MyelomaUK

MyelomaAcademy™

BRIEFING

Health technology assessment

Introduction

Access to drugs can cause concern and worry for patients and carers as not all new drugs are available to all patients within the NHS. Health technology assessment (HTA) plays a key role in whether or not new drugs are funded. Healthcare professionals can help patients understand this process and why certain drugs may not be available and support them where possible in accessing drugs in other ways.

This briefing explains the HTA process and covers:

- What is HTA, when does it takes place, and what are the differences within the UK?
- The HTA decision-making process and what the QALY means
- Issues and controversies, and the impact of a negative decision on patients
- The role of nurses in supporting myeloma patients and families through these processes

What is HTA and when does it take place?

Health Technology Assessment and Health Technology Appraisal are often used interchangeably. We use HTA here to cover both. Assessment is the systematic evaluation of the relevant evidence, and appraisal considers the evidence and makes a decision, applying judgements on a range of factors. The National Institute for Health and Care Excellence (NICE) does both assessment and appraisal[1]. Once a drug has been trialled, tested and has received a marketing authorisation for use in the UK either by the European Medicines Agency (EMA) or the Medicines and Healthcare Regulatory Agency (MHRA), it is considered safe and effective for use in patients.

All cancer drugs are typically assessed by the EMA, as it allows a central point of assessment for drugs.

At this point, an NHS doctor may prescribe the drug for a patient as it is considered safe and effective. This may not have guaranteed funding from the NHS, and most patients will have to pay privately for the drug if required. Most new drugs are subject to a HTA, particularly where they are high-cost. About 40% of new drugs are evaluated by NICE each year[2]. HTA is designed to assess the clinical, quality of life and health economic evidence available for a drug, compare it to the existing standard of care, and make recommendations about whether it represents an efficient allocation of scarce healthcare resources[3].

HTA in England, Wales and Northern Ireland

The main body responsible for HTA in England and Wales is the National Institute for Health and Care Excellence (NICE) via their technology appraisal (TA) programme. There are two types of TAs:

- Single technology appraisals (STAs) which consider one drug at a time
- Multiple technology appraisals (MTAs) which consider a number of drugs and treatments at the same time

NICE does not systematically assess all new drugs, but does so upon receipt of a submission from a pharmaceutical company, when availability varies across the country and/or the value of a drug is not clear. NICE works with the Department of Health (DH) to agree an ongoing and regularly updated programme of drugs due to undergo a HTA which it publishes on its website. It employs a system of 'horizon scanning' to anticipate pipeline drugs that are eligible to undergo NICE HTA in the future.

Positive NICE recommendations are legally binding in England and Wales, which means that NHS England (the body responsible for commissioning chemotherapy) and Clinical Commissioning Groups (local commissioning bodies) must make funding available for a drug recommended by a HTA within three months of the relevant TA publication. Where there is multiple NICE guidance covering the same stage of a condition, NHS England can publish their own guidance outlining the order that it will fund these treatments in. Whilst legislation states that all NICE guidance is legally binding, this type of "phasing" is increasingly happening in England.

NICE recommendations are usually adopted in Northern Ireland after a local review of the decision by the Department for Health, Social Services and Public Safety (DHSSPS) and once funding has been allocated.

In Wales, as well as following NICE guidance there is a separate HTA body, the All Wales Medicines Strategy Group (AWMSG). The AWMSG carries out a short assessment of all new drugs that are not due to be reviewed by NICE within 12 – 18 months and makes separate recommendations on the use of these for the NHS in Wales. Like NICE guidance, Health Boards in Wales are bound to implement AWMSG guidance within three months. Usually, if NICE publishes guidance on a drug that has already been assessed by the AWMSG, NICE guidance supersedes the AWMSG guidance – however, recently the AWMSG has upheld its guidance where there has been a clinical case made for local access.

HTA in Scotland

Scotland's HTA body is the Scottish Medicines Consortium (SMC), which reviews all newly licensed drugs within six months. Unlike NICE and the AWMSG, positive SMC guidance is not legally binding on local health boards, although they are expected to make it available to patients within three months. If they do not, they have to explain this publicly on their websites.

SMC decisions are not impacted upon by NICE guidance. However, if NICE engages its MTA process then the results of this are reviewed by Health Improvement Scotland who decide whether to make the guidance available in Scotland. For example, the NICE guidance on thalidomide and bortezomib (Velcade®) is approved in Scotland under this process.

Differences in access

The outcomes of HTA undertaken by all three groups are similar, with NICE sometimes making more detailed recommendations relating to specific patient subgroups[4].

