CANCER PREVALENCE TRENDS IN SWITZERLAND: 2000 – 2020

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Background and Objectives

Cancer prevalence is defined as the number of persons who are alive at the index date and have previously been diagnosed with cancer. Short-term (≤5 years since diagnosis) and long-term (>5 years since diagnosis) cancer survivors are expected to increase as a result of rising incidence, declining mortality and population aging. These survivor groups have heterogeneous demands on the public health system: curative or palliative treatment as well as care due to adverse physical and psychosocial effects from their diagnosis and treatment. Adequate allocation of the limited health care resources to address this growing public health burden will depend on accurate quantification of these future demands.

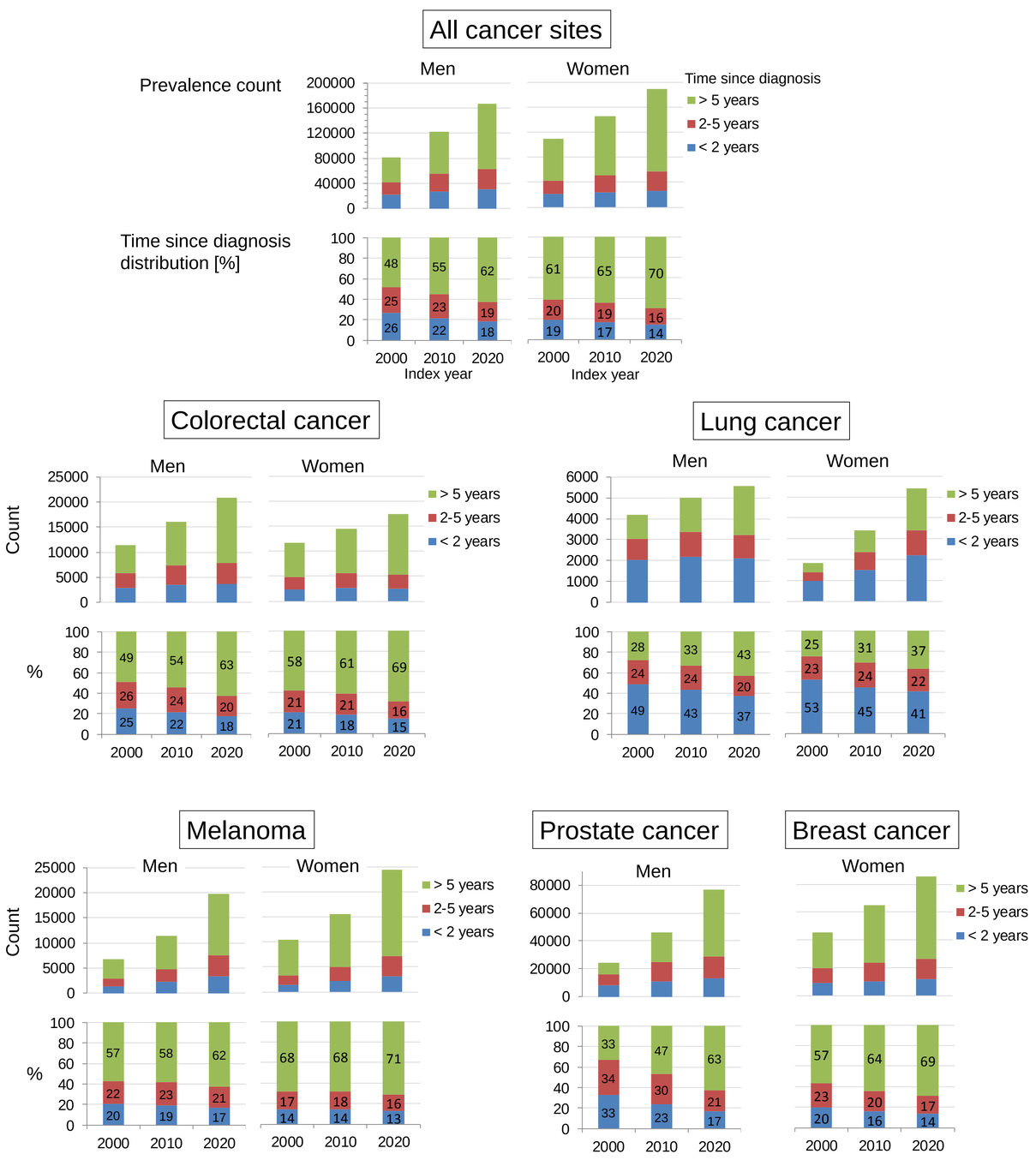
Data and Methods

Data was extracted from the National Cancer Dataset managed by NICER for the purpose of national cancer monitoring in Switzerland. The first occurring primary malignant cancer diagnoses per person in the twelve Swiss cantons providing vital status follow-up until the end of 2010 (ZH, GL, FR, BS, BL, AR, AI, SG, GR, TI, VS, GE) were selected.

