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NICE decisions on health care provisions in England

Matt Stevenson,
Professor of Health Technology Assessment (HTA),
ScHARR, University of Sheffield, UK

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A quick introduction

- I am Technical Director of ScHARR-TAG (the largest academic group undertaking work for NICE)
- I am a NICE (National Institute for Health and Care Excellence) Technology Appraisal Committee member
- Working Group: Methods Guides; Value Based Assessment
- The views expressed in these slides are personal opinions and are not necessarily shared by: NICE; other Appraisal Committee Members; other academic groups; anyone else

NICE Technology Appraisals

- Technology appraisals are recommendations on the use of new and existing medicines and treatments within the NHS (National Health Service)
- Recommendations (made by an appraisal committee) are based on reviews of the
  - **clinical evidence and**
  - **economic evidence**
- The **NHS is legally obliged** to fund and resource medicines and treatments recommended by NICE's TAs if their doctor believes it is clinically appropriate

NICE Appraisal Committees

- Four independent advisory committees
- Currently 34 Committee Members per committee drawn from:
  - NHS
  - Patient / Carer Organisations
  - Academia
  - Pharmaceutical (and medical devices) industries
- 17 AC members required to be quorate

NICE Appraisal Committees

- The advice of the AC is independent of vested interests – Those with conflicts of interest (intervention or comparator) cannot attend

- AC members receive expenses only – there is no direct financial incentive for being an AC member

Topic Selection

- Topics can be suggested from a variety of sources, with NICE deciding on those that will offer best value for money.

- A scoping workshop is held with clinicians and the companies who manufacture the interventions and comparators to decide whether to refer the topic to the Department of Health

Two forms of appraisals

- **Single Technology Appraisal (STA)** - a single technology for a single indication

- **Multiple Technology Appraisal (MTA)** - normally covers
  - more than one technology, or
  - one technology for more than one indication

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STAs

- Evidence provided by the manufacturer
- Critiqued by an Evidence Review Group (ERG) who assess the: clinical evidence; mathematical model; validity of results produced; and interpretation of the results. Amend model as necessary
- ERG's are encouraged to produce an 'ERG most plausible' **incremental cost per QALY gained** (henceforth ICER). Not uncommon to see higher ICERs suggested by the ERG
- Typical duration: 13 weeks from ERG receiving manufacturer's submission to AC meeting

