

Trends in Cervical Cancer Incidence in Latvia 1983-2013

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Introduction

- Cervical cancer is the third most common cancer form in the world for woman and the fourth most common cause of woman death (Jemal, A., et al., 2011).
- Cervical cancer incidence is closely linked to the quality of health care system in the country.
- Various developed countries reached a significant reduction in the cervical cancer incidence with well organised cancer screening programmes (Vaccarella, S., et al., 2014).
- Cervical cancer is the sixth most common cancer site for Latvian women after breast, skin, colorectal, uterine and ovarian cancer (SPKC, www.spkc.gov.lv, 2014).
- Cervical cancer screening uptake - 27,4% 2013; 27,8 - 2014 (The National Health Service)

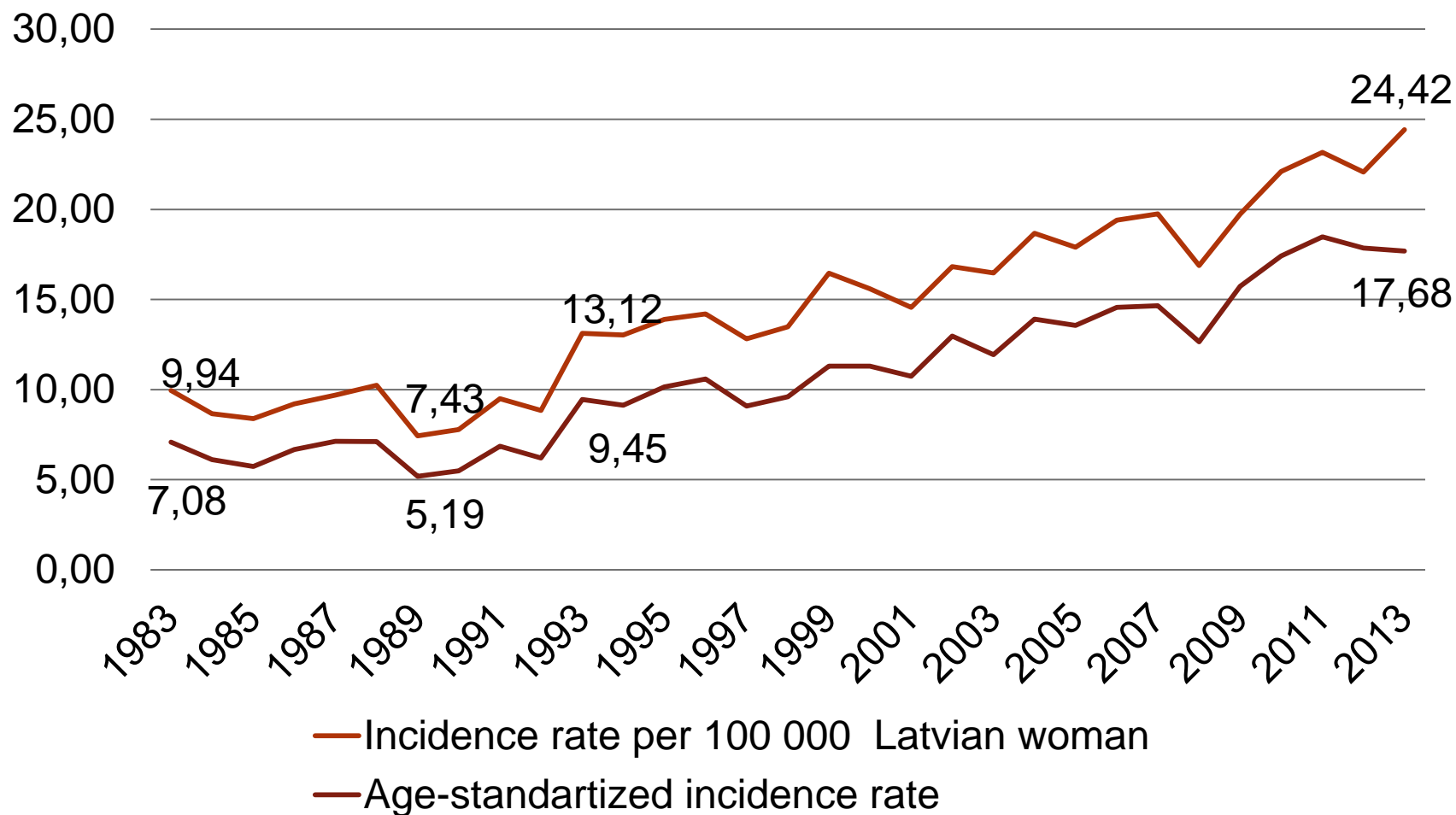
Aim

- The aim of the study is to calculate age standardized cervical cancer incidence rates and to show the incidence time trends as indicators of changes in health care system in Latvia during past thirty years.

