The Italian GBD cancer collaboration and the burden of cancer in Italy

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Webinar COST Action CA18218 (EU Burden of Disease Network). Activities and achievements of the Italian GBD Initiative.
April 29, 2021

IMN ISTITUTO DI RICERCHE FARMACOLOGICHE MARIO NEGRI · IRCCS

Italian GBD Initiative

February 2018 – Joined the **GBD** Collaboration

April 2018 – First contact with Lorenzo Monasta from the **Italian GBD Initiative**
→ Workshop Istituto Superiore di Sanità, Rome

February 2019 – Lorenzo organized **various WGs** (cardiovascular, brain, renal, skin diseases, cancer, behavioural risk factors, environmental risk factors,….)

Italian GBD Initiative

February 2019 – **WG on Cancer**

Cristina Bosetti (Mario Negri, Milano)
Lorenzo Monasta, Eugenio Traini (Burlo Garofolo, Trieste)
Silvano Gallus, Alessandra Lugo (Mario Negri, Milan)
Giuseppe Gorini, Giulia Carreras (ISPRO, Firenze)
Cristiano Piccinelli (CPO Piemonte, Torino)

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First aim:

Draft Publication on GBD 2017 cancer data (**GBD 2017 Italy Cancer Collaboration**)

GBD 2017 Italy Cancer Collaboration

Types of Collaborator-led GBD Papers

- Type A
- Type B
- Type C
  - Collaborator role: Develop concept and write paper; create tables/figures; serve as corresponding author
  - IHME role: Copy edit draft; circulate draft to collaborators; collate and clean comments; collect author forms; create author and affiliations lists

(GDB Webinar of Types of Collaborator-led GBD Papers - GBD Training: http://www.healthdata.org/gbd/training-workshops*)*

GBD 2017 Italy Cancer Collaboration

Draft manuscript preparation:

- Paper organization and draft of study Tables and Figures (all)
- **Data extraction and elaboration** (E.Traini, L. Monasta)
- First manuscript draft (C.Boschi, L.Monasta)
- Revision (all)
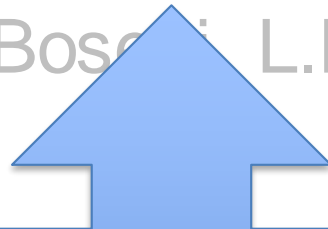
Data on Incidence, Death, Number of years living with disability (YLDs), Number of years of life lost (YLLs), Disability adjusted life years (DALYs) (raw numbers, crude rates and age-standardized rates) for 30 cancer sites and cancer overall, between 1990 and 2017

GBD 2017 Italy Cancer Collaboration

http://ghdx.healthdata.org/gbd-results-tool

GBD 2017 Italy Cancer Collaboration

Draft manuscript preparation:

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- Data extraction and elaboration (E.Traini, L. Monasta)
- First manuscript draft (C.Bosetti, L.Monasta)
- Revision (all)

Draft manuscript sent to GBD-IHME collaborators (Molly R. Nixon, Sofia B Redford, Mohsen Naghavi) for their revision and circulation among GBD-IHME Cancer team

PAPER NATIONAL BURDEN OF CANCER IN ITALY, 1990-2017

OPEN

National burden of cancer in Italy, 1990–2017: a systematic analysis for the global burden of disease study 2017

Cristina Bosetti[1✉], Eugenio Traini[2], Tahiya Alam[3], Christine A. Allen[3], Giulia Carreras[4], Kelly Compton[3], Christina Fitzmaurice[3,5], Lisa M. Force[6,7], Silvano Gallus[8], Giuseppe Gorini[4], James D. Harvey[3], Jonathan M. Kocarnik[3,9], Carlo La Vecchia[10], Alessandra Lugo[8], Mohsen Naghavi[3,11], Alyssa Pennini[3], Cristiano Piccinelli[12], Luca Ronfani[2], Rixing Xu[3] & Lorenzo Monasta[2]

