

# Assessing Productivity in Health Technology Assessment: A Comparative Review of Human Capital and Friction Cost Approaches in the EEA and UK

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## Background

- + Economic evaluation informs resource allocation by assessing cost-effectiveness of healthcare interventions.
- + In economic evaluations, the healthcare payer perspective is confined to direct medical expenditures, whereas the societal perspective takes a broader view, incorporating factors such as productivity losses and gains.
- + Productivity is typically quantified using the Human Capital Approach (HCA) or the Friction Cost Approach (FCA), defined below.
- + This study examines whether and how productivity is considered in Health Technology Assessments across the European Economic Area (EEA) and the United Kingdom (UK).

### Productivity

#### Human Capital Approach (HCA)

HCA takes the patient's perspective and counts any hour not worked as an hour lost.<sup>1,2</sup>

#### Friction Cost Approach (FCA)

FCA takes the employer's perspective and only counts lost hours as those not worked until another employee replaces the person who has left work.<sup>1,2</sup>

## Methods

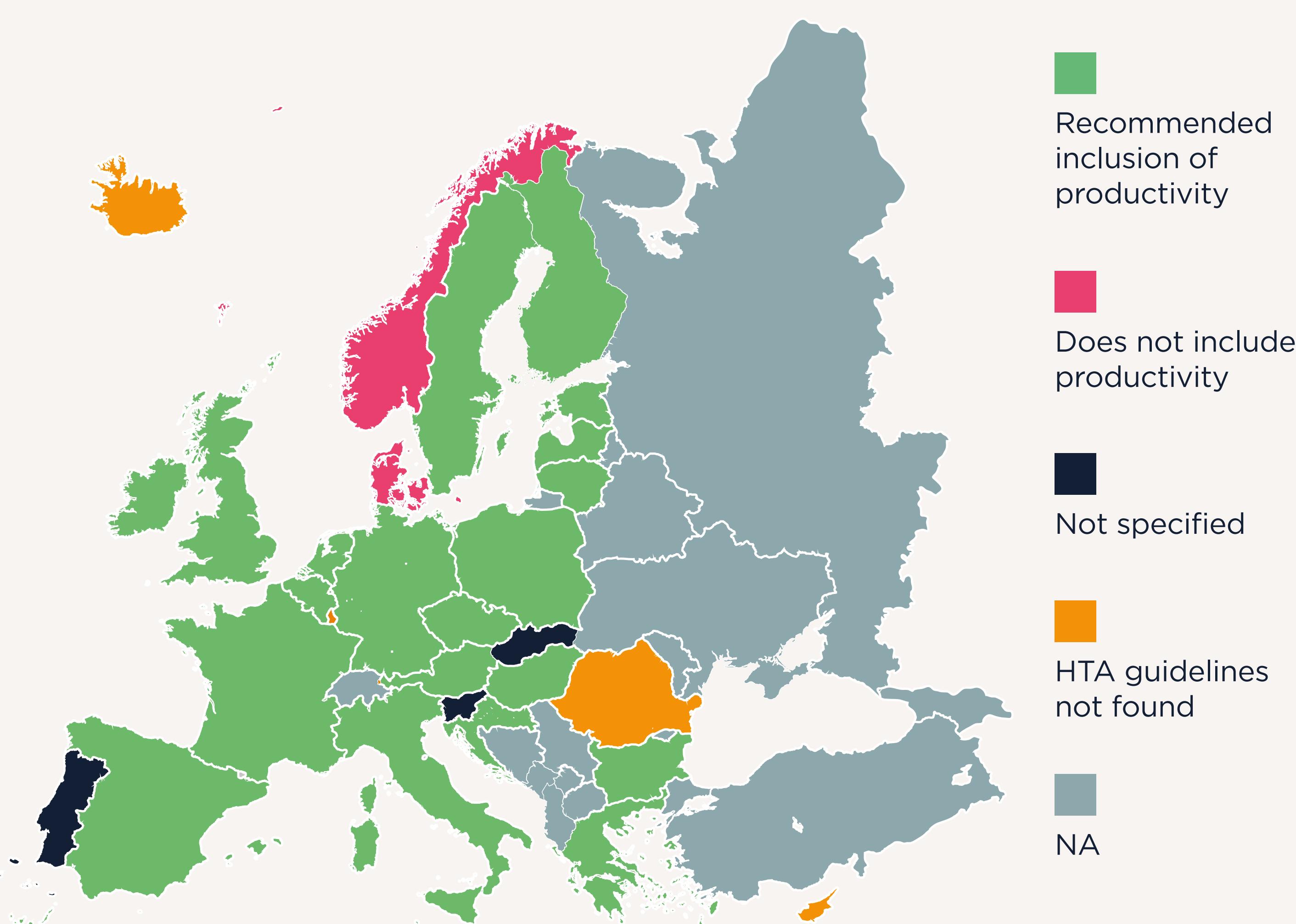
We conducted a targeted literature review of publicly available national health technology assessment (HTA) guidelines from 31 countries in the EEA and UK. We assessed how and to what extent productivity is incorporated into health technology assessments, focussing on the following research questions:

