

The impact of administrative reforms on quality of cancer registration: an example of Latvian Cancer Registry

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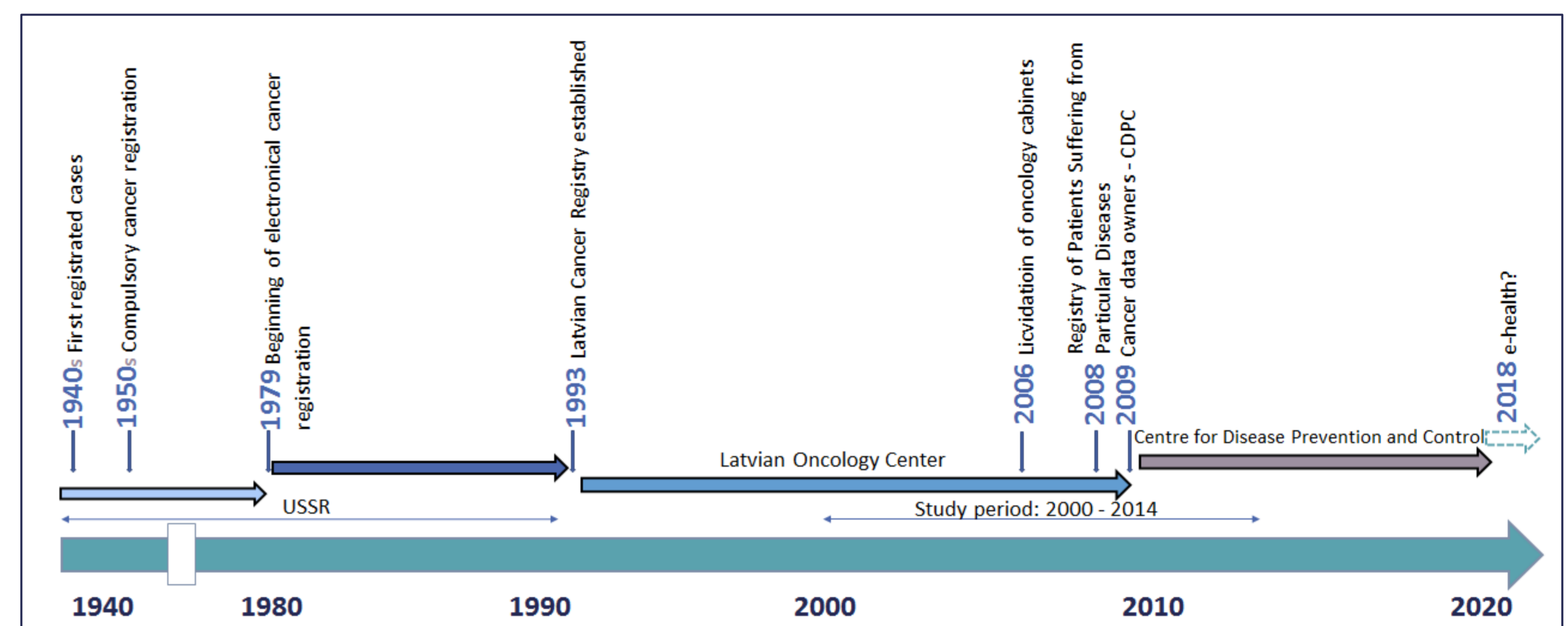
Introduction

Population-based Latvian Cancer registry was established in 1993. Until 2006, information for Latvian Cancer registry was provided by the oncological cabinets in the Latvian districts. In the wake of the financial crisis these cabinets were phased out. In 2006 a political decision was taken to combine all the existing disease registries in Latvia. Since 2009 cancer registry data is a part of Registry of patients suffering from particular diseases owned by the Centre for Disease Prevention and Control of Latvia (Figure 1). Cancer registry data is used for the research and it is crucial to understand whether the data is valid and has remained valid over the time.

The aim of this study was to show how data quality indicators in the Latvian cancer registry changed during the administrative reforms

Materials and Methods

Cancer registry's data with 35 322 cases of breast, colorectal and cervical cancer incidents from the time period of 2000-2014 were analysed. Data validity evaluated by the percentage of cases with a morphologically verified diagnosis (MV %); percentage of cases from death certificates only (DCO %); proportion of cases with missing data (unknown stage). Data completeness was analysed using the method of the crude incidence stability over the time.



