CICLO SEMINARI Sinergie tra l'Italia e l'Europa nella Lotta contro il cancro

Garantire l’Accesso Universale a Cure Oncologiche e Ridurre le Disuguaglianze

Ridurre le disuguaglianze sociali nel campo dell'oncologia: il progetto EU-CanIneq

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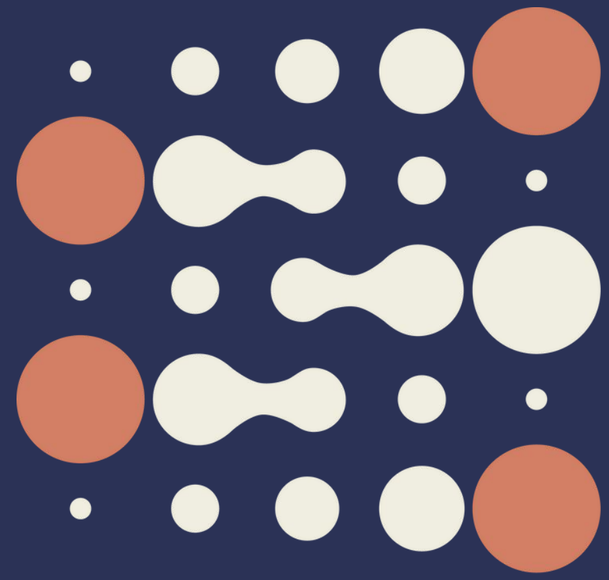


Le disuguaglianze socio-economiche nel tumore

- I fattori socioeconomici sono uno dei principali determinanti del cancro tra e all'interno dei Paesi.

- Le disuguaglianze sociali possono influenzare tutte le fasi del percorso del cancro.

  - La mortalita' e' l'indicatore «ultimo» del cancro e della salute, racchiude l'impatto cumulativo delle disuguaglianze lungo l'intero percorso del cancro.

  - È necessario misurare, mappare, monitorare e confrontare le disuguaglianze socioeconomiche nel cancro tra i diversi Paesi.

The Global Agenda, EU & IARC

- Commission on Social Determinants of Health,2008
- Rio Declaration on Social Determinants of Health - 2011
- WHA endorsement - 2012
- SDGs - 2015
- WHA Cancer Resolution – 2017
  - Explicit call for monitoring and addressing inequality
- **EU's Beating Cancer Plan**
  - **The Cancer Inequalities Registry**

The IARC Scientific Publication N. 168 on social inequalities and cancer, 2019

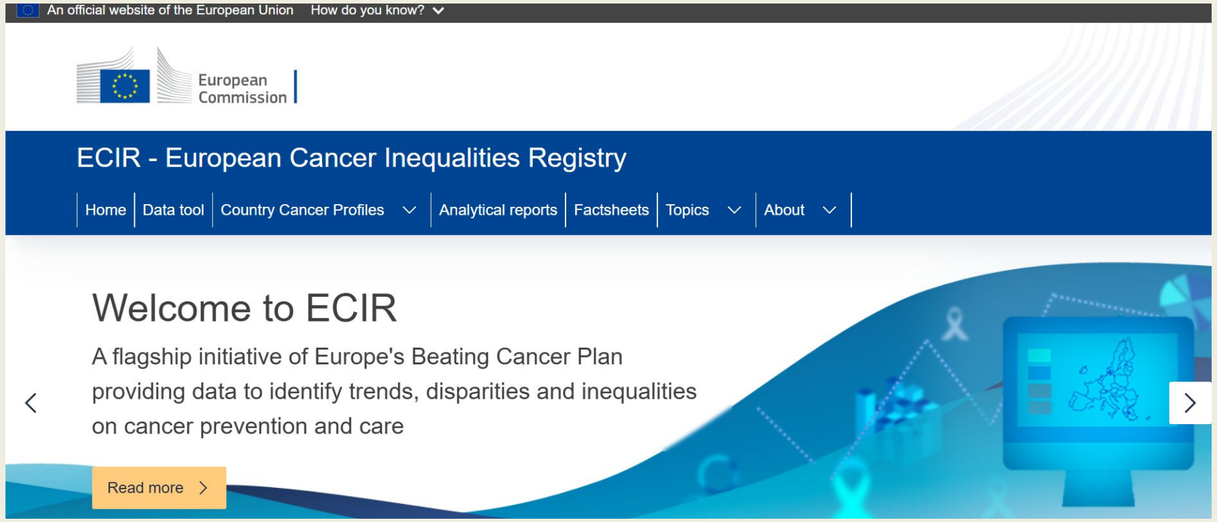
- Available evidence, research priorities and global context
- Recommendations to reduce social inequalities in cancer

