

# MULTIPLE INDICATORS OF SOCIOECONOMIC POSITION AND BREAST CANCER STAGE IN SWITZERLAND

Anita Feller<sup>1,2</sup>, Christine Bouchardy<sup>3</sup>, Silvia Dehler<sup>4</sup>, Isabelle Konzelmann<sup>5</sup>, Kerri M. Clough-Gorr<sup>1</sup>

<sup>1</sup>Institute of Social and Preventive Medicine (ISPM), University of Bern; <sup>2</sup>National Institute for Cancer Epidemiology and Registration, Zurich; <sup>3</sup>Geneva Cancer Registry, Institute of Global Health, University of Geneva; <sup>4</sup>Cancer Registry Zurich and Zug, University Hospital Zurich; <sup>5</sup>Valais Cancer Registry, Health Observatory Valais, Sion

## BACKGROUND & OBJECTIVES

Breast carcinoma is the most common cancer and the leading cause of cancer death in Swiss women. In Switzerland, each year almost 6,000 patients are newly diagnosed with breast cancer and more than 1,300 women die of the disease. The clinical stage at breast cancer diagnosis remains one of the major prognostic factors and women with early-stage breast carcinomas are expected to have excellent survival rates. Several studies outside of Switzerland have reported a negative association between socioeconomic position (SEP) and breast cancer stage at presentation [1-4]. However, to the best of the authors' knowledge, no investigation of this topic for Switzerland exists. The present study aims to investigate the association between socioeconomic position (SEP) and breast cancer stage at diagnosis in Switzerland, comparing three indicators of SEP.

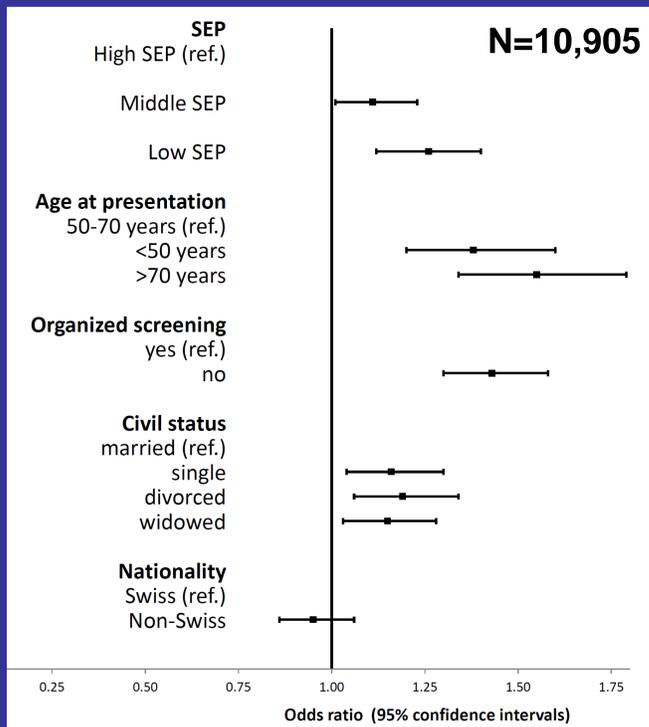
## DATA & METHODS

The study used population-based breast cancer incidence data from the cantonal cancer registries of Geneva, Valais and Zurich 2001-2008 linked to the Swiss National Cohort. Stage at diagnosis was classified by SEER stage classification (in situ, local, regional, distant). We used three indicators to estimate SEP: (1) education woman - highest education level attained by the woman (compulsory or less, upper-secondary, upper-tertiary education), (2) education couple - highest education level attained by the woman or if married either spouse, and (3) quintiles of the Swiss neighbourhood index (Swiss-SEP). Ordered logistic regression models examined the association between cancer stage at diagnosis and SEP. The adjusted model reports odds ratios (OR) with 95% confidence intervals (95%CI) and included age at diagnosis (<50, 50-70, >70 years), canton with organized screening program (yes/no), civil status (single, married, divorced, widowed), nationality (Swiss, non-Swiss), and an interaction term between age and screening program.

