How are burden of disease metrics used in policy documents?

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Health policy 159 (2025) 105387

Contents lists available at ScienceDirect

Health policy

journal homepage: www.elsevier.com/locate/healthpol

The role of burden of disease estimates in European Union Health policymaking: A systematic analysis of EU legislation

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Background



IHME
Measuring what matters



World Health Organization



Support health policies and interventions

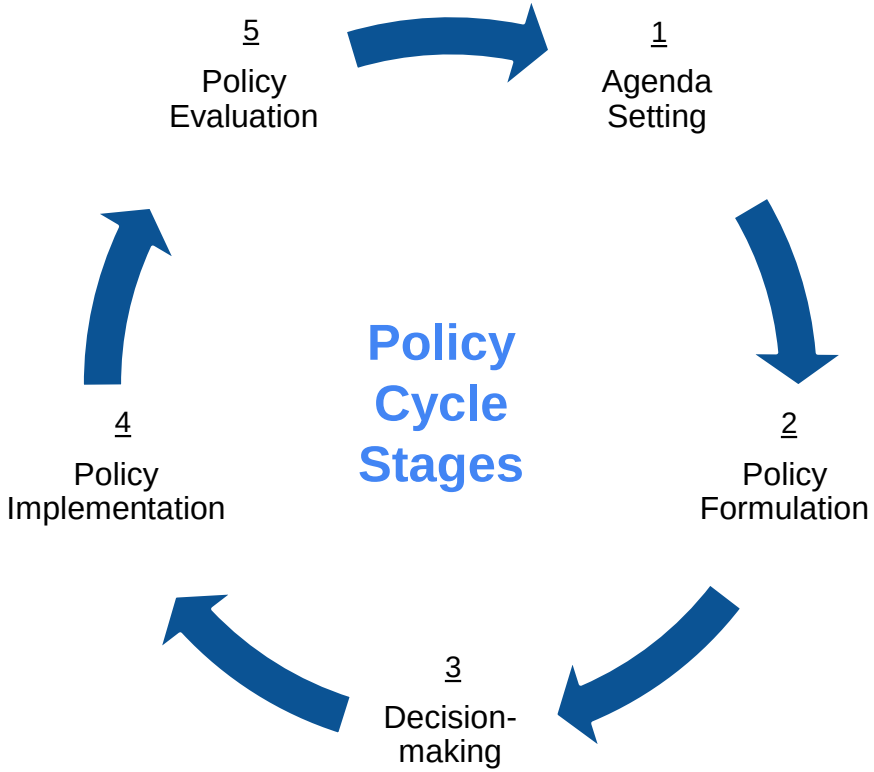


Burden of disease metrics (BoD)

quantify the health impact of diseases and risk factors

DALY = YLL + YLD

Background


Policy Cycle Stages
1
Agenda Setting
2
Policy Formulation
3
Decision-making
4
Policy Implementation
5
Policy Evaluation

Background

European Commission

European Parliament

European Council

European legislation

applied directly or
transposed to national law

TFEU

Support, coordinate or complement the action of members states in public health

public health policies

Objective

To provide a systematic overview of legislations present in EUR-Lex that utilise BoD metrics in the EU

Methods

Qualitative analysis of EU public policies within EUR-Lex that include BoD metrics.



- Database: EUR-Lex
- PRISMA Flowchart
- Descriptive analysis
- Text analysis
- Network analysis

Methods

Search items

“disability-adjusted life year*”; “DALY*”; “YLL”; “YOLL”; “YLD”; “years of life lost”; “years lost due to disability”; “years lived with disability”