We monitored the burden of cancer in Italy and its trends over the last three decades, providing estimates of cancer incidence, mortality, years of life lost, years lived with disability, and disability-adjusted life-years (DALYs), for cancer overall and 30 cancer sites using data from the Global Burden of Disease study 2017. An overview of mortality trends between 1990 and 2017 was also provided. In 2017, there were 254,336 new cancer cases in men and 214,994 in women, corresponding to an age-standardized incidence rate (ASIR) of 438 and 330/100,000, respectively. Between 1990 and 2017, incident cancer cases, and, to a lesser extent, ASIRs significantly increased overall and for almost all cancer sites, but ASIRs significantly declined for lung and other tobacco-related neoplasms. In 2017, there were 101,659 cancer deaths in men (age-standardized death rate, ASDR, 158.5/100,000) and 78,918 in women (ASDR 93.9/100,000). Cancer deaths significantly increased between 1990 and 2017

Italian GBD Initiative

January 2020 – Workshop La Sapienza, Rome
Evaluation of regional GBD 2019 estimates

Italian GBD Cancer group: Cristina Bosetti, Gianfranco Alicandro, Nicola Bragazzi, Giulia Carreras, Massimo Cirillo, Emanuele Crocetti, Giovanni Damiani, Silvia Deandrea, Francesco Giusti, Andrea Farioli, Ivan Iavicoli, Silvano Gallus, Giuseppe Gorini, Carlo La Vecchia, Alessandra Lugo, Cristiano Piccinelli, Francesco Violante

Comparison of Italian GBD cancer estimates with national and regional ones

Cancer mortality – GBD vs ISTAT

	GBD_2019	ISTAT_2017	Diff	Diff (%)
All neoplasms	**194,701**	**180,085**	**14,616**	**8.1**
Stomach	12892	9407	3485	**37.1**
Colon and rectum	25059	19407	5652	**29.1**
Tracheal, bronchus, and lung	37249	33904	3345	**9.9**
Malignant skin melanoma	2060	2065	-5	-0.2
Breast	14522	12995	1527	**11.8**
Cervix	1580	494	1086	**219.8**
Uterine	1819	2695	-876	**-32.5**
Prostate	12444	7696	4748	**61.7**
Bladder	9025	6253	2772	**44.3**
Other malignant neoplasms	6036	20360	-14324	**-70.4**
Other neoplasms	2930	9531	-6601	**-69.3**

Cancer incidence – GBD vs AIRTUM

	GBD_2019	AIRTUM_2019	Diff	Diff (%)
All neoplasms	**5,256,617**	**371,200**	**4,885,417**	**1316.1**
Stomach	18868	14130	4738	**33.5**
Colon and rectum	61172	48900	12272	**25.1**
Tracheal, bronchus, and lung	42411	42690	-279	-0.7
Malignant skin melanoma	12443	12460	-17	-0.1
Breast	53927	53530	397	0.7
Cervical	3925	2630	1295	**49.2**
Prostate	45899	37200	8699	**23.4**
Bladder	29249	29580	-331	-1.1