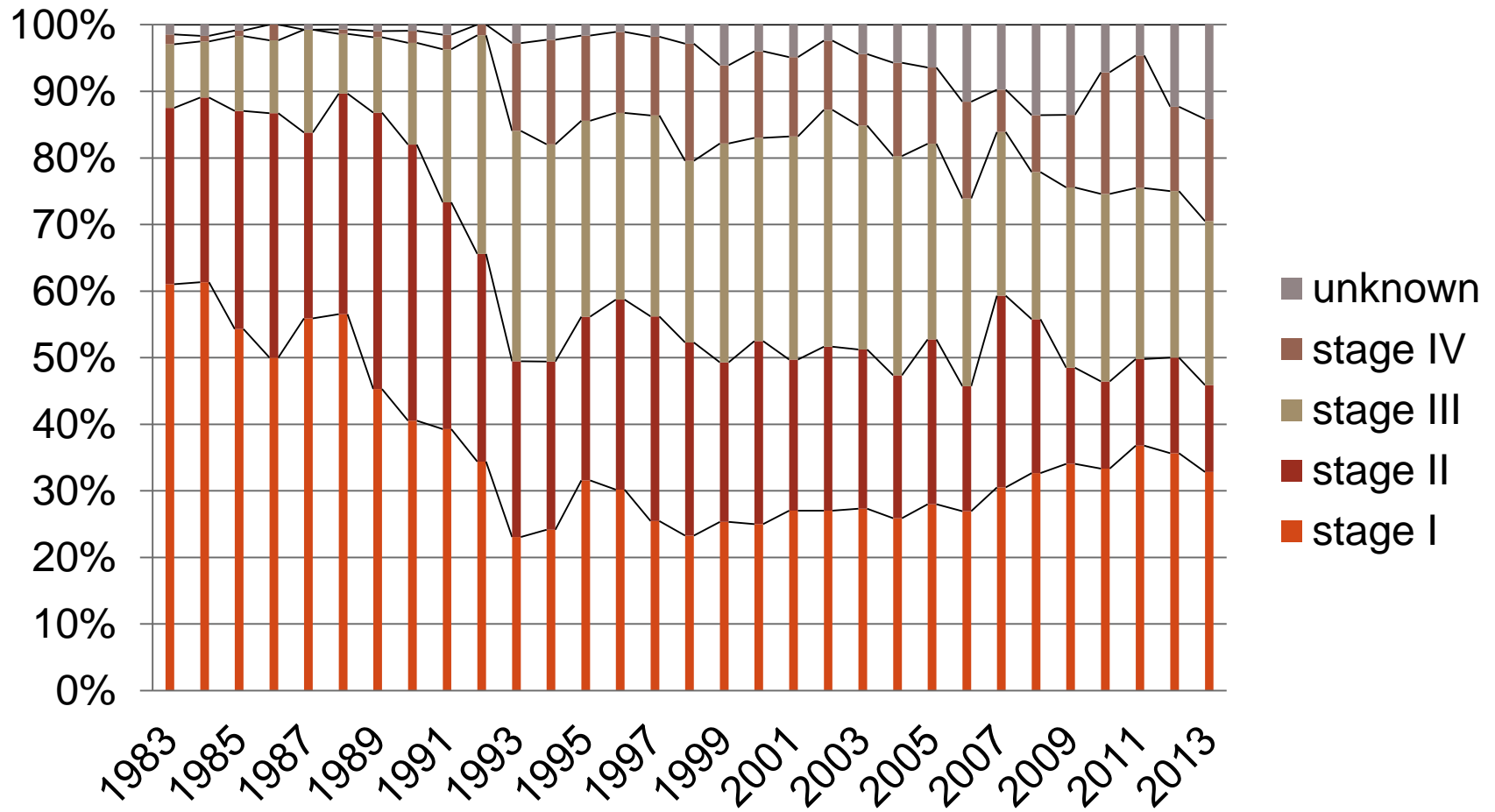
Methodology

- The study included data obtained from the population-based Latvian cancer registry.
- The sample included 5890 women with diagnosed and histologically confirmed cervical cancer in the period from 1983 to 2013.
- Age-standardized rates were calculated by direct standardization method using world standard population (Ahmad, O.B., et al.,2014; Bray, F., 2002).
- Incidence changes were detected with join point regression method
