GÖG-Colloquium
20th January 2026
Dr. James Lomas
Department of Economics and Related Studies

Health opportunity costs

Health system costs as health benefits foregone

"Any student of Econ 101 knows that economists measure costs by **opportunity costs**, meaning everything that is given up to get something else." Alan Krueger

The evaluation problem in health care

- What are the additional health benefits and additional costs of a proposed investment?

  1. What are the health effects of other things we could choose to do or others are likely to do if the resources were made available for other uses?

  OR

  2. What are the health effects of those things we will need to give up or others are likely to give up if we commit these resources?

- Estimating the health effects of [marginal] health care expenditure provides an empirical estimate that is directly relevant to questions 1 and 2

Some myths

- Only relevant if considering a single-payer NHS style health care system with a fixed budget
  - Really just a statement of basic economic problem with acknowledgement that financing of health care is challenging
- Requires an assumption that health care is about maximising health
  - Simply think that health is an important outcome of interest
- Believe that QALY is a perfect measure of health
  - Accept that a measure of health that combines length and quality of life (as judged by community preferences) is going to look like a QALY
- A welfarist style of economics where we look to individuals' and patients' preferences is broader
  - A truly welfarist perspective is in principle much more narrow since preferences are the sole valid input

NICE and opportunity costs

"**A technology can be considered to be cost effective if its health benefits are greater than the opportunity costs of programmes displaced to fund the new technology, in the context of a fixed NHS budget…**

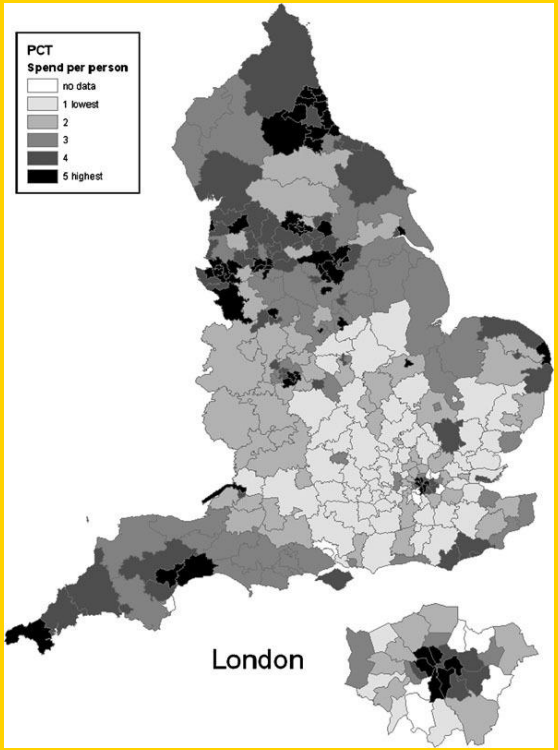
… In other words, the general consequences for the wider group of patients in the NHS are considered alongside the effects for those patients who may directly benefit from the technology."

