Cancer Epidemiology &Statistics in Iran

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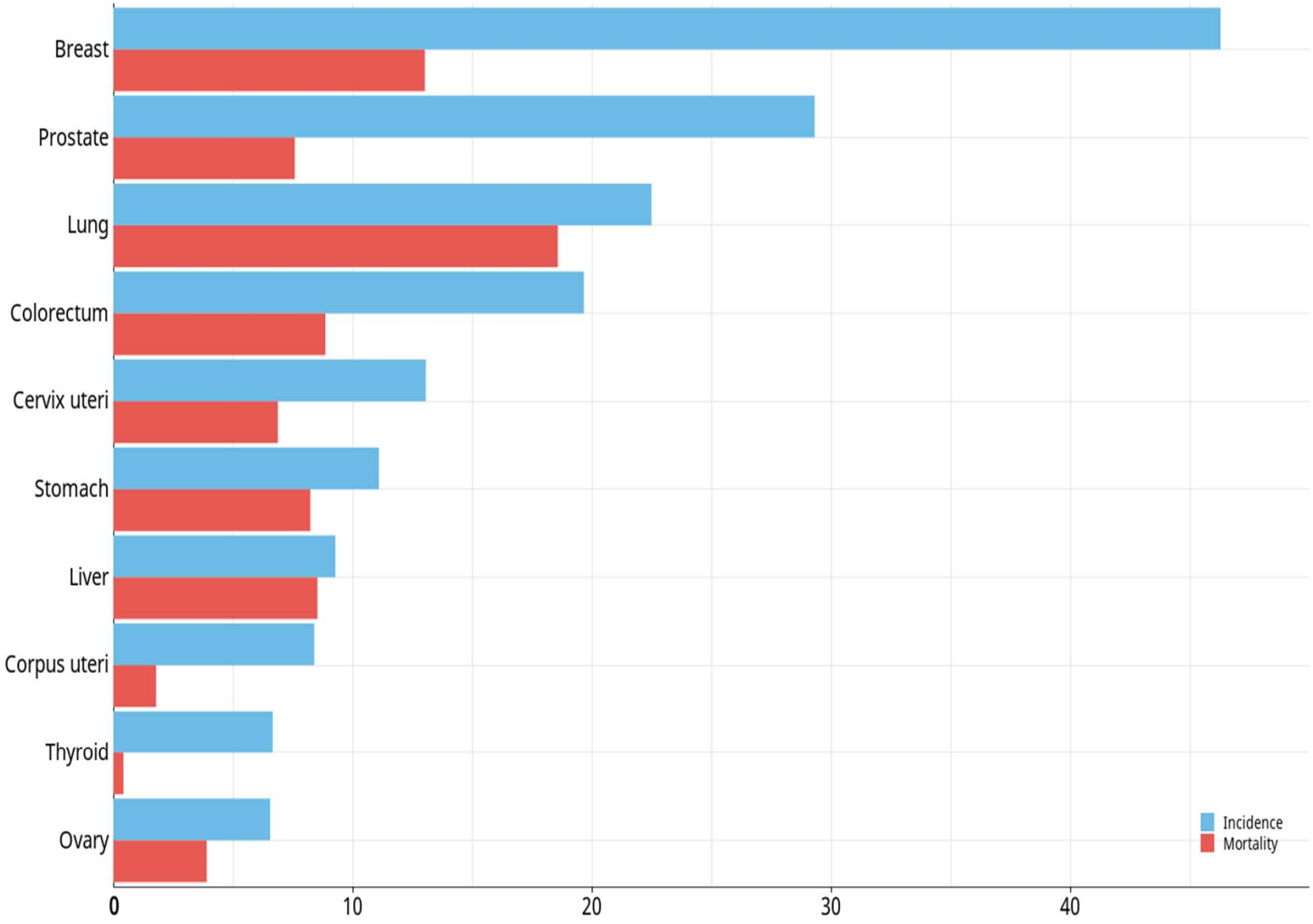
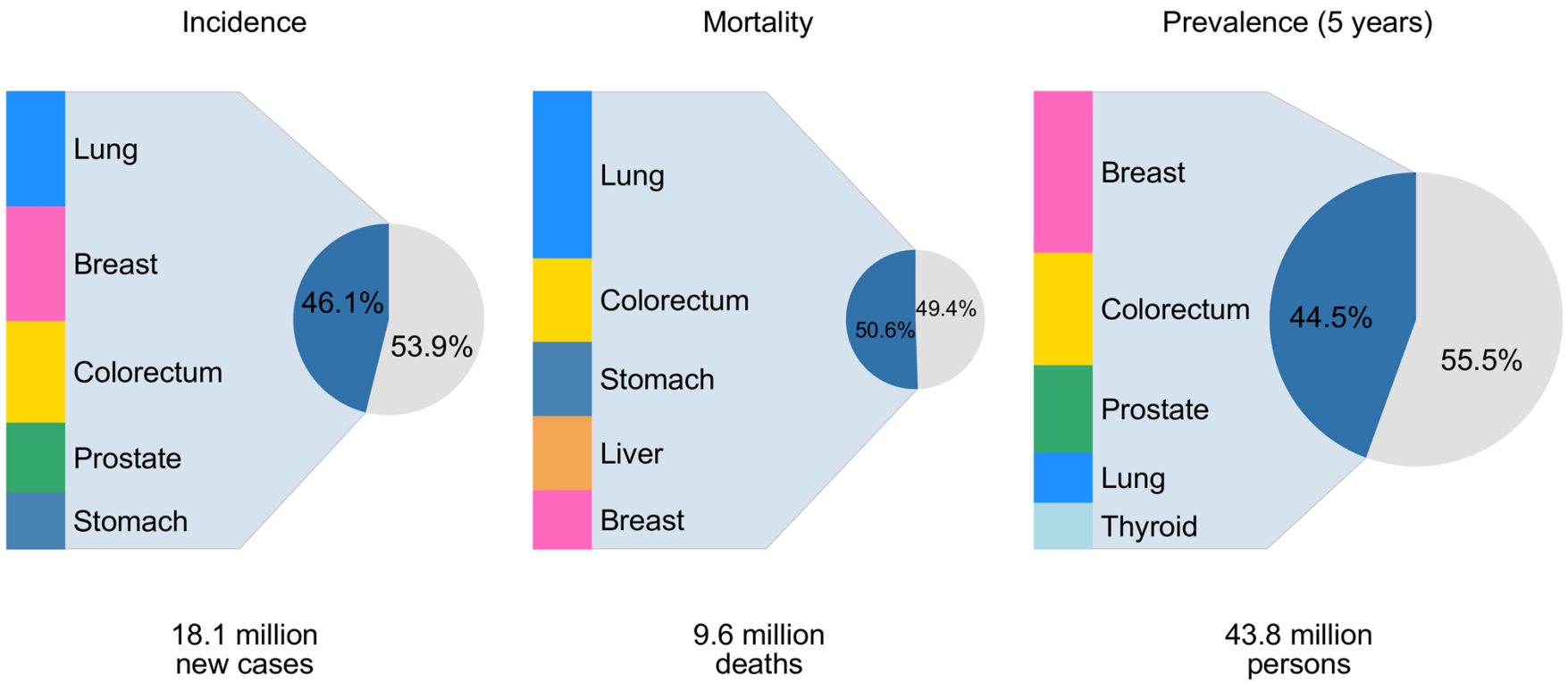
Estimated age-standardized incidence and mortality rates (World) in 2018, worldwide, both sexes, all ages



