

BACKGROUND

- Renal cell carcinoma (RCC) is a common type of kidney cancer accounting for 81,800 new cases and 14,000 deaths per year in the United States.¹
- Studies have highlighted the immune system's role in monitoring and combating tumors. With an improved grasp of these immunosurveillance processes, immunotherapy has emerged as a hopeful approach to cancer treatment.²
- The effectiveness of immune checkpoint inhibitors for aRCC comes with a potential economic burden due to their cost.^{3,4,5}
- Rising healthcare expenses are driving the adoption of value-based oncology. It is essential to carefully assess the financial implications of costly treatments like immune checkpoint inhibitors (ICIs).⁴

OBJECTIVE

- To assess evidence related to the cost-effectiveness of first-line therapy utilizing immune checkpoint inhibitors (ICI) in renal cell carcinoma (RCC) in North America.

METHODS

Data Source

- We conducted a scoping review to identify cost-effectiveness analyses of ICI therapies in RCC published between January 1, 2015, and June 1, 2023, using PubMed, Embase, and the Cochrane Library databases according to PRISMA-SCr guidelines.

Key Variables

- The reference willingness-to-pay (WTP) threshold was \$150,000/quality-adjusted life year.
- The characteristics of treatments (e.g., treatment line, class of medication, and cost-effectiveness) and approaches of CEAs (e.g., outcome, model) were extracted, and summarized.
- The Quality of Health Economic Studies (QHES) tools were used to evaluate the quality of each article.
- QHES is a new and quality-scoring instrument designed to support fast and accurate initial assessment of study quality. The QHES score ranges 0 to 100, and scores higher than 75 indicates the high quality of the study.⁶

Inclusion

- The articles selected after screening were: 1) original research articles 2) studies with objectives related to cost-effectiveness and/or cost-utility analysis 3) studies focused on North America 4) studies written in English.

RESULTS

Figure 1. Flow Diagram of Study Selection Process.