NICE Methods Guidance 2013

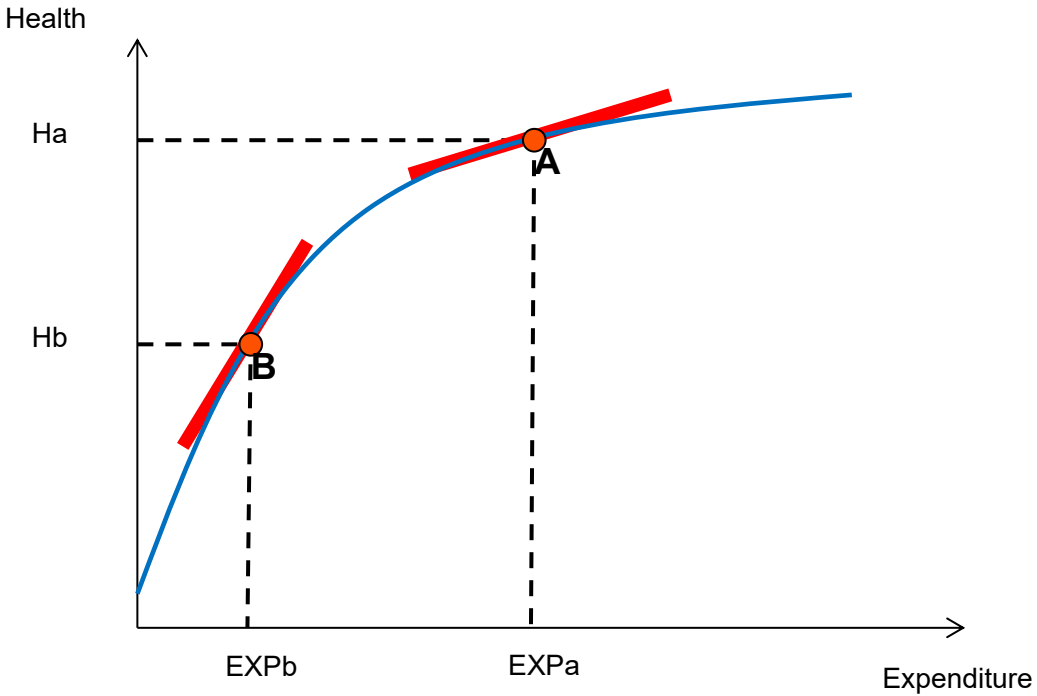
NICE and its cost-effectiveness threshold

- Explicitly from 2004 (until 2026), standard cost-effectiveness threshold: £20,000 to £30,000 per QALY
  - Based on decisions made during first few years (founded in 1999), no empirical basis
  - Severity modifiers introduced in 2022 that increase threshold for some technologies
  - In some circumstances £200,000-300,000 per QALY
- From 2026, standard cost-effectiveness threshold: £25,000 to £35,000 per QALY

Evidence of Health Opportunity Costs in the English NHS



Estimating the health effects of health care expenditure



Policy questions:
- What is the return on healthcare expenditure?
- Should more money be allocated to healthcare?
- What are the opportunity costs of committing resources to a new healthcare intervention?
- What is the appropriate ‘cost-effectiveness threshold’?

Determinants of area-level spending on healthcare

Each area's budget reflects the national budget per person with adjustments for:

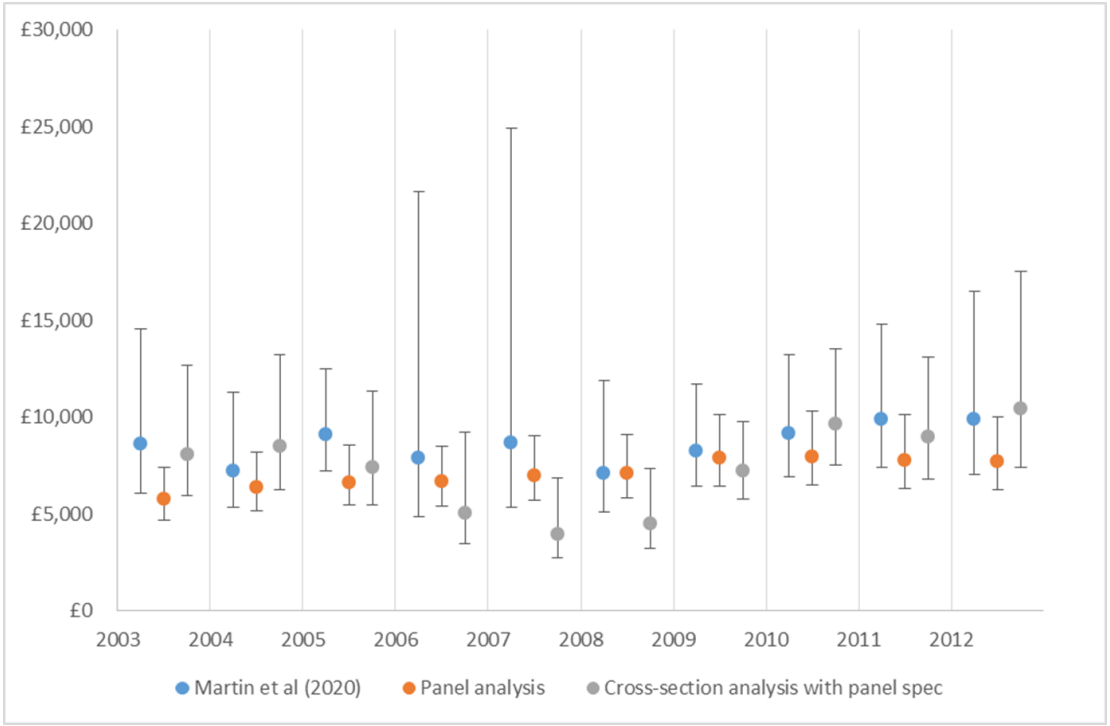
a) the local age-cost index (this reflects the pure age/gender impact of the local population's demographic profile on healthcare costs);

