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# Effectiveness of breast cancer screening in women: case of Latvia

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# Summary

**Background.** Breast cancer is the most frequently diagnosed oncological disease in women in Latvia. It is often detected at an advanced stage hampering the effectiveness of treatment and reducing life expectancy. In 2009, a state-funded breast cancer screening was introduced in Latvia for women aged between 50-69. This study seeks to assess the effectiveness of breast cancer screening by analysing changes in two critical measurements: women attendance rate and breast cancer stage in the detection moment between 2010 and 2017/2019.

**Aim.** The aim of the current study is to:

1. assess attendance of women at breast cancer screening in Latvia;
2. analyse, what impact had introduction of breast cancer screening on the early detection of breast cancer in women in Latvia.

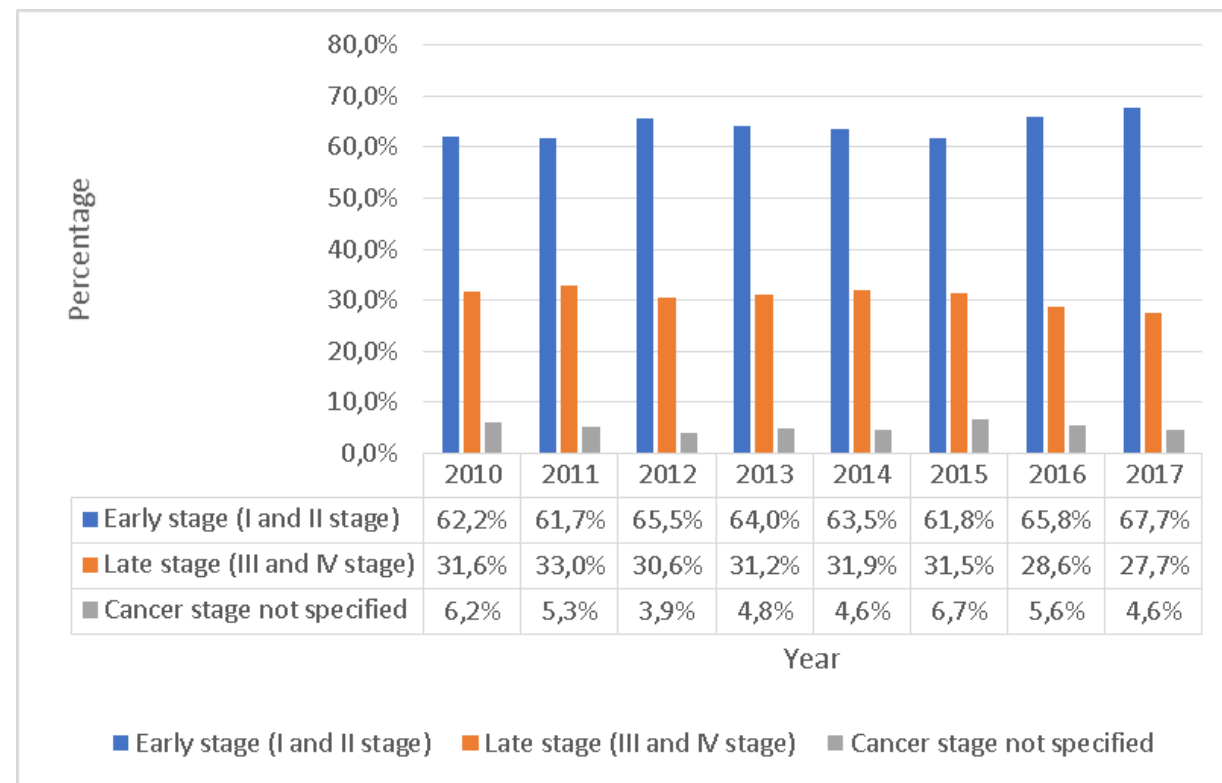
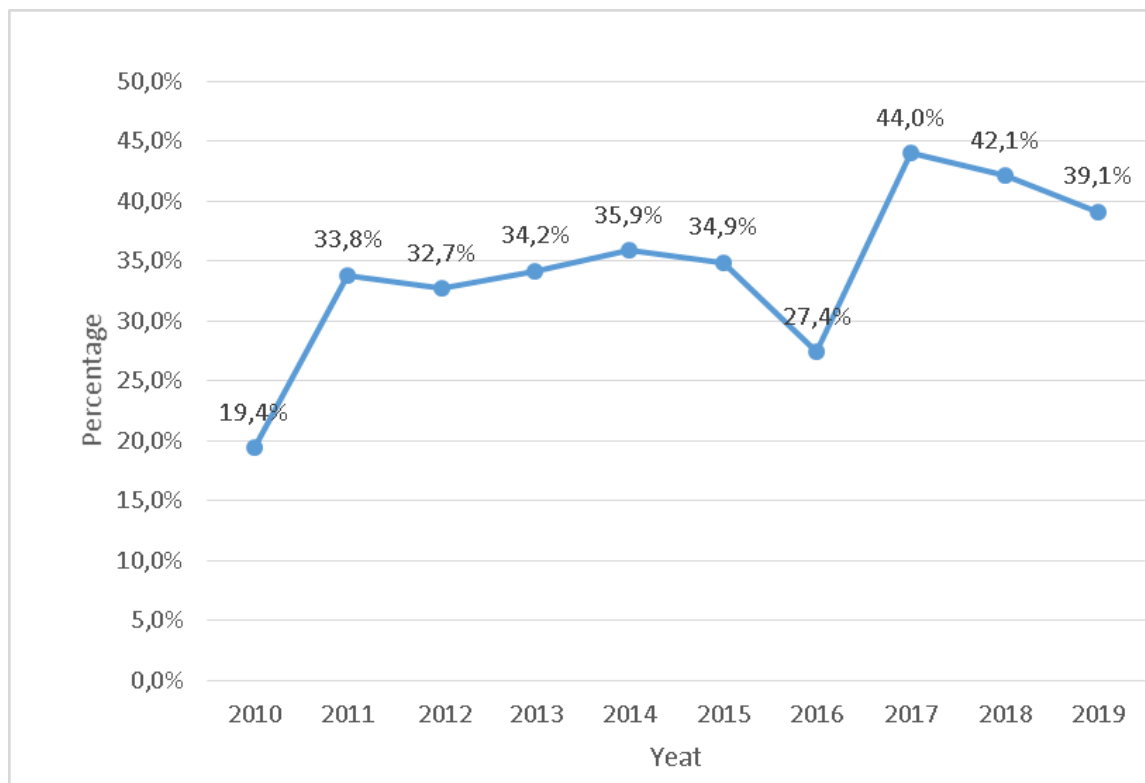
**Methods.** Statistical data of the Latvian Centre for Disease Prevention and Control (LCDPC) on attendance of women at the state-funded breast cancer screening from 2010 to 2019 and statistical data of LCDPC on the stages of breast cancer diagnosed from 2010 to 2017 were used for statistical analysis.

