



Risk Factors for Cancer (Age, Heredity, Geographic, and Environmental).

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Objectives:



1

Explain the effect of heredity and age on cancer incidence.



2

Discuss the environmental and geographical factors effect on cancer incidence.

3

Conclusion

4

References

Heredity:



The evidence now indicates that for many types of cancer, including the most common forms, there exist not only environmental influences but also hereditary predispositions. Hereditary forms of cancer can be divided into three categories based on their pattern of inheritance.

Hereditary forms of cancer:



➤ **Autosomal dominant cancer syndromes:**



**Childhood
retinoblastoma**

Hereditary forms of cancer:



➤ **Autosomal recessive syndromes of defective DNA repair:**

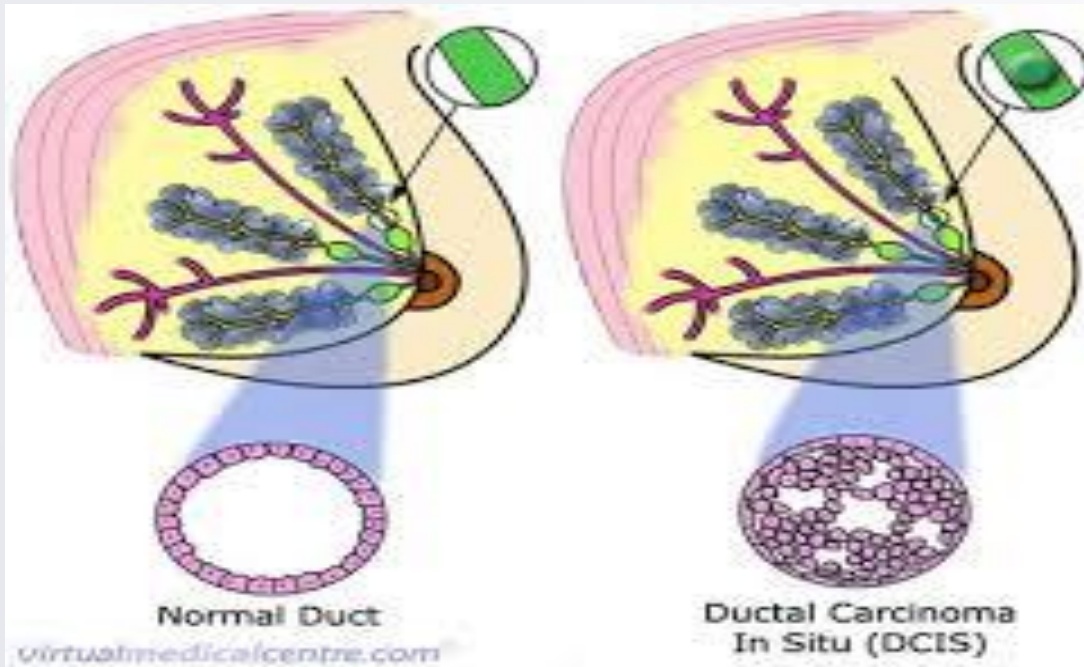


**Xeroderma
pigmentosum**

Hereditary forms of cancer:



➤ **Familial cancers of uncertain inheritance:**



Breast cancer

Age

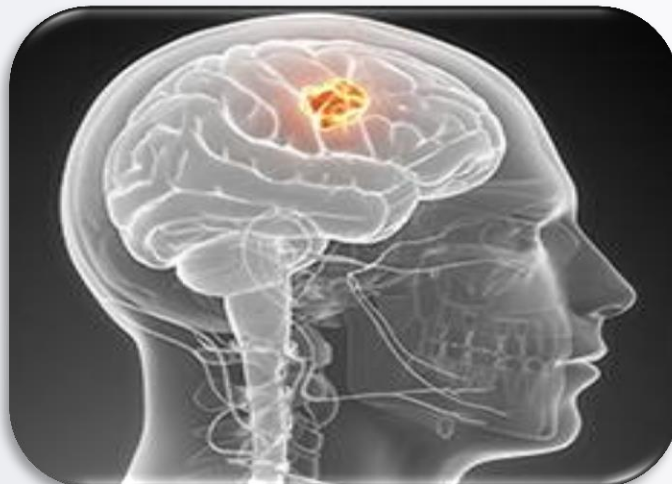
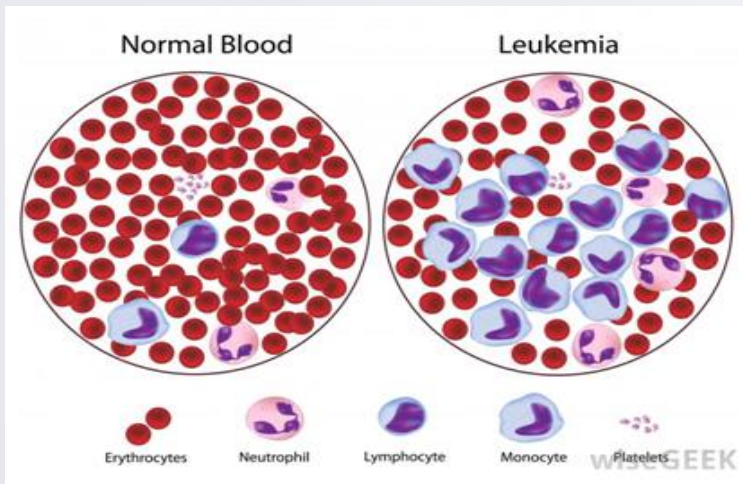