Temporal coverage

January 1, 2004 and December 31, 2023

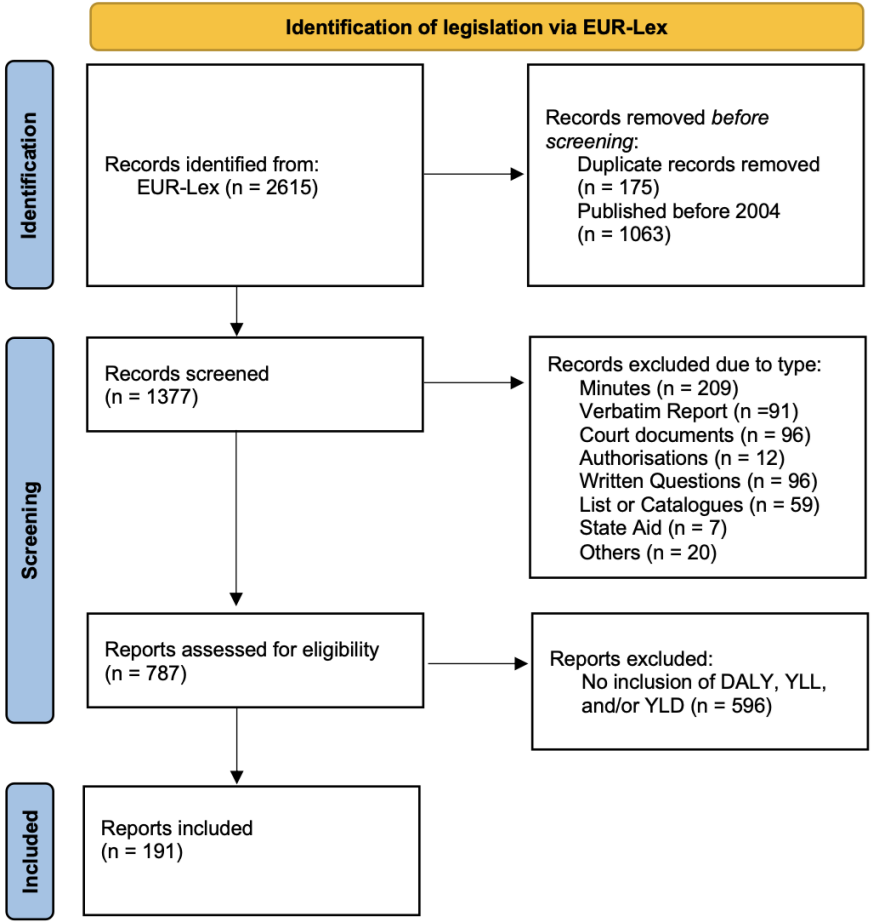
Methods

Type of documents → Binding
Type of documents → Non-binding

Exclusion criteria:

- Minutes
- Verbatim report of proceedings
- EU case-law, such as judgement or High Court documents,
- Authorisations
- Written questions
- Informations