The result of having slightly different HTA processes and timescales across the UK is that sometimes drugs are approved for use in one part of the UK whilst being unavailable in others. For example, pomalidomide (Imnovid®) is currently available in Scotland and Wales for relapsed myeloma patients, who have previously been treated with bortezomib and an immunomodulatory drug such as lenalidomide (Revlimid®), but it was turned down for use in England.

What does HTA take into account when making a decision about a drug?

HTA in the UK focuses on assessing:

- Clinical-effectiveness of a treatment – how the health outcomes of the treatment compare with available treatment alternatives
- Cost-effectiveness of a treatment – whether the improvements in health outcomes are 'worth' the additional cost of the treatment

The SMC and AWMSG look at each new drug and assess cancer drugs one at a time, whereas NICE may use either a MTA or a STA. MTAs involve a review of all available evidence and involve a longer timeframe. STAs in comparison rely solely on information provided by the drug manufacturer. Analysis suggests that NICE has shifted to applying the STA process more frequently for new drugs or new drug indications[5] in order to speed up the approval process.

For all three HTA bodies in the UK an evidence review committee assesses the published evidence on the new drug's clinical benefits and seeks views from clinical experts and patient groups, to determine its effectiveness in clinical trials, any side-effects, whether there are any subgroups of patients for whom it is particularly effective, and its advantages compared to existing drugs and treatments available on the NHS. Pharmaceutical companies are also asked to present their case, including evidence on the clinical - and cost-effectiveness of their product.

To develop an economic case the costs and clinical benefits of the new drug are compared to those of existing 'comparator' drugs and treatments. Establishing cost and clinical-effectiveness involves the health economic measure known as the QALY (Quality-Adjusted Life Year).

In short, if the case submitted by a pharmaceutical company adequately supports the benefits of their product, and justifies the costs of a new treatment and how it represents an improvement to the treatment currently offered on the NHS in the eyes of the committee looking at the product, then it is recommended for use in patients.

What is the QALY?

The QALY is a common measurement with the aim that it can be used to assess cost- and clinical-effectiveness of drugs across different disease areas i.e. it is a way of comparing like with like. In theory for example, the QALY calculation for a breast cancer drug can therefore be directly compared to the QALY for a diabetes drug. However there is debate about the QALY concept and its implementation[6, 7].

The QALY assesses both the increase in life expectancy gained from a drug and any change in quality of life resulting from the drug. One QALY is equivalent to a year of life in perfect health. A QALY generally counts the same whoever it applies to (i.e. even if someone has already previously had a number of expensive drugs), although some research suggests that people value a QALY given to someone in very poor health higher than a QALY given to someone in relatively good health[8]. NICE may allow for different weightings to be applied in the case of end of life treatments[1].

HTAs compare how many extra QALYs a new drug will provide compared to existing treatments, as well as how much those extra QALYs cost. The difference is calculated as a ratio which compares the existing drug to the new drug and is called the Incremental Cost Effectiveness Ratio (ICER).

NICE currently uses a threshold range of between £20,000 to £30,000 cost per QALY[1]. Above £20,000/QALY, all three HTA bodies require increasing amounts of evidence that the drug is beneficial for additional factors, for example severity of illness.

The SMC has "decision-making modifiers" which allows the committees to be more flexible in their decision-making and to consider a higher-cost per QALY for drugs which are for an orphan disease or for the end of life. NICE also has "end of life criteria" which allows a higher cost per QALY for conditions where a patient's life is limited without treatment.

Recent additions in Scotland and Wales

In Wales and Scotland, the HTA bodies have recently implemented a new phase of their HTA process for orphan diseases and/or end of life diseases.

Prior to assessment by the SMC or the AWMSG, a drug will undergo a health economic assessment. In Scotland, this is done by the New Medicines Committee and in Wales by the New Drugs Group. Following this assessment, drugs will receive a draft guidance which either recommends or does not recommend its use.

This is not the final decision as it then passes to the SMC or AWMSG for further assessment, including budget impact, patient group evidence and clinician evidence. For orphan and end of life drugs, industry can select to take part in an additional process which means further evidence is collected from patients and clinicians before being sent to the final SMC committee.

In Scotland, this additional process is known as Patient and Clinician Engagement (PACE) and in Wales it is known as the Clinician and Patient Involvement Group (CAPIG).

The role of these committees/groups is to speak directly to patient groups and clinicians on the condition and the drug in question. This additional evidence then gets fed into the full SMC or AWMSG committee consideration and allows them to be more flexible in their decision-making.