- Join point calculations define time periods when rates changing linearly, as well as the time points at which these periods are changing. Each calculation for the period is fixing annual percentage changes (APC) and its 95% confidence interval.
- Data processed using MS Excel 2010 and IBM SPSS 20.0 programs and *Joinpoint Software 4.1.0* (NCI, www-surveillance.cancer.gov/joinpoint , 2014).

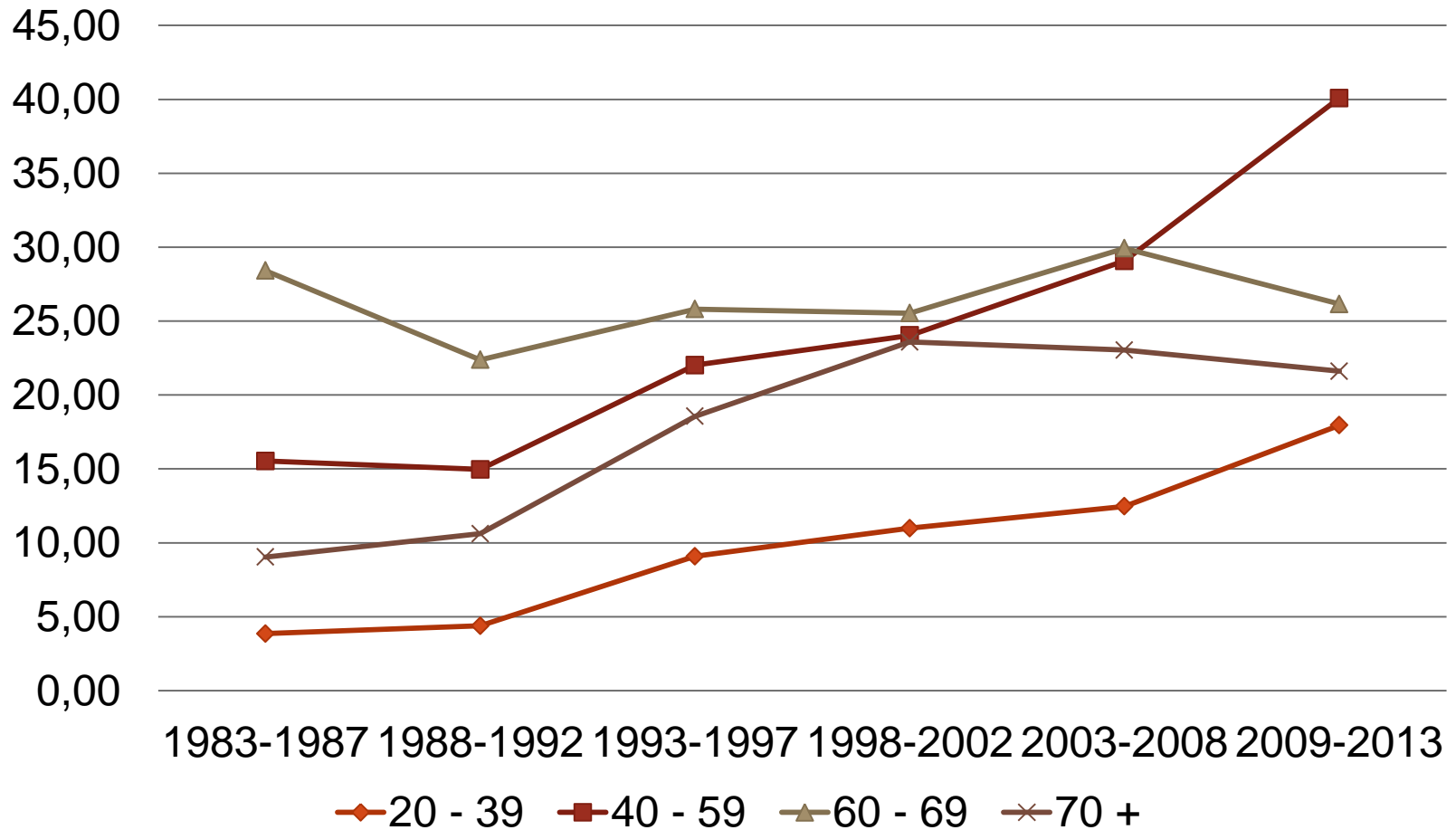
Cervical cancer incidence rate in Latvia 1983 – 2013