Comparison of national and GBD cancer data

IHME

**Italy collaborator meeting: GBD 2019 results review**

GBD Cancer Team
June 5, 2020

un'immagin

- o Difference in incidence due to **changes in input sources** in 2019 (outpatients' data) and inclusion of non-malignant cancers
- o Major discrepancies in data due to **redistribution** of unspecified «**garbage**» codes (malignant neoplams without specification of cancer sites and unspecified liver cancers)
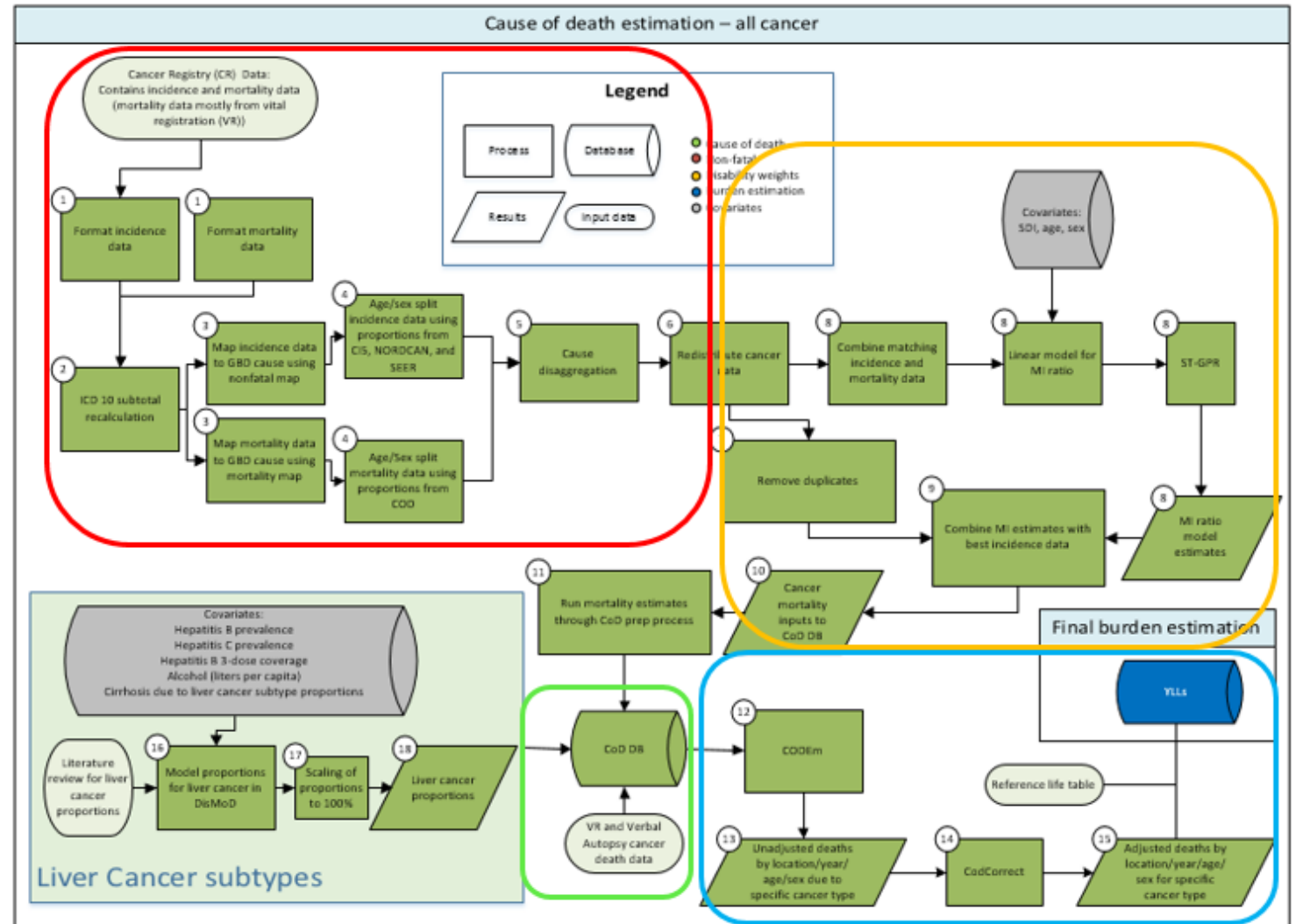
«Garbage» code redistribution

3500 unspecified liver cancers (C22.9)