Results

The proportion of MV% gradually improving over time from 80.5% in 2000 to 85.4% with no significant difference for 2006-2009 (Figure 2). The average proportion of MV for colorectal cancer is 78.2%, for breast cancer 85.0% and 91.9% for cervical cancer.

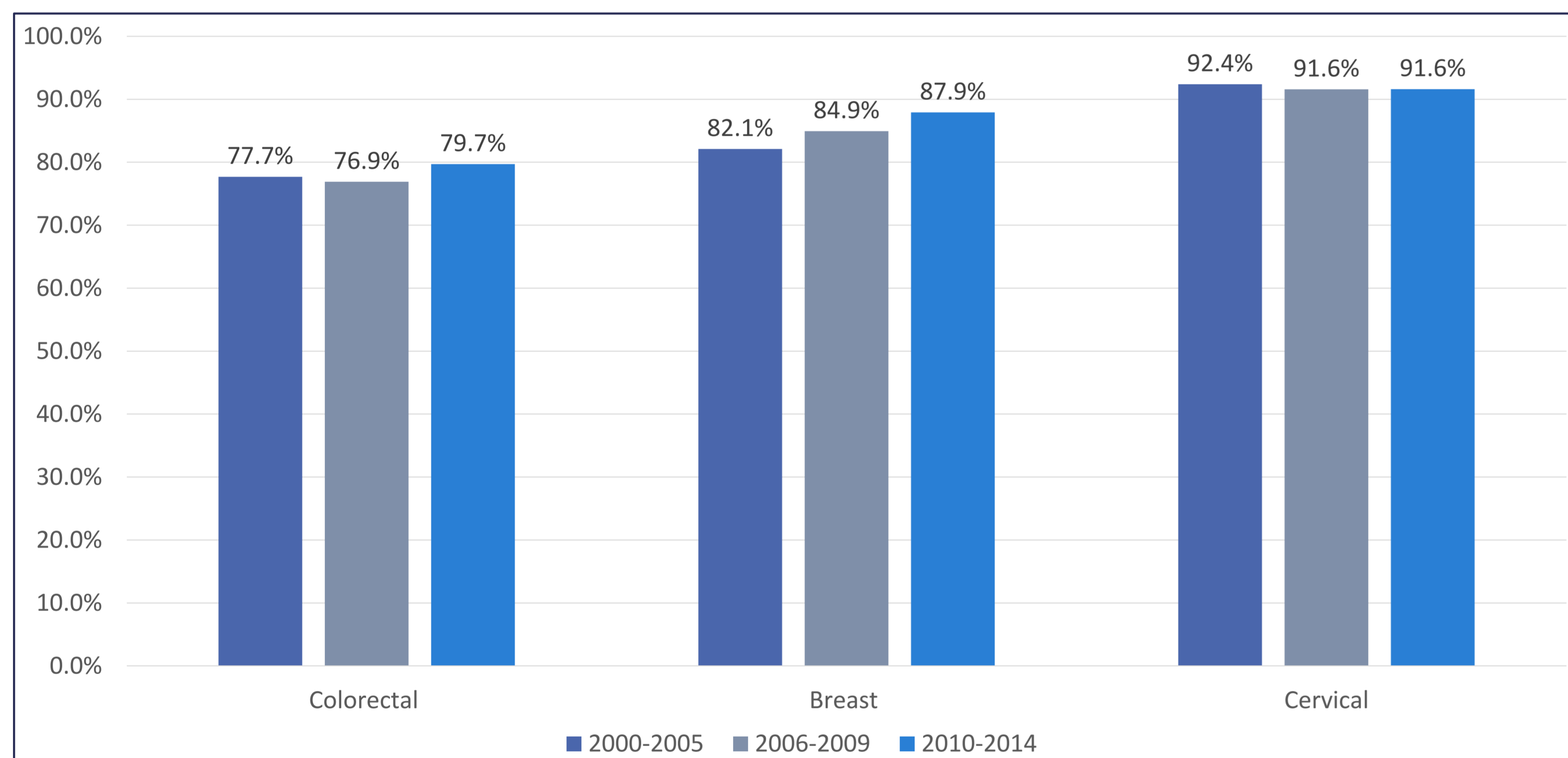


Figure 2. MV% cancer cases in Latvian Cancer registry 2000 – 2014 (breast, colorectal and cervical cancer)