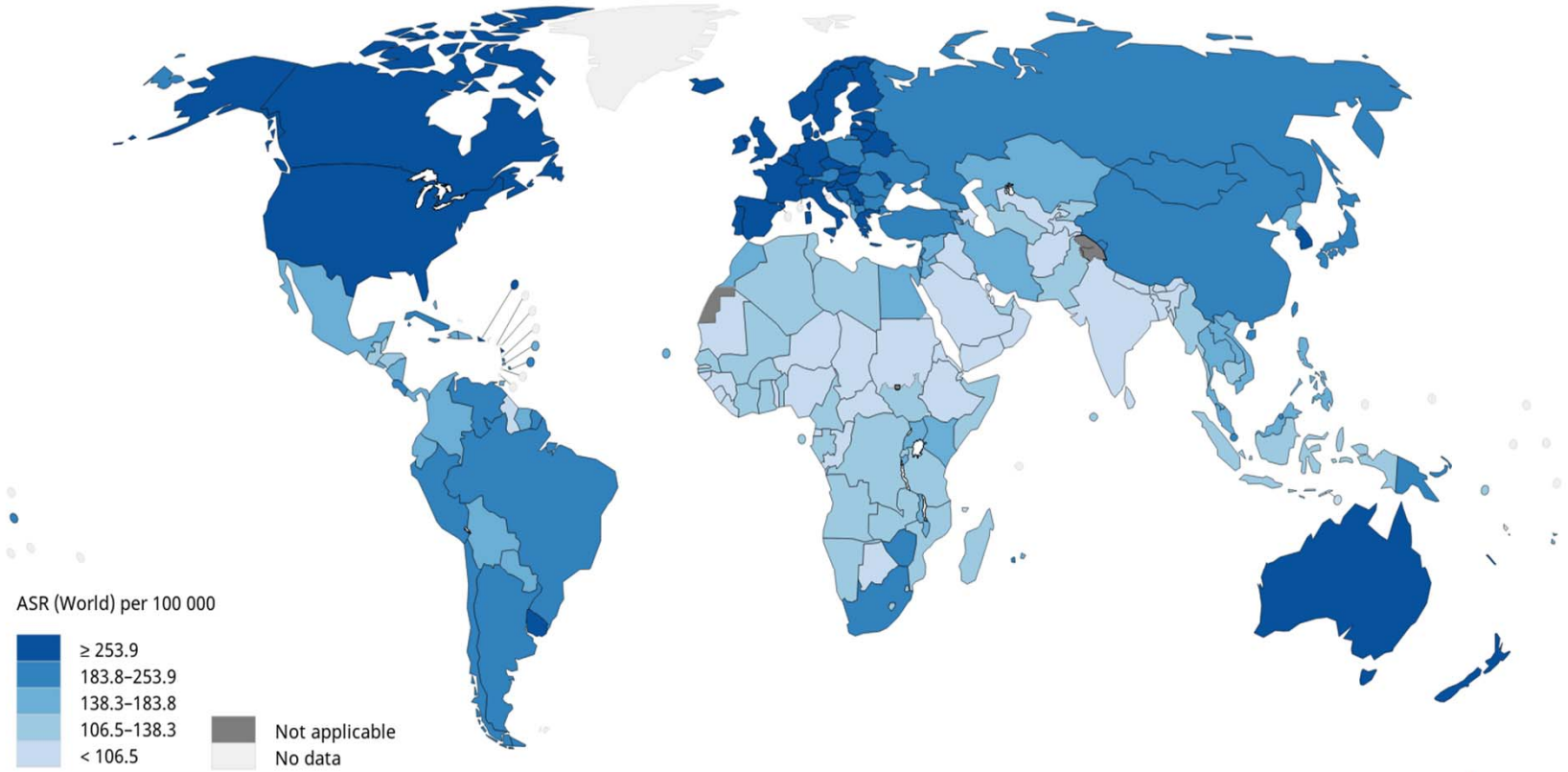
Data source: Globocan 2018
Graph production: Global Cancer Observatory (http://gco.iarc.fr)

International Agency for Research on Cancer
World Health Organization

Top five cancers: incidence, mortality and 5-year prevalence 2018



Estimated age-standardized incidence rates (World) in 2018, all cancers, both sexes, all ages



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Data source: GLOBOCAN 2018
Graph production: IARC (http://gco.iarc.fr/today)
World Health Organization

World Health Organization

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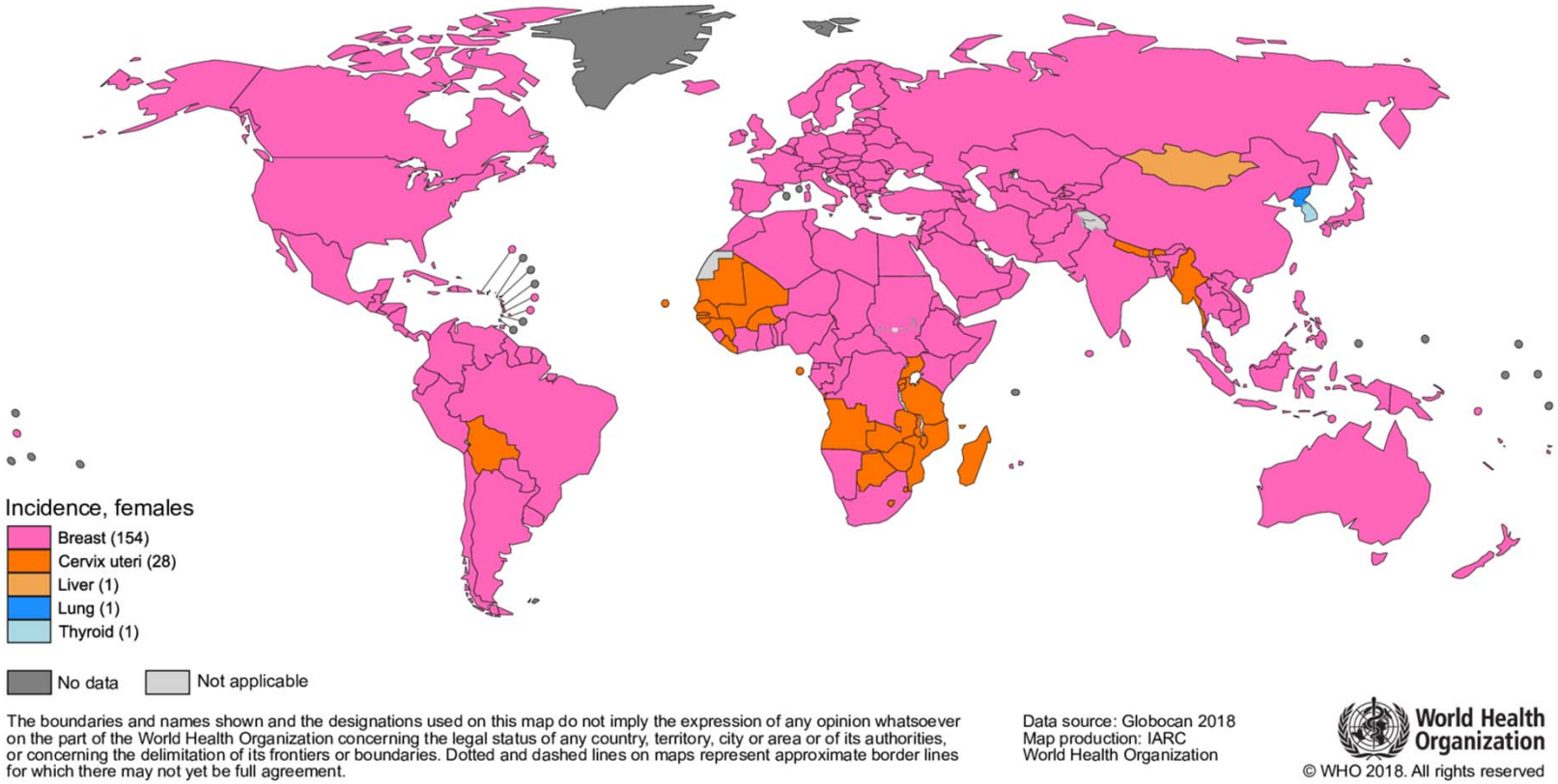
Top 5 cancer incidence by country, females 2018



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data source: Globocan 2018
Map production: IARC
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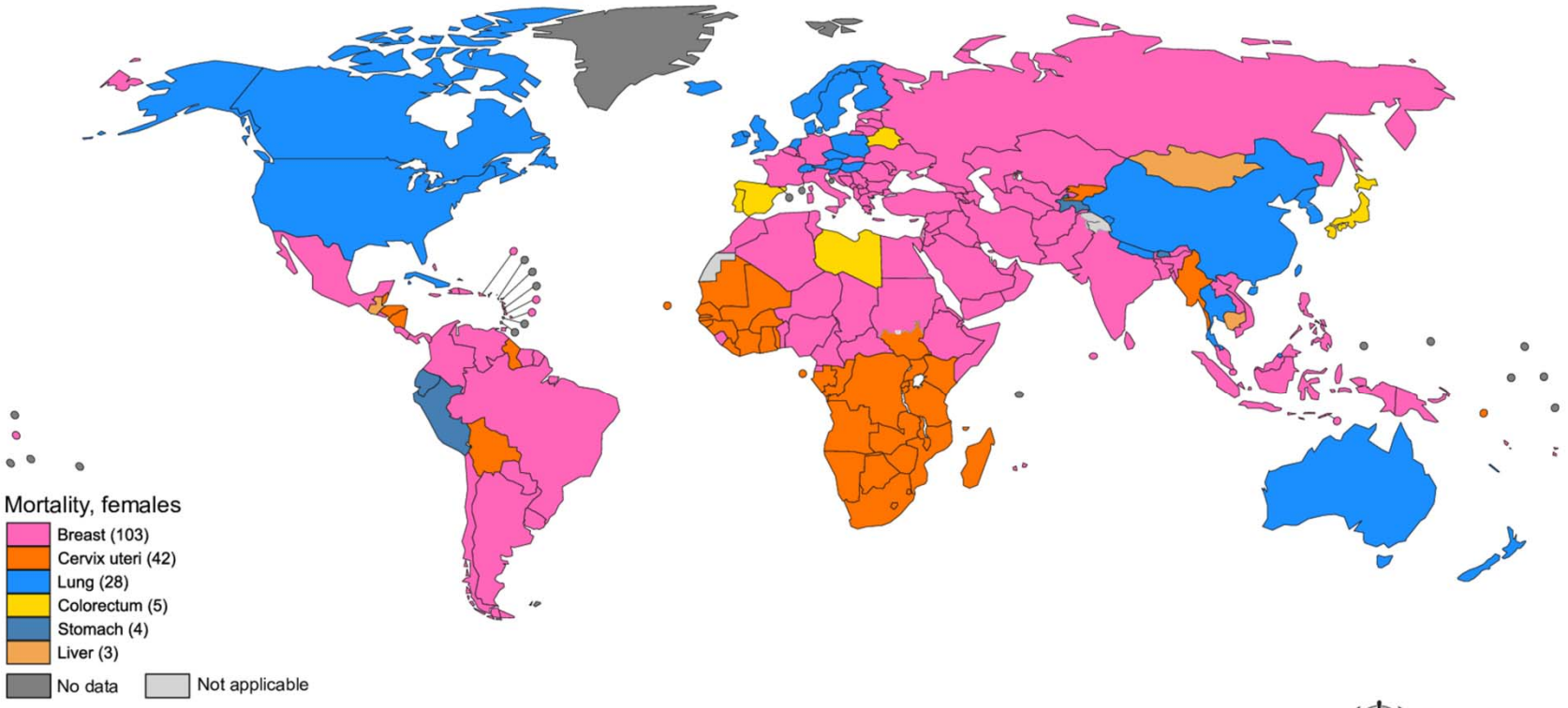
Top 6 cancer death by country, females 2018