- ❑ In general, the frequency of cancer increases with age.**
- ❑ Most cancer deaths occur between ages 55 and 75; the rate declines, along with the population base, after age 75.**
- ❑ The rising incidence with age may be explained by the accumulation of somatic mutations associated with the emergence of malignant neoplasms.**
- ❑ The decline in immune competence that accompanies aging also may be a factor.**



❑ **Cancer causes slightly more than 10% of all deaths among children younger than 15 years .**

❑ **The major lethal cancers in children are leukemia's, tumors of the central nervous system, lymphomas, and soft tissue and bone sarcomas.**



Tumors of the central nervous system

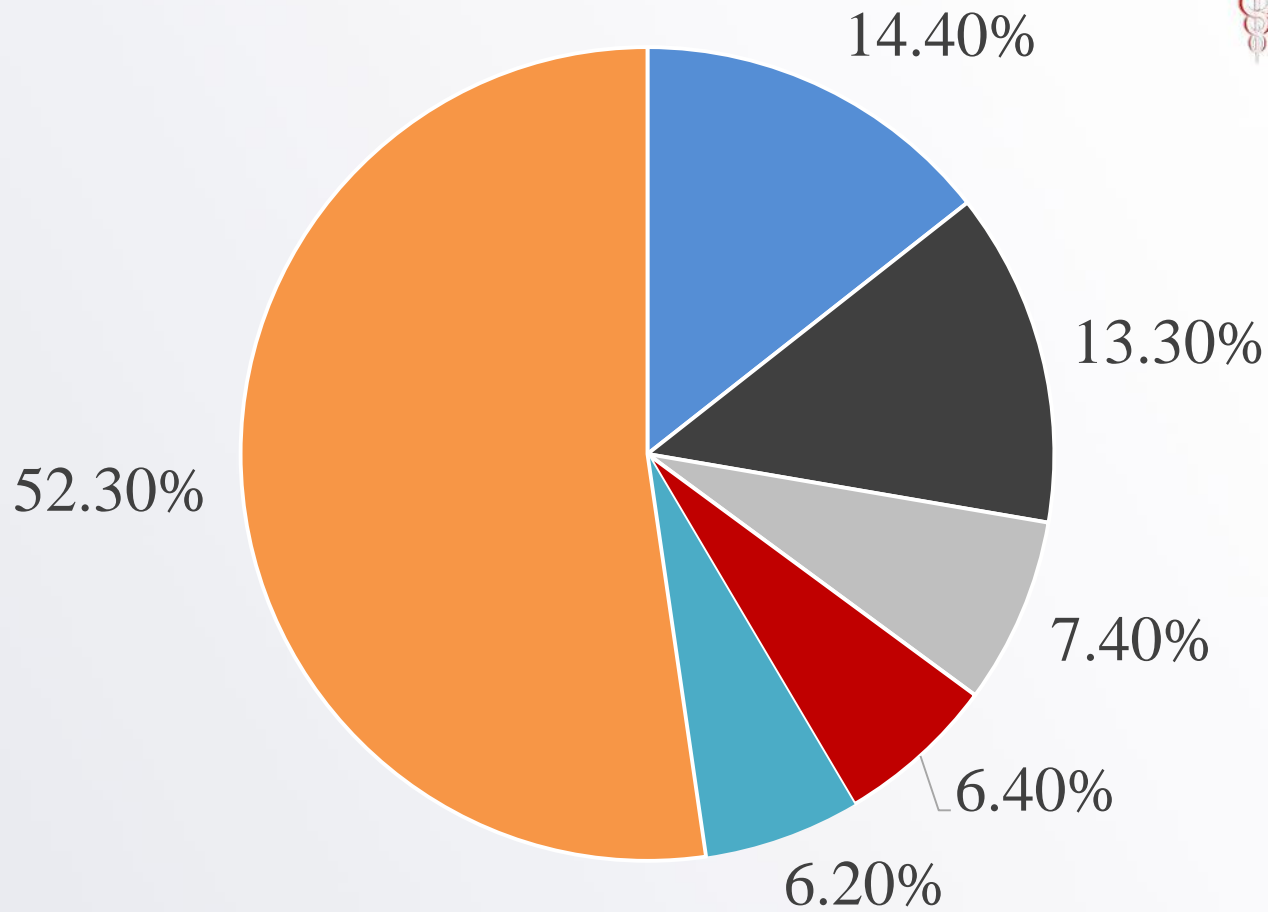


Factors Affecting Cancer Incidence

Females



- Breast
- Colorectum
- Lymphomas, multiple myeloma
- Leukaemia
- Cervix uteri
- Other



(Females)



