


## ORIGINAL RESEARCH

# Socioeconomic and demographic inequalities in stage at diagnosis and survival among colorectal cancer patients: evidence from a Swiss population-based study

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## Abstract

Socioeconomic inequalities in cancer stage at diagnosis and survival are important public health issues. This study investigates the association between socioeconomic position (SEP) and colorectal cancer (CRC) stage at diagnosis and survival in Switzerland, a European country with highest level of medical facilities and life expectancy. We used population-based CRC data from seven Swiss cantonal cancer registries 2001–2008 ( $N = 10,088$ ) linked to the Swiss National Cohort (SNC). Follow-up information was available until the end of 2013. SEP was estimated based on education. The association between cancer stage and SEP was assessed using logistic regression models including cancer localization (colon/rectum), sex, age, civil status, urbanity of residence, language region, and nationality (Swiss/non-Swiss). Survival was analyzed using competing risk regressions reporting subhazard ratios (SHRs) for the risk of dying due to CRC. We observed a social gradient for later stage CRC with adjusted odds ratios (ORs) of 1.11 (95% CI: 0.97–1.19) and 1.28 (95% CI: 1.08–1.50) for middle and low SEP compared to high SEP. Further, single compared to married people had elevated odds of being diagnosed at later stages. Survival was lower in patients with CRC with low SEP in the unadjusted model (SHR: 1.18, 95% CI: 1.07–1.30). After adjustment for stage at diagnosis and further sociodemographic characteristics, significant survival inequalities by SEP disappeared but remained for non-Swiss compared to Swiss citizens and for patients living in nonurban areas compared to their urban counterparts. Swiss public health strategies should facilitate equal access to CRC screening and optimal CRC care for all social groups and in all regions of Switzerland.