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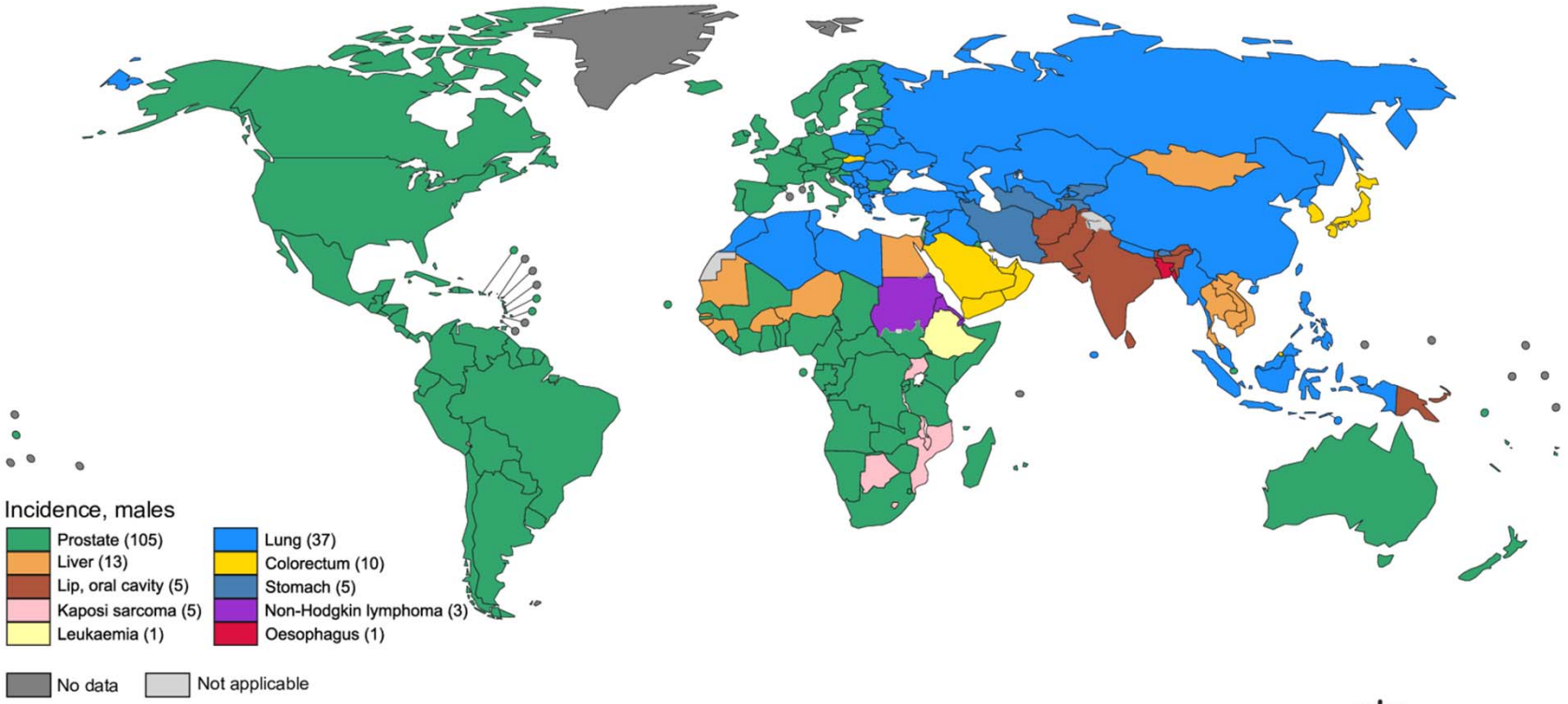
Top 10 cancer incidence by country, males 2018



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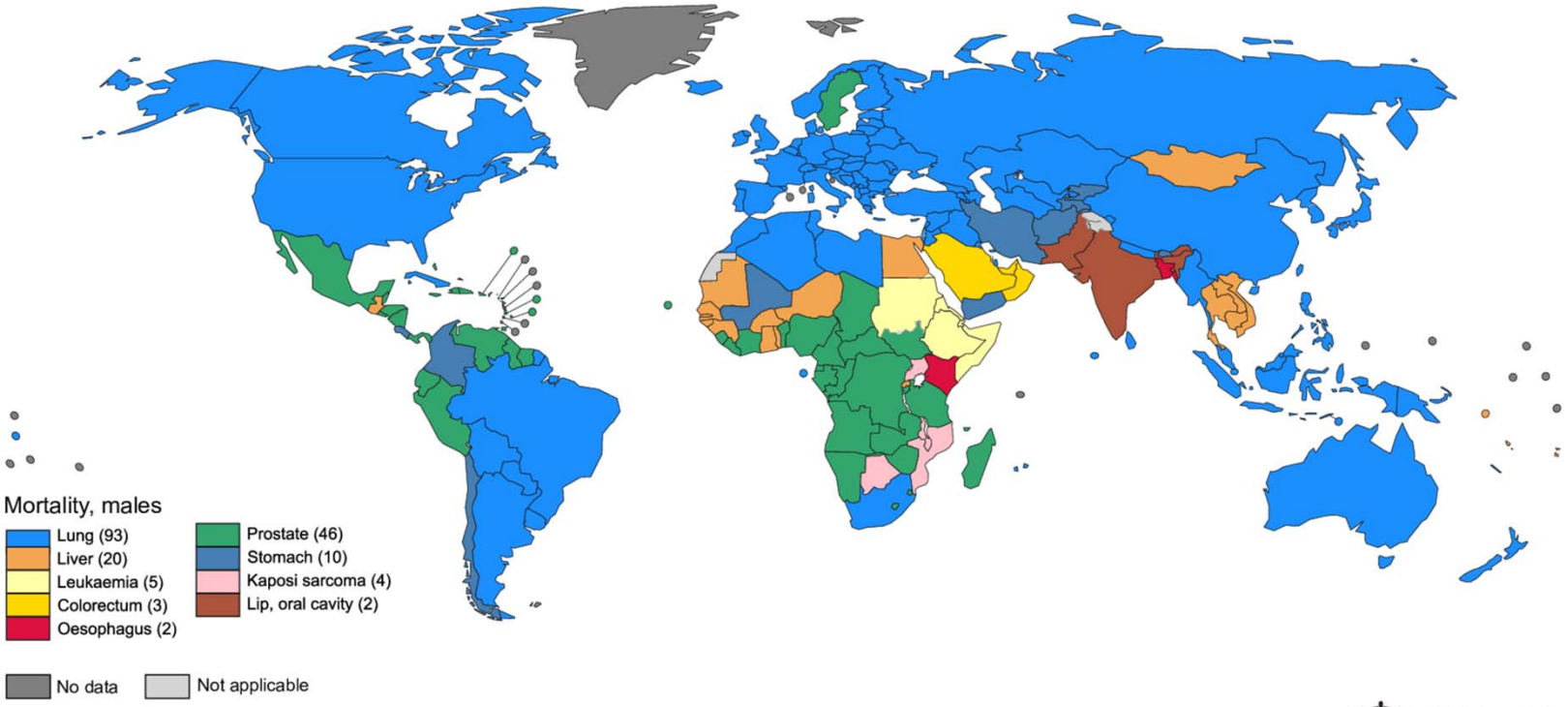
Top 10 cancer death by country, males 2018



