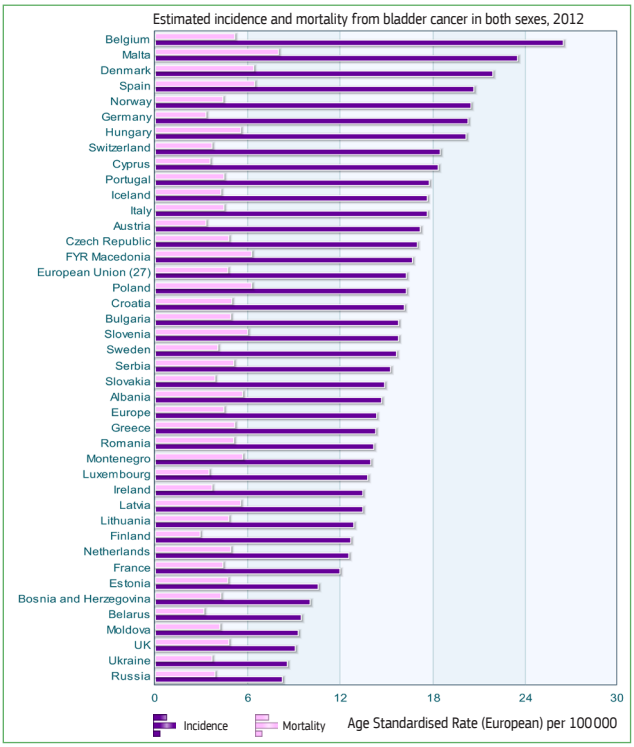
European Network of Cancer Registries

ENCR Factsheets

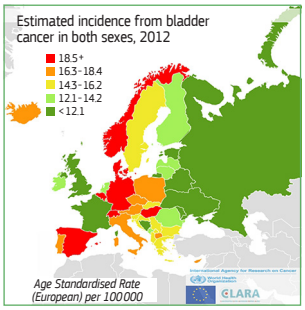
December 2016

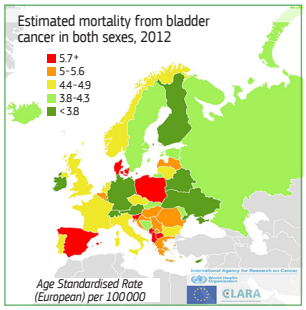
Bladder cancer (BLC) Factsheet



- The bladder is a balloon-shaped organ in the pelvic area that stores urine and is part of the urinary tract. BLC typically affects older adults, though it can occur at any age. It is usually diagnosed early, when it is most treatable.[1]
- The most common type of BLC is transitional cell carcinoma, which begins in the urothelial cells that line the inside of the bladder. Other types of BLC include squamous cell carcinoma that begins in the thin flat cells lining the bladder and adenocarcinoma that begins in the cells that make and release mucus and other fluids.[2, 3]
- The tumour grade and the stage determine the disease behaviour and prognosis.
- In 2012, an estimated 151 189 BLCs were newly diagnosed in Europe, which accounted for 4.4% of all new cancer cases.[4]
- In the same year, 52 374 Europeans died of BLC accounting for 3% of all cancer deaths in Europe .[4]
- In 2012, BLC ranked as the 9th most frequently diagnosed cancer worldwide with an estimated 430 000 new cases and it ranked as the 13th cause of cancer death, with 165 000 BLC deaths.[5]

The European Cancer Observatory (ECO) estimates refers to the European countries (plus Cyprus), as defined by the United nations.





- Europe has among the highest incidence rates of BLC in the world.[5, 6]

Gender differences in Europe in 2012* Estimated incidence and mortality [4]

- Men have a higher estimated age standardized rate (ASR-E)* of incidence than women, with 26.9 and 5.3 cases per 100 000 person-years respectively.
- In terms of mortality, men have also a higher ASR-E than women, with 8.5 and 1.8 cases per 100 000 person-years respectively.

Regional differences in Europe in 2012 Estimated incidence and mortality [4]

- The average European estimated incidence ASR-E was 14.4 cases per 100 000 person-years.
- The countries with the highest estimated incidence ASR-E were Belgium (26.5), Malta (23.5), Denmark (21.9), Spain (20.7) and Norway (20.5).
- The lowest estimated incidence ASR-E were in Belarus (9.5), Moldova (9.3), UK (9.1), Ukraine (8.6) and Russia (8.3).
- The average European estimated mortality ASR-E was 4.5 deaths per 100 000 person-years.
- The highest estimated mortality ASR-E were seen in Malta (8), Spain (6.5), Denmark (6.4), FYR Macedonia (6.3) and Poland (6.3).
- The lowest estimated mortality ASR-E were observed in Luxemburg (3.5), Germany (3.3), Austria (3.3), Belarus (3.2) and Finland (2.9).

* ASR-E: age-adjusted rate to the old European population standard (Doll & Cook, Int J Cancer, 1967) to account for the different age structure in various countries.