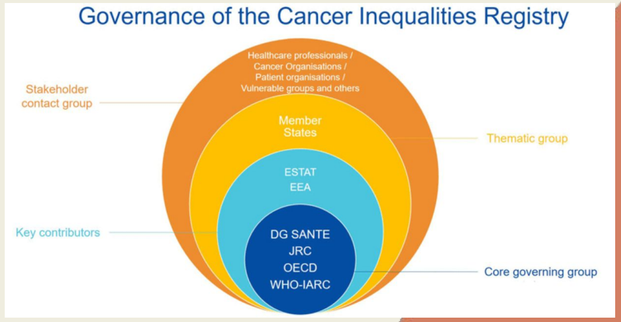
Contribution of >70 international, multidisciplinary experts

http://publications.iarc.fr/580

European Cancer Inequalities registry

The **European Cancer Inequalities Registry (ECIR)**, a key initiative under *Europe's Beating Cancer Plan*, is tackling disparities head-on by tracking cancer trends and identifying inequalities across EU Member States and regions. This data-driven approach is essential for understanding where the biggest challenges lie and help guide strategic investments at EU, national, and regional levels.





Obbiettivo generale del progetto EU-CanIneq

EU-CanIneq (IARC-WHO/Erasmus MC) coordina un quadro di ricerca per sviluppare ed ampliare indicatori rilevanti delle disuguaglianze socioeconomiche nella mortalità per cancro nell'UE

integrato nello European Cancer Inequalities Registry

CANCER MORTALITY BY EDUCATION LEVEL

For 27 EU countries + Norway & Iceland

Key features of

EU-CanIneq

FOCUS ON THE SOCIOECONOMIC AXIS

One of the most important factors explaining cancer variability within and between countries

- **COLLECTION & LINKAGE OF HIGH-QUALITY DATA**
- **DEVELOPMENT OF METHODS TO PRODUCE ESTIMATES OF CANCER MORTALITY BY EDUCATIONAL LEVEL FILLING TEMPORAL AND GEOGRAPHICAL GAPS**

INTELLIGENCE ON CANCER AND CANCER INEQUALITIES TO IDENTIFY POSSIBLE EXPLANATION FOR OBSERVED INEQUALITIES

OVERVIEW OF THE PROJECT

A core of observed, harmonized data, for 16 MS
Based on the linkage of cancer mortality/census

Extrapolation methods developed to fill temporal/geographical gaps

To critically discuss the results and provide possible explanations
Country-specific factsheets

To produce estimates of cancer mortality by educational level for 27 EU countries + Norway and Iceland

DATI E METODI USATI PER LE STIME 2015-2019

ERAINHE dataset: a core of observed, harmonized data about cancer mortality for 16 Member States based on the linkage of cancer mortality/census data

	Periods available	Group
Finland	1990-1995; 1995-2000; 2000-2005; 2005-2010; 2011-2015; 2016-2018	A
Sweden	1991-1994; 1995-1999; 2000-2004; 2005-2009; 2010-2014; 2015-2017	A
Denmark	1995-1999; 2000-2004; 2005-2009; 2010-2014; 2015-2019	A
Belgium	1991-1997; 2001-2006; 2006-2011; 2011-2015; 2016-2017	A
France	1990-1995; 1995-1999; 1999-2004; 2004-2007	C
Austria	1991-1992; 2001-2002; 2011-2013; 2013-2014; 2015-2019	A
Italy	2012-2015; 2019; 2020	A
Spain	2002-2006; 2007-2011; 2012-2015; 2016-2019	A
Estonia	2000-2005; 2006-2011; 2012-2015; 2016-2019	A
Lithuania	2001-2005; 2006-2009; 2011-2014; 2015-2019	A
Poland	2001-2003; 2010-2012	B
Czechia	1998-2003	B
Hungary	1988-1991; 1999-2002; 2010-2012; 2015-2019	A
[illegible]enia	1991-1995; 2002-2006	B
Norw[illegible]y	1990-1995; 1995-2001; 2001-2006; 2006-2009	A
Slov[illegible]kia	2013-2014; 2015-2019	B