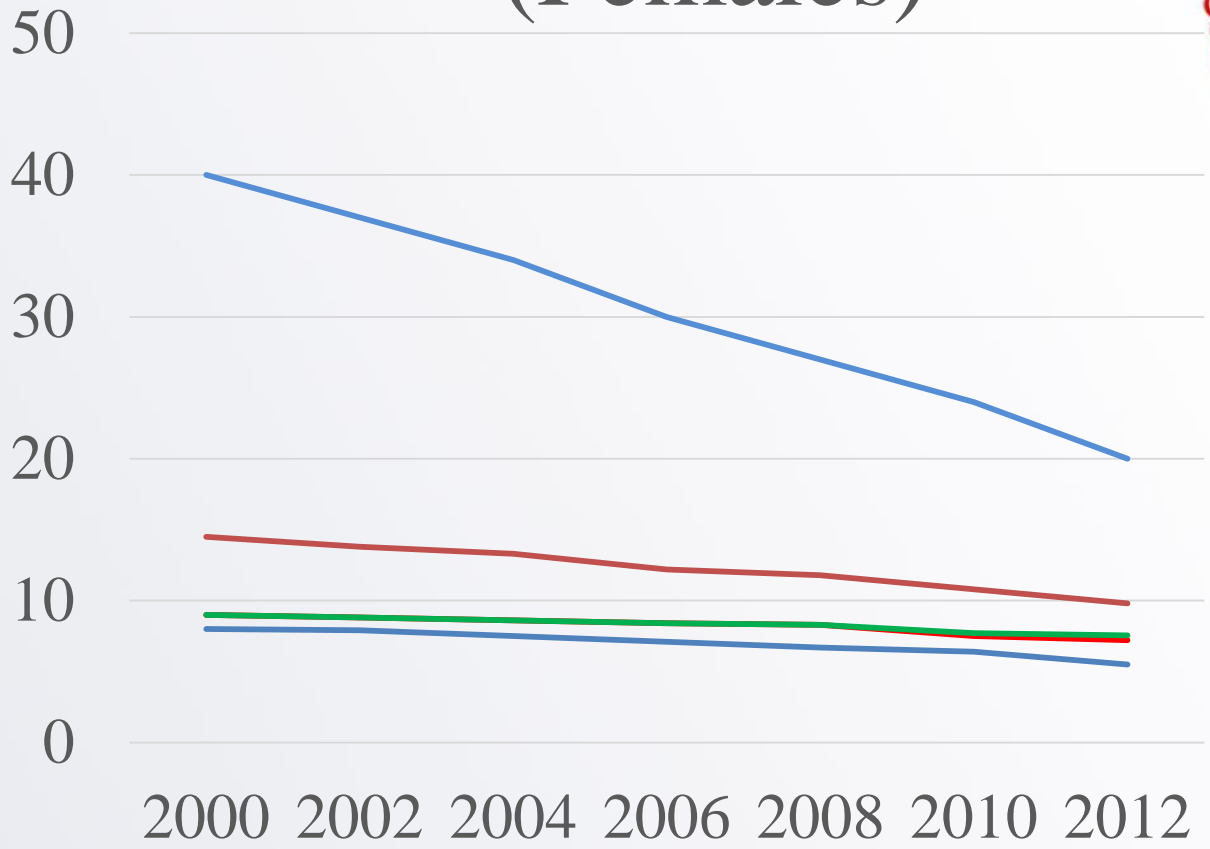
— Leukaemia

— Colorectum

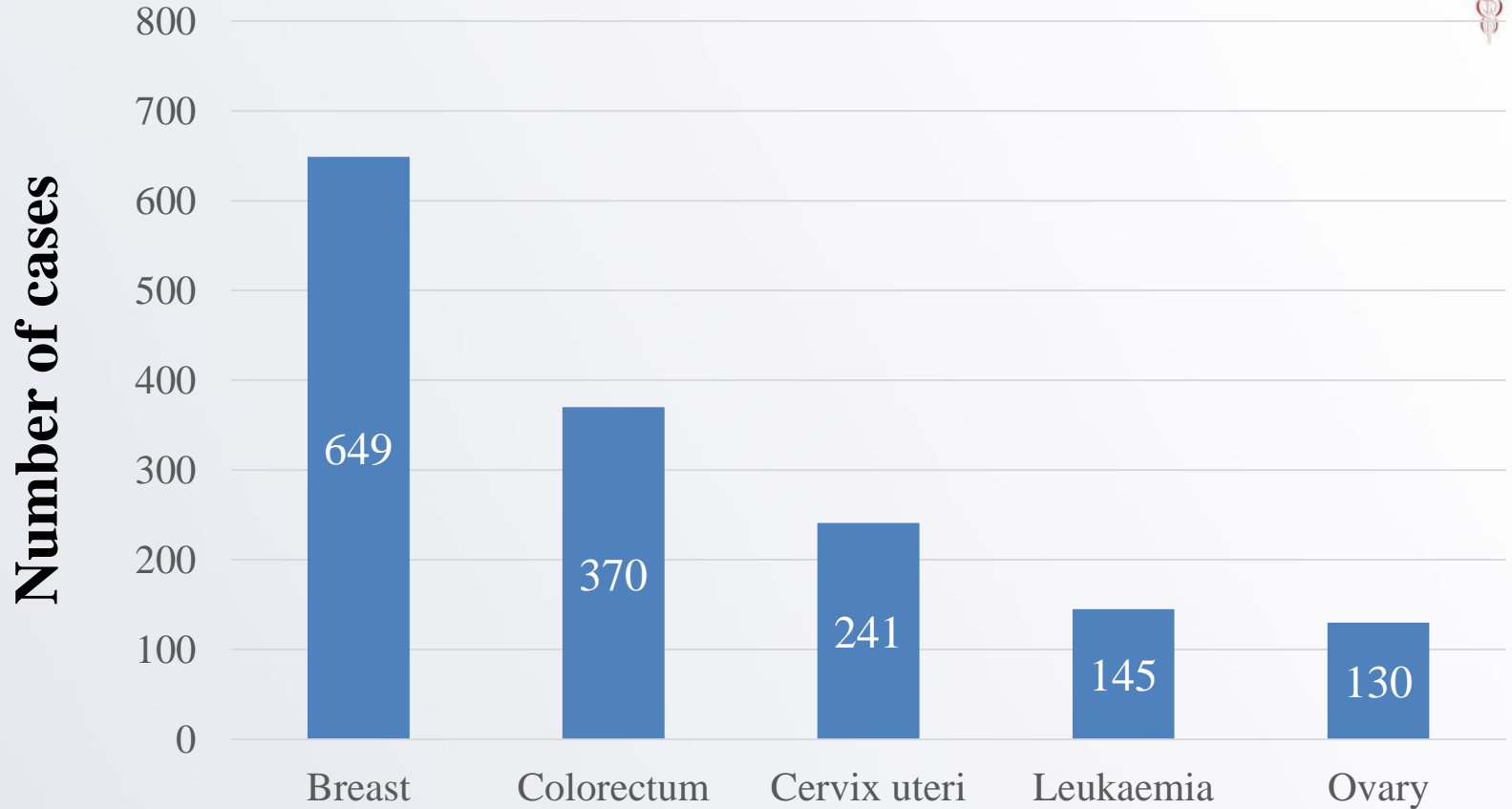
— Breast