Limited-duration prevalence for diagnoses until ≤10 years before index-dates 2000 to 2010 was derived using the counting method including a correction for cases lost to follow-up. Expected limited-duration prevalence for index-dates 2011 to 2020 was estimated by predicting future incidence [1] based on past trends and official scenarios of population growth, predicting future survival by period analysis [2], and combining incidence and survival using the method of Ref. [3]. Complete prevalence is the number of persons alive at index-date who had been diagnosed with cancer, no matter how long ago that diagnosis was. Complete prevalence was estimated using Age-Period-Cohort models implemented in the MIAMOD software [4].

Prevalence was analyzed by time since diagnosis, attained age at index date, sex, Swiss language-region and six cancer categories (all sites combined except nonmelanotic skin cancer, colorectal, lung, melanoma, breast and prostate). Findings were extrapolated for whole Switzerland.

Fig 1: Crude trends by cancer, sex and time since diagnosis

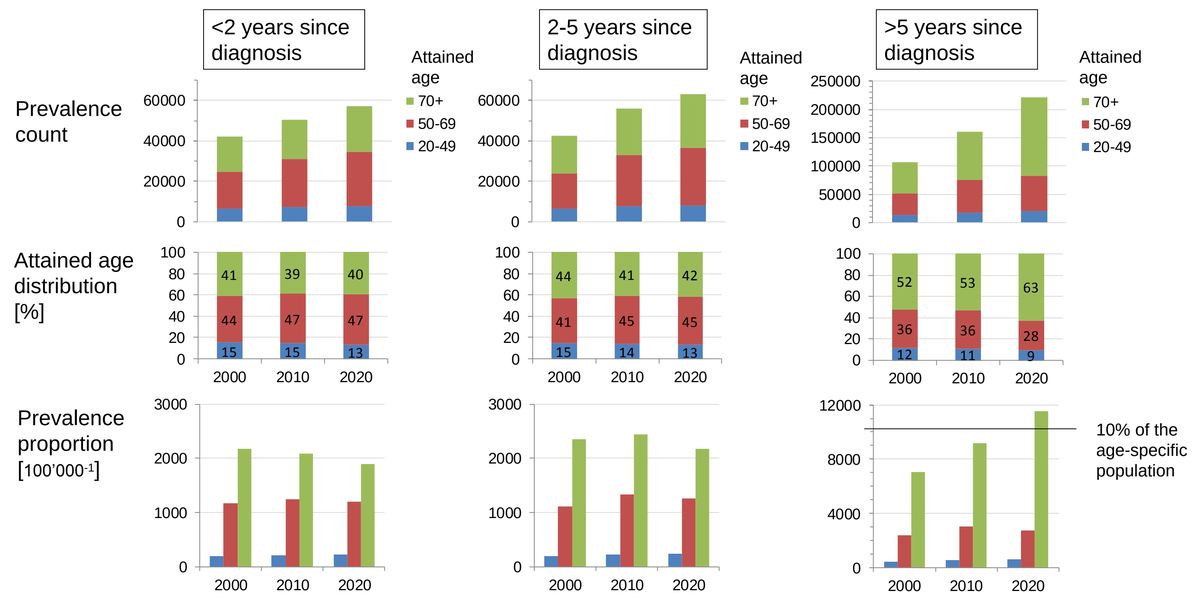


- Prevalence counts and time since diagnosis distributions represent quantitative and qualitative (curative/palliative treatment vs post-treatment care) aspects of the cancer burden.
- We estimate that in 2020, the number of persons alive and having received a diagnosis of cancer is 1/3 higher compared to 2010.
- The fastest growing sector of the prevalent population are long-term survivors (>5 years since diagnosis), most notably in prostate cancer.
- Trends were similar in men and women.

