

# Conflict of Interest

The research findings presented in these slides are from a non-sponsored project that was performed via a research collaboration between Cytel Inc., IPAM e.V. and AOK PLUS

All co-authors have seen and agree with the contents of the abstract and there is no financial interest to report for this research. The authors have no conflicts of interest to declare.



# Real-World Evidence of Incidence, Initial Treatment, and Survival of Female Breast Cancer in Germany

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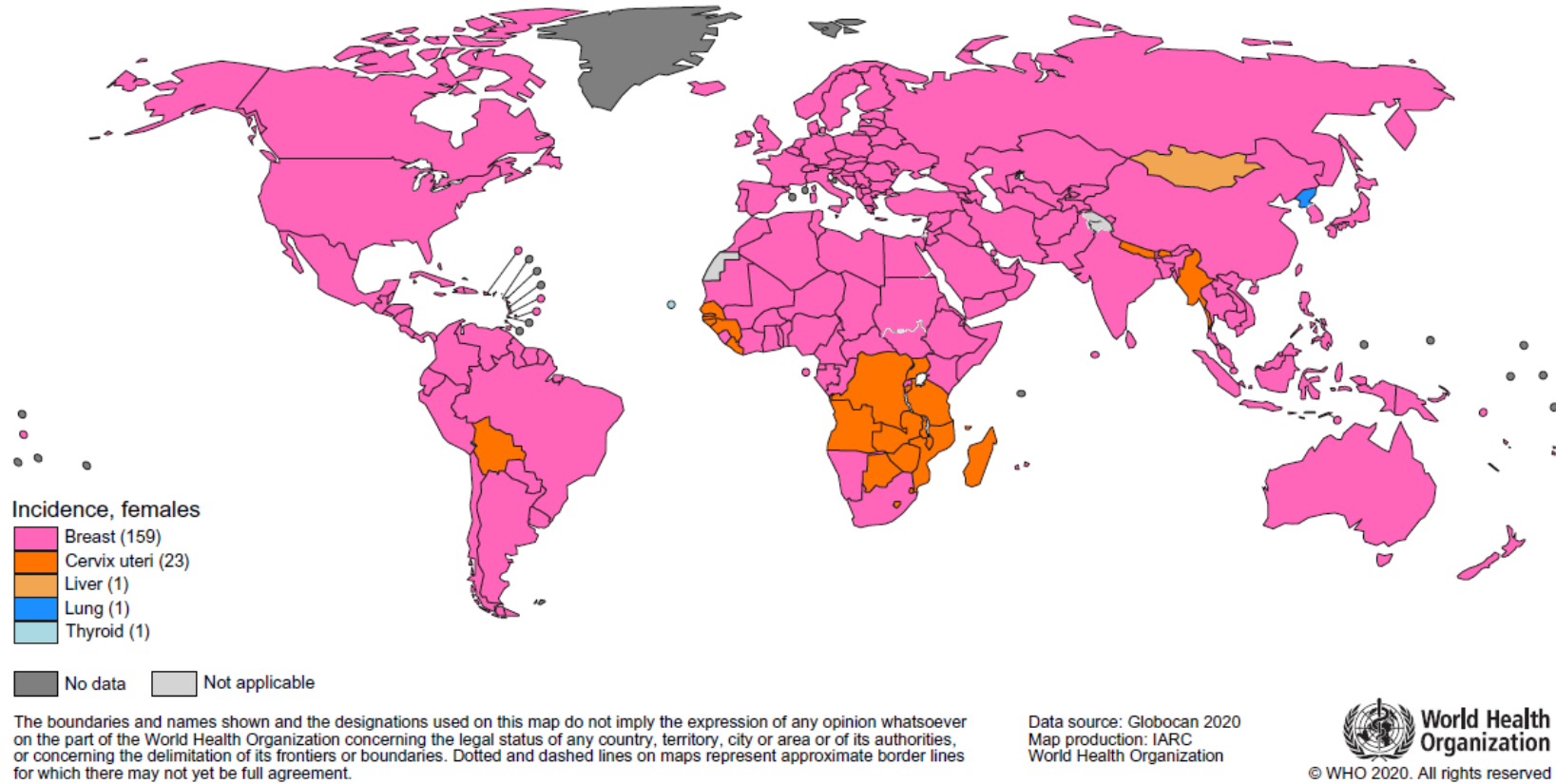
<sup>2</sup> Cytel Inc., Wismar, Germany