In Scotland, there is anecdotal evidence to suggest that PACE has increased access to medicines for end of life and orphan medicines. In Wales, CAPIG is new and it is not yet clear what impact this has had.

What is the outcome of a HTA?

The result of a NICE HTA is recommendation for use of a drug in the NHS including:

- ★ Unrestricted use
- ★ Restricted use
- ★ Not recommended

Only in the first two cases will funding be legally required in England and Wales or will health boards in Scotland have to consider whether to add it onto their local formularies.

If the HTA appraisal committee does not agree with how the drug company has modelled the economic case; and/or if the additional cost per QALY of the new drug compared to existing drugs is deemed too high, then the new drug is normally not recommended for use.

When the SMC reach a decision on a drug it is final, although drug manufacturers can resubmit a new case for review at a later date. In contrast to this, both NICE and the AWMSG have an official appeals process. For example, both bortezomib and lenalidomide initially received negative recommendations from NICE and these were later overturned on appeal. In Wales, pomalidomide was made available following an appeal.

Issues and controversies in HTA

The influence of HTA on the availability of newly licensed drugs on the NHS has resulted in regular debate about whether the assessment processes used by HTA bodies are appropriate. These criticisms noticeably increase when HTA bodies have made controversial 'no' decisions that exclude patient access to a treatment on the NHS.

A main criticism levelled at NICE in particular, is the length of time the HTA process takes. The NICE process rarely takes less than a year to complete, during which time there are numerous consultation periods. If an appeal is subsequently brought against a NICE recommendation, this can also extend the process and may mean that patients have to wait a longer time before being able to access a drug that could benefit them. The NICE assessment of bortezomib is a good illustration of this as the drug was licensed in 2004 but it took a further three years before NICE recommended it for use on the NHS for myeloma patients.

A general issue for HTA has been the adequacy of the cost per QALY

measurement of a new drug's value to the NHS. Some people believe that the QALY is not a robust measurement tool and may even discriminate against drugs for certain types of diseases. However, despite a lot of research, a more robust alternative has not been identified and the QALY does allow for fair decision-making across disease areas as it always applies the same assessment criteria.

A lot of the criticism surrounding HTA is levelled at the HTA bodies, rather than questioning the reasons why NICE, the SMC and AWMSG have not been able to approve treatments for funding on the NHS. Some commentators point out that neither the HTA bodies, nor the DH has the power to directly negotiate with drug companies over the prices they set for their new drugs. This even applies when companies put forward poor clinical trial data combined with very high prices as HTA evidence. This, it is argued, leaves HTA bodies in the situation of having to say 'no' to new treatments purely on the basis of prices set by drug companies.

To overcome this, increasingly complicated ways have been brought in to improve the cost-effectiveness of a drug, for example Patient Access Schemes. Bortezomib was only approved for use on the NHS through the Velcade® Response Scheme, which was one of the first Patient Access Schemes. By offering the NHS money back in situations where patients do not respond well to bortezomib, the drug manufacturer was able to make bortezomib cost-effective enough for a positive recommendation from UK HTA bodies. Other schemes have been used since, including a scheme for lenalidomide where the manufacturer provides the drug free of charge for every patient who remains on it for longer than two years.

While these schemes were effective in ensuring that these and other drugs were eventually accessed by patients, there are questions about whether they are sustainable and whether a better and simpler approach would be to negotiate on price instead.

These and other questions are currently being looked at by the Government which announced plans to change the way drugs are priced and accessed in the UK by a policy known as value-based pricing (VBP). It is therefore very likely that we will see significant changes to how new drugs are priced and accessed in the UK in the near future.

Impact on patients of a negative HTA decision

For patients whose next best course of treatment is to be prescribed a new drug, it can be devastating when that drug is either going through a HTA assessment or has received a negative recommendation from a HTA body.

Patients may also experience difficulties accessing a drug outside of its NHS approved setting. As an example, at present doctors are only guaranteed funding for lenalidomide if they prescribe it in myeloma patients at second relapse and cannot use lenalidomide in other settings (unless it is in a clinical trial). This problem is particularly relevant for complex cancers such as myeloma, where doctors may wish to prescribe a drug outside the circumstances approved by HTA guidance. If a myeloma patient has received bortezomib in the upfront setting, the doctor may decide that it is not appropriate for the patient to also receive bortezomib at first relapse, however there are no other treatments approved by HTA bodies for use in the NHS at this point in the pathway.

Accessing drugs that have not been approved by HTA bodies, or are still being appraised for use outside of their approved setting is still possible, but subject to decision-making processes in their country.