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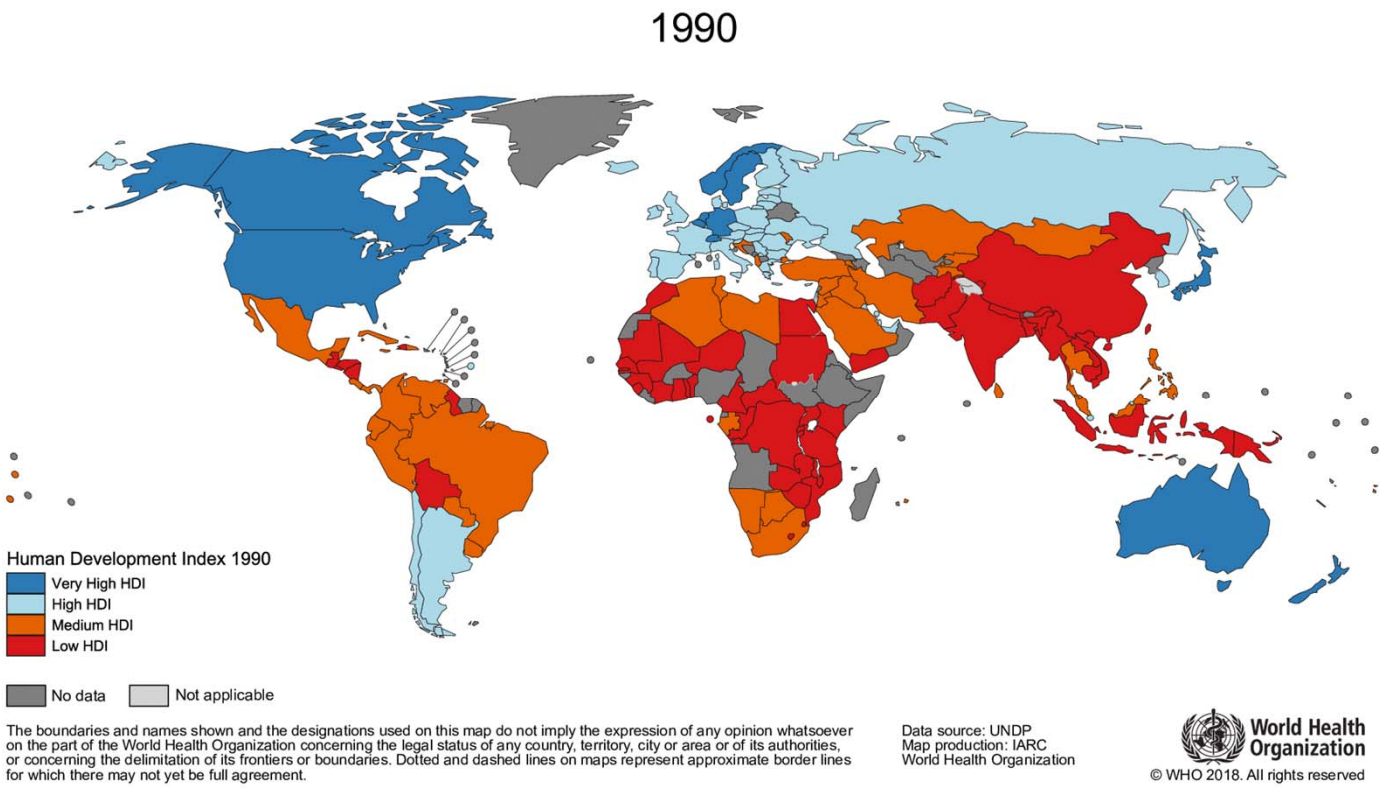
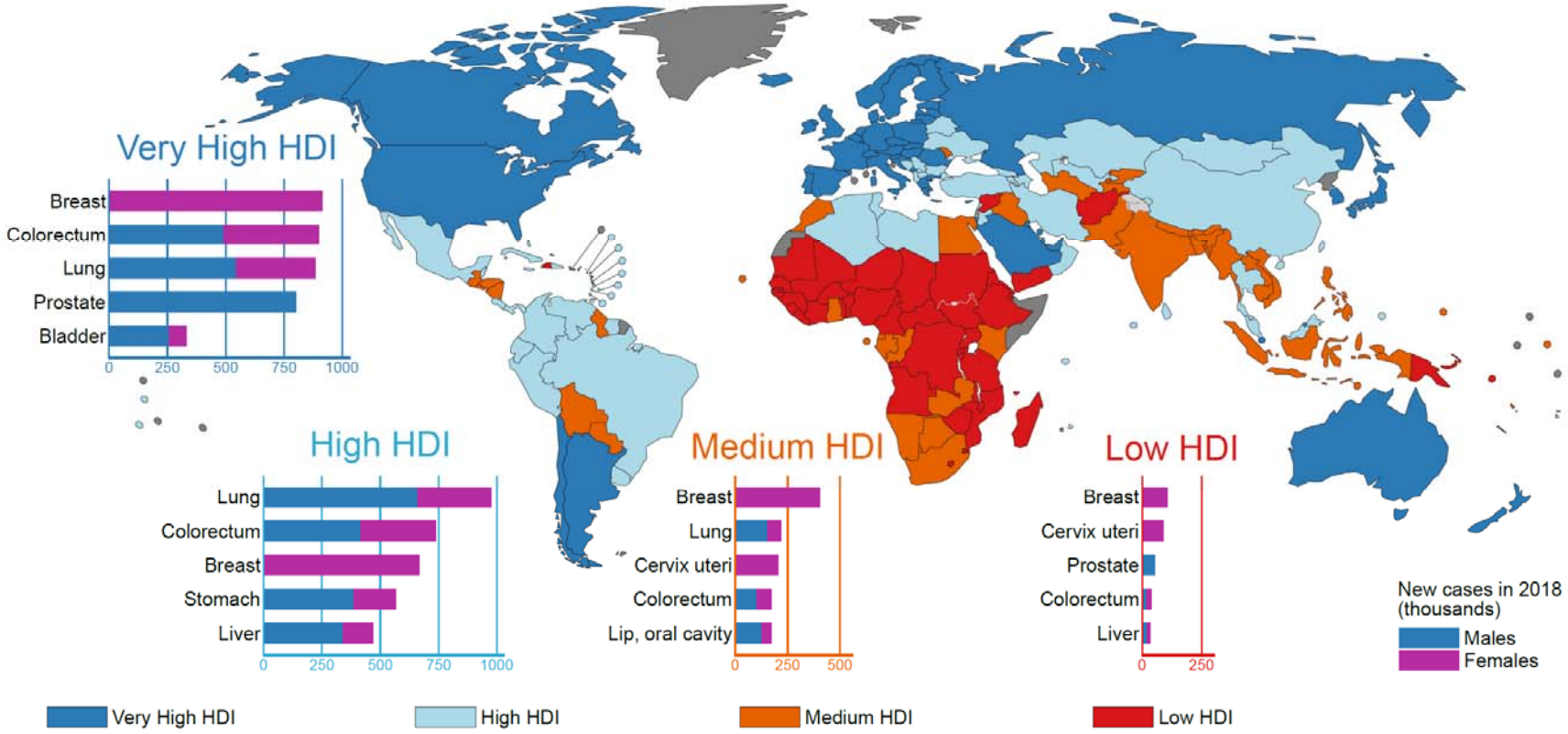
Human Development Index (HDI) 1990-2015



Cancer profile by HDI



Iran

- Geographical location: Asia
- WHO Regional Office: EMRO
- Capital: Teheran
- Population: 77.45 million
- Ethnic group
  - **Persian 51%**
  - Azeri (Turks) 24%
  - Gilaki and Mazandarani 8%
  - Kurd 7%
  - Arab 3%
  - Lur 2%
  - Balouch 2%
  - Turkmen 2%
  - other 1%
-

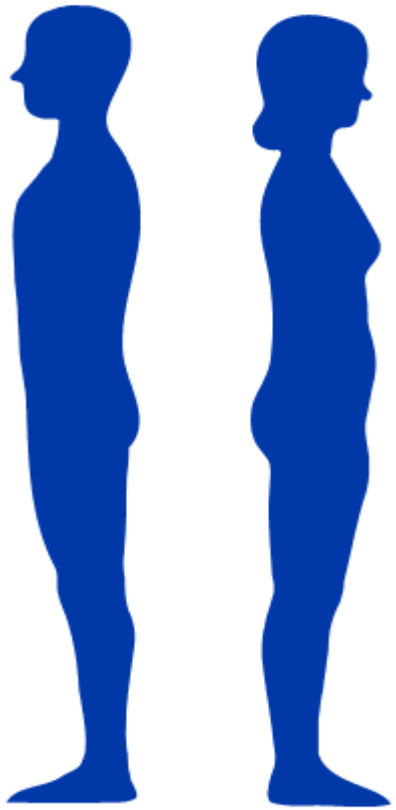
Cancer Incidence in Iran

110115
ASR=158.41

Cancer	Incidence
Stomach	21.6
Prostate	16.6
Colorectum	14.6
Bladder	13.4
Lung	12.5
Leukaemia	8.6
Oesophagus	6.6
Brain, nervous system	6.5
Liver	5.3
Non-Hodgkin lymphoma	4.6