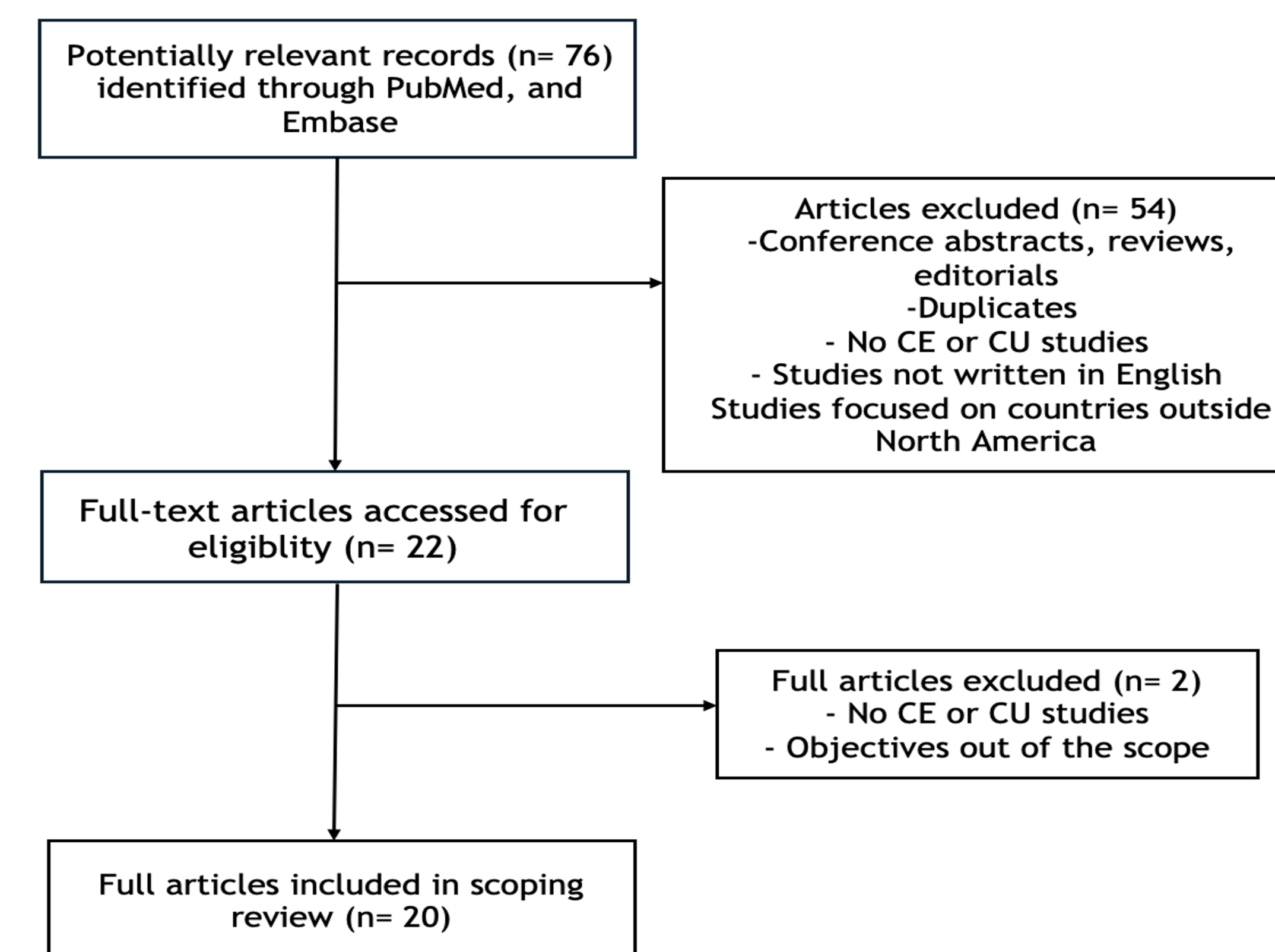


Figure 2. Percentage of Articles that Met Each QHES Item.

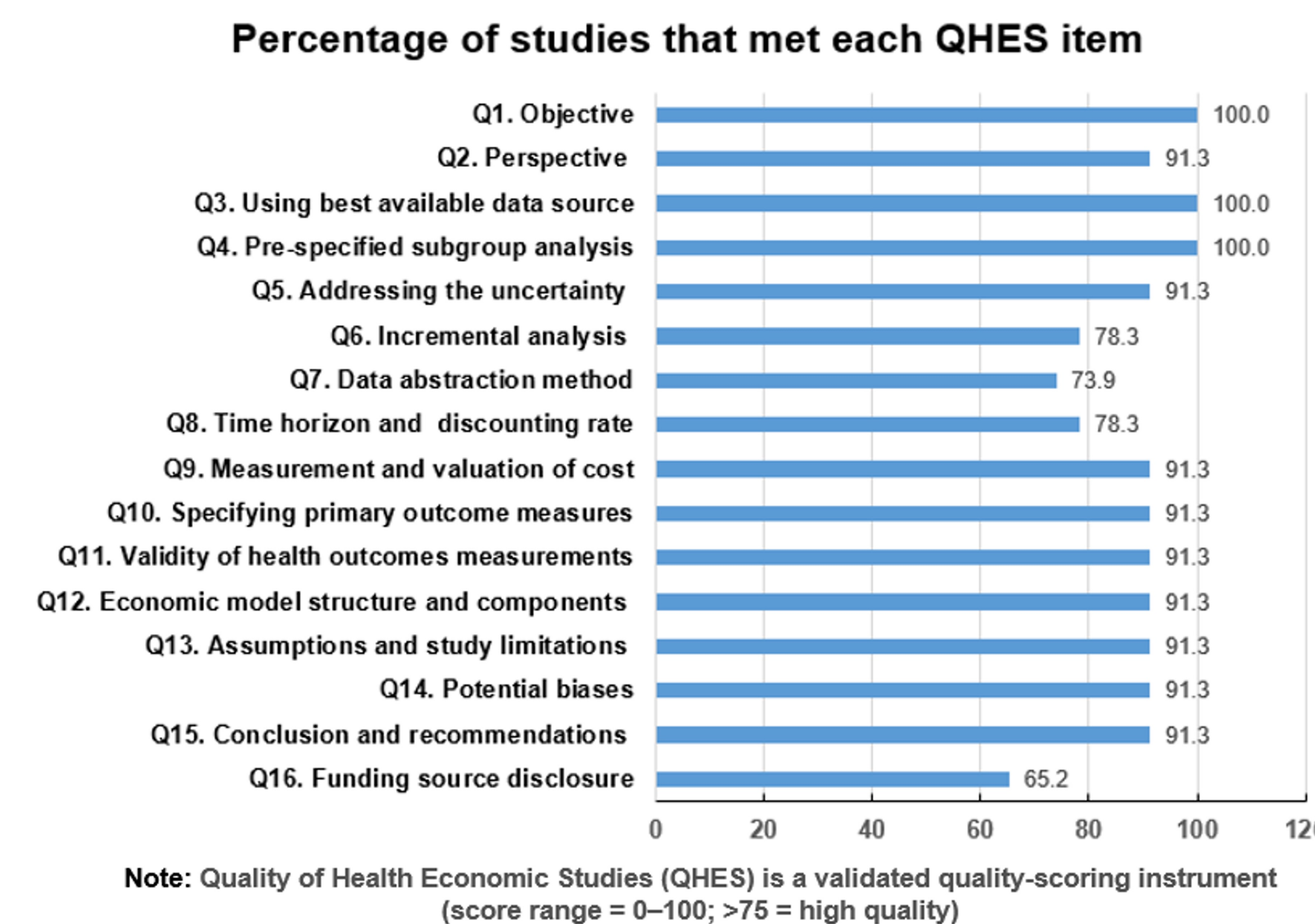
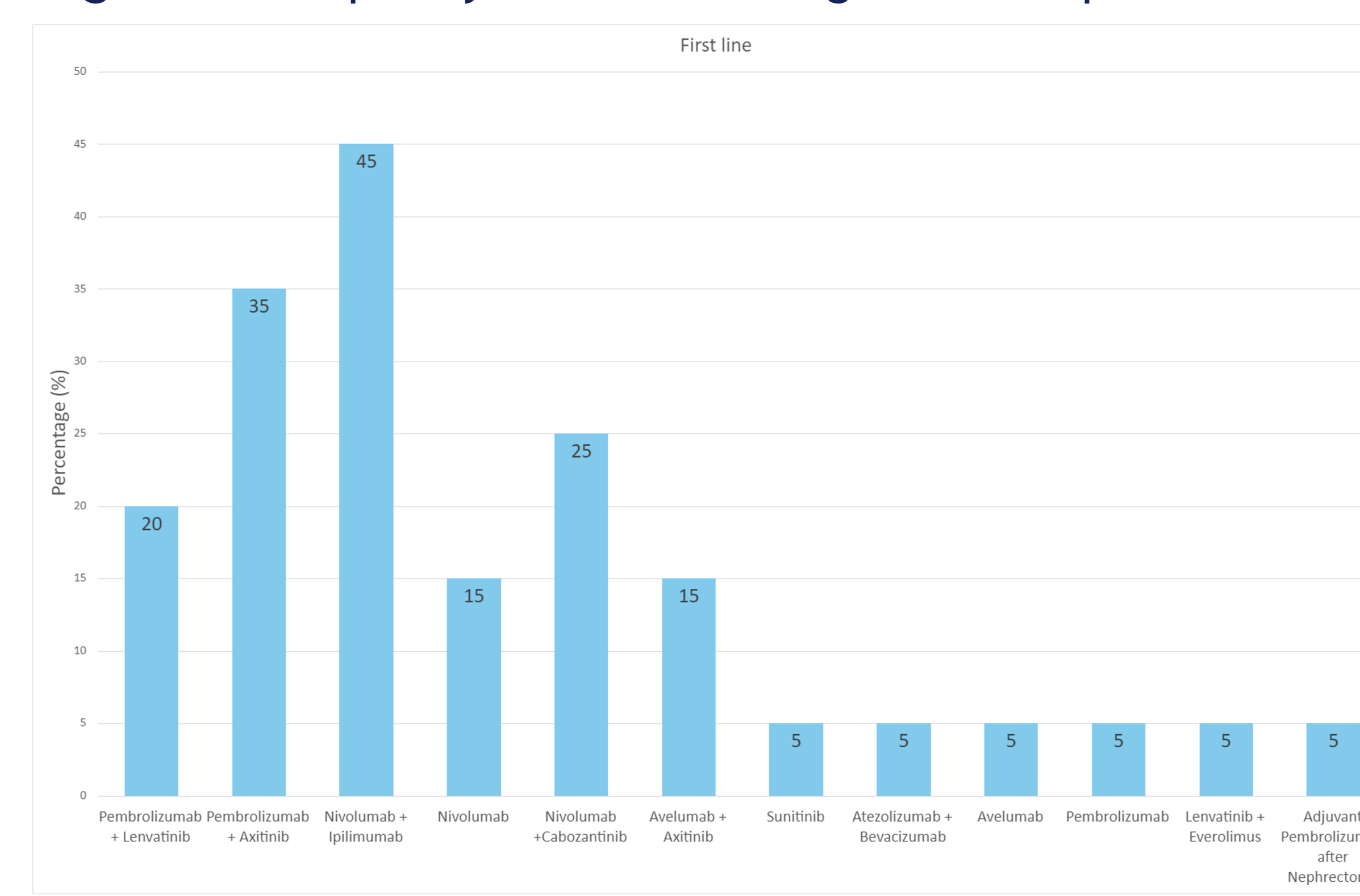


