

COST-OF-ILLNESS OF SKIN CANCER: A SYSTEMATIC LITERATURE REVIEW

A. Meertens^{1,2,3}, L. Van Coile^{1,2}, T. Van Iseghem³, L. Brochez^{1,2}, N. Verhaeghe^{3*}, I. Hoorens^{1,2*}

1. Department of Dermatology, University Hospital Ghent, Ghent Belgium

2. Cancer Research Institute Ghent (CRIG), Ghent Belgium

3. Department of Public Health and Primary Care, Interuniversity Centre for Health Economics Research (I-CHER), Ghent University, Belgium

*These authors contributed equally

INTRODUCTION

- **Skin cancer** can be mainly divided into melanoma skin cancer (MSC) and keratinocyte carcinoma (KC).
- **Worldwide incidence in 2020:**
 - **MSC:** 325.000 cases
 - **KC:** 1.2 million cases
- Skin cancer constitutes a **significant economic burden** on society.
- Cost can be divided into **direct, indirect and intangible costs**. It is not clear what **the main cost drivers** are for skin cancer. This information can be obtained from cost-of-illness (COI) studies.
- COI studies vary in methodological approach, which complicates **comparing the study results**.

Aim: To provide an overview of the methodological approaches in COI studies of skin cancer and to identify the main cost drivers

METHODS

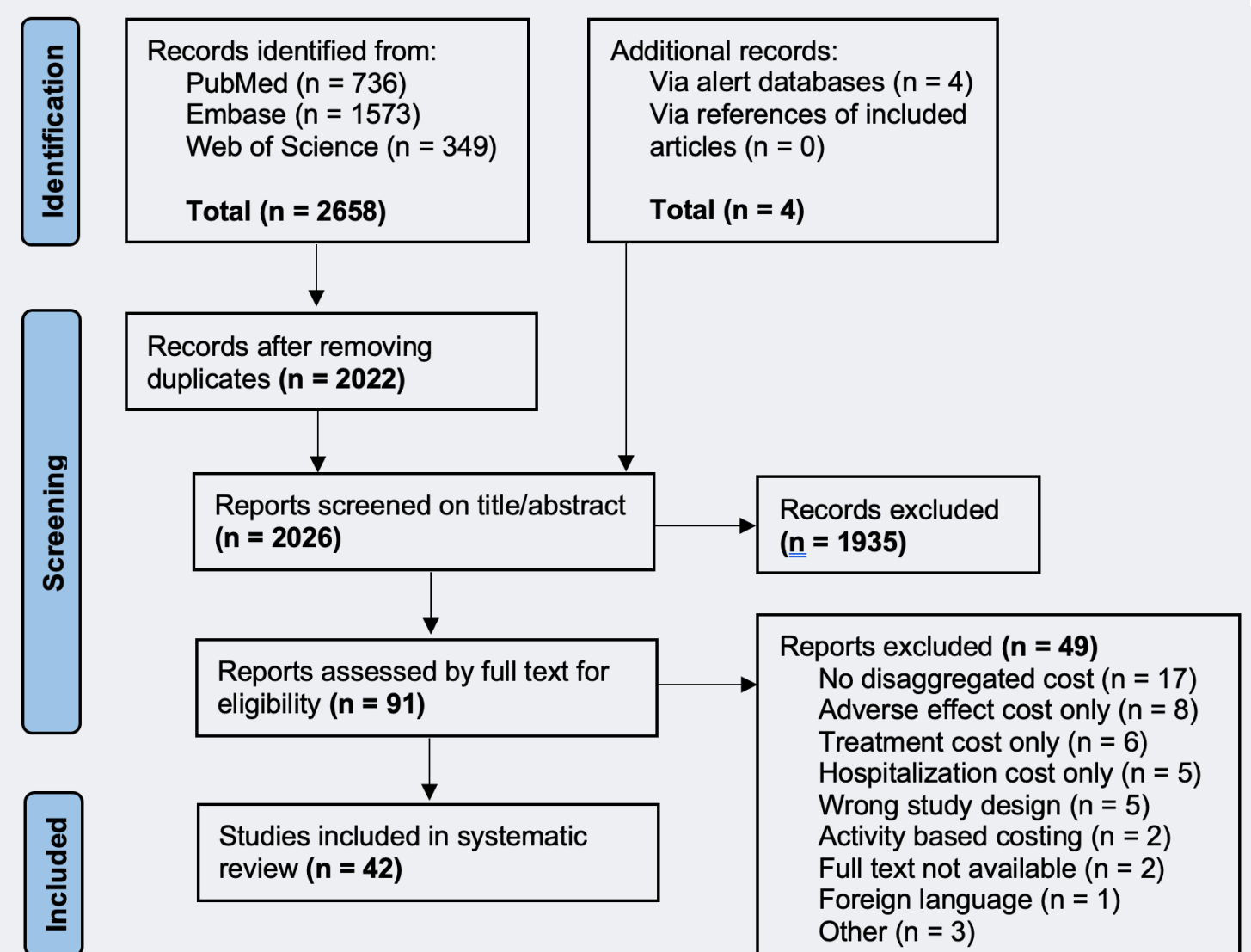
- According to the **PRISMA** guidelines
- **3 electronic databases** (PubMed, Embase and Web of Science)
- **Search strings:** “skin cancer”, “melanoma”, “keratinocyte carcinoma”, “squamous cell skin cancer”, “basal cell cancer” and “cost-of-illness”

	Inclusion	Exclusion
Population	MSC or KC patients	Other
Methods	COI studies	Economic evaluations, reviews, letters and abstracts
Outcomes	Direct, indirect or intangible costs (disaggregated)	Activity-based costing or cost not disaggregated
Language	Dutch, English, French, German	Other

- Records were screened against eligibility criteria, first on title/abstract and then on full-text
- Study quality was assessed using a checklist for COI studies according to Schirr-Bonnans et al.

(Cost of diabetic eye, renal and foot complications: a methodological review. Eur J Health Econ. 2017 Apr;18(3):293-312. doi: 10.1007/s10198-016-0773-6.)

RESULTS



- The majority of the studies (n=33) focussed on MSC, a few (n=3) focussed on KC, and six studied both MSC and KC.
- Direct costs were estimated in all studies, while indirect costs were only estimated in 9 studies and one study examined intangible costs.
- **Considerable heterogeneity** was observed due to; disparities in study population, methodological approaches, included cost categories and differences in healthcare systems.
- In MSC, both direct and indirect **costs increased as the stages progressed**.
- In advanced stage MSC, **systemic therapy** demonstrated to be the **highest cost item**.
- In KC, no obvious cost driver was identified.

CONCLUSION

- Substantial heterogeneity and challenges in methodological approaches of the studies were observed.
- A homogeneous COI study design would be beneficial to increase comparability, identification of cost drivers and support evidence-based decision making for skin cancer.