DCO% in 2006-2009 is significantly higher, 6.2% (95% CI: 5.8% - 6.7%) compared to the time periods 2000-2005: 4.4% (3.9% - 4.6%) and 2010-2014: 4.2% (3.9% - 4.6%). DCO% is significantly higher in 2006-2009 for all examined cancer sites: 8.5% (7.7% - 9.4%) for colorectal cancer; 4.6% (4.0% - 5.2%) for breast cancer and 3.5% (2.3% - 4.8%) for cervical cancer cases. Proportion of unknown stage in 2006-2009 significantly higher: 13.8% (13.1% - 14.5%) compared to 2000-2004 (9.1%; 8.6% - 9.6%) and 2010-2014 (11.9%; 11.3% - 12.5%) (Figure 3). Significantly higher unknown stage proportion in 2006-2009 is for colorectal cancer (18.9%; 17.7% - 20.1%) and cervical cancer (12.0%; 9.9% - 14.1%).

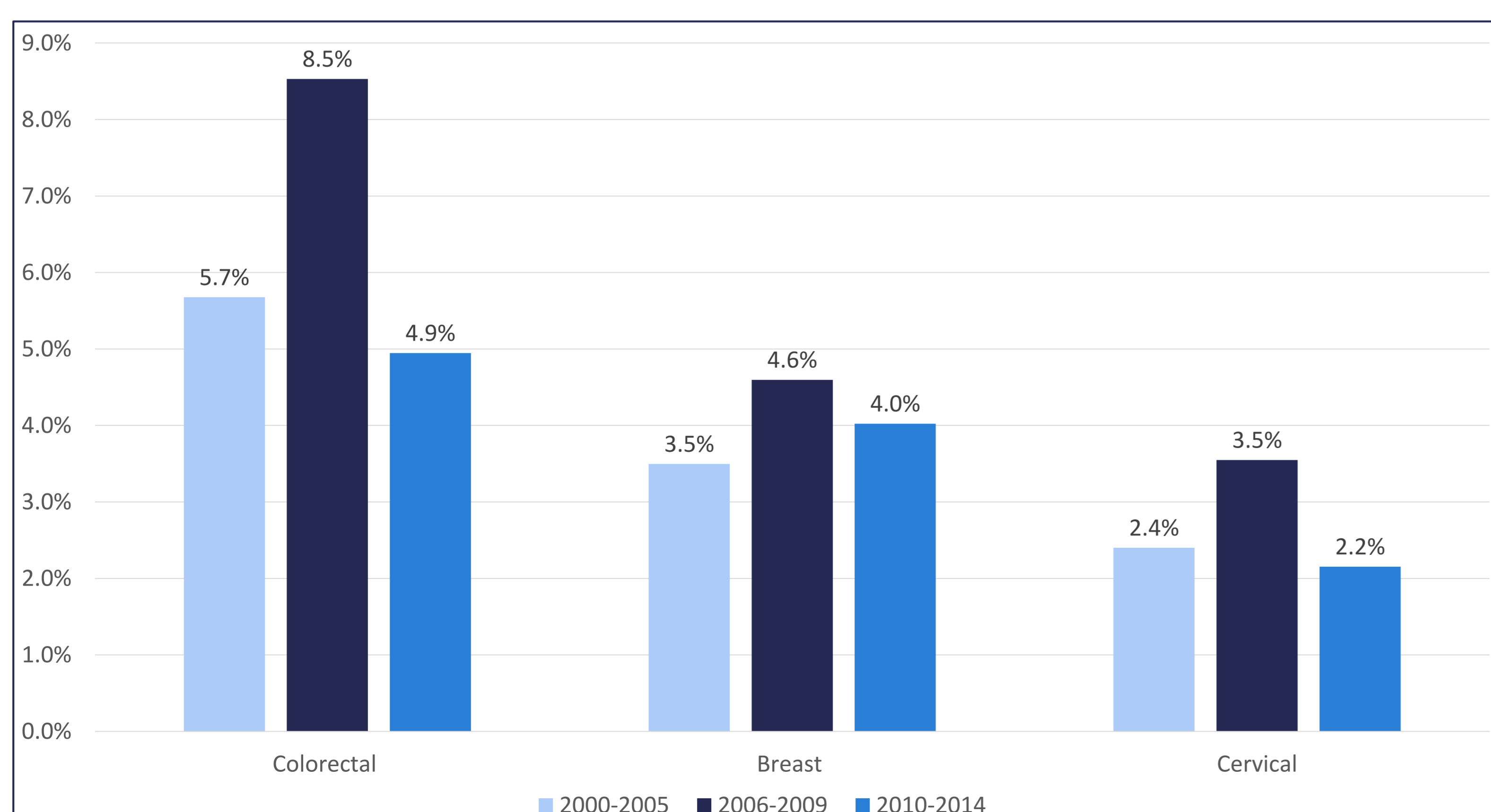


Figure 3. DCO% cancer cases in Latvian Cancer registry 2000 – 2014 (breast, colorectal and cervical cancer)