b) the additional needs index (this reflects local deprivation and other factors, such as the recent mortality rate);

c) prices in the local health economy (this is labelled the market forces factor (MFF));

d) the distance from target (DFT) index (this reflects how far each area's actual budget allocation is from its target allocation).

Estimates of health opportunity cost



Martin S, Lomas J, Claxton K, Longo F. How Effective is Marginal Healthcare Expenditure? New Evidence from England for 2003/04 to 2012/13. Applied Health Economics and Health Policy. 2021 Jul 21.

Health effects of healthcare spending in 2016/17

- Account for all expenditure
- Hospital spending (CCG), Primary Care and Specialised Commissioning
- Estimate the effects of each

Martin, S., Claxton, K., Lomas, J. Longo F. The impact of different types of NHS expenditure on health: Marginal cost per QALY estimates for England for 2016/17. Health Policy (2023)

All specifications use the sum of three types of healthcare expenditure

	2016/17 Total spend	2016/17 Total spend	2016/17 Total spend
	full specification	parsimonious specification	IV lasso
Mortality by disease area	column 1	column 2	column 3
1 All-cause mortality	-1.595***	-1.553***	-1.771***
2 Cancer	-0.878***	-0.987***	-1.187***
3 Circulatory disease	-1.948***	-1.665***	-1.975***
4 Gastro-intestinal (liver)	-5.566***	-5.398***	-5.628***
5 Respiratory disease	-3.649***	-2.549***	-3.866***
6 Infectious disease	-2.650**	-1.271***	-2.183*
7 Diabetes	-1.808	-0.987	-1.555
8 Epilepsy	-1.438	-1.968*	-1.160
9 Implied all-cause mortality	-1.650	-1.456	-1.746
10 Marginal cost per QALY (£)	£5,375	£5,767	£5,460
95% confidence interval	£3580, £10765	£3994, £10458	£3719, £10321

Health effects of healthcare spending in 2016/17

	2016/17 CCG core expenditure	2016/17 CCG core expenditure	2016/17 CCG core expenditure	2016/17 Specialized commissioning	2016/17 Specialized commissioning	2016/17 Specialized commissioning	2016/17 Primary care allocation	2016/17 Primary care allocation	2016/17 Primary care allocation
	full specification	parsimonious specification	IV lasso	full specification	parsimonious specification	IV lasso	full specification	parsimonious specification	IV lasso
Mortality by disease area	column 1	column 2	column 3	column 4	column 5	column 6	column 7	column 8	column 9
1 All-cause mortality	-1.103***	-1.200***	-1.053***	-0.051	-0.130	-0.088	-0.442***	-0.445***	-0.424***
2 Cancer	-0.551***	-0.386***	-0.658***	-0.112	-0.044	-0.101	-0.309***	-0.248***	-0.311***
3 Circulatory disease	-1.199***	-1.260***	-1.252***	0.174	0.196	0.161	-0.561***	-0.542***	-0.549***
4 Gastro-intestinal (liver)	-3.754***	-3.174***	-3.131***	0.262	0.264	0.156	-1.167***	-1.259***	-1.201***
5 Respiratory disease	-2.594***	-2.737***	-2.756***	-0.216	-0.225	-0.190	-1.060***	-1.199***	-1.143***
6 Infectious disease	-2.115**	-1.163**	-2.029**	-0.090	-0.095	0.105	-0.304	-0.319	-0.121
7 Diabetes	-1.632*	-1.398**	-1.598*	0.499	0.153	0.587	-0.601	-0.614	-0.346
8 Epilepsy	-1.456*	-0.062	-1.563*	-0.256	-0.147	0.379	0.861	0.527	1.041*
9 Implied all-cause mortality^	-1.129	-0.990	-1.169	-0.078	-0.054	-0.055	-0.441	-0.443	-0.447
10 Marginal cost per QALY^	£5,335	£8,071	£5,159	£11,600	£17,285	£32,469	£1,975	£1,891	£2,013
95% confidence interval	£3878, £8546	£5842, £13057	£3649, £8788	£3970, -£12627	£5320, -£13784	£9896, -£24933	£1408, £3380	£1381, £2969	£1409, £3510