→ 378 primary liver cancers
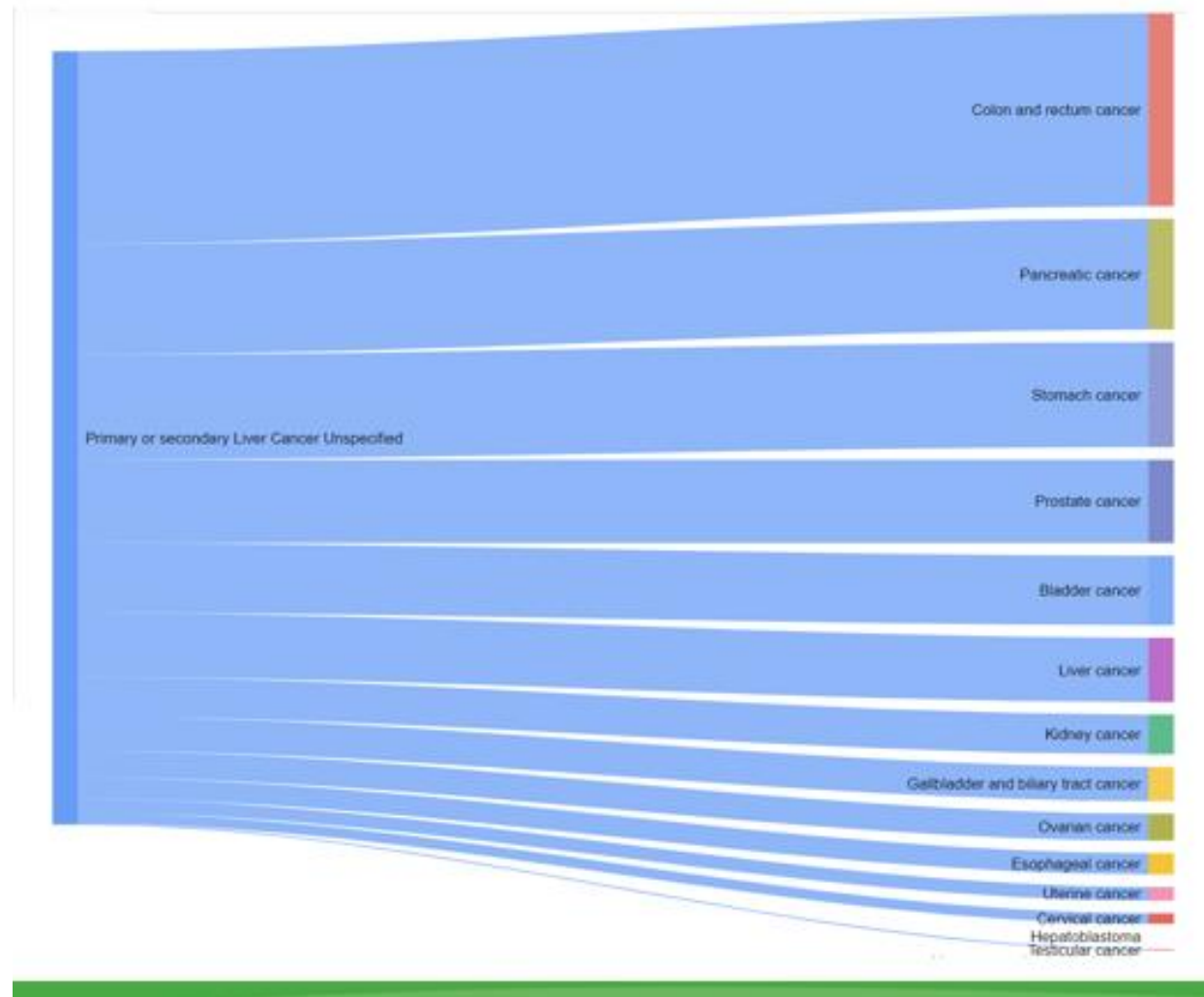
Cancer cause of death estimation overview

- Data prep
  - VR & VA   `1`
  - CR   `2`
- MIR modeling   `3`
- COD modeling   `4`

Thank you!

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