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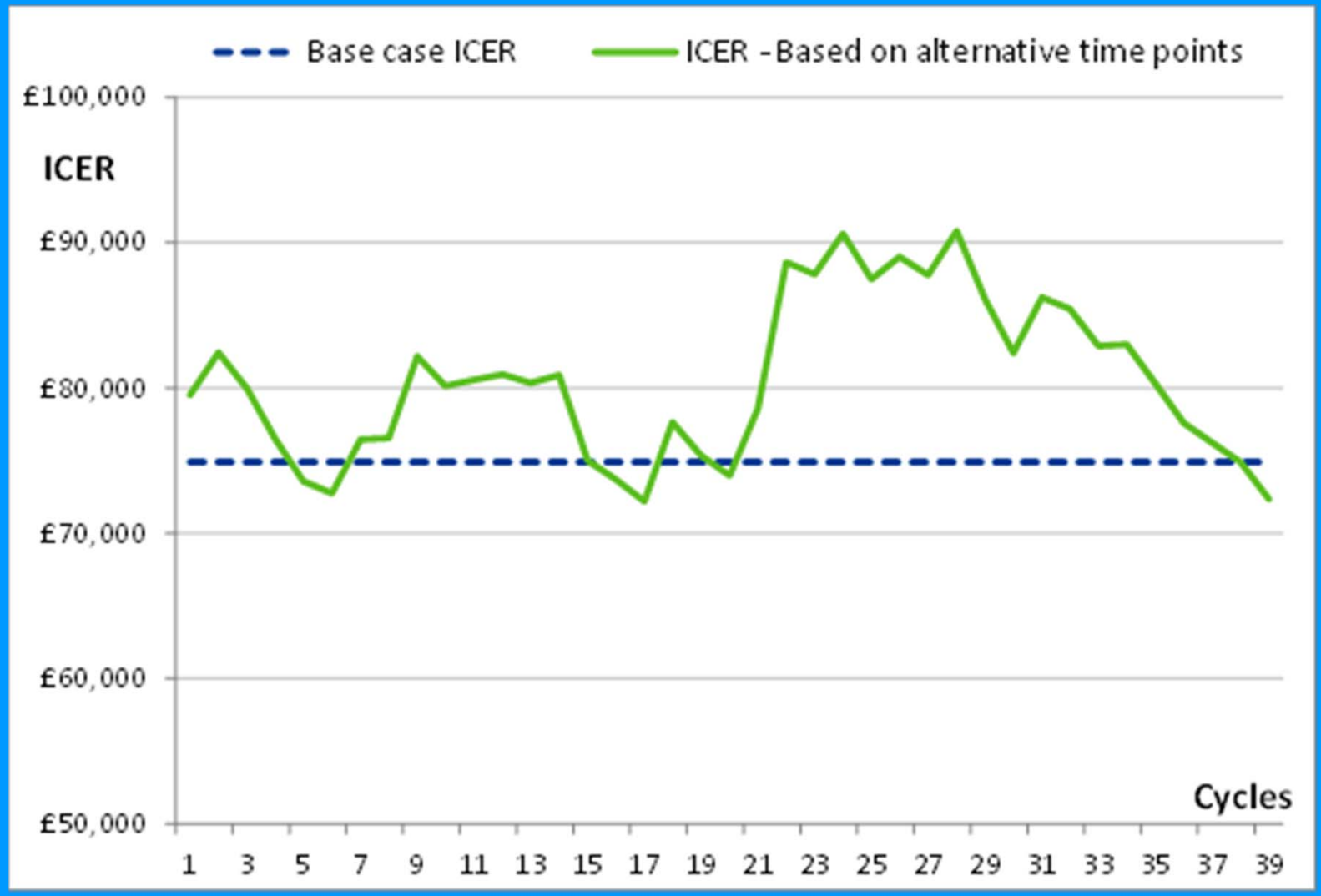
‘Fortuitous’ Selection??



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MTAs

- Assessment Group (AG)
  - undertake their own review of clinical effectiveness,
  - construct their own mathematical model and
  - calculate their own ICER (£/QALY gained)
- Manufacturers' role similar to that in STA
- Not uncommon to see higher ICER values suggested by the AG than by the manufacturers
- Typical duration: 24 weeks from ERG receiving manufacturer's submission to AC meeting; ≈ 7 months from final protocol