In Northern Ireland and Wales, consultants can submit an Individual Funding Request (IFR) to local funding bodies, such as Local Health Boards, setting out reasons for why the patient has an exceptional, individual need for the drug when it is the general NHS policy not to fund it. It may take several weeks for the local IFR panels to reach a decision. If the application for funding is refused there is usually an appeals process which can also add to the time taken to

reach a final decision. Overall, this process is often a distressing experience for patients and their families and they require good information and support throughout it. In England and as a result of wider changes to the NHS there is now a central process in development managed by NHS England[9]

The Cancer Drugs Fund

Another potential source for accessing a drug which has not been recommended by a HTA is the Cancer Drugs Fund set up in 2011. Covering England only, it is a national ring-fenced pot of money designed to improve access to drugs which have not been recommended by NICE or are going through the NICE TA process.

There has been variation in the treatments that cancer patients can access in different areas of England through the Cancer Drugs Fund and its critics argue that this has created a postcode lottery resulting in inequity of access between different geographical areas. However, NHS England has established a single, national list of drugs and indications that the CDF will routinely fund and standard operating procedures for administration of the fund to address these geographical inequities[10]. Due to financial constraints, the approved list has been subject to a couple of rounds of delisting and a number of drugs have been removed.

The following drugs are currently included on the CDF for myeloma:

- **Bendamustine**: For patients with relapsed myeloma where other treatments are not appropriate
- **Bortezomib:** For patients with relapsed myeloma who are bortezomib naive (no previous bortezomib as 2nd line (NICE approved) treatment)

Three myeloma drugs were taken off the CDF in 2015. These were:

- **Lenalidomide** as a second line treatment for myeloma patients who are not able to be treated with bortezomib due to contraindications
- **Pomalidomide** for treatment of relapsed and refractory myeloma in patients who have had two prior treatments including lenalidomide and bortezomib and have disease progression
- **Bortezomib** re-treatment

NHS England also has the capacity to consider 'Individual CDF Requests', for drugs that do not appear on the national list. Requests made through this process will be decided by clinically-led expert panels within the four Area Teams (on behalf of NHS England).

Arrangements for the current CDF come to an end in July 2016. A proposal for a new CDF, which is fully integrated into the NICE appraisal process and becomes a transitional fund with clear criteria for entry and exit, has recently undergone public consultation and has been agreed in principle by NHS England. Further information on the operation of the Fund will be published in due course[11].

In Scotland, the New Medicines Fund has recently replaced the Rare Conditions Medicines Fund. This is designed to improve patient access to orphan drugs (i.e. those affecting less than 1 in 2,000 people in Scotland). As orphan drugs are often more expensive and the clinical trial population is smaller, it is speculated that they have greater difficulty being approved through the SMC HTA process and also through the IFR process (i.e. as it is difficult to prove exceptionality for smaller patient populations). The money is given out to Scottish Health Boards by the Scottish Government, and is it used to increase local access to drugs for orphan diseases.

The role of nurses in supporting patients impacted by HTA

Whilst patients rarely consider HTA, the process can have a direct impact both on the drugs that are available to them on the NHS, and when they can access particular drugs in their treatment pathway.

HTA is most likely to be raised by patients in a consultation when they are unable to access a particular drug on the NHS. Nurses have a role, along with the patient's

consultant, to explain to a patient and their family why a particular drug may not be available on the NHS, and what the processes are for accessing it either through an IFR or the CDF.

In addition to providing support and information to patients during these processes, nurses can also signpost patients and their families to other sources of help. For example, specialist advice on the IFR system, including support on making an appeal, is available from Myeloma UK.

As well as guiding patients through the local processes, nurses should also make patients aware that securing funding for the treatment may not be guaranteed and that it is important in the meantime for patients to discuss alternatives with their consultant, for example accessing a drug through a clinical trial.

Summary

HTA has been an important component of health policy in the UK for many years. Despite the questions and controversies around individual decisions and the process in general, HTA will continue to play a key role in assessing the value of new drugs and informing decisions about what drugs the NHS should fund. The availability of myeloma drugs in the UK continues to be affected by difficult HTA decision-making and occasionally controversial initiatives designed to improve access to drugs.

HTA directly impacts on what drugs are available, when particular drugs are available in the treatment pathway and for which patients. In the absence of routine funding, access to myeloma drugs is subject to local decision-making. Nurses can help patients affected by this local decision-making to understand why some drugs are not freely available on the NHS; and to support them through local application processes.