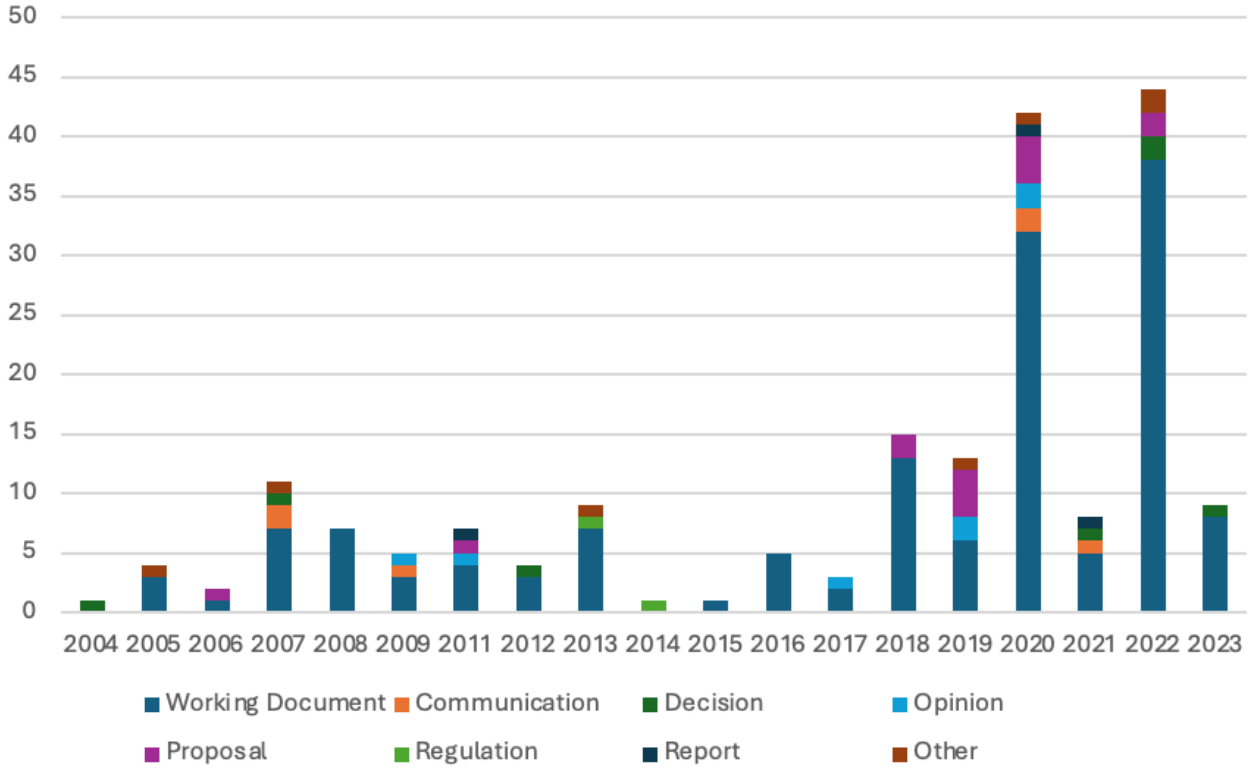
Results


Identification of legislation via EUR-Lex
Identification
Records identified from:
EUR-Lex (n = 2615)
Records removed *before screening*:
Duplicate records removed (n = 175)
Published before 2004 (n = 1063)
Screening
Records screened
(n = 1377)
Records excluded due to type:
Minutes (n = 209)
Verbatim Report (n =91)
Court documents (n = 96)
Authorisations (n = 12)
Written Questions (n = 96)
List or Catalogues (n = 59)
State Aid (n = 7)
Others (n = 20)
Reports assessed for eligibility
(n = 787)
Reports excluded:
No inclusion of DALY, YLL, and/or YLD (n = 596)
Included
Reports included
(n = 191)

Discussion

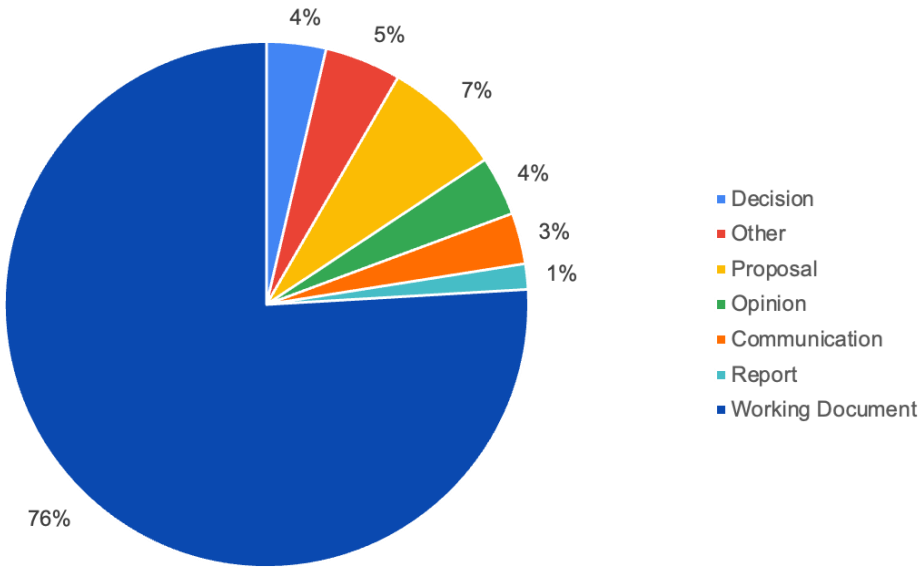
- Limited implementation of BoD in EU policy: only 191 EU legislative files in the past 20 years
- Legislation mainly addressing environment and social issues.

