

# Medical Resource Use and Medical Costs for Radiotherapy-Related Adverse Effects: A Systematic Review

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## Background

Although cost-effectiveness analyses (CEAs) for new radiotherapies should account for radiotherapy induced adverse effects (RIAE), evidence of the economic burden of RIAE is scarce.

## Aim

To identify existing evidence of healthcare resource use and costs related to RIAE

To provide recommendations for including these evidences in CEAs

## Method

Systematic review of studies on healthcare resource use and/or medical costs related to RIAE in head and neck cancer, brain cancer, prostate cancer, eye cancer and breast cancer patients.

Reported healthcare resource use and medical costs were extracted and stratified by cancer types, with resource use converted to monetary value using the UK National Health Service price set.

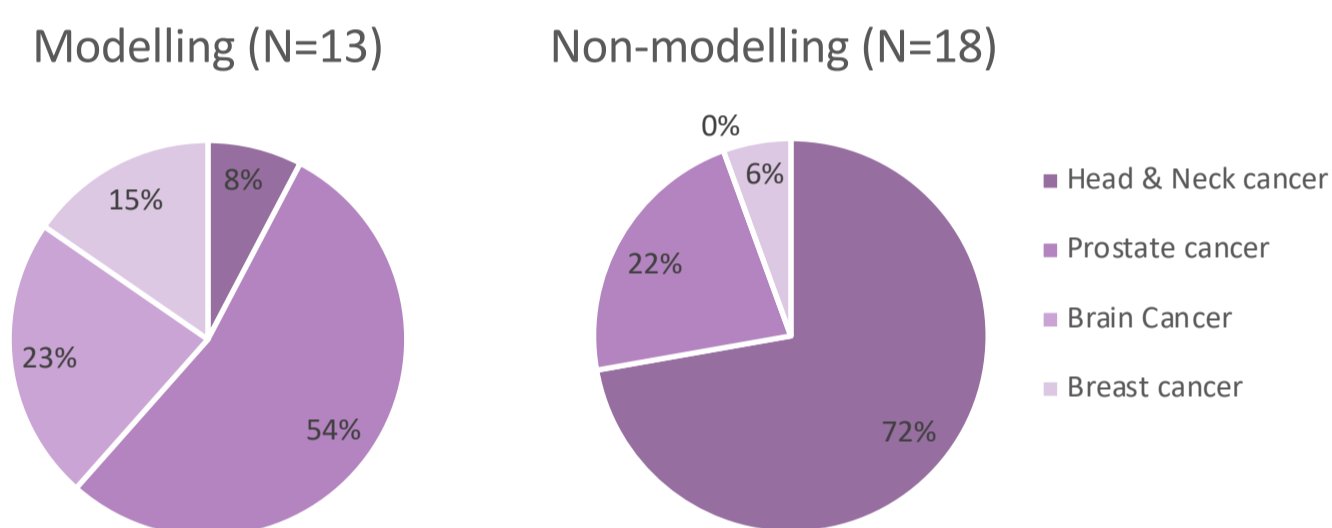
## Results

Within the 31 eligible studies, costs for treating the same RIAE varied considerably.

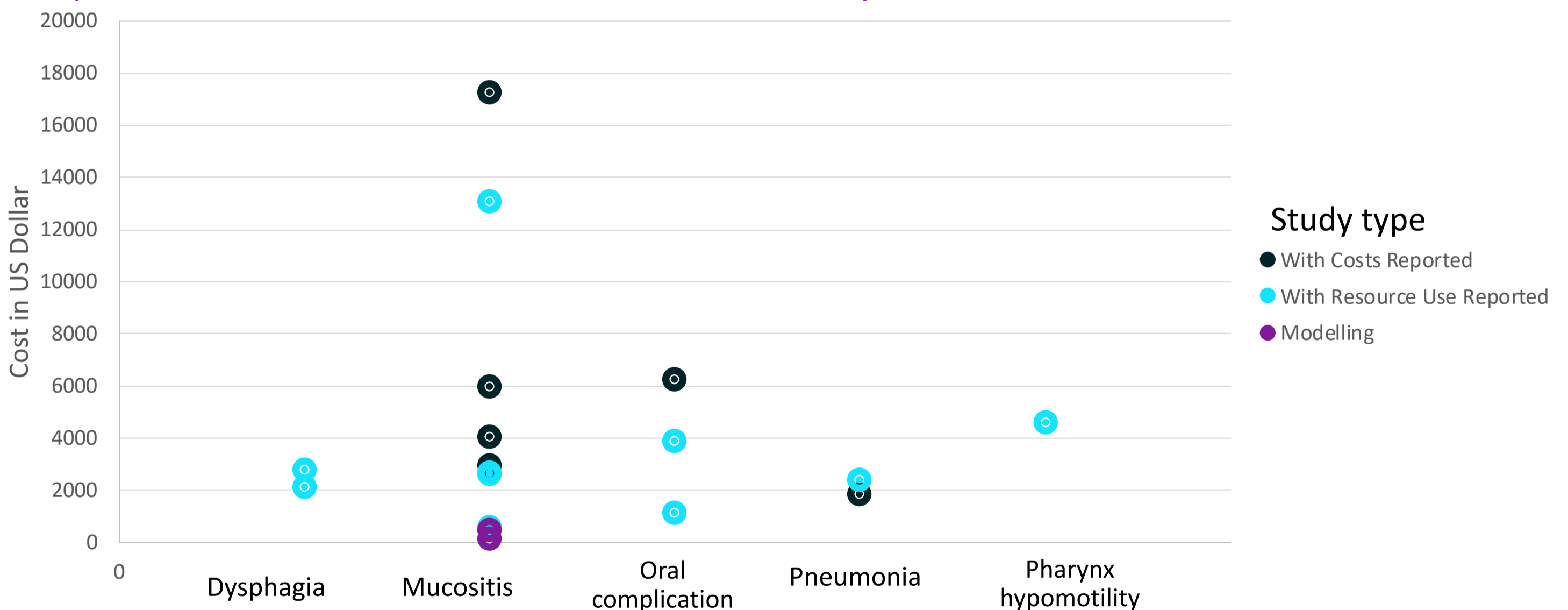
This broad range could be related to differences in

- 1) RIAE severity in the study population
- 2) Study design
- 3) Cost estimation approach
- 4) Country and clinical practice

Table 1. General study characteristics of included literature



Graph 1. Costs related to RIAE in Head & Neck cancer patients



## Conclusion

Our findings revealed:

- Cost differences for the same RIAE among studies, which implied the potential for the economic burden of RIAE being overestimated or underestimated
- The economic and resource utilization studies regarding some RIAE treatment remain scarce or absent
- For future studies focusing on RIAE related economic burden, an observational cohort study design with comprehensive healthcare resources included and clearly stated costing approach were recommended.