Abbreviations

- **AWMSG** All Wales Medicines Strategy Group
- **CAPIG** Clinical and Patient Involvement Group
- **CCG** Clinical Commissioning Group
- **CDF** Cancer Drugs Fund
- **DHSSPS** Department for Health, Social Services and Public Safety
- **DH** Department of Health
- **EMA** European Medicines Agency
- **HTA** Health Technology Assessment
- **ICER** Incremental Cost Effectiveness Ratio
- **IFR** Individual Funding Request
- **MHRA** Medicines and Healthcare Regulations Agency
- **MTA** Multiple Technology Appraisal
- **NICE** National Institute for Health and Care Excellence
- **PAC** Patient and Clinician Engagement
- **QALY** Quality-Adjusted Life Year
- **SMC** Scottish Medicines Consortium
- **STA** Single Technology Appraisal
- **TA** Technology Appraisal
- **VBP** Value Based Pricing

References

1. NICE, *Guide to the methods of technology appraisal 2013*. 2013, National Institute for Health and Care Excellence: London.
2. *Drug Pricing: POSTnote 364*. 2010, Parliamentary Office of Science and Technology: London.
3. Battista, R.N. and M.J. Hodge, *The evolving paradigm of health technology assessment: reflections for the millennium*. CMAJ, 1999. **160**(10): p. 1464-7.
4. Drummond, M., *What are the HTA processes in the UK?* 2009, Hayward Medical Communications: Newmarket.
5. Taylor, R. and R. Taylor, *What is health technology assessment?* 2009, Hayward Medical Communications: Newmarket.
6. Whitehead, S.J. and S. Ali, *Health outcomes in economic evaluation: the QALY and utilities*. British Medical Bulletin, 2010. **96**(1): p. 5-21.
7. Malek, M., *Implementing QALYs*. 2001, Hayward Medical Communications: Newmarket.
8. Linley, W.G. and D.A. Hughes, *Societal views on NICE, Cancer Drugs Fund and value-based pricing criteria for prioritising medicines: a cross-sectional survey of 4118 adults in Great Britain*. Health Econ, 2013. **22**(8): p. 948-64.
9. NHS England, *Interim Commissioning Policy: Individual funding requests*. 2013, NHS England.
10. NHS England, *Standard Operating procedures: The Cancer Drugs Fund (CDF). Guidance to support operation of the CDF in 2015/16*. 2015, NHS England: London.
11. NHS England/NICE, *Consultation on proposals for a new cancer drugs fund (CDF) operating model from 1st April 2016*. 2015, NHS England: London.

Related Myeloma Academy Resources

- **Myeloma Academy Tutorial – Access to Treatment**
  http://academy.myeloma.org.uk/cpd-and-learning/tutorials/tutorial-5-access-to-treatment/
- **Myeloma Trial Finder**
  http://trials.myeloma.org.uk/
- **Myeloma Drug Finder**
  http://drugs.myeloma.org.uk/
- **Myeloma Copayments Infosheet**
  www.myeloma.org.uk/information/myeloma-uk-publications-list/living-well-with-myeloma/copayments-infosheet/
- **Value Based Pricing Position Statement**
  www.myeloma.org.uk/what-we-do/policy-and-public-affairs/reports/value-based-pricing/

Useful websites

- www.nice.org.uk/
- www.wales.nhs.uk/sites3/home.cfm?orgid=371
- www.scottishmedicines.org.uk/Home
- www.england.nhs.uk/ourwork/cancer/cdf/

ABOUT THE MYELOMA ACADEMY

The Myeloma Academy provides healthcare professionals involved in the treatment and care of myeloma patients with access to comprehensive accredited learning resources and tools in an innovative online environment and through educational events.

It supports the education and continual professional development of myeloma healthcare professionals so they can provide optimum patient-centred treatment and care within the current UK health and policy environment.

For more information visit:
www.myeloma-academy.org.uk or by email **academy@myeloma.org.uk**

ABOUT MYELOMA UK

Myeloma UK is the only organisation in the UK dealing exclusively with myeloma.

Our mission is to provide information and support to people affected by myeloma and to improve standards of treatment and care through research, education, campaigning and raising awareness.

For more information about Myeloma UK and what we do, please visit
www.myeloma.org.uk or contact us at **myelomauk@myeloma.org.uk**
or **+44 (0)131 557 3332.**

MyelomaAcademy™

www.myeloma-academy.org.uk

Published by: Myeloma UK
Publication date: October 2012
Last updated: August 2016
Review date: August 2017

Myeloma UK

Myeloma UK 22 Logie Mill,
Beaverbank Business Park, Edinburgh EH7 4HG
Myeloma Infoline: 0800 980 3332
www.myeloma.org.uk Charity No: SC 026116