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Prostate cancer incidence and mortality trends in the Baltic States and Belarus

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Introduction & Objectives: Prostate cancer incidence varies internationally due to differences in prostate specific antigen (PSA) use. Aim of this study was to provide the most recent detailed international epidemiological comparison of prostate cancer incidence and mortality in the Baltic States and Belarus.

Materials & Methods: The number of incident prostate cancer cases was obtained from the countries national cancer registries from start of data collection to latest available. Prostate cancer mortality and corresponding population data was extracted from the World Health Organization Mortality database from 1985 to latest available. Age-specific and age-standardized incidence and mortality rates were calculated (European Standard). The joinpoint regression model was used to provide an average annual percentage change and to detect points in time where significant changes in the trends occurred. In our study, years between 1995 and 1999 were defined as pre-PSA period and years between 2011 and 2015 as post-PSA period.

Results: Countries included in our study had different profiles of PSA uptake. Prostate cancer incidence had a continuous growth in countries in all age groups. The comparison of prostate cancer incidence in study countries showed almost two-fold differences in the age-adjusted rates in period 2011-2015 in Belarus 87.0, Estonia 158.3, Latvia 102.2 and Lithuania 203.4 cases per 100 000.
All countries experienced a continuous mortality increase throughout the whole observation period, but in the most recent years mortality stabilization has been observed in Latvia and Estonia, and a mortality decrease in Lithuania. In the period 2011-2015 mortality rates were in Belarus 19.7, Estonia 35.1, Latvia 35.1 and Lithuania 31.1 cases per 100 000.

Conclusions: Variation in the incidence of prostate cancer in the Baltic States and Belarus suggests the possibility that PSA performance and utilization spread may have highly influenced observed incidence trends with the lack of effect on prostate cancer mortality.