59077
ASR=177.44

51038
ASR=141.18



Incidence	Cancer
31	Breast
11.1	Colorectum
9.8	Stomach
6.7	Thyroid
5.9	Leukaemia
5.5	Lung
5.2	Oesophagus
5.2	Brain, nervous system
4.3	Ovary
4.1	Liver

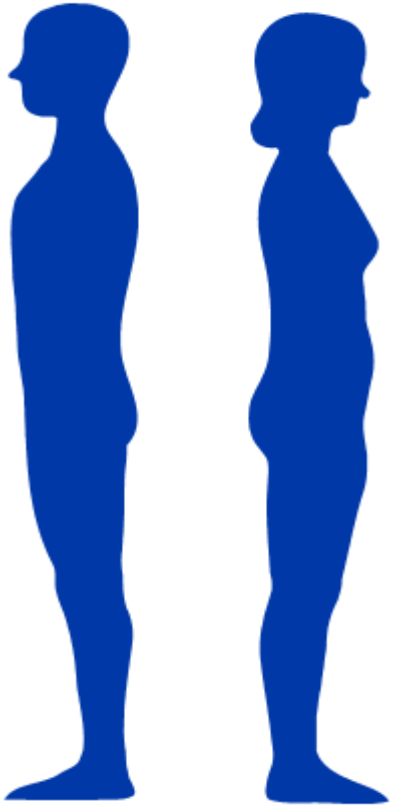
Cancer Mortality in Iran

55785
ASMR=74.5

32809
ASMR=86.4

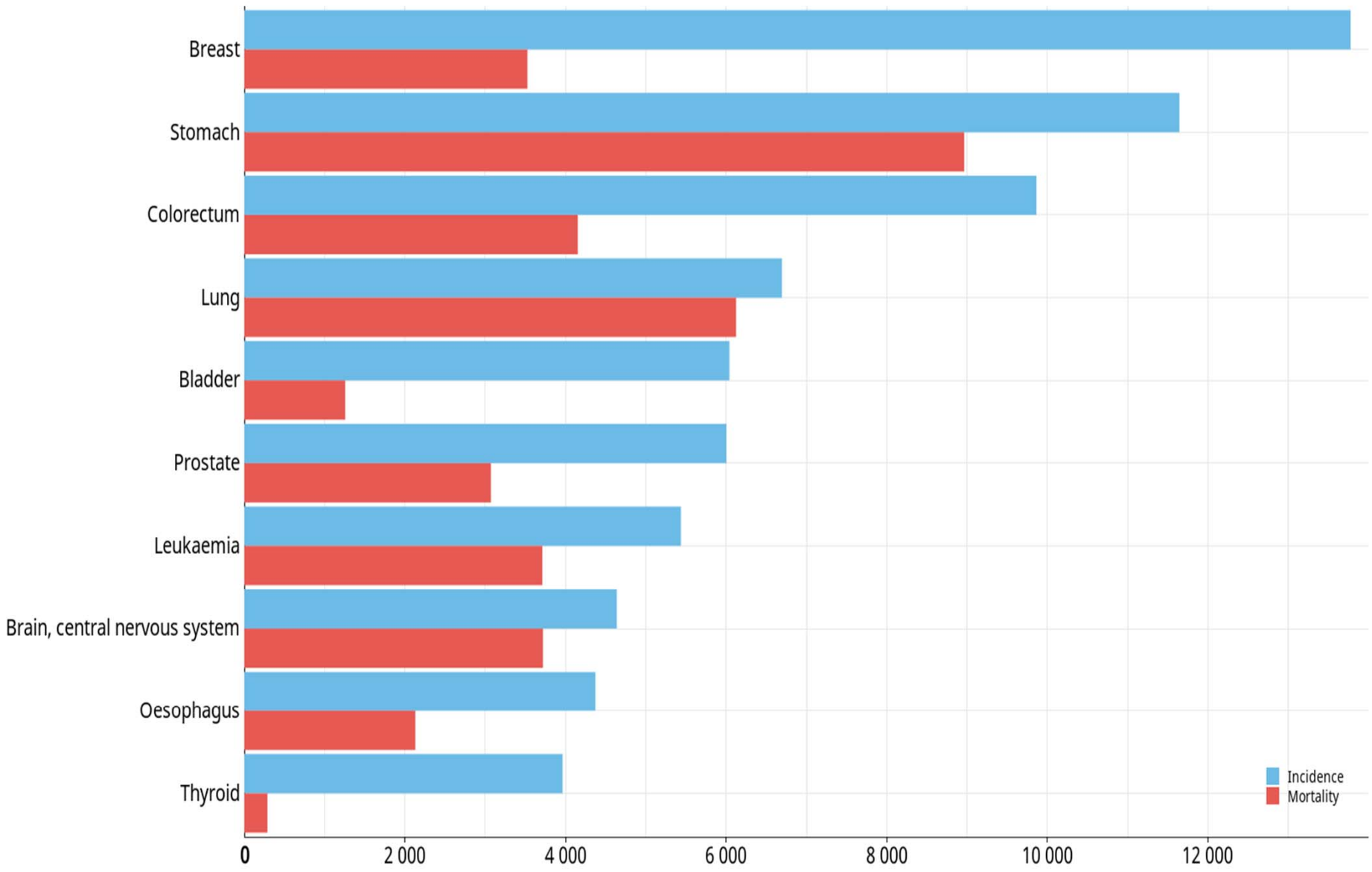
22976
ASMR=62.0

Cancer	**Mortality**
Stomach	15.9
Lung	11.3
Prostate	8.3
Colorectum	6.3
Leukaemia	5.9
Brain, central nervous system	5.3
Liver	5.2
Pancreas	3.5
Oesophagus	3.3
Bladder	2.7



Mortality	Cancer
8.7	Breast
8.5	Stomach
5.2	Lung
4.8	Colorectum
4.2	Brain, central nervous system
4.1	Liver
3.7	Leukaemia
2.5	Oesophagus
2.4	Pancreas
2.3	Ovary

Estimated number of incident cases and deaths Iran, Islamic Republic of, both sexes, all ages



