

Avoidable cancer mortality in Switzerland

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BACKGROUND & METHODS

BACKGROUND

Cancer remains one of the leading causes of morbidity and mortality in the developed world. In Switzerland, approximately 36,900 new cancer cases were diagnosed and 16,300 cancer deaths were registered in 2010. Taken together, around 26% of all deaths in Switzerland could be attributed to some form of malignant neoplasm.

Avoidable mortality is a concept based on a selection of causes of death considered to be amenable to medical care or health policies serving as an indicator of the effectiveness of health care services. This study aims to evaluate achievements of medical care and health policies in Switzerland by analyzing time trends in avoidable cancer mortality.

METHODS

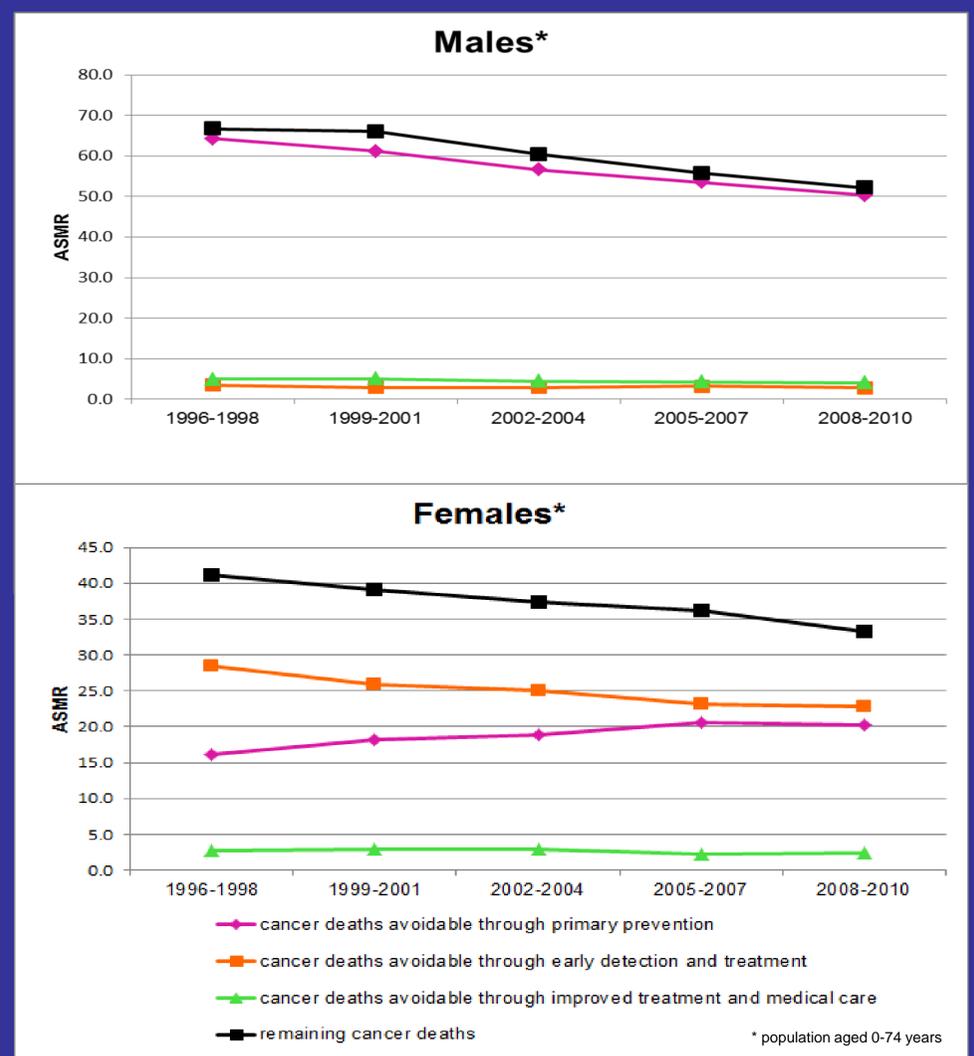
Mortality data and population estimates were obtained from the Swiss Federal Statistical Office (SFSO) covering the time period 1996-2010. All analyses were based on the underlying causes of death as coded by the SFSO (ICD-10) following international standards.

Three-year age standardized mortality rates (ASMRs) (European standard) per 100,000 person-years and 95%-confidence intervals (CI) were calculated for the population aged less than 75 years by sex for the following groups of cancer deaths:

- 1) **avoidable through primary prevention**
cancer of upper airways and digestive tract, cancer of the trachea, bronchus and lung, liver cancer, bladder cancer
- 2) **avoidable through early detection and treatment**
melanoma and non-melanoma, female breast cancer, cervical cancer, uterine cancer
- 3) **avoidable through improved treatment and medical care**
testicular cancer, Hodgkin's disease, leukemia
- 4) **remaining cancer deaths**

To estimate relative effect sizes, comparative mortality ratios (CMRs) were calculated for the time periods under investigation using the years 1996-1998 as reference period.

RESULTS



Groups of cancer deaths	CMR (95% CI) 2008-2010 (reference period 1996-1998)	
	Males*	Females*
avoidable through primary prevention	0.78 (0.76-0.81)	1.25 (1.18-1.33)
avoidable through early detection and treatment	0.79 (0.68-0.92)	0.80 (0.76-0.85)
avoidable through improved treatment and medical care	0.83 (0.73-0.95)	0.84 (0.72-0.99)
remaining cancer deaths	0.78 (0.76-0.81)	0.81 (0.77-0.84)

Cancer mortality has been decreasing continuously between 1996 and 2010. Comparing the time-period 1996-1998 and 2008-2010, avoidable cancer mortality decreased in all groups of avoidable cancer mortality and both sexes, with one exception: ASMRs for causes avoidable through primary prevention increased from 16.15 (CI 15.41-16.92) to 20.26 (CI 19.49-21.04) in females (CMR 1.25, 95% CI 1.18-1.33).

SELECTED REFERENCES

- 1 Simonato L., Ballard T., Bellini P., Winkelmann R., Avoidable mortality in Europe 1955-1994: a plea for prevention. *J Epidemiol Commun Health.* 1998; 52: 624-30.
- 2 Sundmacher L., Gaskins M.D., Hofmann K., Busse R., Spatial distribution of avoidable cancer deaths in Germany. *J Public Health.* 2012; 279-288.

CONCLUSION

Avoidable cancer mortality amenable to primary prevention showed an increasing trend in females, indicating that there is a need to put more effort towards gender-specific primary prevention, i.e. anti-smoking campaigns targeting girls and adult women. Despite this trend, cancer deaths avoidable through primary prevention are still much less common in females than in males.