INFLATION, INFLEXIBILITY AND IRRELEVANCE
THE NEED FOR INFLATION TO BE ACCOUNTED FOR IN ICER THRESHOLDS

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WHAT IS AN INCREMENTAL COST-EFFECTIVENESS RATIO (ICER)?

ICER definition:

- **Definition**: The ratio of the change in costs to incremental benefit of a therapeutic intervention.

- **Formula**: \( \frac{C_1 - C_0}{E_1 - E_0} \)

- **Units**: e.g. QALYs, LYGs
ICER_THRESHOLDS ARE USED AS KEY REIMBURSEMENT CRITERIA BY SEVERAL MAJOR NATIONAL HTA BODIES

ICER thresholds

Many obligate cost-utility bodies in/formally reference ICER thresholds as key criteria for reimbursement decision making.
NICE USES AN ICER THRESHOLD RANGE OF £20,000 - £30,000 / QALY…

Example: National Institute of Health and Care Excellence

Explicit ICER threshold

£30,000 / QALY

£20,000 / QALY

This has remained part of NICE's methods guidance since 2004
… BUT THIS HAS REMAINED UNALTERED WITHOUT ACCOUNTING FOR INFLATION

The rate at which the general level of prices for goods and services rises

SOURCE: financial-dictionary
AIM: TO MODEL THE CONSEQUENCES OF VARYING THE NICE THRESHOLD IN LINE WITH INFLATION

Research Objectives

If inflation was accounted for since 2004

How would NICE ICER thresholds be affected?

How would NICE appraisal outcomes be affected?
AVG AVERAGE ANNUAL INFLATION RATES IN THE UK FROM 2004-2016 ARE 2.34% PER YEAR

UK average annual inflation rate (2004-2016)

Annual inflation rate (%)

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<tbody>
<tr>
<td>Rate</td>
<td>1.3%</td>
<td>1.9%</td>
<td>2.2%</td>
<td>2.1%</td>
<td>2.8%</td>
<td>2.0%</td>
<td>2.7%</td>
<td>4.6%</td>
<td>2.9%</td>
<td>2.7%</td>
<td>1.5%</td>
<td>1.2%</td>
<td>1.6%</td>
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Average/year = 2.34%

Cumulatively

29% decrease in the value of the GBP (2004 – 2016)

SOURCE: rateinflation.com, statista.com
NICE ICER THRESHOLDS SHOULD BE £26,100 AND £39,150 IN 2016 TO BE MONETARILY EQUIVALENT TO 2004 LEVELS

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<tr>
<th>Year</th>
<th>Threshold 1</th>
<th>Threshold 2</th>
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<tr>
<td>2004</td>
<td>£20,000</td>
<td>£30,000</td>
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<td>2016</td>
<td>£26,100</td>
<td>£39,150</td>
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Monetarily equivalent, accounting for inflation
THE EFFECT OF INFLATION ADJUSTMENT ON NICE RECOMMENDATIONS WAS INVESTIGATED

Extraction of NICE Base-Case ICERs

NICE National Institute for Health and Care Excellence

Oncology drugs

Jan 2006 - Jun 2014

60 FADs with stated base-case ICERs

- Not recommended: 47%
- Only in research: 43%
- Optimised: 8%
- Recommended: 2%

SOURCE: NICE
USING AN INFLATION ADJUSTED UPPER THRESHOLD, 48% MORE DRUGS HAVE ICERS THAT FALL BELOW THIS

**NICE Oncology Base-Case ICERs (2006-2014)**

- **34/60 (57%)** below £39,150/QALY threshold
- **23/60 (38%)** below £30,000/QALY threshold
WE RECOMMEND THAT ICER THRESHOLDS SHOULD BE PERIODICALLY UPDATED TO ACCOUNT FOR INFLATION

Conclusion

- The cumulative effects of inflation over time can be substantial
- HTA bodies that do not account for this decline in currency purchasing power over time will artificially decrease their ICER threshold

ICER thresholds should be subject to periodic updating to account for inflation
THANK YOU

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