NB [1]*** denotes p-value<0.01, ** denotes p-value<0.05, * denotes p-value<0.10
[2] ^ denotes all positive regression coefficients have been set to zeros when calculating this value

› Health Technol Assess. 2015 Feb;19(14):1-503, v-vi. doi: 10.3310/hta19140.

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› Med Decis Making. 2020 May;40(4):448-459. doi: 10.1177/0272989X20916450. Epub 2020 May 22.

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Abstract

Health policy 132 (2023) 104800

Contents lists available at ScienceDirect

Health policy

journal homepage: www.elsevier.com/locate/healthpo

The impact of different types of NHS expenditure on health: per QALY estimates for England for 2016/17

Stephen Martin [a], Karl Claxton [b], James Lomas [a,*], Francesco Longo [b]

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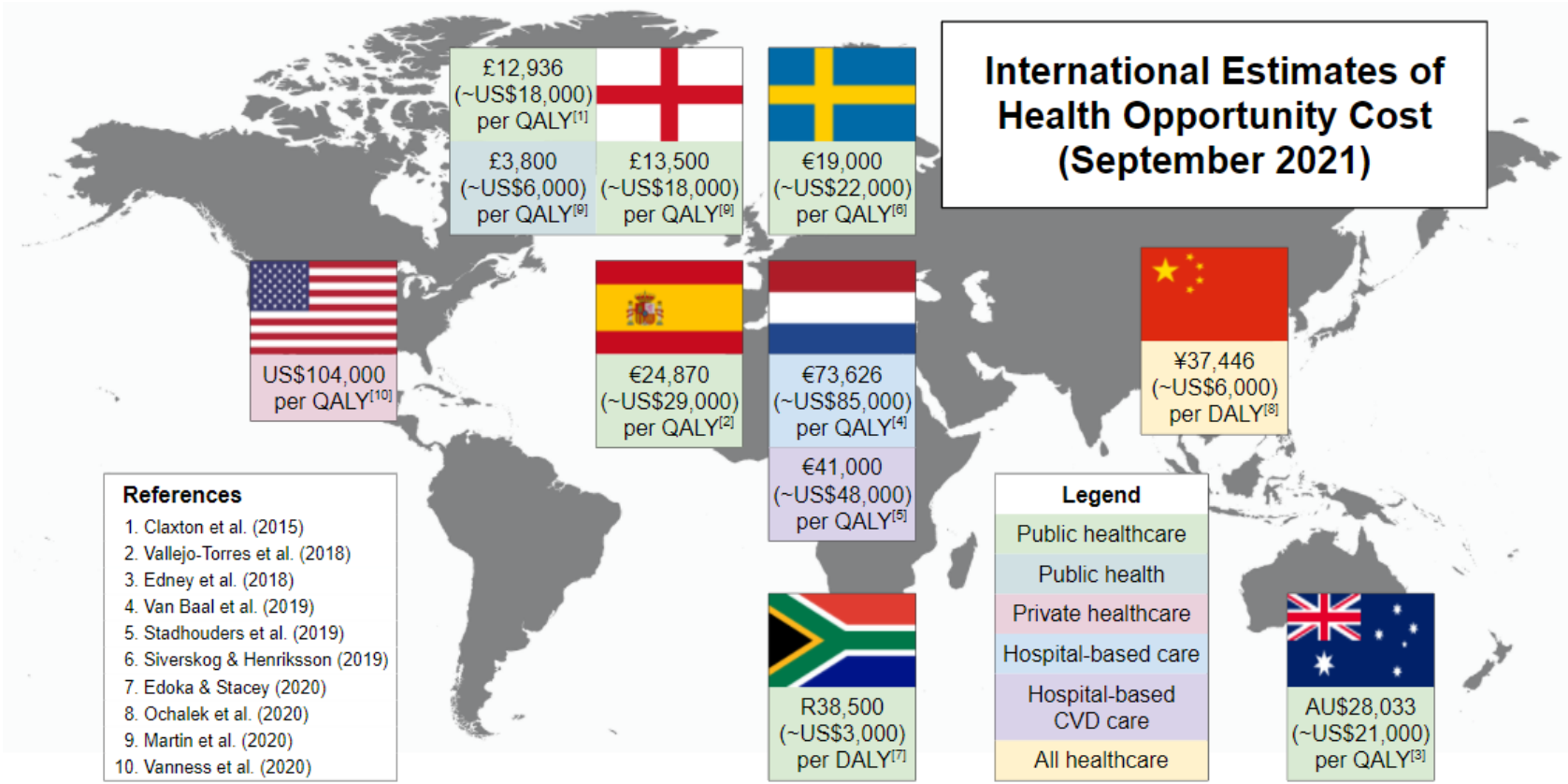
[b] Centre for Health Economics, University of York, York YO10 5DD, UK