# Results

From 2010 to 2019, between 130 205 as minimum (2012) and 196 578 as maximum (2010) screening invitations were sent to women. In other research years, on average 140 000 invitations were sent annually. Between 2010 and 2019, women attendance fluctuated between 38 148 as minimum (2010), i.e., 19.4% of all sent invitations and 62 455 as maximum (2017), i.e., 44%. From 2017 to 2019, attendance reached its highest rate 44–39% respectively. In none of the years, attendance reached 50% of the sent invitations.

From 2010 to 2017, the lowest percentage of stage I, II breast cancer was detected in 2011, i.e., 61.7% (741) of all cancer cases, the highest was in 2017, i.e., 67.7% (767). From 2015 to 2017, the percentage increased annually from 61.8% (729) to 67.7% (767) respectively. The highest percentage of stage III, IV was detected in 2013, i.e., 33% (348), the lowest in 2017 (314), i.e., 27.7%. From 2015 to 2017, percentage decreased annually from 31.5% (472) to 27.7 (314) respectively. In addition, between 2013 and 2017, the number of stage III cases were decreasing annually (from 269 to 204 respectively).

# Results



# Conclusion

The attendance of breast cancer screening by women in Latvia is low, and lags behind the EU recommendations (70–75% attendance). Screening has shown its effectiveness for the early detection of breast cancer. Promotion of attendance can further facilitate early detection of cancer in larger number of women.