A. Countries with at least 3 recorded observations over time
B. Countries with 1 or 2 recorded observations only
C. Countries with no observations for certain cancer sites (but with information for total cancer)

Publicly available data on cancer mortality, population distribution and educational attainment from the **World Health Organization (WHO) mortality database** and **the Eurostat database** and **IARC/GCO database**

Methodology

Development of extrapolation methods to fill temporal/geographical gaps

METHODS USED TO OBTAIN ESTIMATES FOR 2015-2019 in the 16 countries with observed data

Three different methods were used depending on the amount of data available:

Relatively large number of recorded observations over time

A.

Regression models (log-linear when rates are decreasing, otherwise linear) were **fitted to the observed ASMRs on calendar time** and projecting the rates assuming continuation of the past trend until 2015-2019

Only a small number of recorded observations

B.

The **average percent change for the mortality rate** from the GCO-IARC database was **applied to the last observation available** in the ERAINHE dataset

No observations for certain cancer types, but with information on total cancer mortality

C.

For each **educational group, the share of total cancer mortality for the relevant cancer type was based on the proportion estimated from countries within the same geographical region and applied to total cancer mortality in the last period of observation** in that country; thereafter, method B was applied

METHODS USED TO OBTAIN ESTIMATES FOR 2015-2019 in the 13 countries without observed data

World Health Organization (WHO) Mortality Database*

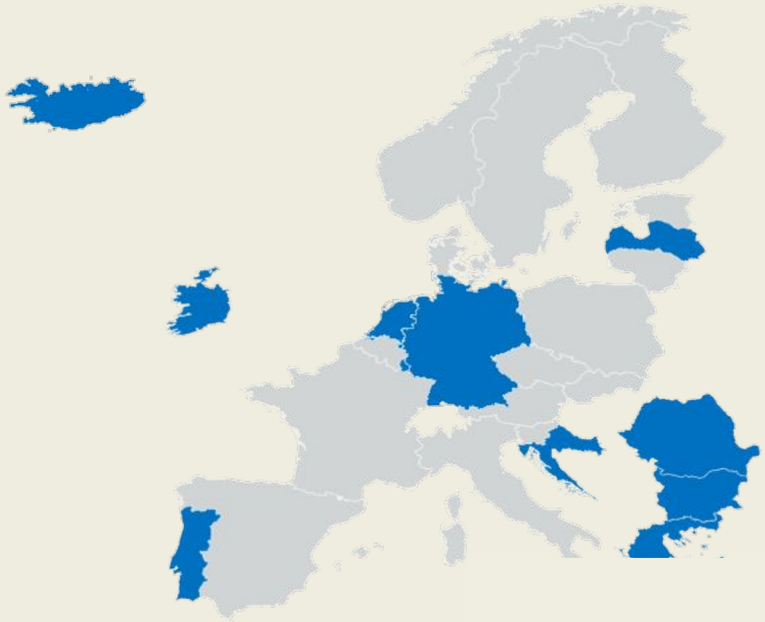
-**cancer mortality, overall** and for the six cancer type by age and gender

ERAINHE data

Eurostat database*

-**population distribution by educational level** for each gender
-**population by age and gender**

Back calculation approach



https://platform.who.int/mortality/themes/theme-details/topics/indicator-groups/indicator-group-details/MDB/other-malignant-neoplasms
https://ec.europa.eu/eurostat/databrowser/view/demo_pjangroup__custom_11728949/default/table?lang=en
https://ec.europa.eu/eurostat/databrowser/view/edat_lfs_9903__custom_10784414/default/table?lang=en

REPORT METODOLOGICO

A **Methodological Report** has been prepared and made available on the ECIR website to provide **details about data and approaches used to produce estimates,** sensitivity analyses performed to evaluate the robustness of the approaches and possible limitations.