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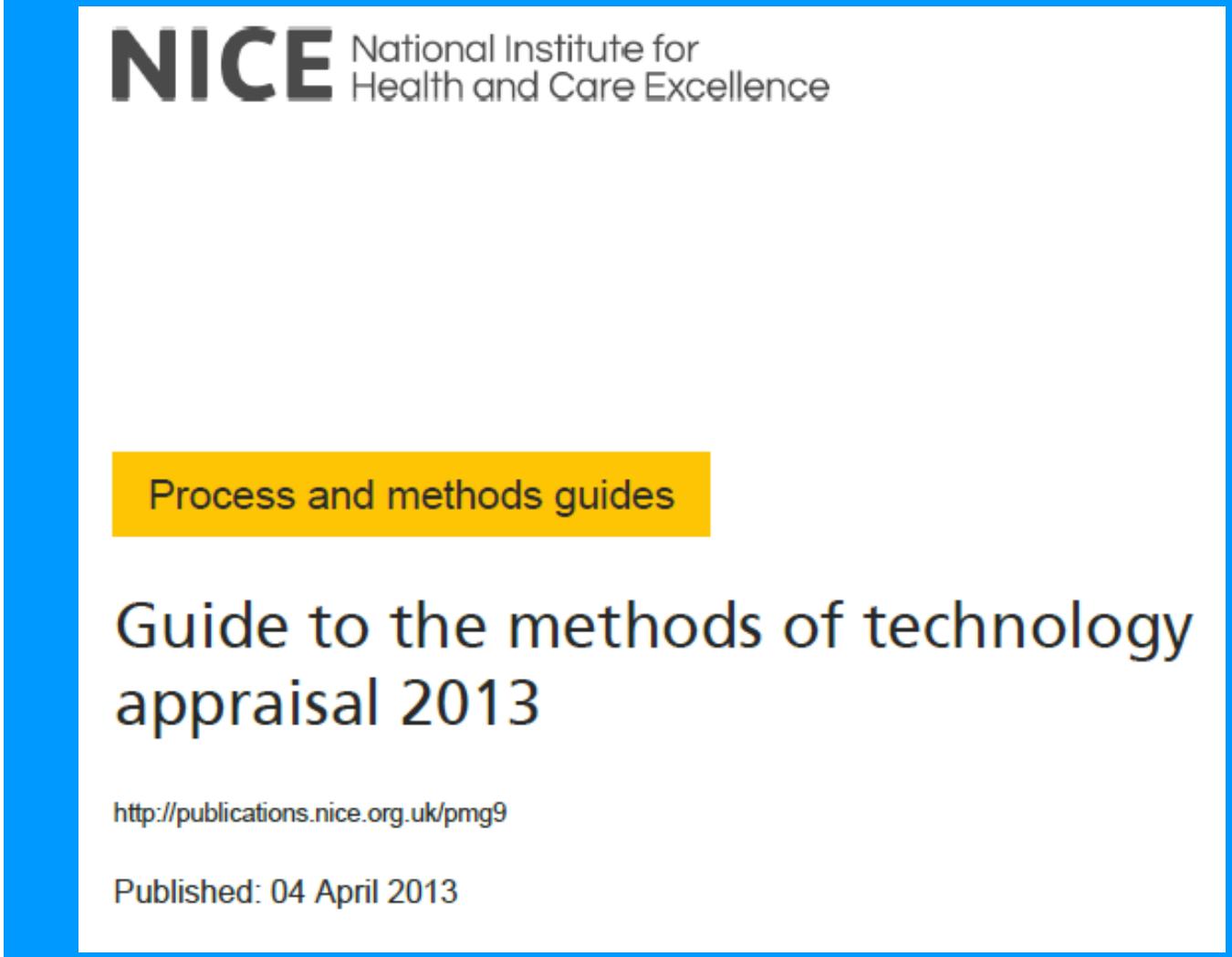
Scoping

- For both MTAs and STA a formal scope is released which is consulted on, specifying
  - Intervention
  - Population
  - Comparators (Note that interventions which are widely used in the NHS but not licensed can be a comparator – bevacizumab in macular degeneration)
  - Outcomes
  - Economic analysis

The Methods Guide



This document provides the '**reference case**'. This should be adhered to with explicit reasons provided if there is deviation

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Reference Case

States NICE's preferences on:

- Cost-effectiveness metric (Cost Per QALY)
- Discount Rates (3.5% for both costs and benefits)
- Indirect Costs (Base case does not include lost productivity)
- Utility Measure (EQ-5D)
- Time Horizon ……

These aim to ensure comparable appraisals.

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Cost per QALY thresholds

- Most plausible **probabilistic** ICER [budget impact rarely considered]
  - ≤ £20,000 : Typically recommended
  - > £20,000 and ≤ £30,000 : ??? (Certainty, Innovation, quality of life insufficiently captured)
  - > £30,000 : Typically not recommended
- However, empirically-based data suggest true threshold could be <£13,000 per QALY gained

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EoL criteria

- **Exception**: Those treatments that meet the end of life (EoL) criteria
- The following all need to be 'robustly' satisfied
  - Life Expectancy < 24 months
  - Extension of Life > 3 months
  - Small patient population
- When EoL is met a higher ICER threshold is permitted although all interventions recommended had ICERs < £50,000

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Logistics of a first AC

- Presentations are made by NICE AC members
- Clinical experts and patient representatives attend to provide evidence
- The manufacturer(s) attend to answer questions provided by the AC and to highlight factual inaccuracies
- The AG / ERG attend to answer questions provided by the AC
- The majority of the meeting is undertaken in public although the decision is made in private

Common discussion points

- **Extrapolation** of immature data
  - Different fits can result in considerable different ICERs

Sorafenib in liver cancer

- Lognormal extrapolation: ICER ≈ £52,000
- Weibull extrapolation: ICER Commercial-In-Confidence (although considerably higher)

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Common discussion points

- **Generalisability** of trial populations to the population to be treated
  - Often the trials are in less sick populations, with fewer lines of treatment and conducted in different countries.
- Calculation of indirect **efficacy estimates**
  - Are the trials sufficiently comparable to perform an indirect or mixed treatment comparison.

