

## Introduction

Many tools are proposed to evaluate the quality of health economic analysis (HEA) and a consensus is absent on which tool is optimal. Our aim was to identify and compare available tools for the quality evaluation of these studies.

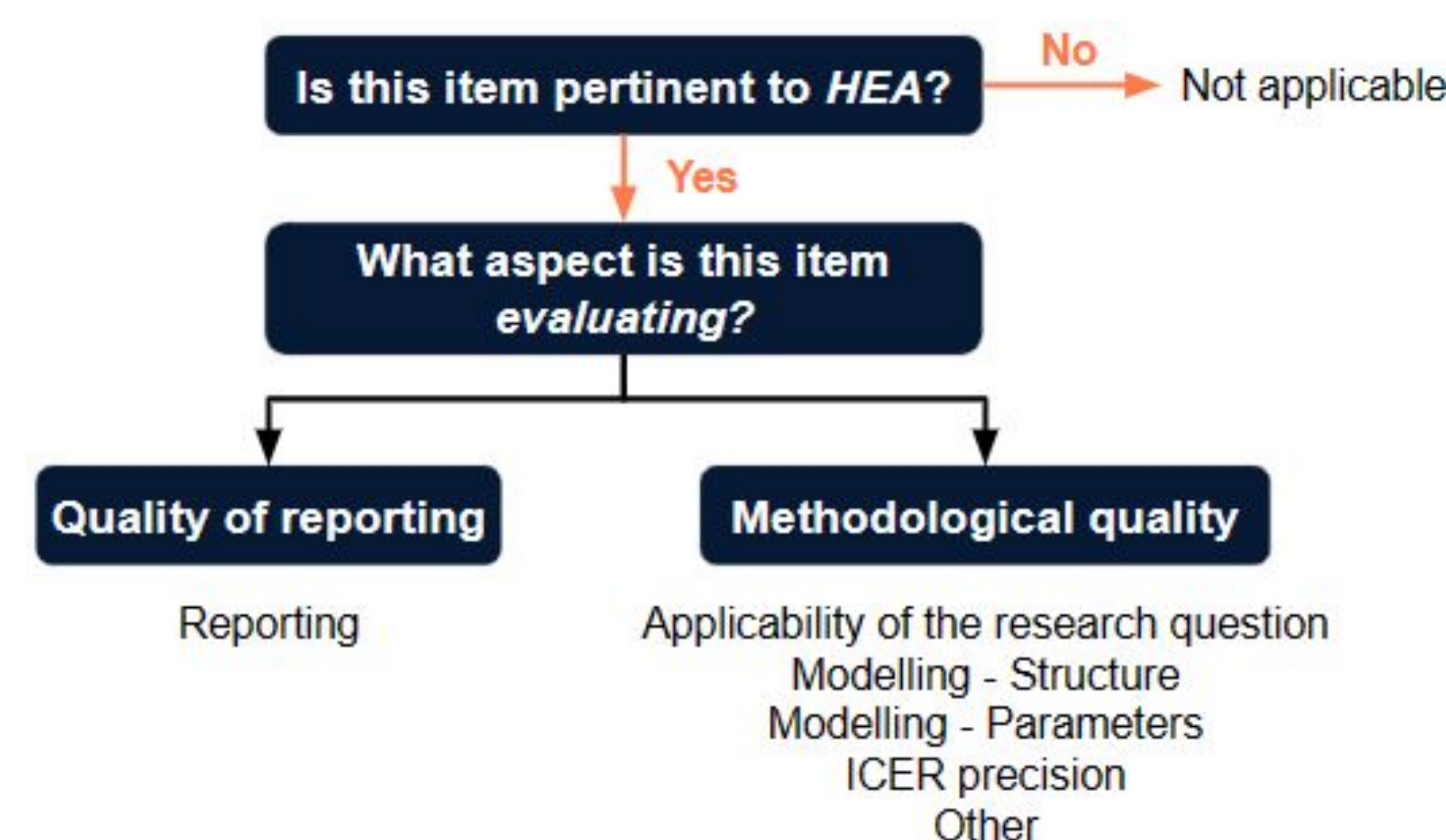
## Methods

We conducted a scoping review (protocol: 10.17605/OSF.IO/6R3CG) to identify critical appraisal tools designed for the assessment of model-based complete HEA. In October 2023, we searched PubMed, Embase, and Google Scholar, using the keywords "economic evaluation" and "critical appraisal". Tool characteristics, questions and/or recommendations for the evaluation of HEA were extracted and classified into pre-specified domains (Applicability, Modelling – Structure and Parameters and ICER precision), according to the rational in **Figure 1**.