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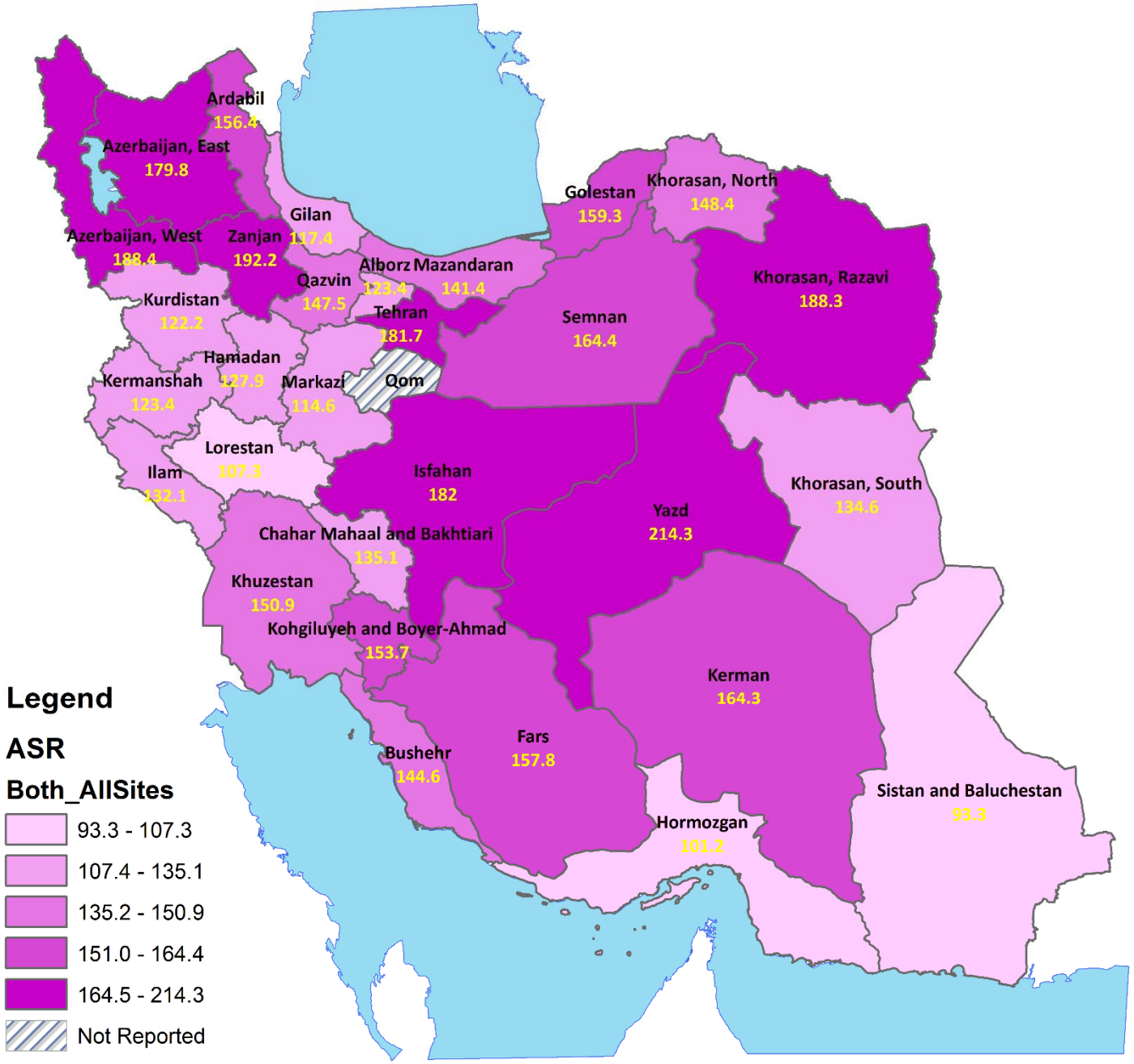
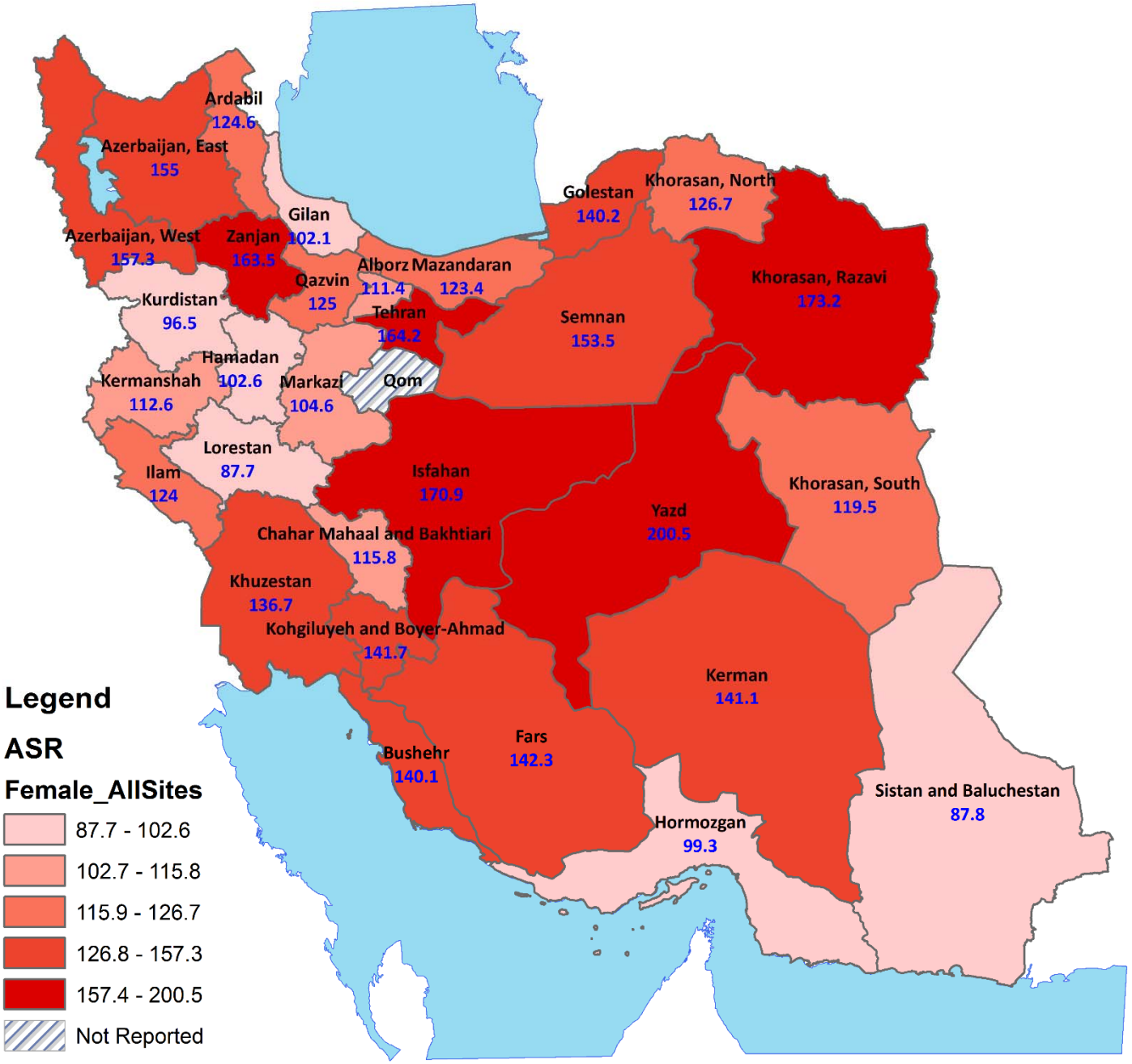
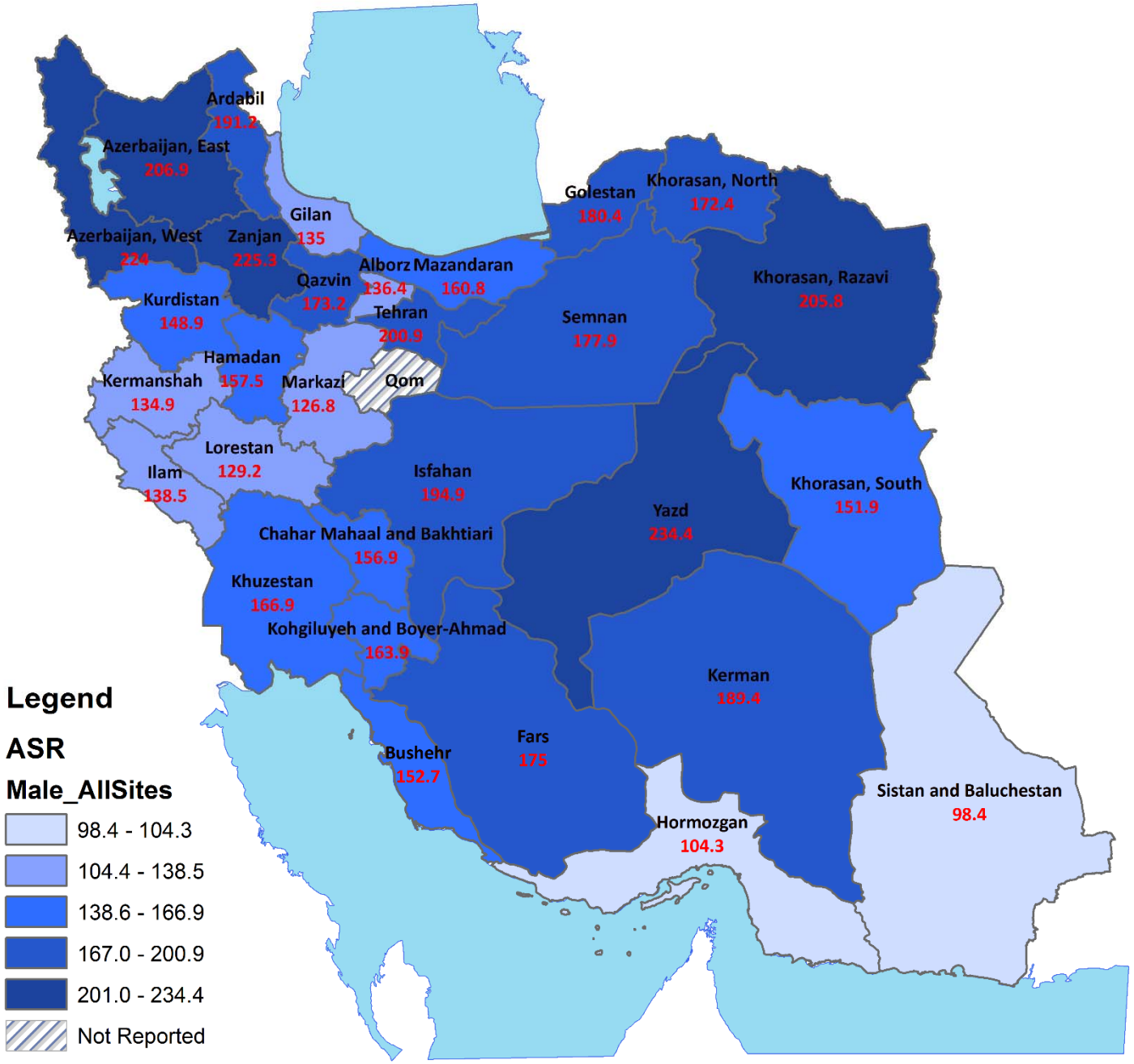
Graph production: Global Cancer Observatory (http://gco.iarc.fr)