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Common discussion points

- Appropriateness of **utility data**
  - One manufacturer spent considerable time stressing how devastating a disease was and then assigned a utility value to that state higher than the general population average…….

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Other discussion points

- **Cross-over** between trial arms
  - Invalidates ITT analyses and requires statistical techniques to assess counterfactual

- Multiple methods to correct for crossover:

  IPCW / RPSFT / IPE / SNM

- The appropriate method should be determined by the data / decision problem (common treatment effects, % cross-over…)

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Consensus

- Typically there is a consensus and the conclusion of the AC is clear
- Where the decision is contentious it may require a ‘secret’ vote
- ∴ NICE decisions may not equate to the views of an individual AC member.
- **NICE cannot recommend outside of licensed indication**

ACD / FAD

- Unrestricted recommendation
  - » **Final Appraisal Determination -** otherwise
  - » **Appraisal Consultation Determination**
- This is subject to comments which are considered by the AC. In due course, a FAD is produced which can be appealed against, ultimately, in the high court
- Initial internal appeals are highly formal with lawyers present and appeal panel

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+ve Recommendation

- Does not mean that the treatment has to used. More than one intervention can be recommended for a condition. For example, enoxaparin, rivaroxaban and dabigatran for VTE prophylaxis.
- If the clinician does not believe that treatment is in the interest of a patient then it does not have to be prescribed.

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-ve Recommendation

- Does not mean that the treatment cannot be used, only that the funders do not have to pay for the treatment. An ‘exceptional circumstances’ case could receive funding.

- NICE do not rigourously follow up the adherence of clinicians to the guidance. It is expected that funders ‘police’ the clinicians, however in ‘optimised’ decisions over-prescribing can (regularly??) occur.

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PAS

- **NICE cannot negotiate on price**. However, patient access schemes (PAS) can be submitted, which ultimately reduce the acquisition price of the intervention
- Historically these could be complex schemes although the Department of Health are encouraging pharma to implement simple discounts. These discounts can be commercial in confidence
- Multiple PAS allowed