— Cervix uteri

— Lymphomas,
multiple
myeloma2



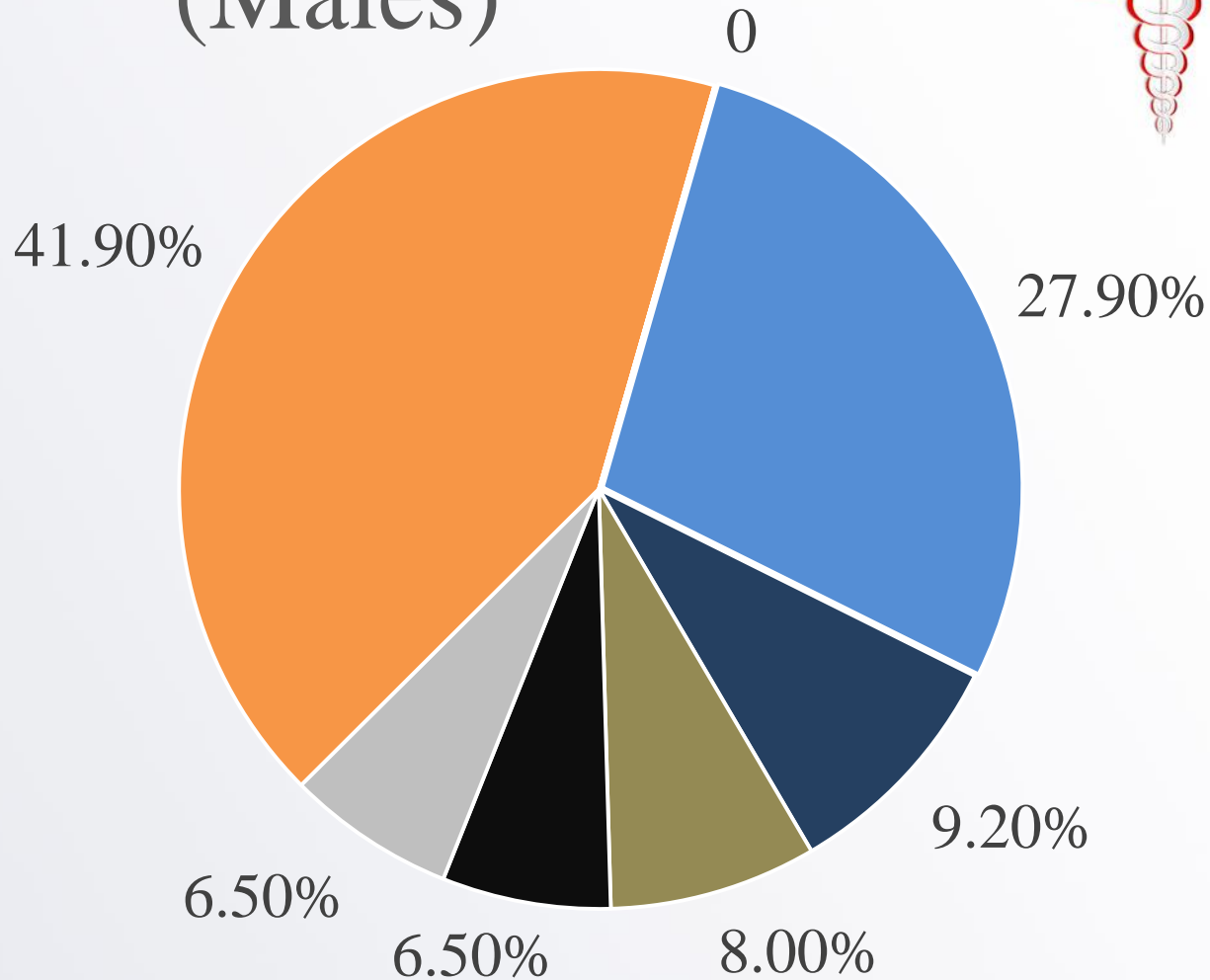
(Females)



(Males)



- Trachea bronchus lung
- Colorectum
- Prostate
- Pancreas
- Lymphomas, multiple myeloma
- Other



(Males)