<sup>3</sup> IPAM e.V., Wismar, Germany

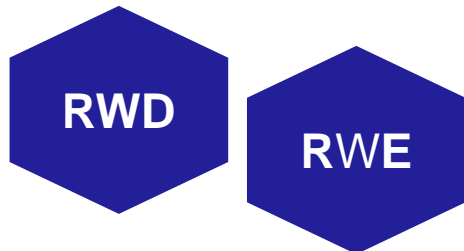
<sup>4</sup> AOK PLUS, Dresden, Germany

Tuesday, 8 November 2022

# Breast Cancer Overview



## Real-World Evidence



## Objective

To update the knowledge on therapeutic practices and survival of newly diagnosed breast cancer (BC) female patients, the study aimed to describe the incidence, initial treatment, and survival in Germany

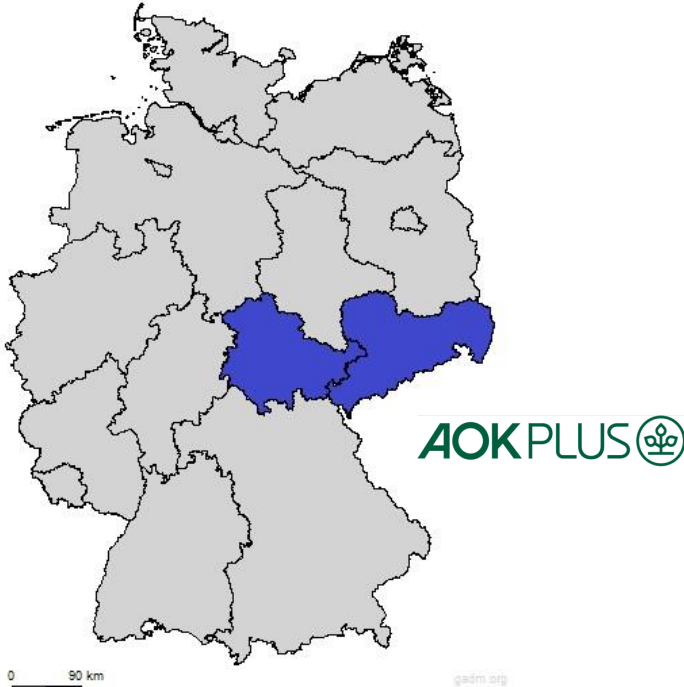
# Methodological Overview

*Study design*

A retrospective, epidemiological observational study using anonymized statutory health insurance claims data

*Data source*

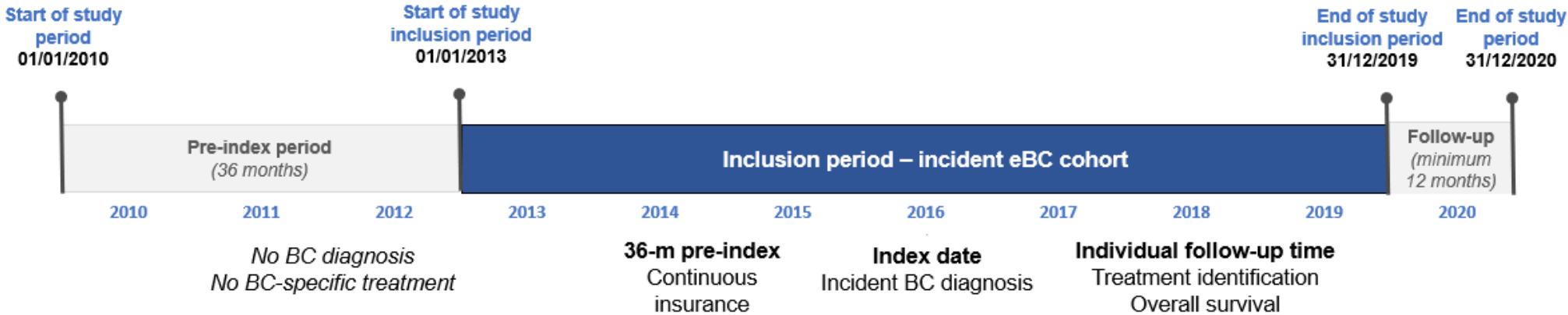
AOK PLUS covers approximately 3.5 million insured persons\* in the regions of Saxony and Thuringia in central-eastern Germany