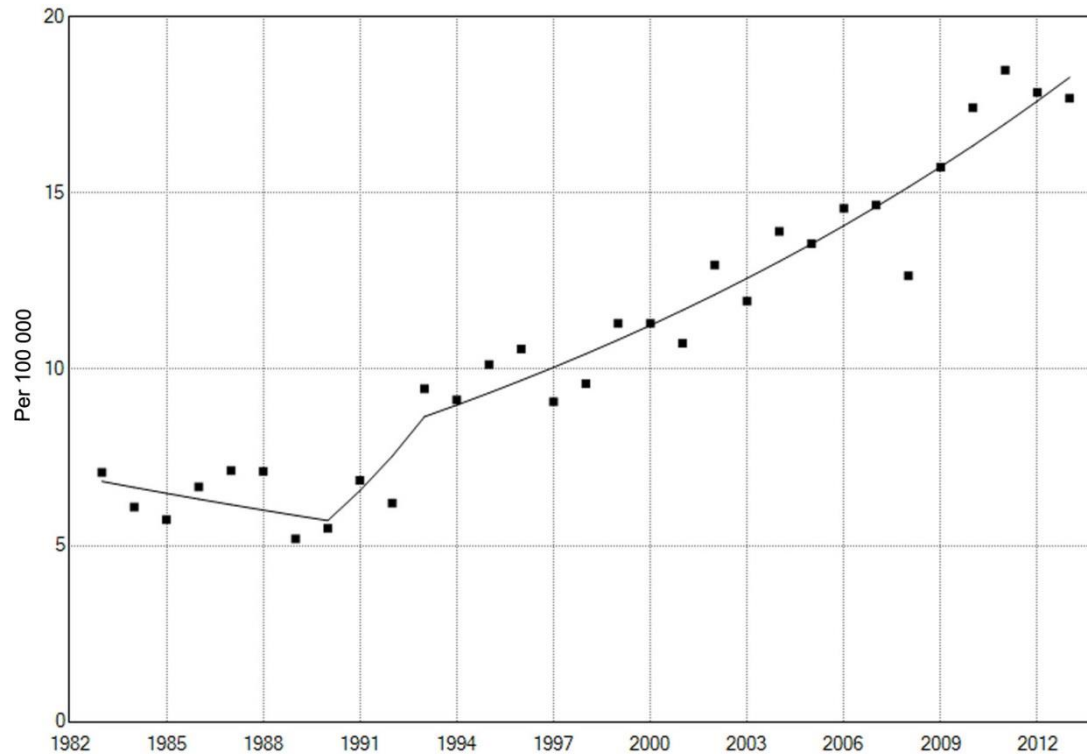
Proportion of newly diagnosed cervical cancer cases by stage 1983 - 2013