International Agency for Research on Cancer
World Health Organization


Ardabil
156.4
Azerbaijan, East
179.8
Azerbaijan, West
188.4
Zanjan
192.2
Gilan
117.4
Golestan
159.3
Khorasan, North
148.4
Khorasan, Razavi
188.3
Alborz Mazandaran
123.4 141.4
Qazvin
147.5
Tehran
181.7
Semnan
164.4
Kurdistan
122.2
Hamadan
127.9
Markazi
114.6
Qom
Kermanshah
123.4
Lorestan
107.3
Ilam
132.1
Isfahan
182
Yazd
214.3
Khorasan, South
134.6
Chahar Mahaal and Bakhtiari
135.1
Khuzestan
150.9
Kohgiluyeh and Boyer-Ahmad
153.7
Kerman
164.3
Bushehr
144.6
Fars
157.8
Hormozgan
101.2
Sistan and Baluchestan
93.3
Legend
ASR
Both_AllSites
93.3 - 107.3
107.4 - 135.1
135.2 - 150.9
151.0 - 164.4
164.5 - 214.3
Not Reported


Ardabil
124.6
Azerbaijan, East
155
Azerbaijan, West
157.3
Zanjan
163.5
Gilan
102.1
Golestan
140.2
Khorasan, North
126.7
Alborz
111.4
Mazandaran
123.4
Qazvin
125
Tehran
164.2
Semnan
153.5
Khorasan, Razavi
173.2
Kurdistan
96.5
Hamadan
102.6
Kermanshah
112.6
Markazi
104.6
Qom
Lorestan
87.7
Ilam
124
Isfahan
170.9
Yazd
200.5
Khorasan, South
119.5
Chahar Mahaal and Bakhtiari
115.8
Khuzestan
136.7
Kohgiluyeh and Boyer-Ahmad
141.7
Kerman
141.1
Bushehr
140.1
Fars
142.3
Hormozgan
99.3
Sistan and Baluchestan
87.8
Legend
ASR
Female_AllSites
87.7 - 102.6
102.7 - 115.8
115.9 - 126.7
126.8 - 157.3
157.4 - 200.5
Not Reported


Ardabil
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Azerbaijan, East
206.9
Azerbaijan, West
224
Zanjan
225.3
Gilan
135
Golestan
180.4
Khorasan, North
172.4
Khorasan, Razavi
205.8
Alborz
136.4
Mazandaran
160.8
Qazvin
173.2
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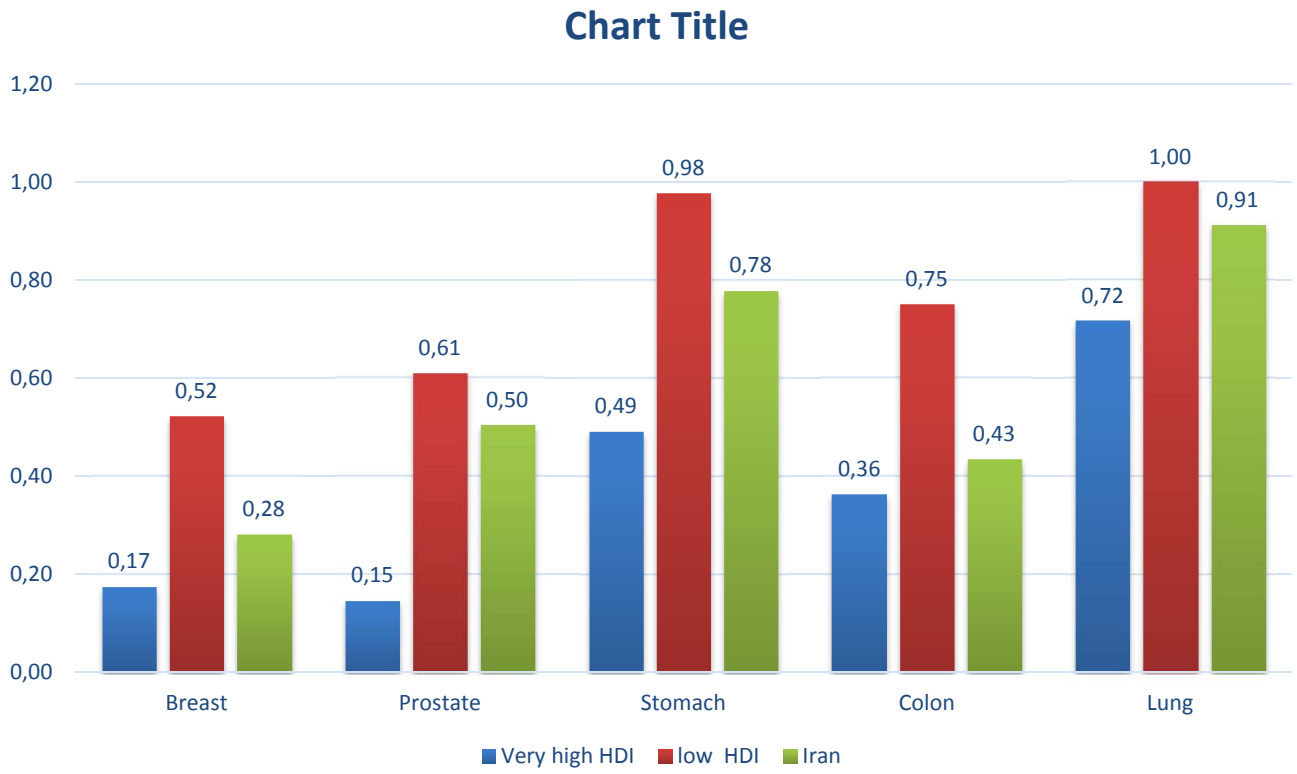
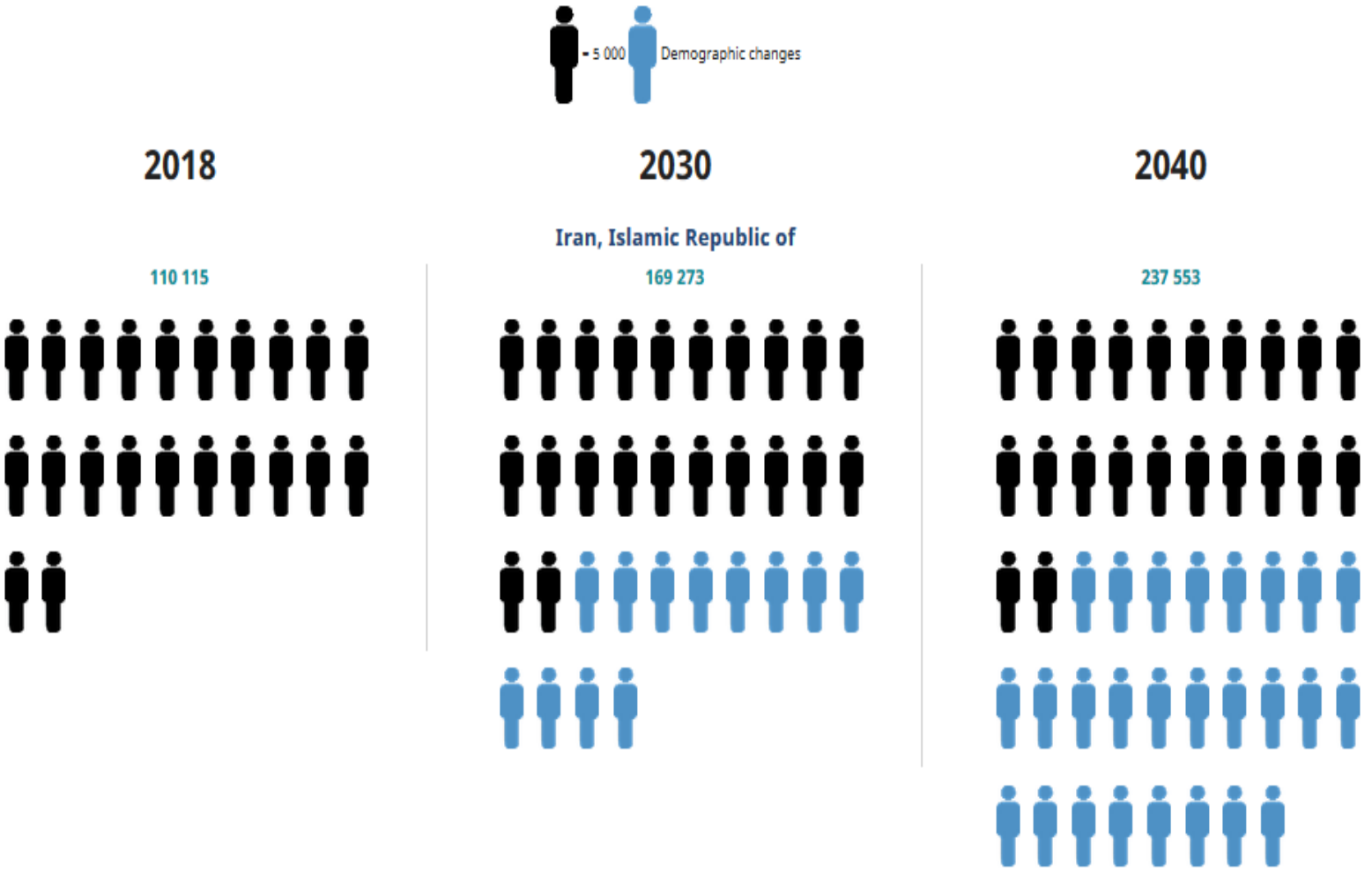
175
Hormozgan
104.3
Sistan and Baluchestan
98.4
Legend
ASR
Male_AllSites
98.4 - 104.3
104.4 - 138.5
138.6 - 166.9
167.0 - 200.9
201.0 - 234.4
Not Reported