ARTICLE INFO

Keywords:
Healthcare productivity
Healthcare expenditure
Mortality
Two-stage least squares estimation
Cost per quality-adjusted life year

ABSTRACT

English data from 2003 to 2012 suggests that it costs the NHS
life year (QALY). This estimate relates to all NHS expenditu
heterogeneity within this total. Different types of expendit
specialized commissioning – may have different productiviti
decide where additional investment is most beneficial. We use
2016 to explore the mortality response to three types of heal
mated for each type of expenditure: backward selection and
monious specifications, and a full specification with all covar
combined with information about survival and morbidity disea



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NICE and its cost-effectiveness threshold (revisited 1)

- Explicitly from 2004 (until 2026): £20,000 to £30,000 per QALY
  - Does not reject below £30,000 per QALY
  - Evidence that the effective threshold is £42,000 per QALY (2010) Dakin et al 2015
  - It cost the NHS less to deliver one year of life in good health ~£10,000 per QALY
  - Current NICE thresholds mean we are already doing more harm than good
- From 2026, standard cost-effectiveness threshold:
  £25,000 to £35,000 per QALY

UNIVERSITY of York

Population-health impact of new drugs recommended by the National Institute for Health and Care Excellence in England during 2000–20: a retrospective analysis

Huseyin Naci, Peter Murphy, Beth Woods, James Lomas, Jinru Wei, Irene Papanicolas

Lancet 2025; 405: 50–60
Published Online
December 12, 2024
https://doi.org/10.1016/S0140-6736(24)02352-3

Summary

Background Health systems experience difficult trade-offs when paying for new drugs. In England, funding recommendations by the National Institute for Health and Care Excellence (NICE) for new drugs might generate health gains, but inevitably result in forgone health as the funds cannot be used for alternative treatments and services. We aimed to evaluate the population-health impact of NICE recommendations for new drugs during 2000–20.