The analyses were based on **a core of observed harmonized data on cancer mortality for 16 members states (ERAINHE dataset).**

The Methodological Report was informed by suggestions & comments of Member State representatives

https://cancer-inequalities.jrc.ec.europa.eu/country-specific-factsheets#synthesis

STIME DI MORTALITA’ PER TUMORE IN 2015-2019

Estimates of cancer mortality by educational level for 27 EU countries + Norway and Iceland were obtained for **all cancers** and for **six cancer types** (lung, colorectum, stomach, breast, cervical and prostate) and presented as age-standardized mortality rates (**ASMR**) for the age range **40-79 years**.

Schede informative specifiche per Paese

Country-specific factsheets were developed for 27 MS plus Iceland and Norway and delivered **in February 2025**:

- **Based on estimates of cancer mortality rates** produced using the approaches developed.
- Considering available **data on the characteristics of the health system, cancer care, and distribution of risk factors in each country**.
- Before being published, they were circulated among MS representatives and **feedback received were integrated to better**

Schede informative specifiche per Paese

Country-specific factsheets are available on the ECIR- European Cancer Inequalities Registry website:

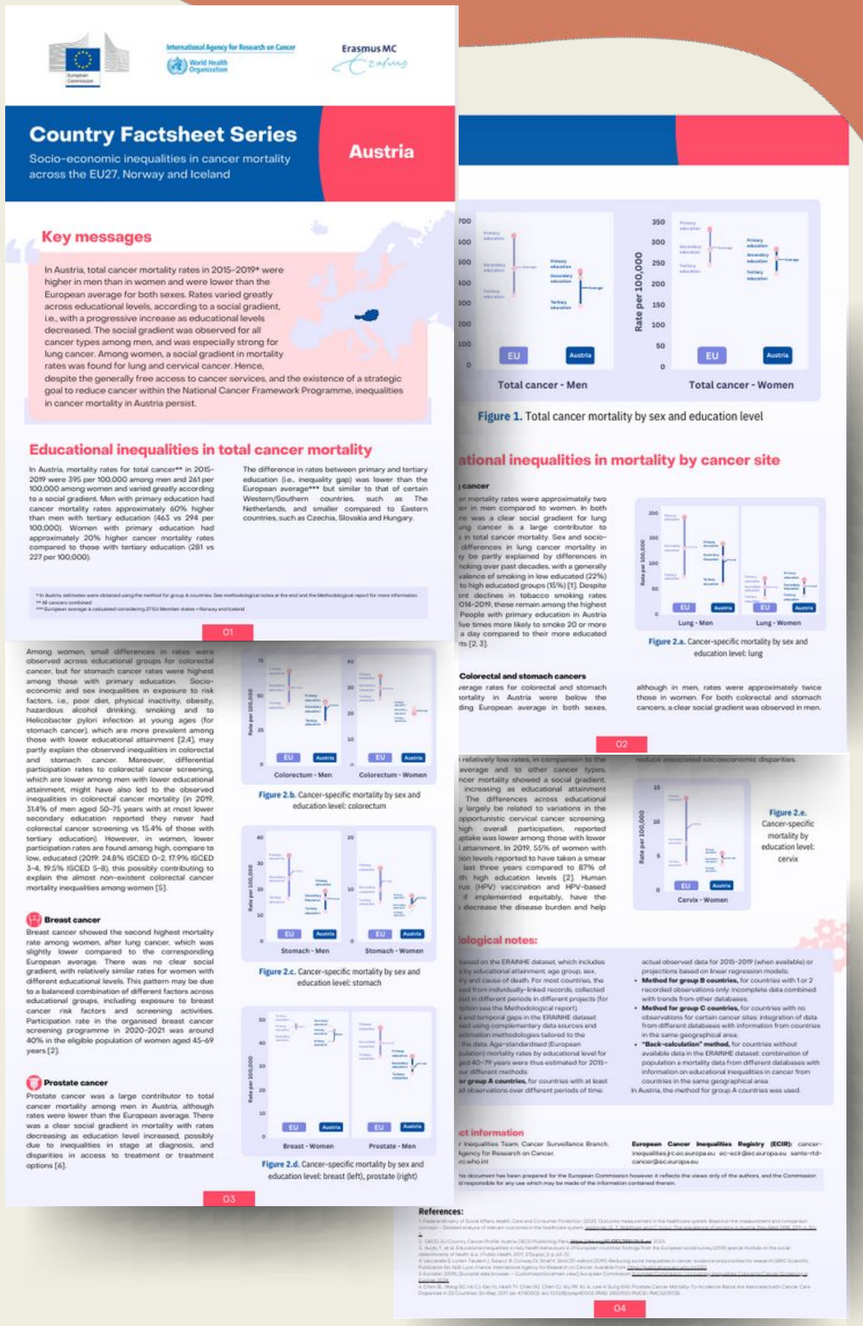
https://cancer-inequalities.jrc.ec.europa.eu/country-specific-factsheets