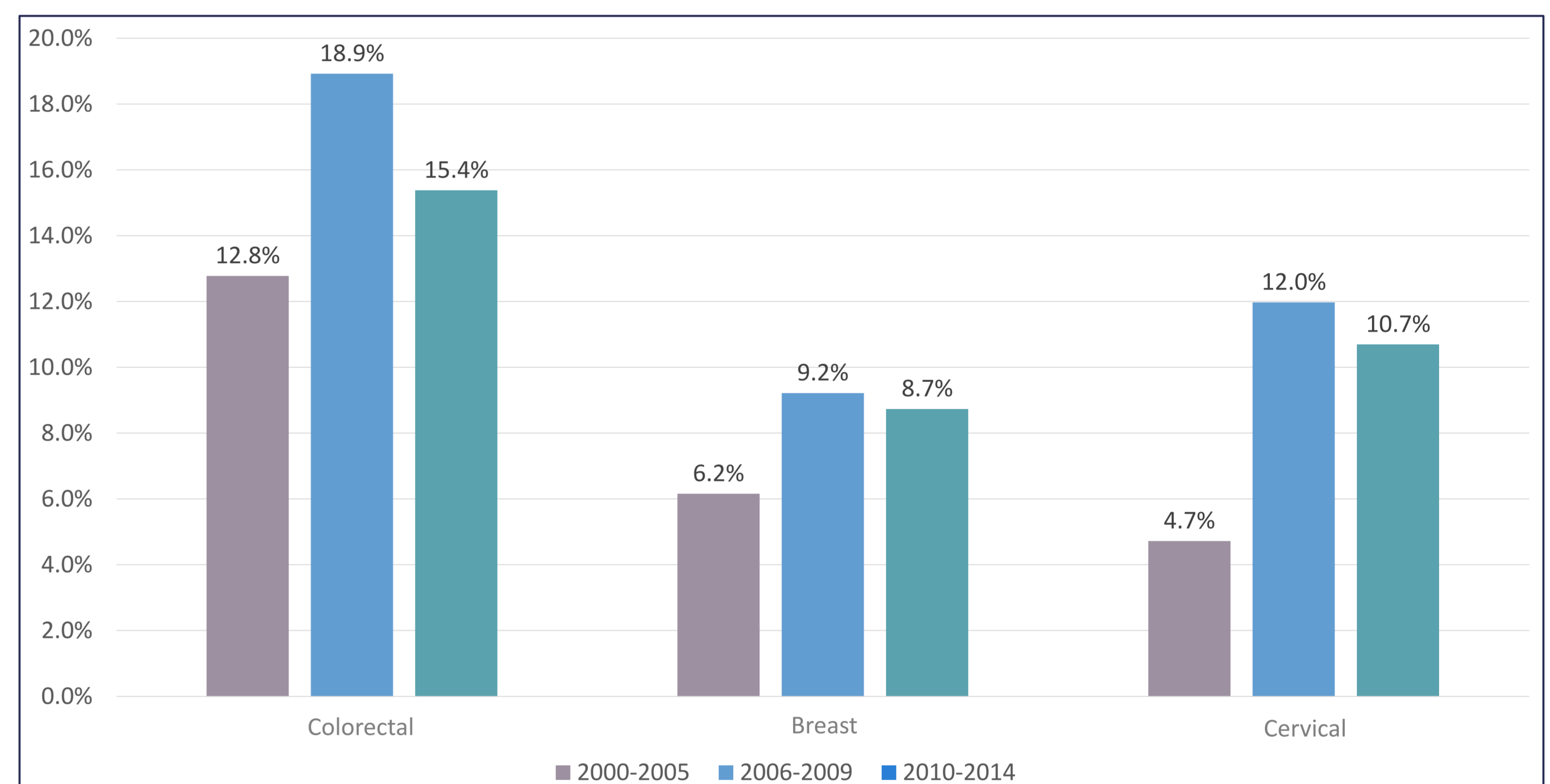


Figure 3. Cancer cases with unknown stage in Latvian Cancer registry 2000 - 2014 (breast, colorectal and cervical cancer)

Cancer incidence over the time is gradually increasing for all three analysed cancer sites, however drop of incidence observed in the year 2008 for cervical cancer and in 2009 for breast cancer (Figure 4).