Received: 24 March 2023 | Revised: 23 November 2023 | Accepted: 11 December 2023
DOI: 10.1002/hec.4795

RESEARCH ARTICLE

Health Economics WILEY

Achieving dynamic efficiency in pharmaceutical innovation: Identifying the optimal share of value and payments required

Beth Woods[1] | **James Lomas**[1,2] | **Mark Sculpher**[1] | **Helen Weatherly**[1] | **Karl Claxton**[1]

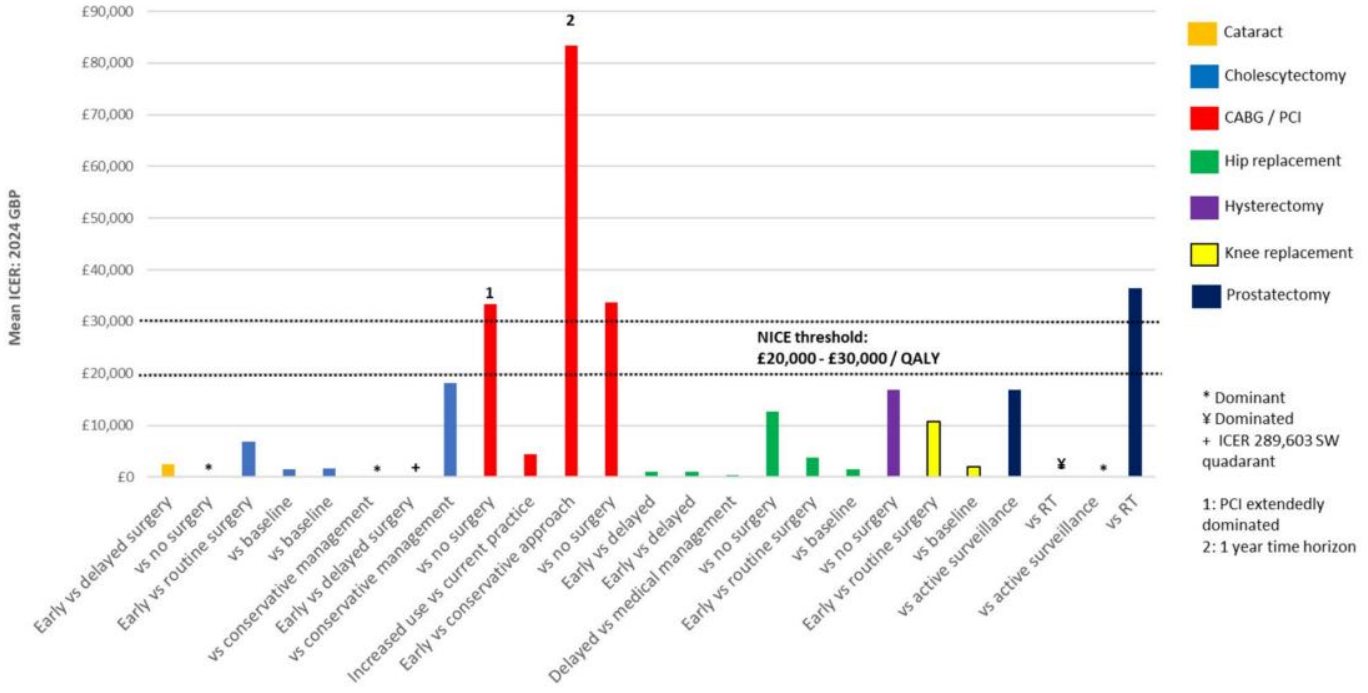

Fig. 2 Mean (2024) ICERs across elective surgeries. *CABG* coronary artery bypass grafting, *ICER* incremental cost-effectiveness ratio, *PCI* percutaneous coronary intervention, *RT* referral to treatment, *QALY* quality-adjusted life year

Trigg LA, Farmer C, Muthukumar M, Wilson ECF, Lovell A, Lee D. The Cost Effectiveness of Elective Surgical Procedures with Longer NHS Waiting Lists: A Targeted Review. Appl Health Econ Health Policy. 2025 Sep;23(5):779-796. doi: 10.1007/s40258-025-00975-8. Epub 2025 May 9. PMID: 40343622; PMCID: PMC12756191.

Is investing in medicines harming the health of the UK population?

15 January 2025 Posted in Blog by Victoria Jordan

Should NICE's cost-effectiveness thresholds change?

We explore the ongoing debate around NICE's cost-effectiveness thresholds and what the future holds.