Cervical cancer incidence by age groups in different time periods



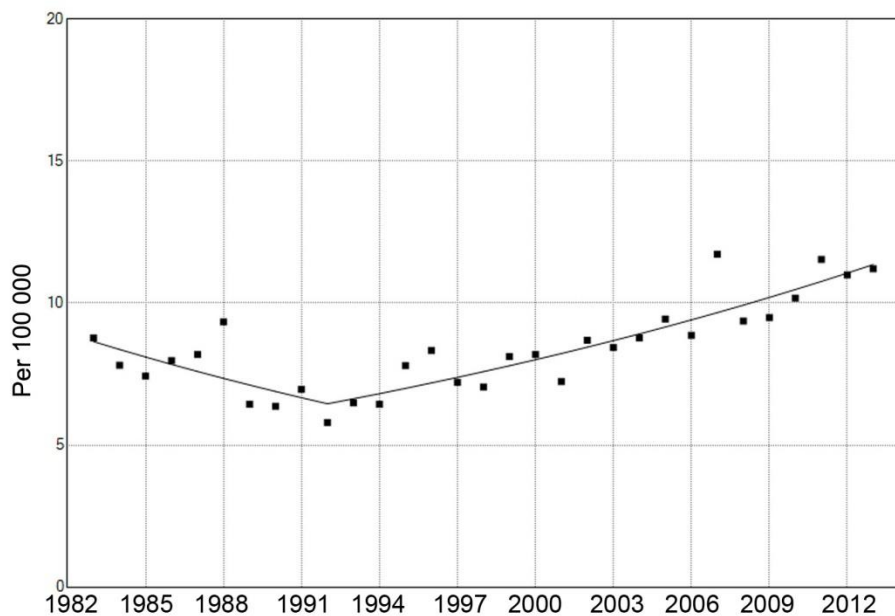
Trends in age- standardized cervical cancer incidence in Latvia 1983 – 2013



- **1990** (95% CI: 1988 - 1993) and **1993** (95% CI: 1992 - 1998)
- 1983 - 1990: **-2,5%** (95% CI : -5,9 - 1,0);
- 1990 - 1993: **14,9%** (95% CI : -11,7 - 49,4)
- 1993 - 2013: **3,8%** (95% CI : 3,1 - 4,6).

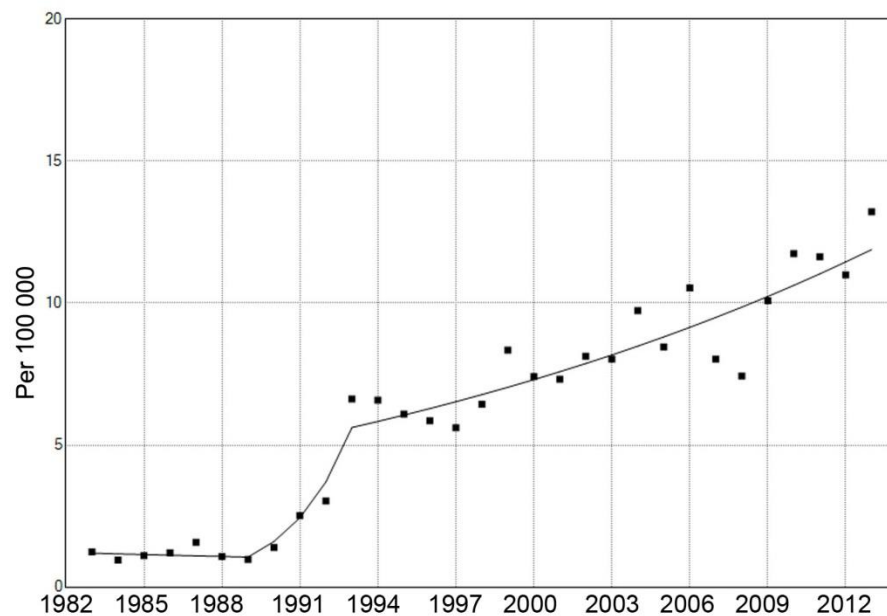
Trends in cervical cancer in Latvia 1983 – 2013, by stages

Stages I and II



1992 - 2013 (2,8%)