*Case ascertainment*

<b>ICD-10 codes</b>	At least one inpatient and/or two outpatient diagnoses of BC [ICD-10 C50]
BC diagnosis-free and BC-treatment-free period of at least 36 months	

*Study periods*



\* AOK PLUS covers approximately 1.1 to 1.2 million female members over 18 years with a minimum of 36 months of continuous insurance

# Methodological Overview



## Incidence

- Crude and age-standardized incidence rates
- Person-time was calculated using the estimated population in the middle of the year
- Cumulative incidence



Bundesministerium für Gesundheit

German SHI population KM6 statistics



UNITED NATIONS DEMOGRAPHIC YEARBOOK  
NATIONS UNIES ANNUAIRE DEMOGRAPHIQUE

UN Statistics Division

## Time-to-treatment initiation

- Time from BC diagnosis to the initiation of first BC specific treatment

## Overall survival

- Measured as all-cause death
- Time from BC diagnosis until death or censoring

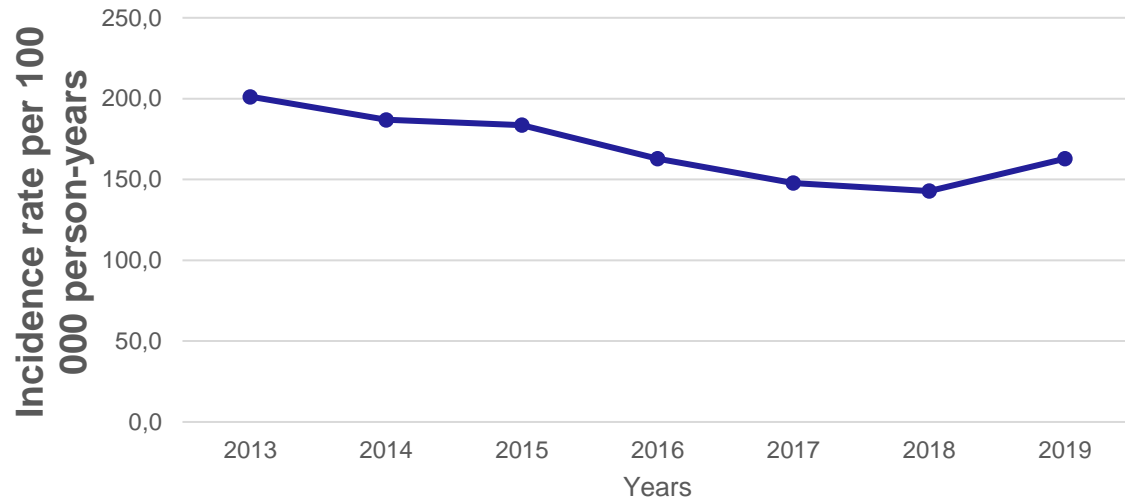
Kaplan Meier approach

# Incidence

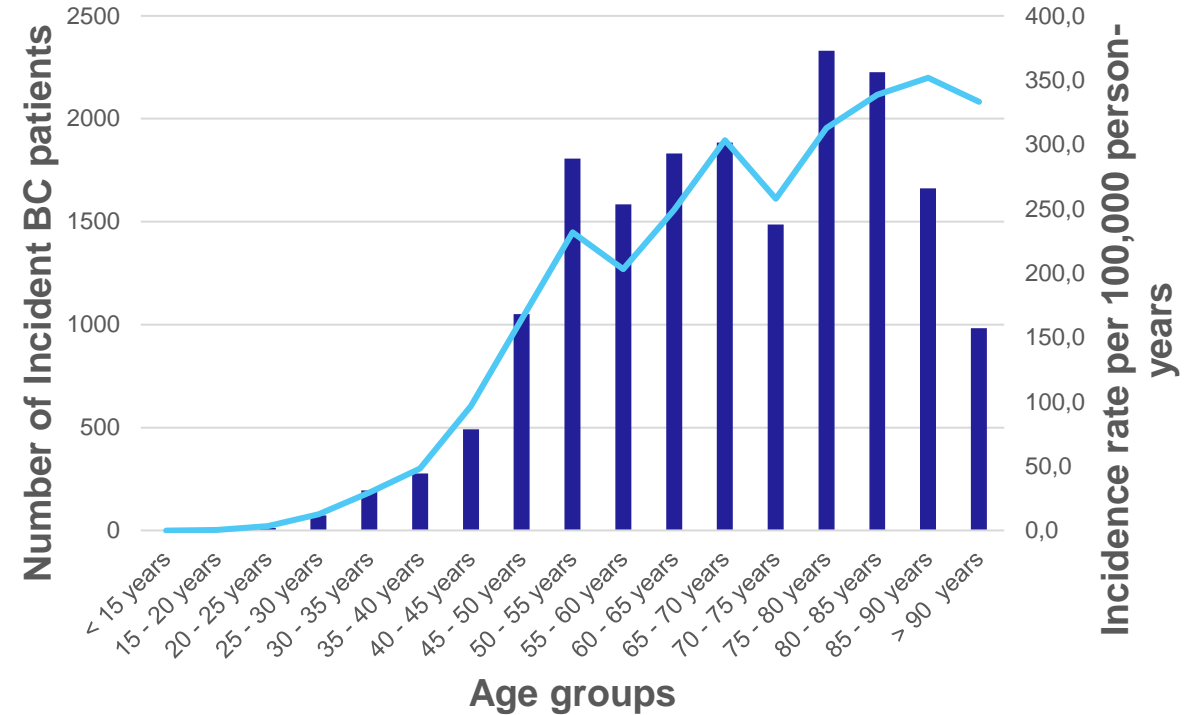
17,893 BC incident cases

## Crude incidence rate

168.3 per 100,000 person-years (95% CI 165.8 - 170.8)



Median age: 69 years (IQR 56 - 80)