- Which countries within the EEA and the United Kingdom recommend the consideration of productivity impacts in HTA submissions?
- Among HTA agencies that consider productivity, which methodological approach – HCA or FCA – is recommended?
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For each country, we extracted: the reference case perspective, whether productivity was recommended to be included in HTA submission, the method for measuring productivity, and the approach to incorporating productivity in economic evaluations.

## Results

Figure 1. EEA and UK country perspectives on integrating productivity into HTA



- + HTA guidelines were identified for 25 countries (81%) across the EEA and the UK; 6 countries (19%) were excluded due to absence of guidelines. Of these, 88% (22 out of 25) mentioned productivity in their guidelines, while 12% (3 out of 25) did not specify it. Figure 1 shows how productivity is integrated into HTA guidelines.
- + 91% (20 out of 22) countries explicitly recommend including productivity in HTA submissions. However, only 41% (9 out of 22) specify a method for measuring productivity. Among these, preferences are evenly split: one-third favour HCA, one-third prefer FCA, and the remaining third accept either method, depending on the justification provided.
- + In terms of implementation, 73% (16 out of 22) incorporate productivity within a societal perspective, primarily through supplemental analysis. This is particularly common when costs extend significantly beyond the healthcare payer system.
- + Only 9% (2 out of 22) countries include productivity in the reference case used for decision-making. Conversely, 9% (2 out of 22) explicitly advise against including productivity in economic evaluations.

Table 1. EEA and UK country guidance on inclusion of productivity impact in HTA

Country	Perspective in the reference case	Productivity inclusion recommended	Productivity assessment approach	How productivity included in CEA
Netherlands	Societal	Yes	FCA	Baseline analysis
Sweden	Socio-economic	Yes	HCA	Baseline analysis
Finland	Societal	Yes	Not specified	Not specified
Bulgaria, Spain	Healthcare System / Payer	Yes, only in societal perspective	HCA	Supplemental analysis
Belgium	Healthcare System / Payer	Yes, only in societal perspective	HCA for short-term conditions and FCA for long-term conditions	Supplemental analysis
Germany, Poland	Healthcare System / Payer	Yes, only in societal perspective	FCA (preferred), HCA (in sensitivity analysis)	Supplemental analysis
Czech Republic, Hungary, Croatia, Greece, Italy, Estonia, Latvia, Lithuania, Ireland, United Kingdom	Healthcare System / Payer	Yes, only in societal perspective	Not specified	Supplemental analysis
France	Collective perspective*	Yes, in supplemental analysis	HCA or FCA (Justified by author)	Supplemental analysis
Austria	Derived from research question**	Yes	HCA or FCA (Justified by author)	Separate sub-analyses based on perspective
Slovakia, Slovenia, Portugal	Healthcare System / Payer	Not specified	Not specified	Not specified
Denmark, Norway	Healthcare System / Payer	Productivity should not be included in HTA submission	Not applicable	Excluded from the submission

\*Collective perspective covers all individuals or institutions affected by the production of an intervention – whether in the domestic sphere (users and their informal caregivers), the healthcare sphere (care providers) or the medico-social sphere (providers of medico-social aid).\*\*The choice of perspective must be logically derived from the research question and be oriented towards the needs of the target group. In any case, the choice of perspective must be justified.

## Conclusions

- + There is wide divergence in how productivity is considered within European HTA guidelines, both in terms of inclusion and valuation method. While productivity is often acknowledged, it is typically included in scenario analysis rather than the reference case limiting its influence on decision-making.
- + Harmonising guidance could improve comparability and comprehensiveness in cross-country assessments.

### References:

1. Pernini, S., & Griffin, S. (2023). Estimating the Wider Societal Impacts of Health Conditions and Treatments: Technical Report. Public Health Policy Research Unit. Retrieved from <https://www.phpru.online/assets/uploads/files/WBSB%20technical%20report.pdf>
2. van den Hout WB. The value of productivity: human-capital versus friction-cost method. Ann Rheum Dis. 2010 Jan;69 Suppl 1:i89-91. doi: 10.1136/ard.2009.17150. PMID: 19995754.

### Abbreviations:

HTA - Health Technology Assessment;  
EEA - European Economic Area, UK - the United Kingdom;  
HCA - Human Capital Approach;  
FCA - Friction Cost Approach;  
CEA - cost-effectiveness analysis.