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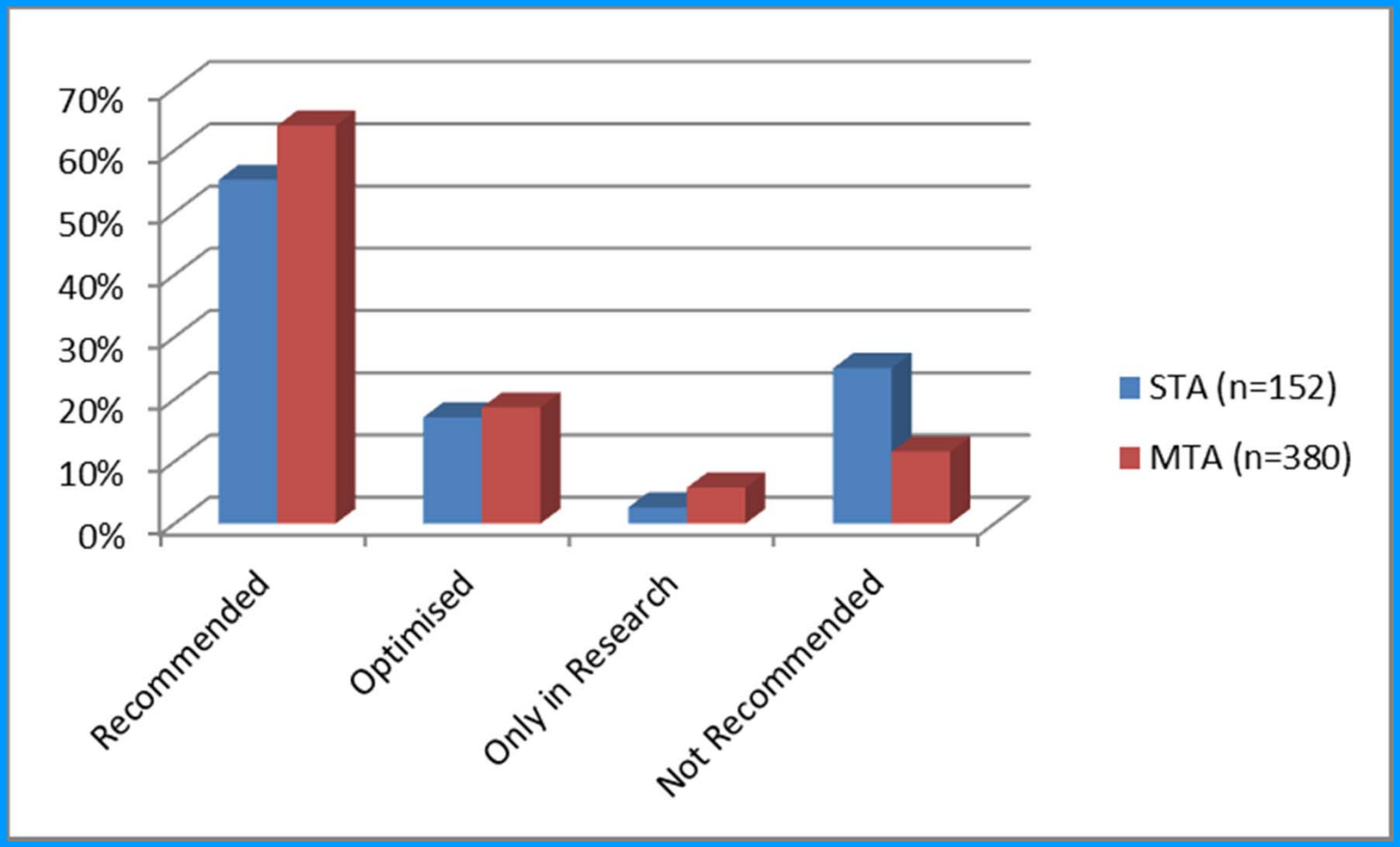
NICE Recommendations



1st March 2000 to 31st July 2014

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Cancer patients in dru

Kidney cancer patients have protested in London to demand free access to drugs that could prolong their lives.

Protes
headc

Campaigners from across the UK want the government to make Bevacizumab, Sorafenib, Sunitinib and Temsirolimus widely available on the NHS.

Draft guidelines from the National Institute for Health and Clinical Excellence (N not offer value for money.

NICE says the drugs are being appraised anc locally.

Clive Stone, 60, from Freeland near Witney i other demonstrators to hand over a petition in support of the drugs at the Holborn offices of NICE, the body responsible for providing national guidance on medication.

He said: "Can you imagine what they [senior oncologists] must feel like going to work every day and seeing people like us and knowing there is a drug there that they can give but they can't do it?

"Their hands are tied."

> **"We feel we've been left to go away and die quietly and we are not going to do that"**
>
> Clive Stone

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16,000 cancer patients a year to be denied vital medicine as Government's specialist drugs fund is wound up

- 16,000 patients will be denied drugs when the fund is wound up
- Cancer charities are calling for the Government to pledge it will not go back to days when patients 'had to beg' for life-prolonging drugs
- Four out of every five people believe Britons should get cancer drugs that are widely available in other European countries
- The £200 million a year Cancer Drugs Fund which began in April 2011 has led to 30,000 patients in England getting drugs banned on the NHS

By JENNY HOPE MEDICAL CORRESPONDENT

PUBLISHED: 16:32, 20 September 2013 |

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ctory | Health Boards | Diets | MyDish Recipe Finder