Summary and Conclusion

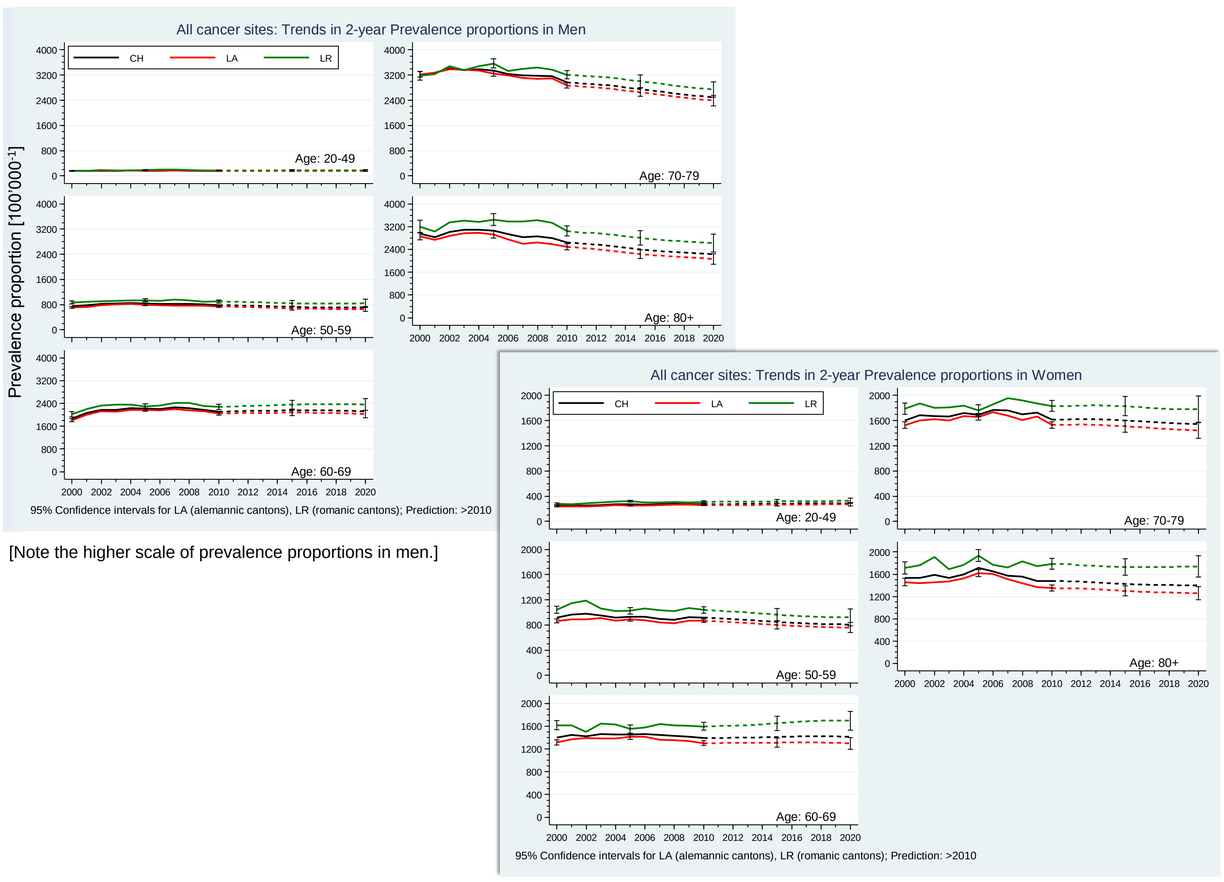
- The number of prevalent persons diagnosed with cancer in Switzerland has increased annually by 2.1% (<2 years since diagnosis), 3.2% (2-5 years) and 5.3% (>5 years) for both sexes combined and index years 2000-2010. (Fig. 1)
- 9% of the Swiss population aged 70+ were long-term cancer survivors in the index year 2010. For 2020, the proportion is expected to rise to almost 12%. (Fig 2)
- Cancer survivors form a larger proportion of the population in the French/Italian- as compared with the German-speaking part of Switzerland. (Fig 3)
- The expected rise in the numbers of cancer survivors is in itself a very positive development. It will present a challenge, on the other hand, to secure adequate services and high quality care for growing numbers of short-term and particularly long-term cancer survivors. Demands for treatment of subsequent disabilities, screening for recurrences and second primary cancers, and for long-term counselling and support will increase.

Fig 2: Age-specific trends for all cancers and sexes combined



- The age-distribution for short-term survivors (≤5 years since diagnosis) is expected to remain relatively stable, whereas long-term survivors will be of increasing higher age.

Fig 3: Trends by sex, attained age and language region



[Note the higher scale of prevalence proportions in men.]

- Higher 2-year limited duration prevalence proportions were found in the French/Italian part of Switzerland (LR) for all cancer sites combined (shown here), but also for colorectal, lung and female breast cancer. The pattern was reversed for melanoma and prostate cancer. Findings for other times since diagnosis were similar.

References

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