Results

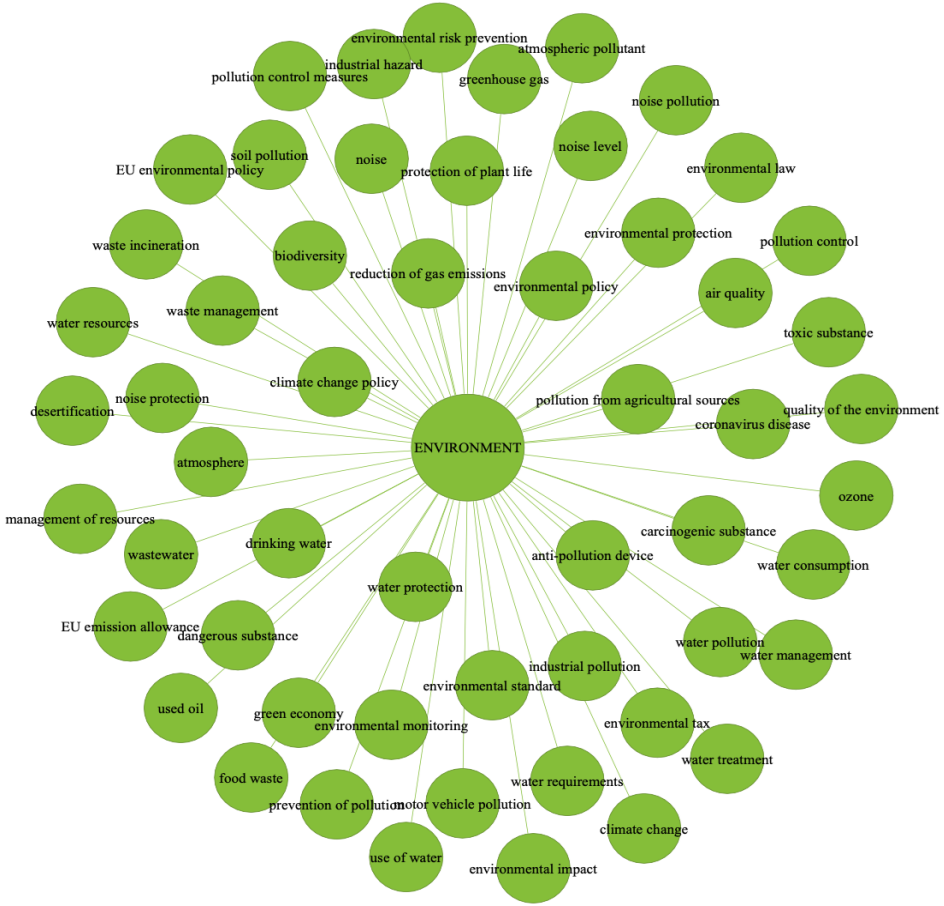


Trend in use of burden of disease metrics in European Union legislative files.