Figure 3. Frequency of first-line targeted therapies studied.



- In total, 20 studies had a QHES scores ranging from 70 to 99 and a mean score of 92.4(SD = 7.2).
- Of the 20 studies reviewed, 16 specifically targeted clear cell renal cell carcinoma (RCC). 12 out of 20 of these studies did not disclose funding or were unfunded, while 4 out of 20 received industry support and another 4 out of 20 were funded by nonprofit organizations.
- Using a willingness-to-pay threshold of \$150,000/QALY, Nivolumab + Ipilimumab (4 out of 20) and Pembrolizumab + Axitinib (4 out of 20) articles were consistently identified as cost-effective first-line options for treating RCC when compared to Sunitinib. While Nivolumab + Cabozantinib was not cost-effective in comparison to Sunitinib (4 out of 20).

CONCLUSION

- Overall, the articles retrieved from this scoping review were found to be of high-quality level, thus suggesting that ICIs may be more appropriate cost-effective options to consider compared to targeted therapies. As such, this information may be used to guide decision-making among US payers.
- Study's findings strongly support the use of Nivolumab + ipilimumab and pembrolizumab + axitinib as a cost-effective alternative to Sunitinib.
- To strengthen their generalizability, further research is necessary to corroborate real-world clinical practice.

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DISCLOSURE

All authors declare that they have no relevant or material financial interests that relate to the research described in this poster.