Stages III, IV and unknown

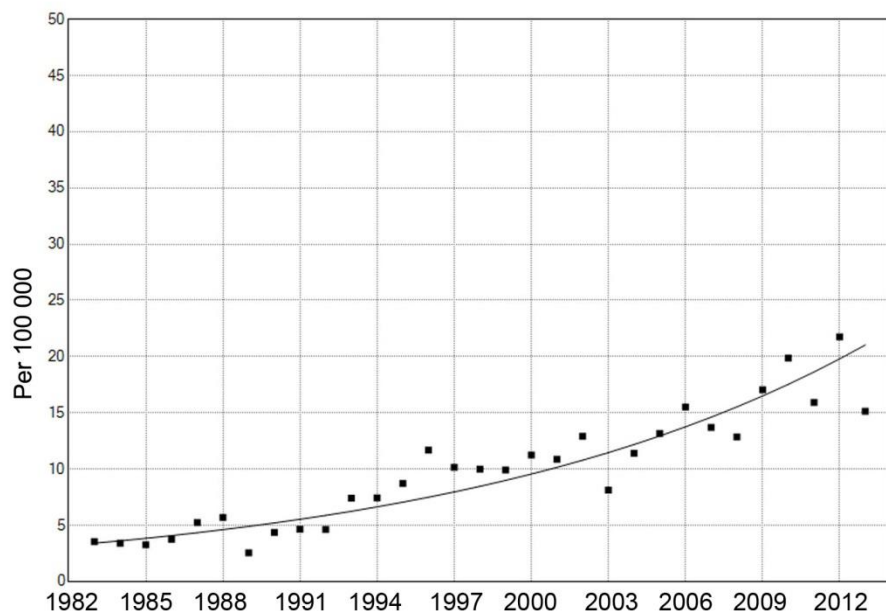


1989 - 1993 (51,6%)

1993 - 2013 (3,8%)

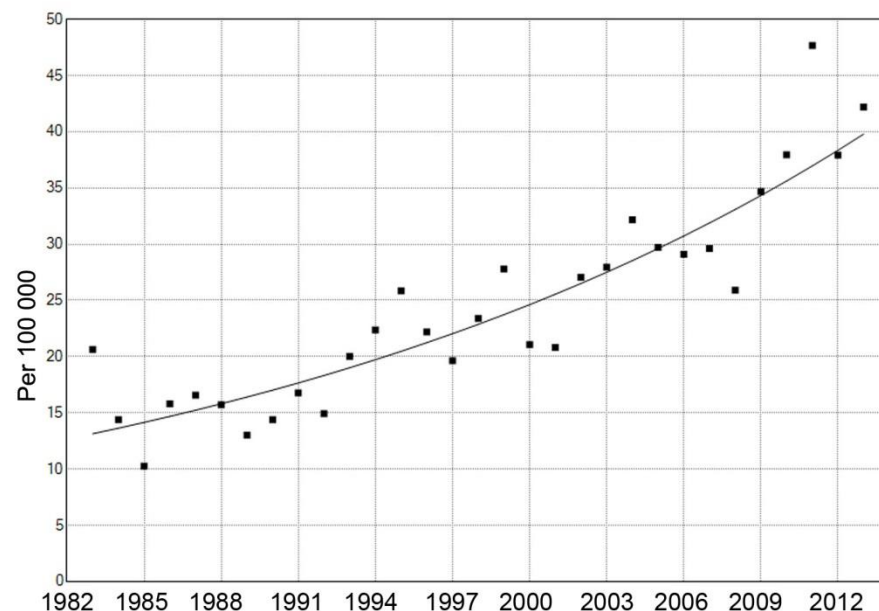
Trends in cervical cancer incidence in Latvia 1983 – 2013, by age groups

20 - 39



3,8% (95% CI: 3,1 - 4,5%)