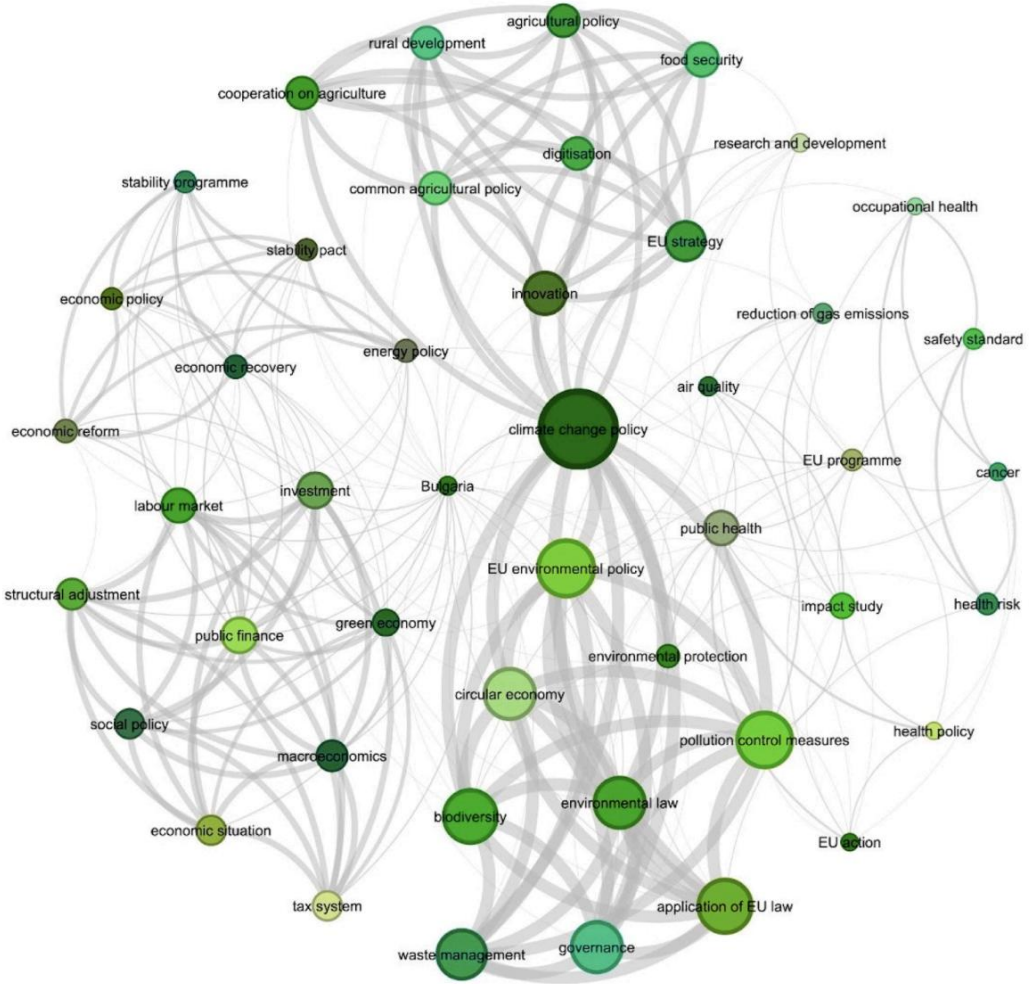
Results


4%
5%
7%
4%
3%
1%
76%
Decision
Other
Proposal
Opinion
Communication
Report
Working Document

Results


ENVIRONMENT
environmental risk prevention
atmospheric pollutant
industrial hazard
pollution control measures
greenhouse gas
noise pollution
noise level
soil pollution
EU environmental policy
noise
protection of plant life
environmental law
environmental protection
pollution control
waste incineration
biodiversity
reduction of gas emissions
environmental policy
air quality
waste management
water resources
toxic substance
climate change policy
noise protection
desertification
pollution from agricultural sources
quality of the environment
coronavirus disease
atmosphere
ozone
management of resources
carcinogenic substance
drinking water
wastewater
anti-pollution device
water consumption
water protection
EU emission allowance
dangerous substance
water pollution
water management
industrial pollution
environmental standard
used oil
green economy
environmental monitoring
environmental tax
water treatment
food waste
water requirements
prevention of pollution
motor vehicle pollution
climate change
use of water
environmental impact

Results



Network pattern of EuroVoc terms with >50 connections

Results

Purpose of usage	Frequency	Percentage (%)
Amendment	8	3.7
Argument	93	43.3
Definition	13	6.0
Evaluation	6	2.8
Example	3	1.4
Impact Assessment	50	23.3
Methodology	5	2.3
Setting goal/indicator	20	9.3
Situation Diagnosis/Report	17	7.9
Total	**215**	**100**

Location	Frequency	Percentage (%)
Annex	48	21.1
Introduction	1	0.4
Main text	122	54.0
Recital	18	8.0
Reference	36	15.9
Title	1	0.4
Total	**226**	**100**

Themes	n (%)
Environment	60 (31.4)
Reform/ Social policy	20 (10.5)
Occupational health	19 (9.9)
Agriculture	17 (8.9)
Food safety and nutrition	13 (6.8)
Non-communicable diseases	11 (5.8)
Chemicals regulation	10 (5.2)
Research policy	8 (4.2)
Mental health	7 (3.7)
Energy policy	7 (3.7)
Medicines	6 (3.1)
Water policy	6 (3.1)
Health policy/strategy	4 (2.1)
Funding	3 (1.6)

Discussion

Relatively low uptake of burden of disease across EU policymaking (n=191)

Why?

1. Novelty in the first years
2. Changes and improvements of the metric
3. Data quality
4. Knowledge transfer pathway
    a. Burden of proof

Discussion

Increase in its use across several domains, with focus on environmental & social issues

1. Featured in non-binding documents

Working documents

Proposals for binding documents

1. Use as argument in main text

Reflects improvements of understanding of the metric

Accounting for health impacts → Shift towards preventive policies

Evidence-based policymaking

Discussion

How can we better understand its use?

→ talk to policymakers

→ discuss with policymakers' research teams

→ understand use in the science to policy interface

→ Understand whether preparatory working documents and proposals that use BoD are actually featured in final consolidated versions

Discussion

- Importance of increasing EU policy uptake from BoD studies
  - Policy-oriented research
    - BoD in the policy cycle
    - Policy impact and evaluation
  - Building capacity: policymakers and academia
  - Connect with people working in the science-to-policy interface

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