NHS drug ban hands 'death sentence' to thousands of cancer sufferers

By JENNY HOPE

UPDATED: 00:01, 28 October 2008

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Political Pressure

- Considerable political pressure
- EoL – little empirical basis for this
- **Cancer Drugs Fund** – A Government initiative that undermines the NICE process
- **Value based pricing**. Still to be finalised, initial reactions not receptive (from wide selection of consultees).
- Contentious negative decisions may be delayed
- Turning Tide?? Charities criticise manufacturer over price of Trastuzumab Emtansine

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Disinvestment

- NICE undertake very few disinvestment appraisals
- Disinvestment in technologies currently bought are left to the funders
- If the ICERs of displaced technologies are low, positive decisions may be harming societal health

Revisiting previous decisions

- Can cause problems when evidence suggests that previous positive decisions should be reversed » RA
- However **decisions could legitimately change**:
  - Historical assumptions proven to be inaccurate
  - Introduction of generics for comparators
  - Prognoses change due to better management…
- The option of no active treatment / best supportive care should be an option in MTA (although hands could be tied in an STA)

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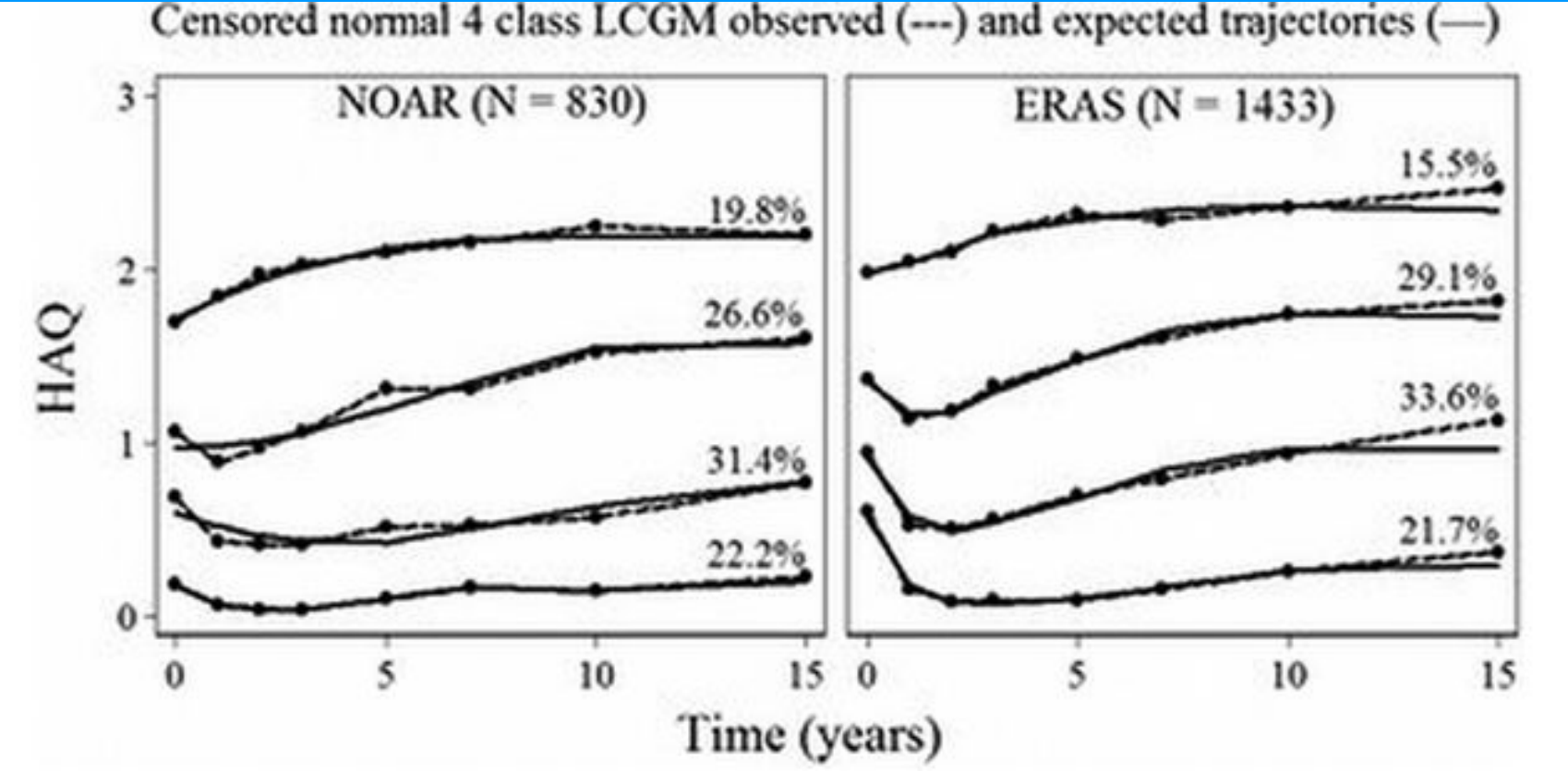
Amending Historical Assumptions (RA)