ASMR/ASR ratio in the Very High HDI, Low HDI and Iran




- 5 000
Demographic changes
2018
2030
2040
Iran, Islamic Republic of
110 115
169 273
237 553

What causes cancer? Risk factors

Environmental and external factors:

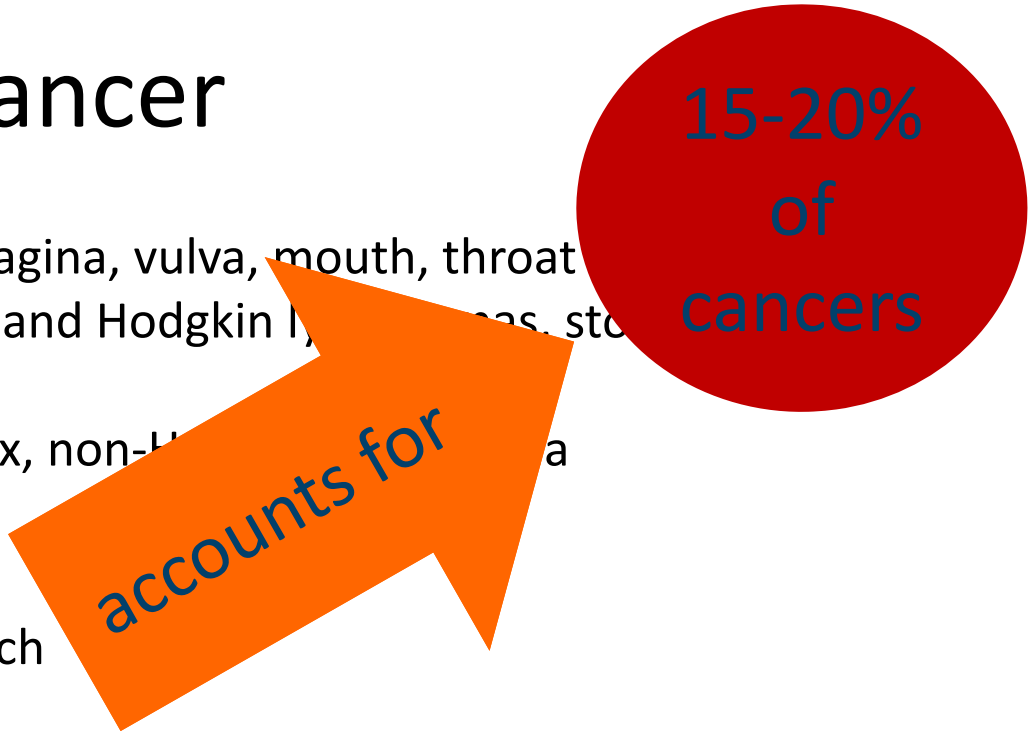
- Lifestyle factors
  - Diet, alcohol, tobacco
  - Physical inactivity
  - Overweight / obesity
- Naturally occurring exposures
  - Infectious factors: 10-25%
- Environmental & chemical factors: 4-19%
  - Medical treatments
  - Workplace exposures
  - Household exposures
  - Pollution

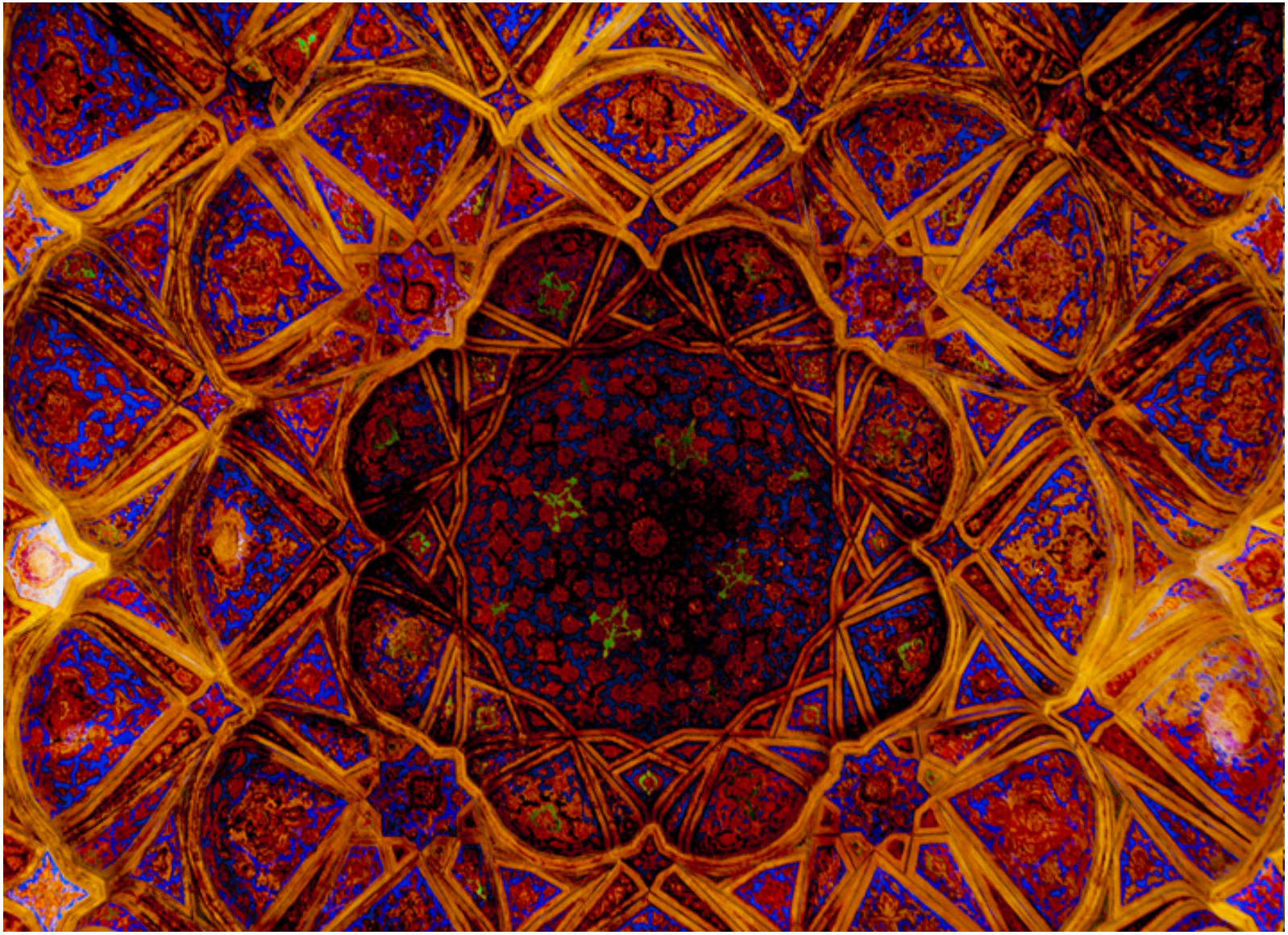
Genetic factors: 5-10%

- Inherited genetic mutations

Infectious agents that can cause cancer

- Viruses
  - HPV: cervix, penis, anus, vagina, vulva, mouth, throat
  - EBV: nasopharynx, Burkitt and Hodgkin l
  - HBV & HCV: liver
  - HIV: Kaposi sarcoma, cervix, non-H
- Bacteria
  - *Helicobacter pylori*: stomach
- Parasites
  - *Opisthorchis viverrini* & *Chlonorchis sinensis*: bile ducts



30-50% of all cancers can be prevented by modifying or avoiding key risk factors

- Tobacco use (cigarettes & smokeless tobacco)
- Being overweight or obese
- Diet with low fruit and vegetables intake
- Lack of physical activity
- Alcohol consumption
- Sexually transmitted infections (HPV, HIV)
- Other carcinogenic infections (Hepatitis B or C, *Helicobacter pylori*)
- Ionizing and ultraviolet radiation
- Urban pollution
- Indoor smoke from household use of solid fuels