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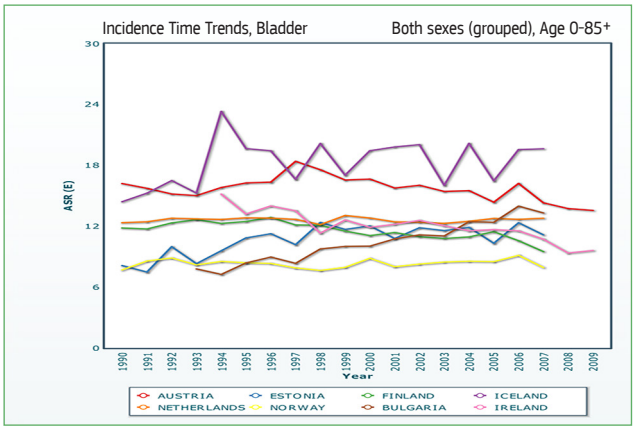
Temporal changes in selected European countries

- From cancer registries with long time series of data, we observe an overall increase in the incidence rates of BLC, followed by either stable or decreased rates, starting in the '90s. This pattern was mostly driven by male incidence rates.
- In certain countries however, like Bulgaria or Estonia for example, there is an overall increase in incidence, even after the '90's, due to the increase of BLC rates in males.
- The mortality rates, have been decreasing over time across Europe, more sharply for males than females.
- The trends of BLC incidence and mortality rates may be associated with smoking habits in the various countries.[6]

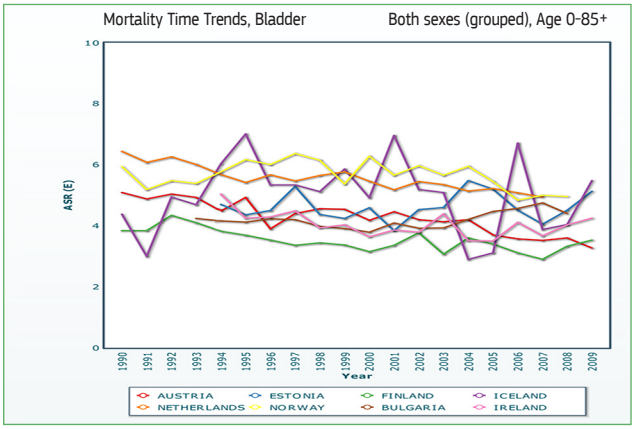


BLC aetiology [7]

- Several studies have demonstrated that smokers have an increased risk of BLC, with higher tobacco consumption or earlier age at onset of smoking increasing the risk.
- Certain occupational exposures, such as aromatic amines, polyaromatic hydrocarbons and diesel engine exhaust have been shown as important risk factors for BLC.
- Infection with schistosomiasis following exposure to infested water is a cause of this cancer, particularly in Africa and the Middle East.
- Some evidence has been found that drinking water containing arsenic increases the risk of BLC as well.
- Other risk factors include having a family history or gene mutations linked to BLC.

Screening and prevention [8]

- At this time, there is no standard or routine screening test recommended for BLC.



- Two tests may be used for screening patients who had BLC in the past or for diagnosis of symptomatic patients: cystoscopy and urine cytology. Haematuria tests may also be used, although haematuria may be caused by other conditions as well.
- In terms of prevention, the number one factor to reduce the risk of BLC cancer is to stop smoking.

Bladder cancer survival [9]

- For invasive and non-invasive tumours combined, the 5-year relative survival (RS) in Europe was 68%.
- The 5-year RS varied geographically, with best prognosis observed in Southern and Northern Europe, where it was greater than 75%.
- The younger the patients at diagnosis, the higher the survival was in most European countries.
- Men had better survival than women for BLC.
- Overall survival for BLC has improved over time in Europe.

Limitations [9,10,11]

Different grade classification systems have been used for BLC in different countries in parallel. Registration differences such as inclusion of non-invasive bladder tumours or non-adherence to multiple primary rules (for multicentric and recurrent tumours) may result in calculation of non-comparable incidence or survival of BLC. Therefore caution is needed in the interpretation of all statistics and comparisons among countries.

Conclusions

- BLC has a relatively good prognosis.
- Differences or changes in registration practices need to be kept in mind when comparing statistics related to BLC among countries or over time.
- The trends observed in incidence and mortality over time seem to reflect the smoking habits in these countries.
- Tobacco control efforts could contribute in reducing BLC incidence and mortality.

A list of references (1-11) is available (in PDF) at: http://www.encr.eu/images/docs/factsheets/ENCR_Factsheet_Bladder_2016_References.pdf.

The European Cancer Observatory data (http://eco.iarc.fr) were used for the production of this factsheet.

The European Network of Cancer Registries (ENCR), established within the framework of the Europe Against Cancer Programme of the European Commission, has been in operation since 1990. The ENCR promotes collaboration between cancer registries, defines data collection standards, provides training for cancer registry personnel and regularly disseminates information on incidence and mortality from cancer in the European Union and Europe. To learn more, visit us at www.encr.eu.