Schede informative specifiche per Paese

Le schede-paese forniscono stime della mortalità per cancro e delle disuguaglianze per livello di istruzione (2015–2019), per sesso, **totale tumori e sei sedi specifiche**.

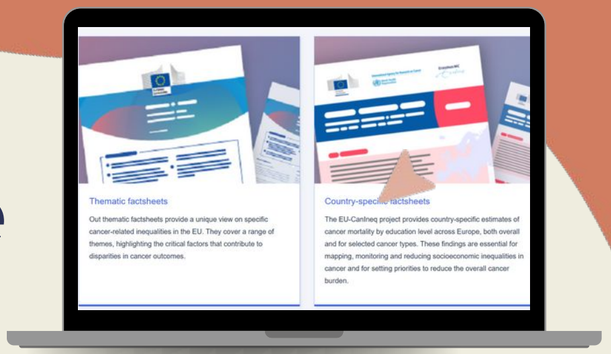
Offrono una **lettura critica** dei risultati alla luce del contesto nazionale (fattori di rischio, sistema sanitario, organizzazione delle cure).

Permettono di **mappare le disuguaglianze tra Paesi** e supportano lo sviluppo di politiche mirate.



Schede informative specifiche per Paese

Comparing national and European data



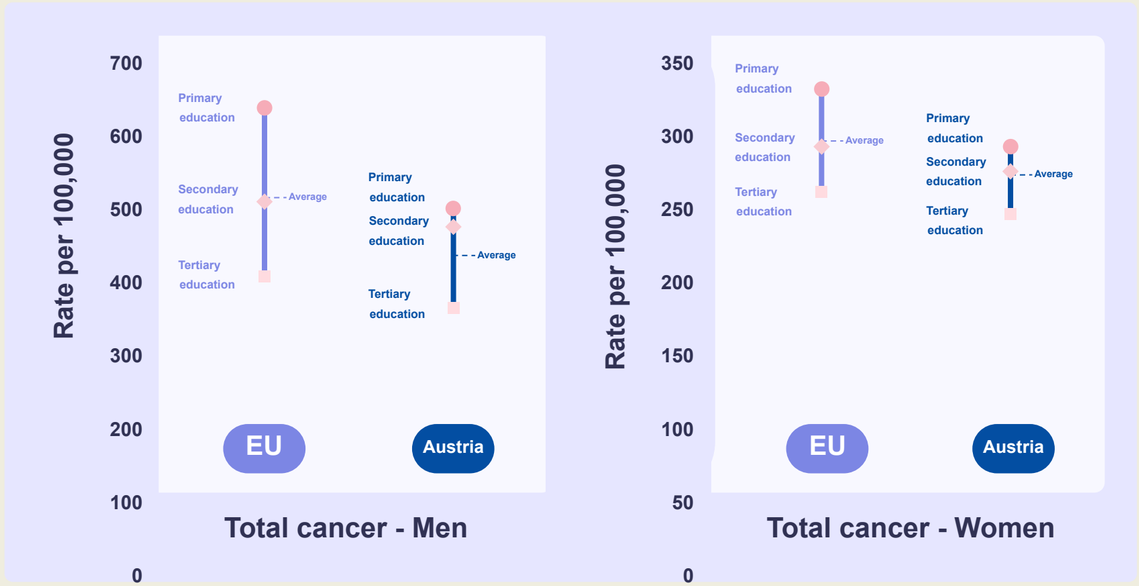


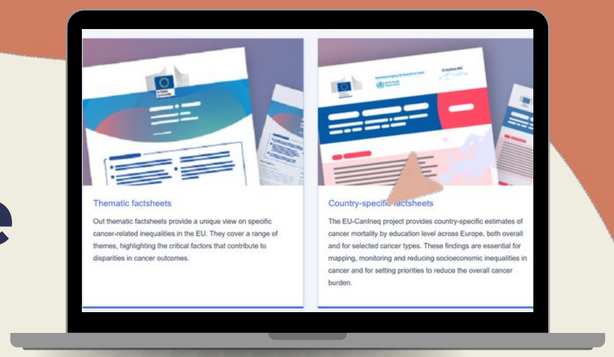
Figure 1. Total cancer mortality by sex and education level in Austria

- Compare **country-specific estimates on cancer mortality with the corresponding average European values**.
- Comparison with **other countries in the same geographical area**.
- Understanding **sex differences**.