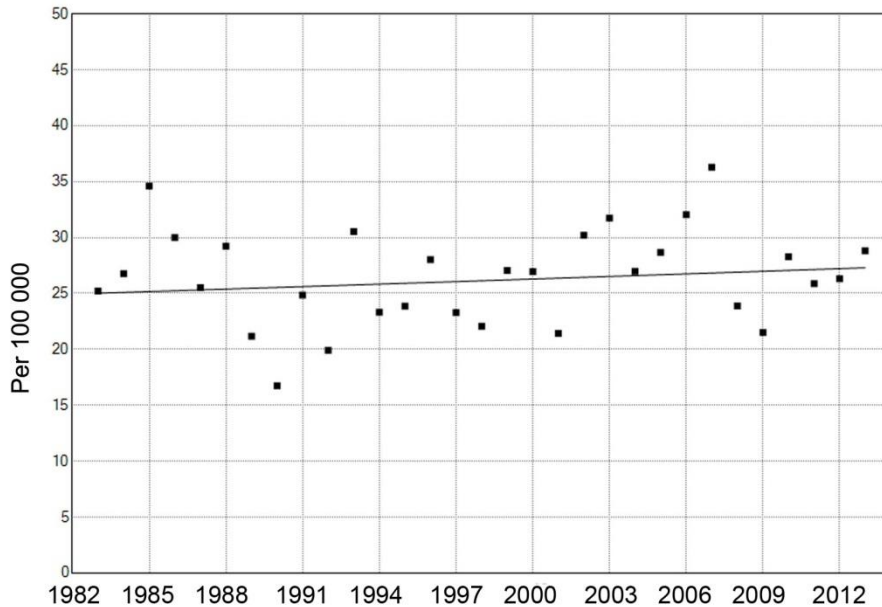
40 - 59



6,3% (95% CI: 5,3 - 7,2%)

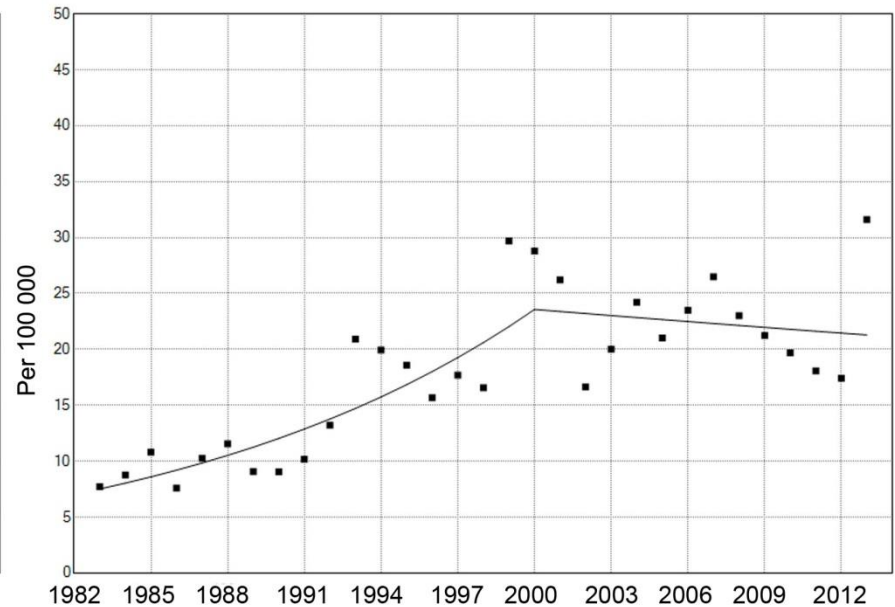
Trends in cervical cancer incidence in Latvia 1983 – 2013, by age groups

60 - 69



0,3% (95% CI: -0,4 - 1,0%)

70 and older



Before 2000: 7,0% (95% CI: 4,8 - 9,2)
after: -0,8% (95% CI: -3,8 - 2,3)

Discussion

- Since year 1983 (Soviet Union period)- compulsory regular preventive cytological examination (Viberga, I., Poljak, M., 2013)
- In 1989, before Soviet union collapses, compulsory cytological screening terminated (Viberga, I., Poljak, M., 2013)
- Economic and political changes in 1990 – 1993 influence affect to public health dramatically, cervical cancer incidence increases by 14,9% per year
- Proportion of early and advanced cancer cases: registered advanced cancer cases increases in the economically and politically critical period in Latvia (1992-1993). Partly explained by changes in cancer registration system – Latvian cancer registry established in 1993.
- Incidence increasing in the age groups 20 to 39 and 40 to 59 years can be explained by sexual behaviour changes in population combining with collapsed screening programme.
- It should be noted that the analysis of incidence trends in age groups were not taken into account changes in population age composition. More deep analysis needed taking into account birth cohort effects

Conclusions

- Cervical cancer incidence trends changes twice, in 1990 (95% CI: 1988 – 1993), and 1993 (95% CI: 1992 – 1998) divided incidence trend into 3 periods: in the period 1983 to 1990 incidence was initially decreasing, in 1990 - 1993 increasing dramatically and in 1993 - 2013 continues increasing with an annual percentage of 3,8% (95% CI: 3,1 – 4,6).
- Cervical cancer incidence trends shows changes during different economic and political periods in Latvia, however trends does not show any changes since organised screening programme started in Latvia in 2009.

References

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