## Age-standardized incidence rate

150.1 per 100,000 person-years (95% CI 147.8 - 152.3) – German SHI population

146.3 per 100,000 person-years (95% CI 144.0 - 148.5) – German population

## Age-standardized cumulative incidence

0.17% – German SHI population

# Initial treatment

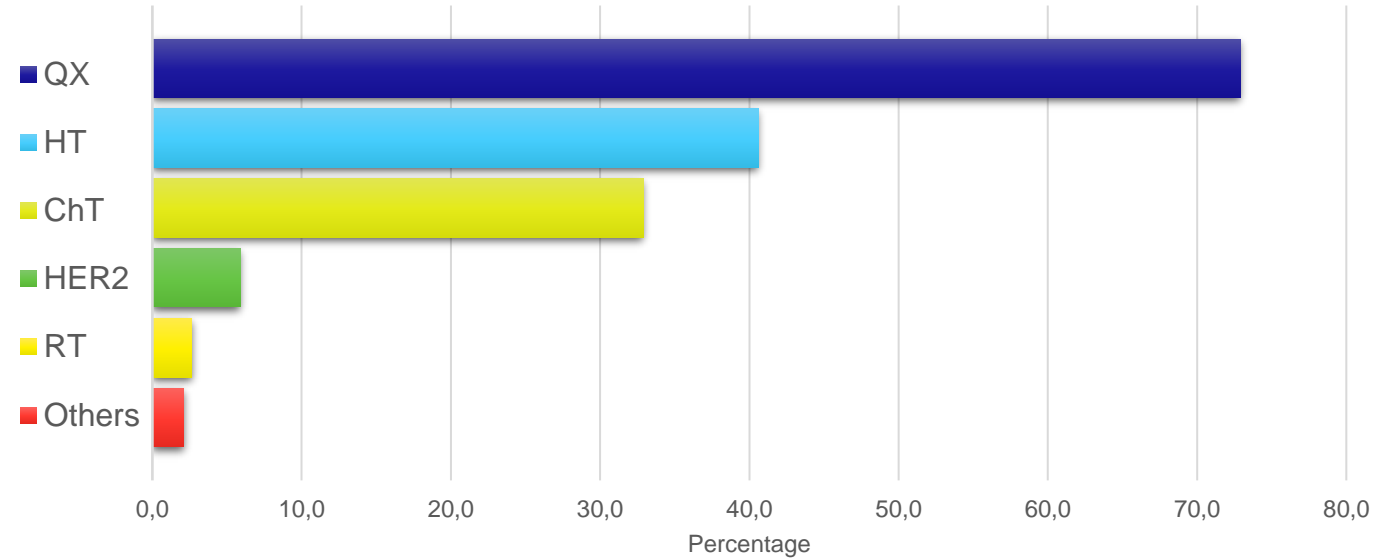
## Time-to-treatment initiation (TTI)

Median TTI was 1.14 months  
(95% CI 1.11 – 1.15 months)

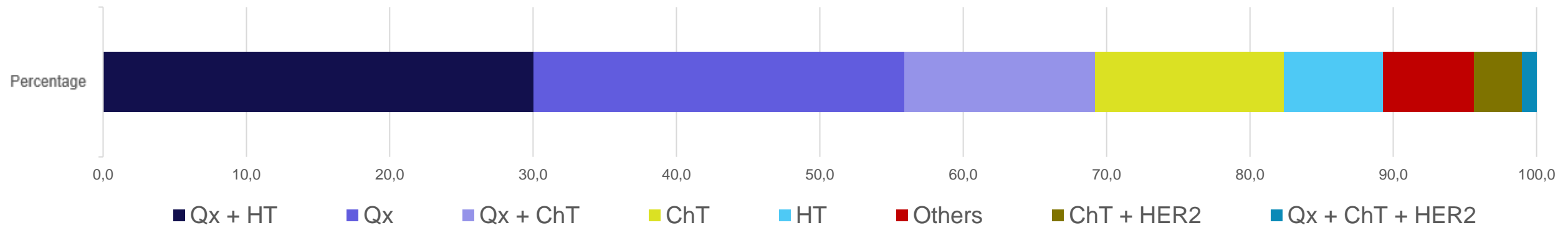
## BC incident cases treated

14,457 (80.1%) of cases received treatment  
within the 3 months after diagnosis\*

