Determining Factors for Decision-Making in the Medical Technologies Evaluation Programme

PMD135

V. Peirce,[1] M. Atkinson,[2] W. Marsh[1]

[1]Costello Medical, Cambridge, UK; [2]Costello Medical, London, UK

Objective

- To determine the decision-making factors in the NICE Medical Technologies Evaluation Programme for medical devices.

Background

- The National Institute for Health and Care Excellence (NICE) Medical Technologies Evaluation Programme (MTEP) evaluates the case for adopting medical technologies that are likely to reduce costs whilst delivering equivalent or improved outcomes in the UK National Health Service.[1]
- Given that all technologies evaluated using the MTEP are expected to be cost-saving, it is likely that other factors are considered by the Medical Technologies Advisory Committee when determining whether to issue a positive or negative recommendation.

Methods

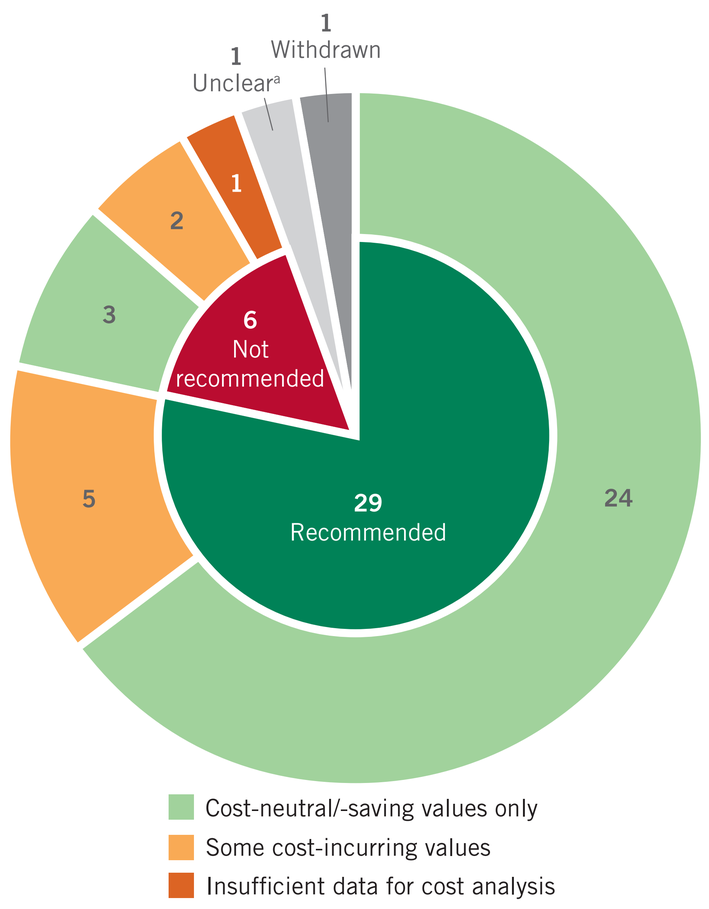
- All MTEP guidance published prior to April 2018 was reviewed. The adoption decision, cost estimates for the technology versus comparator(s), reasons for recommendation, and whether there was uncertainty in the cost analysis, were extracted.
- The mean per-patient cost impact of technologies with positive recommendations versus negative recommendations was calculated, including only technologies reporting costs in such units. A 2-sided Mann-Whitney U test determined the difference between these means. When multiple cost estimates for a single technology were considered relevant by the Committee, the mean was used.
- The proportion of positive recommendations and negative recommendations citing each of: quality or quantity of clinical evidence; resource use implications; safety; patient factors; quality of life impact; ease of use; staff resource; and unmet need as reasons for recommendation was determined. A single MTEP guidance could cite multiple reasons for its recommendation.

Results

Cost Impact Analysis

- Of the 37 MTEP recommendations, 29 were positive and 6 were negative (1 unclear, 1 withdrawn) **(Figure 1)**.

Figure 1 | Summary of MTEP recommendations and associated cost impact



[a]This recommendation (MTG11) was considered unclear because the case for adopting the technology was not described as being either 'supported' or 'not supported' by the evidence for the technology. MTEP: Medical Technologies Evaluation Programme.

- Of the 29 positive recommendations, 5 (17%) reported some cost-incurring estimates, although in each case the technology's mean cost impact was cost-saving. The Committee described the cost analysis in 9 (31%) assessments as uncertain.
- Of the 6 negative recommendations, 2 assessments (33%) reported some cost-incurring estimates. The Committee described the cost analysis for 5 (83%) technologies as uncertain. There were insufficient data for cost analysis in 1 assessment (17%).