Dr Jacoline Bouvy

Programme director for medicines evaluation

Blogs 13 December 2024

Billions more to be spent on medicine as Keir Starmer scraps rules

NHS chiefs and Treasury at loggerheads over who will pay pharmaceutical companies more money for the most up-to-date and effective medicines

• NEW

Chris Smyth, Whitehall Editor

Wednesday October 08 2025, 8.41am BST, The Times


G7

10 YEAR HEALTH PLAN

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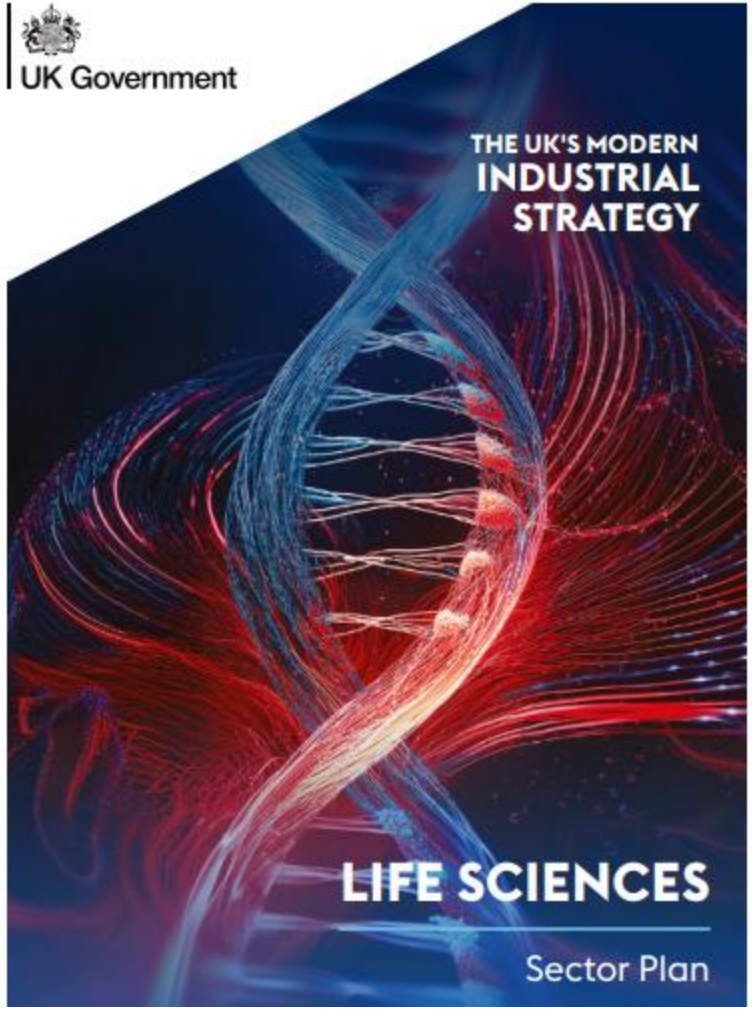
- Your NHS in your pocket via the NHS App
- Personalised healthcare tailored to your individual needs
- Digital red book putting your children's health information securely on your phone
- Technology for faster diagnosis, virtual care and built on single patient records



NICE and its cost-effectiveness threshold (revisited 2)

- Explicitly from 2004 (until 2026): £20,000 to £30,000 per QALY
  - Does not reject below £30,000 per QALY
  - Evidence that the effective threshold is £42,000 per QALY (2010) Dakin et al 2015
  - It cost the NHS less to deliver one year of life in good health ~£10,000 per QALY
  - Current NICE thresholds mean we are already doing more harm than good
- From 2026, standard cost-effectiveness threshold: £25,000 to £35,000 per QALY
  - NICE already approves 91%
  - Looks at 71 new drugs (indications) per year
  - 2-5 additionally approved at the new threshold £35,000
  - But the price of the 91% will rise as well
  - Any additional approvals will do long term harm

Politicised Changes to the NICE Threshold Risk Making Cost-Effectiveness Analysis Performative, Not Informative

Editorial | Open access | Published: 09 January 2026

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