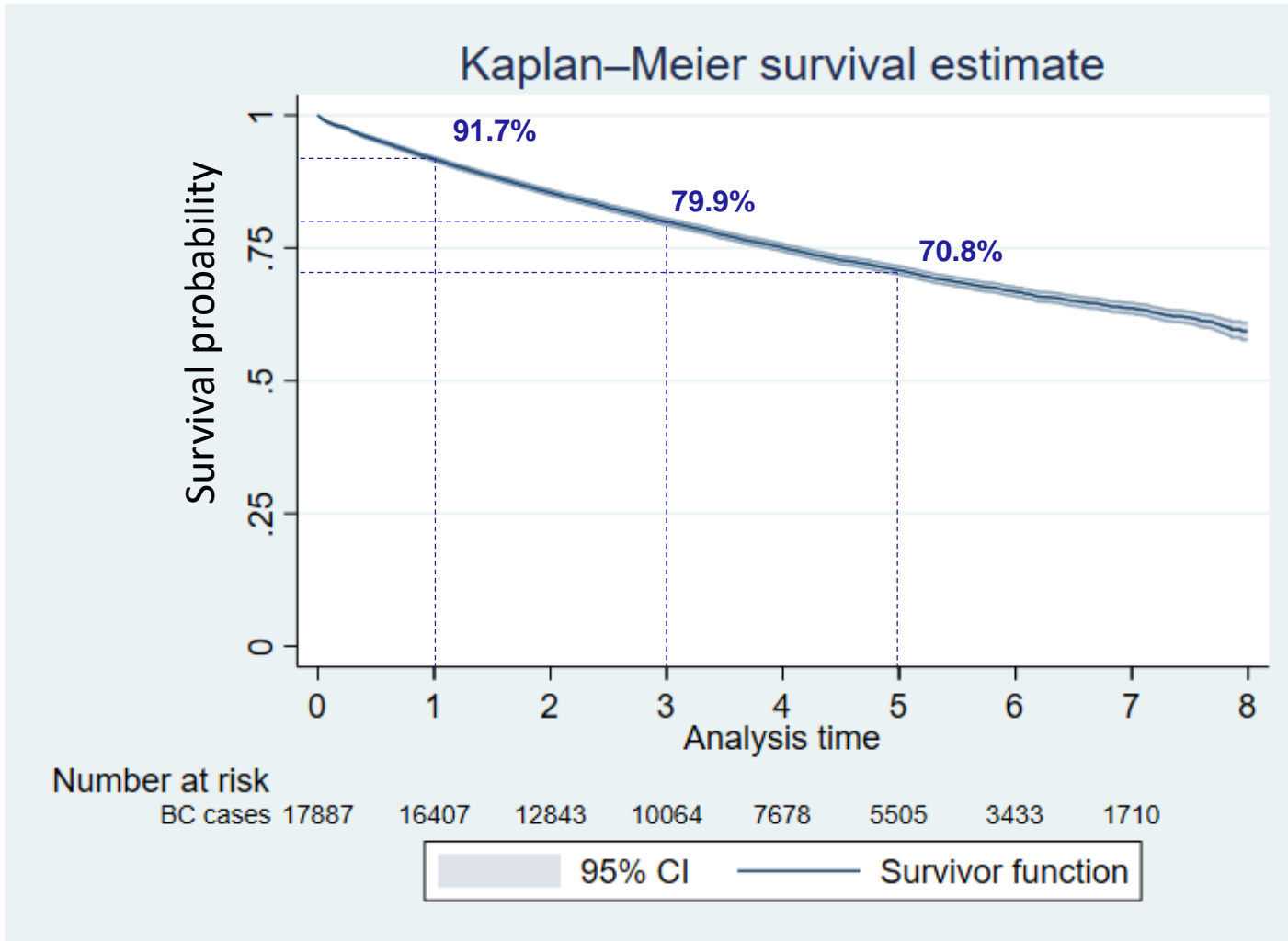
Initial treatment within 3 months after BC diagnosis



Initial treatment combination within 3 months after BC diagnosis



# Overall survival



Number (%) of deaths during the study period

4,710 (26.3%) deaths

Survival probability from BC diagnosis\*

1-year: 91.7% (95%CI 91.3% - 92.1%)

3-years: 79.9% (95%CI 79.3% - 80.5%)