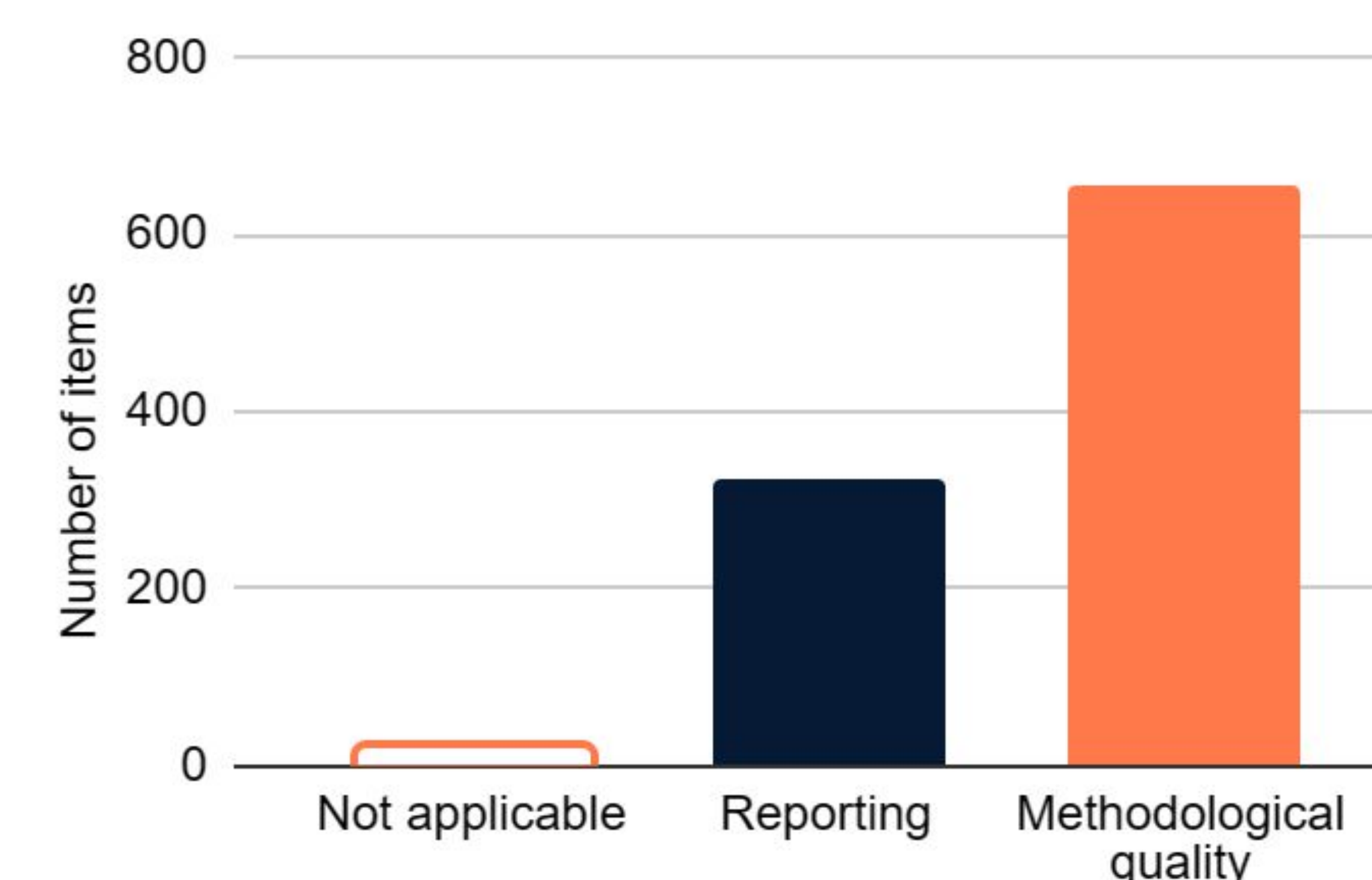
## Results

The search yielded 2736 references, from which we identified 32 tools. Thirteen tools were intended to evaluate cost-effectiveness and/or cost-utility analysis, while others could be used for any type of HEA. Most were structured as checklists, with yes-or-no or simple answer questions, ranging from 5 to 117 items. Seven tools did not provide instructions on how to use the tool. In total, we extracted 969 questions/recommendations, most for methodological quality assessment but many for evaluation of reporting (**Figure 2**).

**Figure 1. Reasoning flowchart for item classification into domains.**



**Figure 2. Distribution of items across domains.**



## Conclusions

These results highlight variation in the content of identified tools and evidences a lack of standardized criteria on which elements ascertain high-quality status to a HEA. Additionally, it is noted a predominance of tools assessing reporting rather than methodological quality, as well as insufficient guidance on how to appraise the results obtained from available tools. The results of this study are being used in the development of a new, more comprehensive, HEA assessment tool.