The European average is obtained as a simple average of data about the 29 countries included in the analysis

Schede informative specifiche per Paese

Assessing inequality gaps across cancer types



Assessment of **the inequality gap** (i.e., the difference between cancer rates among primary educated and cancer rates among tertiary educated).

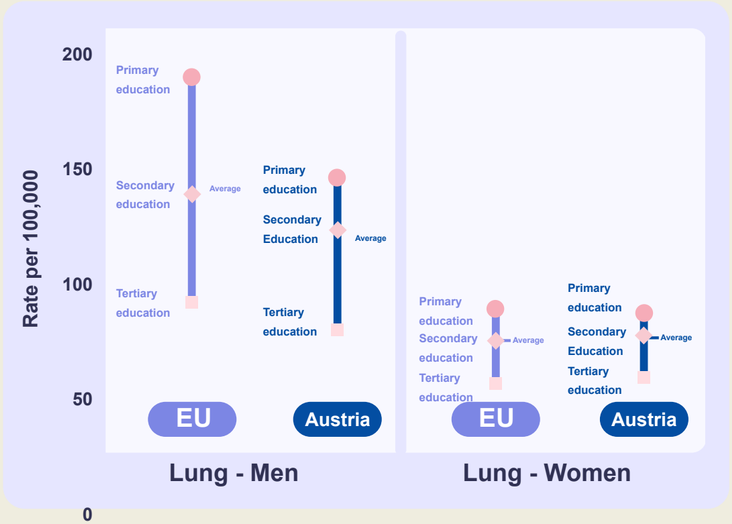


Figure 2.a. Cancer-specific mortality by sex and education level in Austria: lung

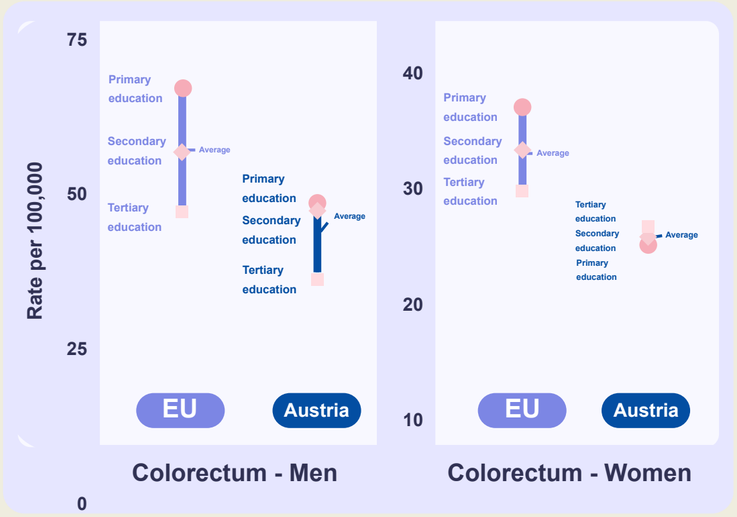


Figure 2.b. Cancer-specific mortality by sex and education level in Austria: colorectum

- Benchmarking with the **European average**.
- Understanding **sex differences**.
- Comparing **different cancer types**.

RISULTATI PRINCIPALI

- In media, nell'UE i tassi di mortalità per cancro risultano **disproporzionatamente elevati tra gli uomini con istruzione primaria**, con 625 decessi per 100.000 rispetto ai 340 decessi per 100.000 tra gli uomini con istruzione terziaria.