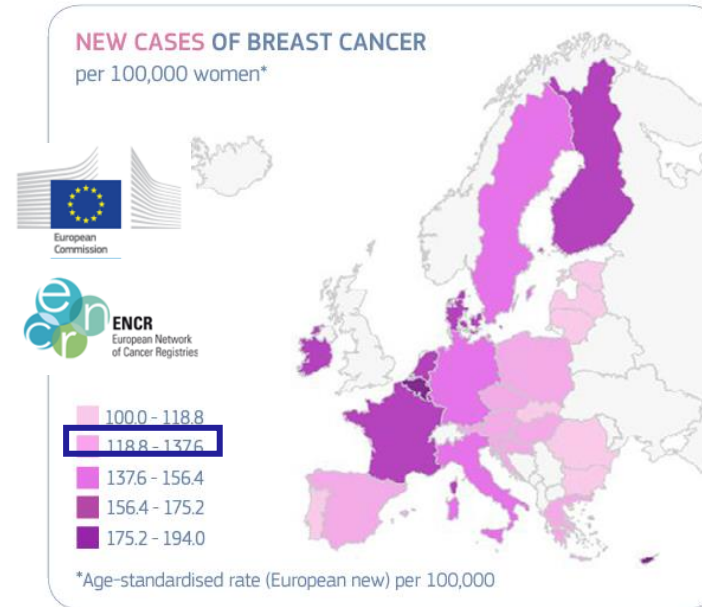
5-years: 70.8% (95%CI 70.0% - 71.5%)\*\*

# Discussion

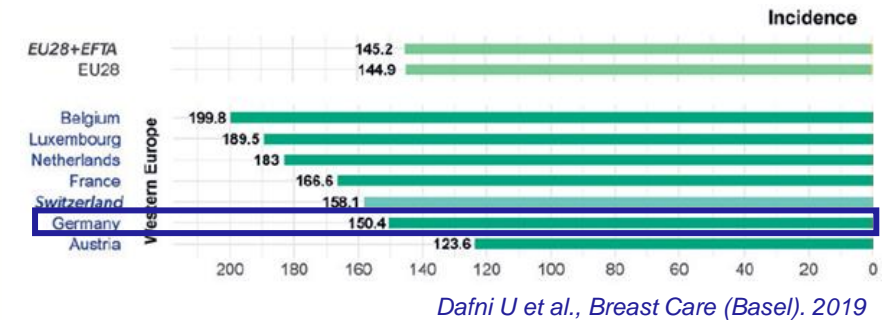
- This real-world study provides updated evidence on breast cancer epidemiology and therapeutic practices in Germany
- Our epidemiological findings are consistent with BC articles published in high-impact peer-review journals and public health institutions
- We describe the initial treatment patterns and observed a reasonable time-to-treatment initiation

## Incidence rate

### European Cancer Information System (ECIS)



## Breast Cancer Statistics in the European Union: Incidence and Survival across European Countries



## Overall survival\*

	1-year	3-years	5-years
Germany (ECIS)**	93.0%	82.4%	73.7%
Our RWE study in Germany	91.7%	79.9%	70.8%

Survival probability at 5 years patients aged below 65 years (90.0%, 95%CI 89.1% - 90.8%)

## Mortality among females by age categories in Germany 2019

Age categories	Mortality (%)
<50 years	0.04%
50 – 59 years	0.30%
60 – 69 years	0.77%
70 – 79 years	2.01%
≥80 years	9.41%

# Discussion

## Prospects - Reliable RWD provides the opportunity for:

- Assess effectiveness of treatments in clinical practice or among subgroups of patients excluded in RCTs
- Describe complex treatment patterns in real-world practices
- Define safety of treatment in terms of long-term adverse events

### Strengths

- Satisfactory time period and adequate sample size to estimate outcomes of interest
- Structured RW database including inpatient/outpatient diagnoses and complete record of prescriptions

### Limitations

- There is a lack of availability of clinical information and specific cause of death in the claims data
- Data could not reflect all potential interventions applied to each patient (reimbursement-related data)

# Conclusion – Key message

- **Breast cancer** remains a **main public health concern** related to its high incidence rate and major disease burden
- The **initial treatment patterns** are in line with the European oncology guidelines for clinical practices
- The median age at onset highlighted that the **affected population consists of elderly patients** having a **higher risk of relevant comorbidities**, making the **treatment management more complex**

**The ageing population will result in a further increase in the burden of breast cancer and its impact on public health**

# Thank you.

For any further queries regarding this research,  
please feel free to reach out to **Jaime Luna**  
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