will be that the drug will be available, and the problem for management will be to fund its use.

The type of healthcare financing in operation will have an important influence. In tax-funded systems, such as the National Health Service in the UK, annual budgets for service commissioning in specific geographical areas are fixed. This means that any unplanned expenditure must displace something else, so the speed of uptake of a newly recommended technology will depend on how well the financial planners have anticipated the guidance on its use. Short-term reductions in other services to accommodate the use of a new drug are not easy to achieve. If local budgets are not strictly constrained, as in some insurance-based systems, use of new drugs may be more easily accommodated without reducing other services. Retrospective adjustments can be made to cover any deficits and future premiums can be adjusted to cover the higher costs. In reality, while this may happen at the aggregate level, at the local level prescribing physicians in hospitals and the community will probably be working to national budgets, with penalties for not keeping within the constraints.

There are known to be local differences in the delivery of care to certain patient groups, which national guidelines are designed to reduce. This implies that there

will be local differences in the opportunity cost, in terms of QALYs, of reducing current services to implement new NICE guidance. The question remains – how legitimate are these local differences?

## The legitimacy of local differences

In the discussion which follows it will be assumed that local decision makers face an annual budget constraint of some kind, within which they are expected to deliver services of an expected standard, based on evidence and determined at national level. There are several reasons why a local health commissioner might wish to go against NICE guidance. These might be issues of policy, finance, and population health requirements.

## Local policy

Local healthcare providers may decide on a set of policy priorities which differ from

Although local commissioners should not have different priorities from the national decision makers, the balance of expenditure between them will vary according to local epidemiology and demography. One would expect an area with a high prevalence of heart disease to be spending a higher aggregate amount on cardiovascular services, but each individual stroke patient should be offered the same package of care in all areas.

## Finance

Claims of inadequate finance as a reason for inability to implement new, cost-effective technologies should be subjected to close scrutiny. These could be the result of under-funding from the health ministry, or the consequence of historical local mis-management of budgets. Removing the obligation to adopt new technologies might only reinforce the patterns of inefficiency.

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those of the national system. For example, they might take a different line on access to care and on the services which should be improved or expanded. Their ability to do this will be determined by the political processes which govern the health system. Here we focus on the situation where the primacy of national policy makers is established, and that they are basing national guidance on evidence and analysis. If the scientific integrity of the national decisions based on HTA is to be preserved in implementation, local decision-making processes must be consistent and evidence-based. However, national analyses are based on population averages, so each locality must assess the relevance of the recommendations to their own situation. This should not be to question the national decision, but to identify the deficiencies in current care which must be rectified before it becomes cost-effective to introduce the national guidance.

The interaction of financial and epidemiological issues can cause genuine problems in local implementation. For example, if a locality has a relatively small number of patients in a particular treatment group the average cost of providing their treatment may be much higher than the national average, although the provider will receive an average cost tariff payment, and the patients will gain average benefits. From a commissioner's perspective this should lead to consideration of procurement of the service from an alternative provider, outside the locality, placing a cost burden on patients travelling further to receive care.

## Demography and epidemiology

The ability of local commissioners to provide all services to the standards expected by national decision makers is strongly influenced by epidemiology and demography. As long as the funding for-

mula is sensitive to the differences in local healthcare needs there is no reason why local areas with differing patterns of need should not be able to follow the national guidance. In practice, for example, in the UK, differential funding takes time to remove imbalances. While the current formula reflects varying healthcare needs, this is insufficient to make up immediately for historic imbalances in funding which have left some regions with poorer infrastructure and service development. In principle, the extra funding for disadvantaged areas should allow for increased spending on preventative programmes without reducing the quality of acute services offered to those needing immediate treatment.

## Conclusion

The use of HTA to generate national guidance on the adoption of new technologies inevitably deals with national averages. This does not mean that such analyses are not helpful to local decision makers. Due to local differences in demography and epidemiology the optimal pattern of

expenditure across services will vary geographically, but can still be consistent with national guidance on how individual types of patients should be treated.

Local decision makers can develop these different expenditure programmes without having a different set of priorities. Adapting service patterns to local needs does not mean abandoning the national guidance.

A perfect fit between national and local decision-making requires a perfectly operating financial allocation system which matches funding to health need. The fact that many historical inequities remain should not discourage those seeking to improve the systems.

The imperfections in the current application of HTA by bodies such as NICE are well recognised. Continued improvements in data sources, which increase our knowledge of the costs and benefits of current services, will alleviate some of the difficul-

ties. If the production of national guidance based on HTA stimulates local decision makers to apply similar quality analysis to their own services, then the quality of decisions will improve at all levels.

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