- Tra le **donne con istruzione primaria**, i tassi di mortalità per cancro sono stimati in 337 decessi per 100.000, rispetto ai 244 per 100.000 tra quelle con istruzione terziaria.

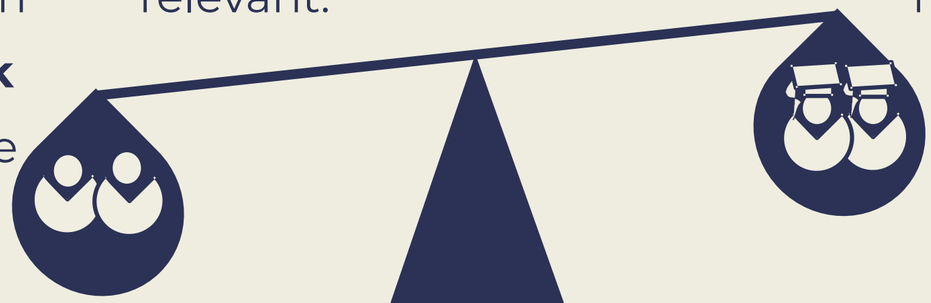
- Nel complesso, le disuguaglianze educative nella mortalità per cancro risultano più marcate nei **Paesi baltici e dell'Europa orientale**.

- **Tra le donne,** elevati livelli di disuguaglianza socioeconomica per il cancro sono stati osservati **anche nei Paesi del Nord Europa.**

SPIEGAZIONI POSSIBILI PER LE DISUGUAGLIANZE

Observed socioeconomic inequalities in cancer mortality may derive from the accumulation of inequalities at any stage of the cancer continuum.

- For **cancer types that have a strong and socially patterned risk factor and a relatively bad prognosis (i.e., lung, stomach)**, socioeconomic inequalities in the **accumulation of risk factors** may be more important.
- For **some cancer types (i.e., prostate, cervical), inequalities in access to screening, early diagnosis, and treatment** may be more relevant.
- For **other cancer types (i.e., colorectal, breast),** both **inequalities in the accumulation of risk factors and in access to screening** may play a role.



Risk Factors | Screening | Early Diagnosis | Diagnosis | Treatment | Survival | End of Life Care

L’IMPORTANZA DEL GRADIENTE SOCIALE

- There is a clear **socioeconomic gradient** in cancer mortality across countries and cancer types.

- This means that **cancer inequalities affect everyone**, not only disadvantaged groups.

- It implies that **reducing cancer mortality requires tackling socioeconomic inequalities**.
  - Reducing cancer mortality requires addressing socioeconomic inequalities as a core component of cancer control.