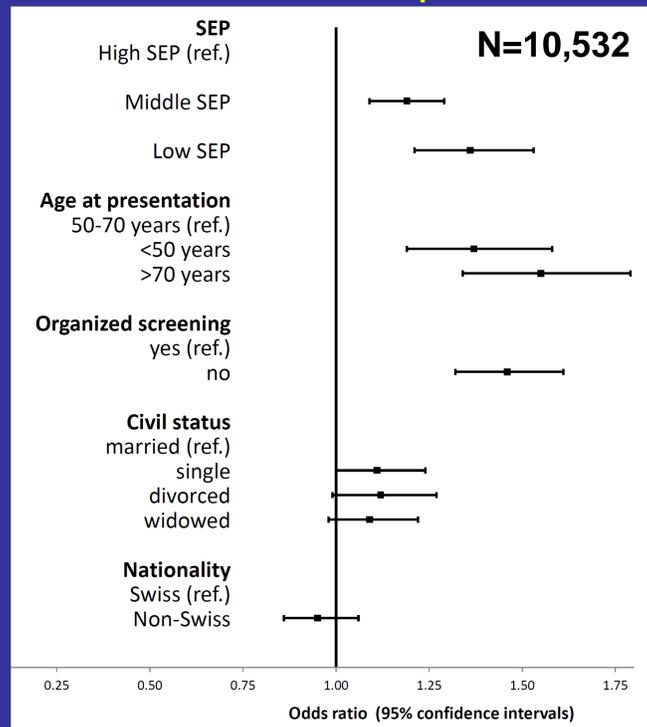
## RESULTS

### Factors associated with later stage breast cancer by SEP indicator

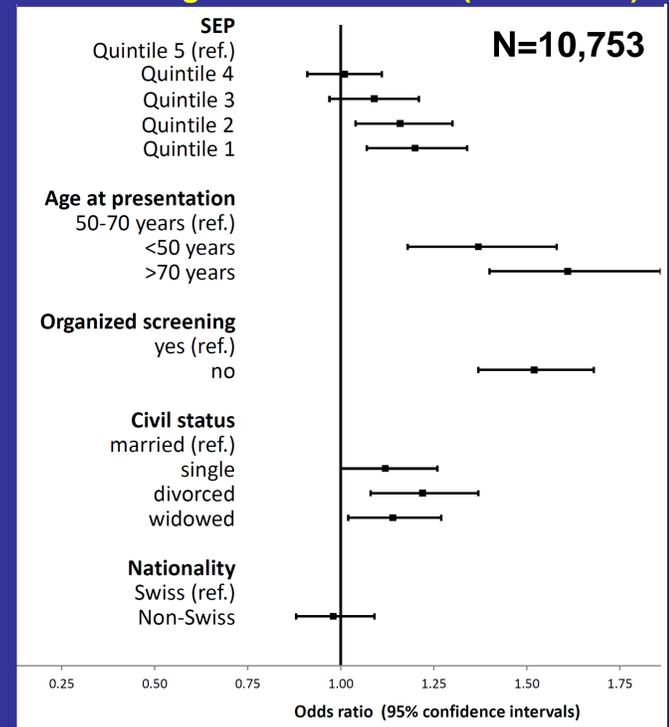
#### Education woman



#### Education couple



#### Swiss neighbourhood index (Swiss-SEP)



Odds of later stage at breast cancer diagnosis were significantly increased for women with lower SEP. However, the importance of SEP disparities varied according to the indicators with ORs comparing the lowest with the highest SEP group of 1.27 [95%CI 1.14-1.43] (education woman), 1.36 [95%CI 1.21-1.53] (education couple) and 1.20 [95%CI 1.07-1.34] (Swiss-SEP).

Regardless of SEP indicator used, we observed similar effects for the covariates included in the models (albeit not always reaching significance across SEP indicators). In particular unmarried women, those less than 50 or over 70 years of age and those living in a canton without an organized breast cancer screening program were more likely to be diagnosed with later stage disease.

## CONCLUSIONS

The results indicate social inequalities in access to early detection of breast cancer in Swiss women. The magnitude of the social disparities varied according to SEP indicator.

## SELECTED REFERENCES

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Please contact [anita.feller@ispm.unibe.ch](mailto:anita.feller@ispm.unibe.ch) for more information on this or related projects.