A comparison of the quality of breast cancer care in Norway and The Netherlands using the Personal Health Train

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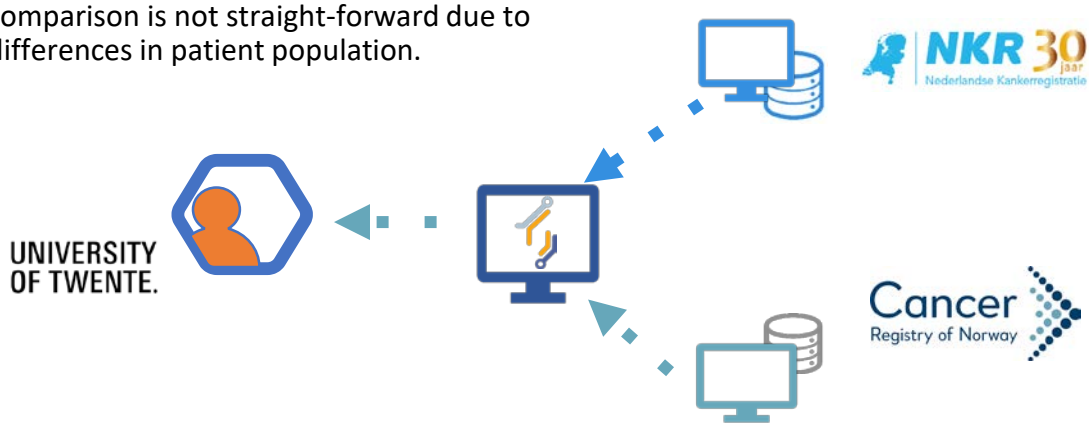
Introduction

Breast cancer is the most common cancer and one of the leading causes of death among women. The European Society of Breast Cancer Specialists (EUSOMA) has defined quality indicators that act as an instrument for hospitals to standardize the quality assurance. Comparing quality indicators between countries may help to identify areas for improvement and further improve the quality of breast cancer care. However, such a comparison is not straight-forward due to differences in patient population.

Approach: Propensity Score Stratification on Vantage6

We analyzed and compared five EUSOMA indicators in two countries: Norway and the Netherlands. To address differences in patient populations, Propensity Score Stratification (PSS) was used to match patient groups. To validate the federated algorithms, both pooled data and Vantage6 were used.



Vantage6 enables comparisons of quality indicators between geographies and organizations without exchange of patient-level data.

Results

In total 39,163 female breast cancer patients were included in the study, of whom 6377 from Norway. Quality indicators were computed and compared. Despite geographical differences, both countries offer a high quality of breast cancer care which may yet improve further in the future.
As anticipated, results of the pooled PSS and the federated PSS were similar.

Conclusions

The Personal Health Train has successfully been applied to support international research on quality of breast cancer care.

It may promote international research collaborations, even when patient-level data sharing is not possible or desirable.

Supported by
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