Figure 2 | Mean per-patient cost savings for positive and negative MTEP recommendations

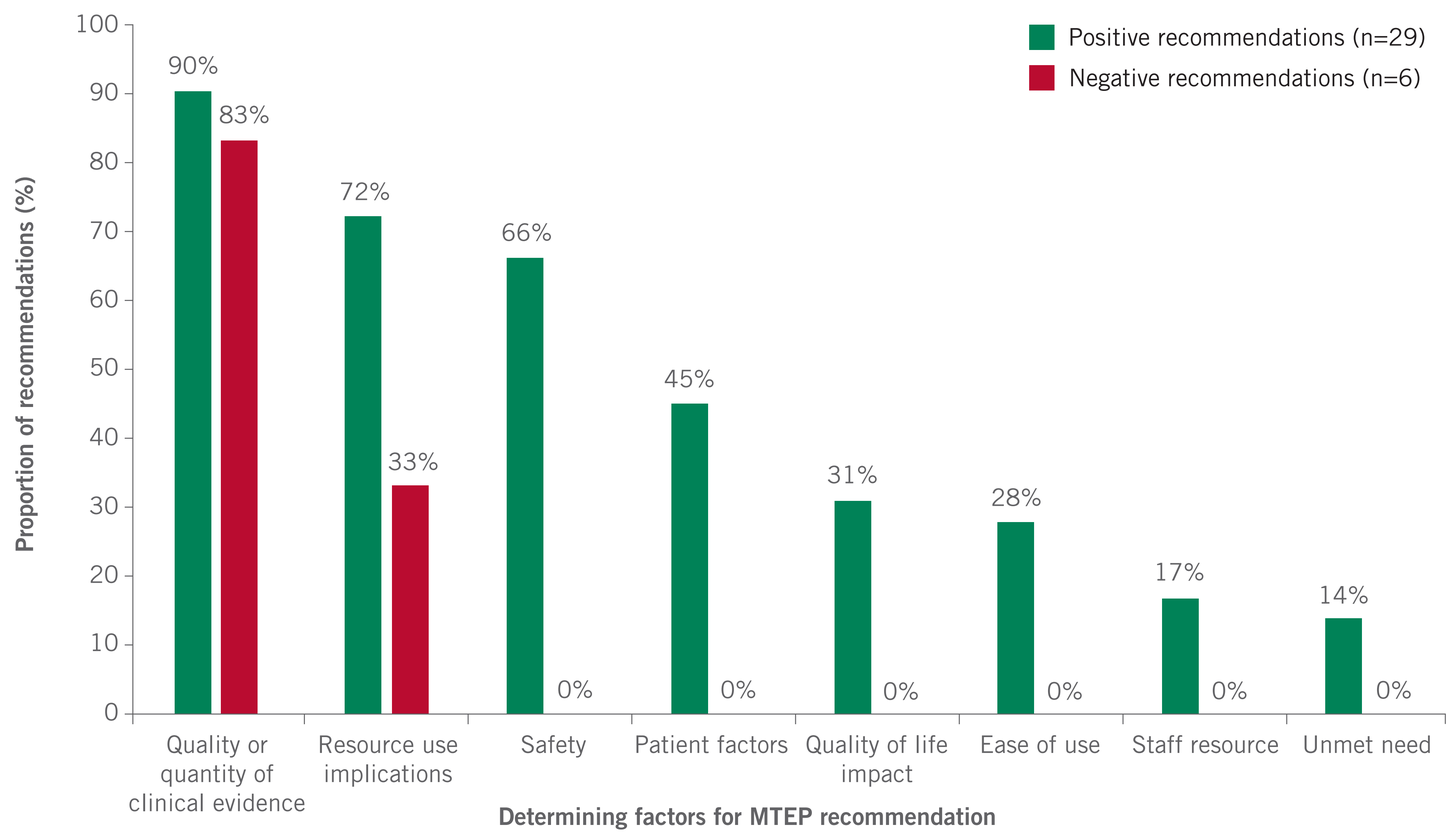
[a]Negative cost savings indicate that the cost impact of the technology was cost-incurring. MTEP: Medical Technologies Evaluation Programme.

- Of the 32 recommendations reporting per-patient costs, there was no significant difference in the mean per-patient cost impact for positively versus negatively recommended technologies (p=0.47) **(Figure 2)**.

Determining Factors Analysis

- Positive recommendations cited significantly more (mean 3.6; range 1–7) reasons for recommendation than negative recommendations (mean 1.2; range 1–2; p<0.001).
- Of the reasons supporting each positive recommendation, the most commonly reported were strength of clinical evidence, resource use implications or safety versus comparator(s) **(Figure 3)**.
- Insufficient quality or quantity of clinical evidence and resource use implications were also given as reasons supporting a negative recommendation **(Figure 3)**.
- For positive or negative recommendations with uncertain cost analyses, there were a similar number of reasons cited for recommendation. Recommendations with cost uncertainty cited comparable proportions of each reason for recommendation, versus all positive or all negative recommendations, respectively.

Figure 3 | Determining factors for positive and negative MTEP recommendations



MTEP: Medical Technologies Evaluation Programme.

Conclusions

- Regardless of a positive or negative recommendation, the vast majority of technologies were cost-neutral/-saving overall, as aligned with the scope of the MTEP.
- The cost analysis of technologies with negative recommendations was more frequently described as uncertain, and cost-incurring estimates also featured proportionally more often for these technologies.
- Strength of clinical evidence appeared to be an important factor for decision-making.

References

1. NICE Medical Technologies Evaluation Programme Methods Guide. Available at: https://bit.ly/2NtgGN9 [Last accessed 24.08.18].

Acknowledgements

The authors thank Marta Labuda, Costello Medical, Cambridge, UK, for graphic design assistance.

Presented at the ISPOR 21st Annual European Congress | Barcelona, Spain | 10–14 November 2018