Trachea,
bronchus, lung

Prostate

Colorectum

Lymphomas,
multiple
myeloma

Pancreas

50

40

30

20

10

0

2000

2002

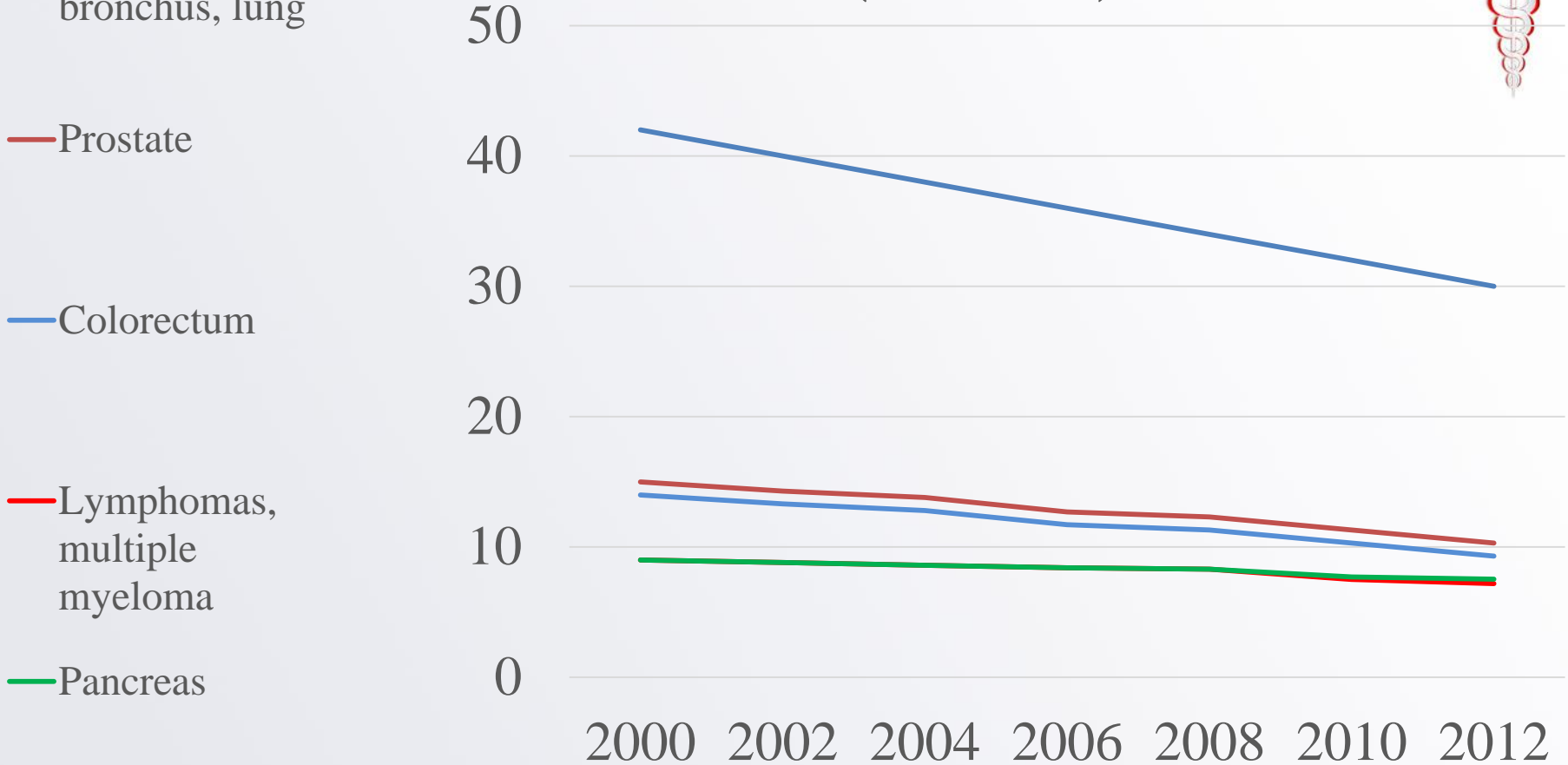
2004

2006

2008

2010

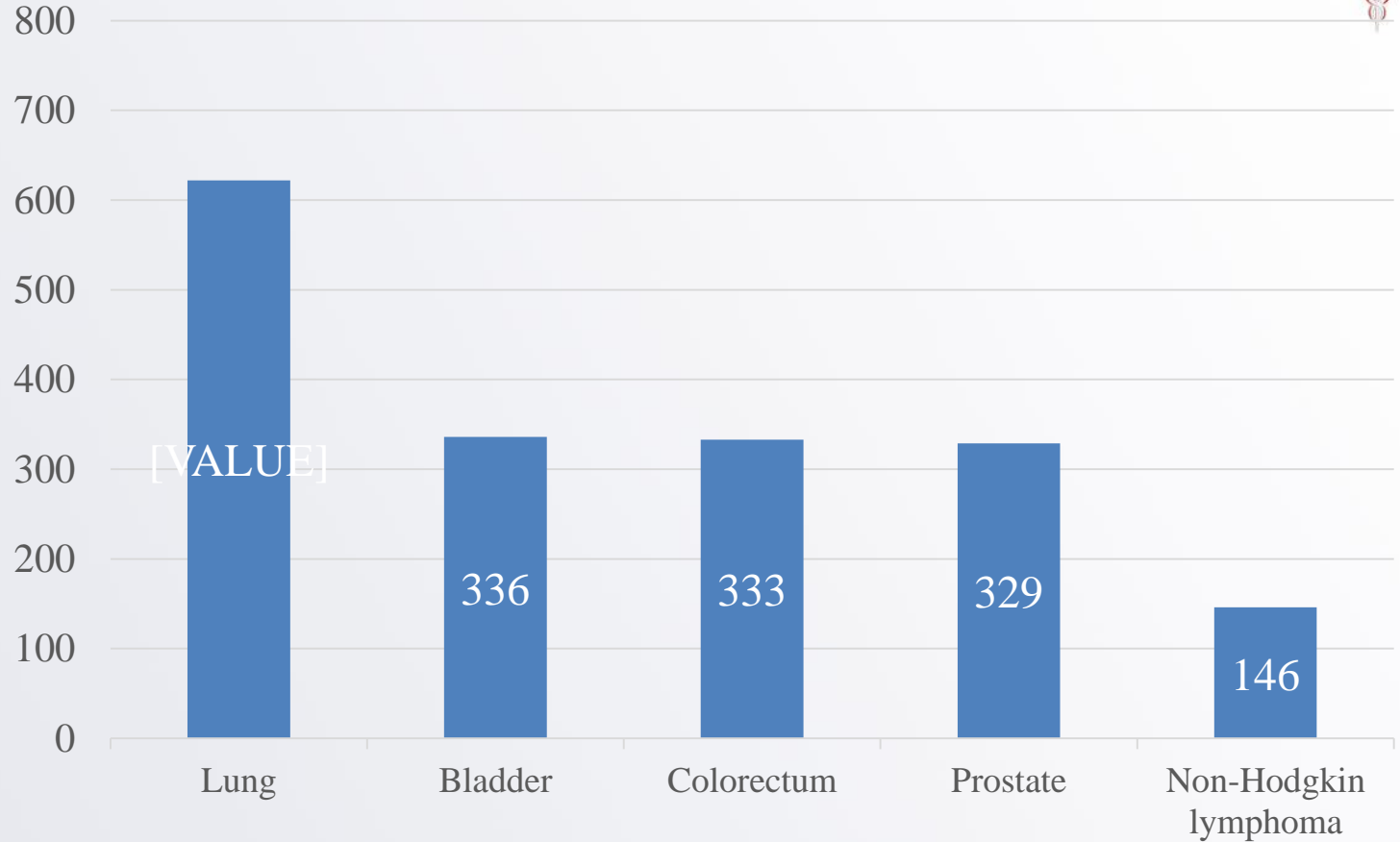
2012



(Males)



Number of cases





Environmental factors

Cancer is affected by smoking, obesity, and physical inactivity.

The most common cancer in Libya is trachea lung cancer in males.

	Males	Females	Total
Tobacco smoking (2011)	%44.7	%1>	%22.5
Total alcohol per capita consumption, in liters of pure alcohol (2010)	0.1	0.0	0.1
Physical inactivity (2010)	%31.0	%42.3	%36.6
Obesity (2014)	%25.8	%38.0	%31.9

Conclusion:



- The heredity and age almost the same effect on the cancer incidence.
- Also, worth mentioning that the incidences increase with aging and unfortunately will be more prevalent in children under 15 years.
- Environmental factors can enhance the cancer frequency by smoking, obesity, and physical inactivity.

References:



- Robbins Basic Pathology. 9th edition.
- https://www.who.int/cancer/country-profiles/lby_en.pdf



Thank you