Evaluation of the probability of causation approach for lung cancer: Scoping review

Literature search

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Abstract

Objective: The probability of causation Introduction: The probability of causation Inclusion criteria: The probability of causation Methods: The probability of causation

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## Session and package dependencies

R version 4.4.0 (2024-04-24 ucrt)  
Platform: x86\_64-w64-mingw32/x64  
Running under: Windows 11 x64 (build 22631)  
  
Matrix products: default  
  
  
locale:  
[1] LC\_COLLATE=Dutch\_Netherlands.utf8 LC\_CTYPE=Dutch\_Netherlands.utf8   
[3] LC\_MONETARY=Dutch\_Netherlands.utf8 LC\_NUMERIC=C   
[5] LC\_TIME=Dutch\_Netherlands.utf8   
  
time zone: Europe/Amsterdam  
tzcode source: internal  
  
attached base packages:  
[1] stats graphics grDevices utils datasets methods base   
  
other attached packages:  
 [1] report\_0.5.9 gt\_0.11.0 openalexR\_1.4.0 lubridate\_1.9.3  
 [5] forcats\_1.0.0 stringr\_1.5.1 dplyr\_1.1.4 purrr\_1.0.2   
 [9] readr\_2.1.5 tidyr\_1.3.1 tibble\_3.2.1 ggplot2\_3.5.1   
[13] tidyverse\_2.0.0 pacman\_0.5.1

# Introduction

This review requires that a rapid overview of studies on the probability of causation (PoC) is obtained in a short time, reason why automated workflows will offer an advantage. The OpenAlex API is a tool that can be used to search for scientific articles and retrieve metadata from them. This tool will be used to search for articles on the PoC approach for lung cancer.

The search will be conducted using the following keywords, based on the (Participants, Concept, Context) PCC framework:

#### Population

Adults of both sexes with a relevant exposure at their workplace environment.

* Workplace
* Working conditions
* Occupational

#### Concept

The application of the probability of causation principle.

* Probability of causation
* Probabilistic causation
* Balance of probabilities
* Aetiological fraction
* Etiologic fraction
* Causal fraction
* Attributable risk
* Attributable proportion
* Attributable fraction
* Proportional liability
* Causation
* Risk model
* Stochastic model
* Work attribution
* Assigned share

#### Context

The main outcome of interest is lung cancer. The search strategy will be broadened to include other types of cancer and as a third step, to include any multi-causal disease.

* Lung cancer
* Lung malignant neoplasm
* Lung tumor
* Lung Carcinogen
* Mesothelioma
* Multicausal/Multietiological disease
* Multicausal/Multietiological health effects

# Search String

# OpenAlex search

# Search String

[1] "((workplace OR working conditions OR occupational) AND (probability of causation OR probabilistic causation OR causation OR balance of probabilities OR aetiological fraction OR etiological fraction OR causal fraction OR attributable risk OR attributable proportion OR attributable fraction OR proportional liability OR causation OR risk model OR stochastic model OR work attribution OR assigned share) AND (lung cancer OR lung malignant neoplasm OR lung tumor OR lung carcinogen OR mesothelioma))"

# Query String (Open Alex)

[1] "https://api.openalex.org/works?filter=title\_and\_abstract.search:((workplace OR working conditions OR occupational) AND (probability of causation OR probabilistic causation OR causation OR balance of probabilities OR aetiological fraction OR etiological fraction OR causal fraction OR attributable risk OR attributable proportion OR attributable fraction OR proportional liability OR causation OR risk model OR stochastic model OR work attribution OR assigned share) AND (lung cancer OR lung malignant neoplasm OR lung tumor OR lung carcinogen OR mesothelioma))"

## Concept Terms