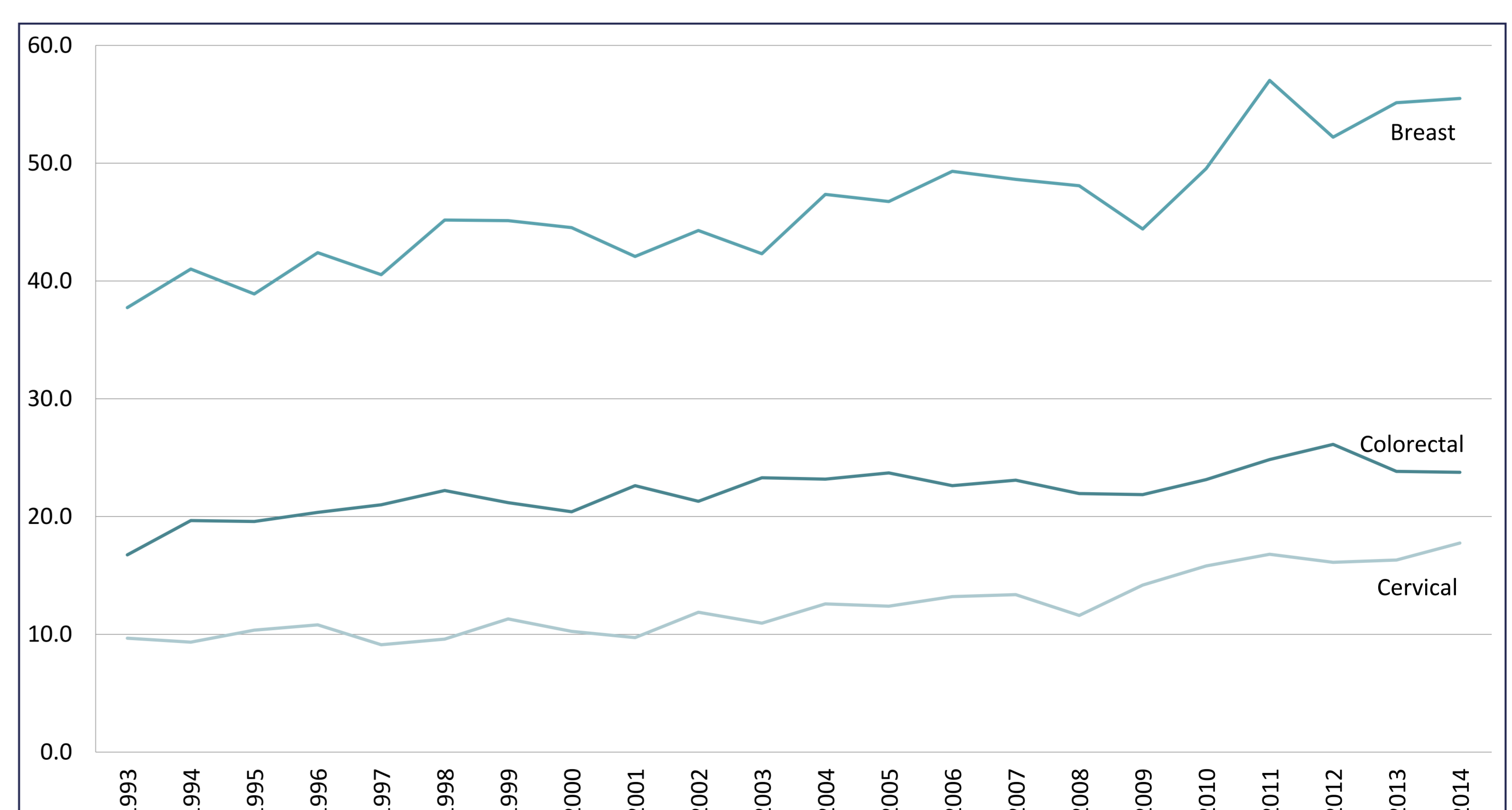


Figure 4. Age standardized cancer incidence for colorectal, breast and cervical cancer in Latvia, 2000 - 2014.

Conclusions

In the time period of 2006-2009 data quality significantly suffered due to changes in the Latvian health administration. The present evaluation of the quality of data suggests that the registry has a good degree of accuracy, however, data quality depends on the cancer site.