Historic ‘linear increase until 3’ not supported

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Transplanting NICE decisions

- NICE decisions may influence **decisions in other countries**
- Assuming these are automatically generalisable to other settings **may be unwise** when:
  - Costs of drugs (PAS) and other resources differ
  - Thresholds (or GDPs) and funding systems differ
  - Baseline Risks and prognosis may differ
  - Best supportive care and comparators differ
  - Utilities differ, treatment of adverse events differ
  - Mortality (background and disease-caused) differ…

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NICE HST

- NICE has recently established a highly specialised technology committee. Similar process to STAs
- Only looking at interventions for **very rare conditions** (≈ultra-orphan diseases)
- No reference to a threshold

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NICE HST

- Recommend against if ‘the benefits to patients are unproven or costs of technology are unreasonable’
- ‘The committee will also take into account what could be considered a reasonable cost for the medicine in the context of recouping manufacturing, research and development costs from sales to a limited number of patients.’
- Positive recommendations should be funded in similar manner to Technology Appraisals

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NICE HST – First ECD

1.1 Eculizumab … effective treatment … represents a significant development …. However, the Evaluation Committee has not yet been presented with an adequate explanation for its considerable cost.

1.2 The Committee is therefore currently unable to prepare a recommendation on the use eculizumab…

NICE HST – Second ECD

- 1.1 Eculizumab … is recommended for funding … only if **all** of the following arrangements are in place:
  - coordination of the use of eculizumab through an expert centre;
  - monitoring systems to record the number of people with … [AHUS]…, the number of people who receive eculizumab, and the dose and duration of treatment for these people
  - a national protocol for starting and stopping eculizumab …
  - a research programme with robust methods to evaluate when stopping treatment or dose adjustment might occur.

- 1.2 …NHS England and the company … should consider what opportunities might exist to reduce the cost of eculizumab to the NHS.

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NICE Diagnostic Committee

- Focuses on innovative medical diagnostic technologies. Process similar to MTAs
- Thresholds similar to those for Technology Appraisals
- **No mandatory funding for positive recommendations**

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NICE Guidelines

- Much broader remit
- Integrated pathway of care
- **No mandatory funding for positive recommendations**
- However, Guideline recommendations given large weight in NICE Technology Appraisals

NICE Public Health

- Providing national guidance on the promotion of good health and the prevention and treatment of ill health
- Less structure than for technology appraisals
- **No mandatory funding for recommendations**

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Vaccines in England

- Not undertaken by NICE
- Joint Committee on Vaccination and Immunisation
- Threshold of £20,000 per QALY gained
- Uncertainty more explicit. ≤ 10% of simulations have ICER > £30,000

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NICE vs SMC

- NICE expends considerable more effort than the SMC which should result in more accurate estimation of the ICER
  - Although conclusions often concur
- NICE's public reasons for a negative recommendation more thorough than SMC's
- SMC positive recommendations do not have mandatory funding. Scotland smaller country. SMC less important to pharma than NICE??
- Which system is better can be debated

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Conclusions

- AC provide transparent, independent, and legally challengeable advice to NICE
- Current system has many years of experience
- Political pressure increasing
- Disinvestment topics may be worthwhile
- More complex methods needed to handle confounded data and increasing amount of comparators
- Are currently used thresholds incorrect?

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Any questions?