CONCLUSIONI

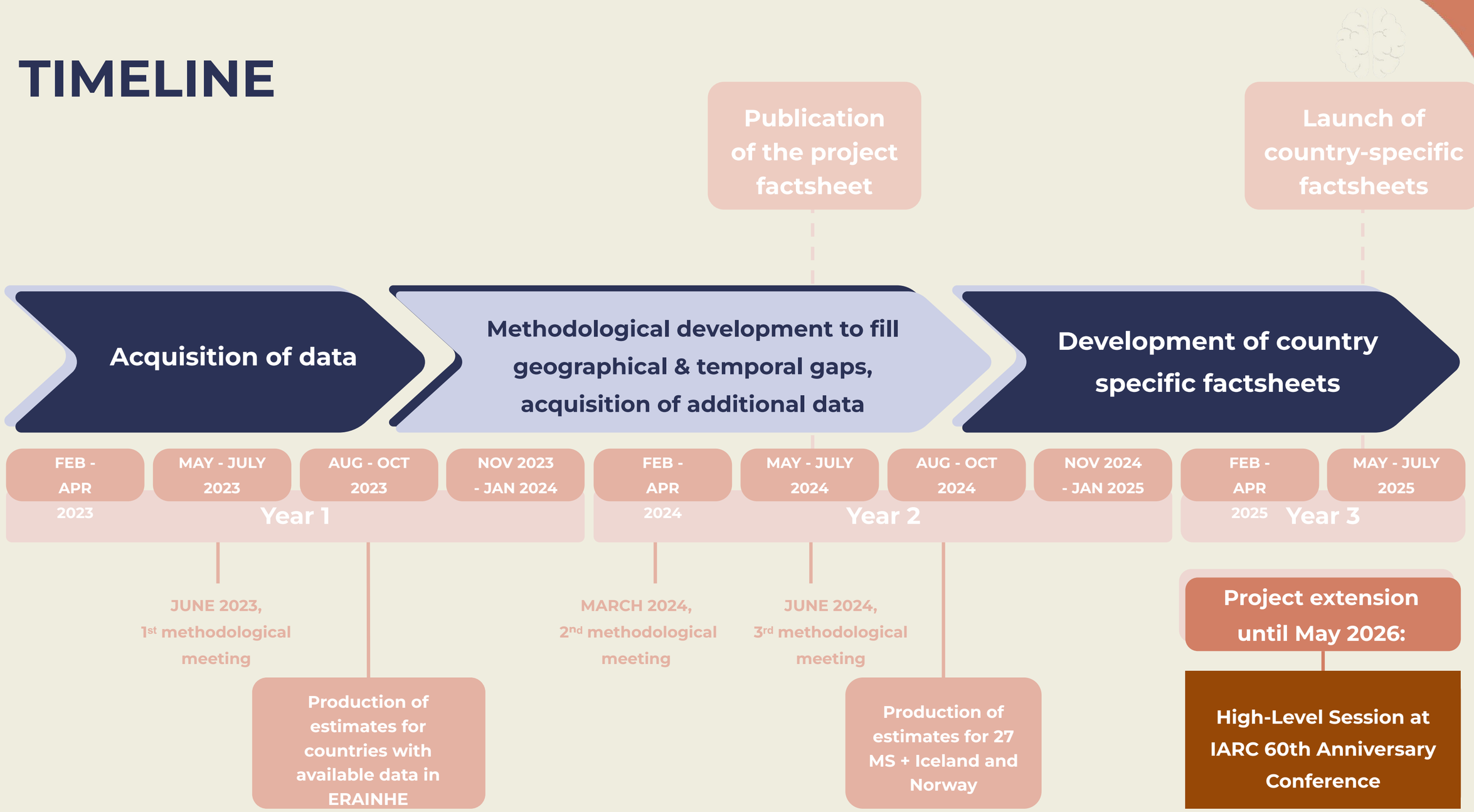
- L’impatto del cancro non è distribuito in modo equo. La **posizione socioeconomica è chiave**, sia tra che all’interno delle popolazioni.

- Le disuguaglianze socioeconomiche nel cancro sono ampie, **ovunque e per tutti i tumori**.
  - Le persone più svantaggiate pagano il prezzo più alto.

- Le strategie “one-size-fits-all” non riducono le disuguaglianze ma possono addirittura ampliarle.

- Per ridurre l’impatto del cancro è indispensabile affrontare queste disuguaglianze.

TIMELINE


Publication of the project factsheet
Launch of country-specific factsheets
Acquisition of data
Methodological development to fill geographical & temporal gaps, acquisition of additional data
Development of country specific factsheets
FEB - APR 2023
MAY - JULY 2023
AUG - OCT 2023
NOV 2023 - JAN 2024
FEB - APR 2024
MAY - JULY 2024
AUG - OCT 2024
NOV 2024 - JAN 2025
FEB - APR 2025
MAY - JULY 2025
Year 1
Year 2
Year 3
JUNE 2023, 1st methodological meeting
Production of estimates for countries with available data in ERAINHE
MARCH 2024, 2nd methodological meeting
JUNE 2024, 3rd methodological meeting
Production of estimates for 27 MS + Iceland and Norway
Project extension until May 2026:
High-Level Session at IARC 60th Anniversary Conference

IARC 60th Anniversary International conference

Cancer research into action

19-21 Maggio 2026

- **Send your abstract!**

Thematic focus

Discovery and innovation for cancer prevention
Every breakthrough starts with a question.

Translating research into Public Health action
Science only changes lives when it reaches the people it is meant to serve.

Science-policy interface for global change
Progress happens when evidence drives action.