

MAMMA CARCINOMA –

DATA ANALYSES AND CLASSIFICATION OF TREATMENT IN AUSTRIA

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OBJECTIVES

Cost of illness analysis of incident breast cancer in Austria using mainly Austrian billing data from intramural and extramural medical treatment based on data from 2006/07 for treatment and degree of severity evaluation.

Regarding this project a detailed treatment course classification has to be realized to evaluate the costs and patient ways in Austrian health system.

Main questions

- Are the identified incident breast cancer cases representing reality (Austrian cancer registry) in Austria and can they be classified into groups?
- Are there extended benefits regarding patient way analyzation using billing data in comparison to clinical studies?

Challenges to deal with

- Combining anonymized patient data
- Dealing with short time intervals regarding cancer therapy

METHODS

General strategy

Main strategy of the project is the combination of data samples detected by Austrian cancer registry and billing data of intramural and extramural single person datasets in combination with intake data of medication for each patient.

By comparison of recorded data from national statistics, including TNM-classification of each new breast cancer case on one hand, and the ICD10-diagnoses, as well as medical individual services on other hand, results in classification of breast carcinoma on single person level are achieved.

Detailed workflow

In Figure 1 the main structure for incident cases extraction is represented. The result of this process is the starting point for classification of the cases.

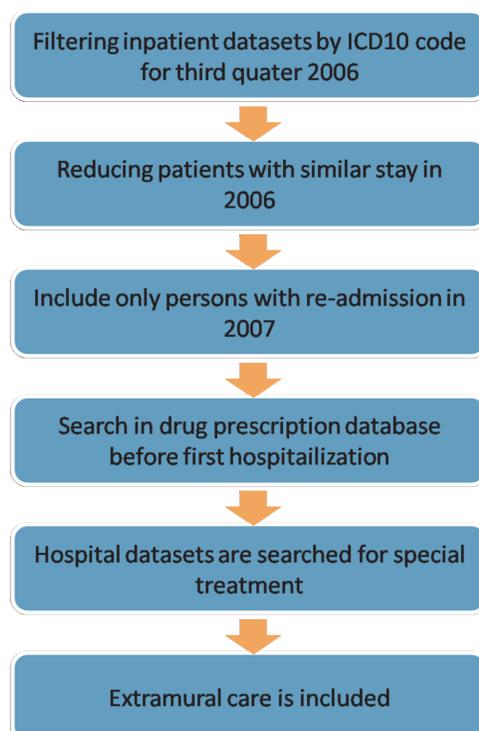


Figure 1: General structure showing the data analyzation pathway for medical treatment data connected to an anonymized person

For separation of drug treatment concerning chronic diseases versus cancer indicated drug administration, the half year time span before the first mamma carcinoma detection and the year afterwards is analyzed separately.

Special medication groups are assessed in detail and inclusion/exclusion – criteria for costs and treatment are defined.

RESULTS

General results

Based on this identification a classification of new detected carcinoma in six groups:

- hormone receptor positive,
- Her 2 positive,
- hormone receptor positive and Her 2 positive,
- triple negative,
- metastasizing mamma carcinoma,
- early stage mamma carcinoma without chemo therapy in course of treatment

is defined. This classification for each single women dataset is the starting point for further analysis and represents the main Austrian data structure for cost evaluation of treatment.

Test of incidence quality

Identified mamma carcinoma cases for 2007 based on billing data: 4882
Mamma carcinoma data from Austrian cancer registry for 2007: 4833
⇒ relative error of only 1.0%

Mamma carcinoma incidence 2007 in Austria

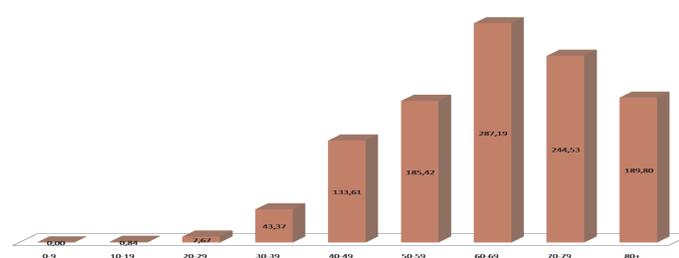


Figure 2: Calculated incidence of mamma carcinoma diagnosis dependent on the age of the women based on billing data

CONCLUSIONS

This classification leads to better insights for cost evaluation representing the state of the art in Austria and to better overall reliability because the margin of uncertainty of the parameters can be reduced significantly.

Using billing data for identification of new tumor cases in comparison with overall cases reported by data from Statistik Austria (Austrian cancer registry provider) provides detailed information on the patient pathway and therefore the main benefit is getting detailed knowledge on patient care in reality (shown in Figure 3).

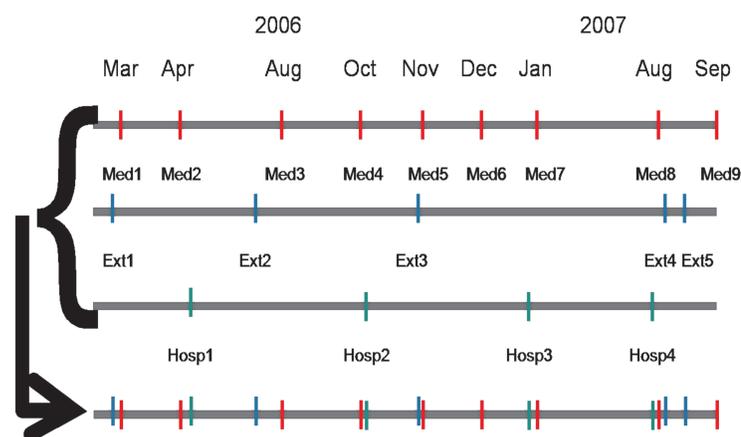


Figure 3: Single data sources are connected (in this case a sample set for drug prescription (Med1, Med2, ...), extramural care (Ext1, Ext2, ...) and hospital care (Hosp1, Hosp2, ...), and therefore give the whole patient way in the national health care system.

This datapool is afterwards directly connected to cost data and therefore results in reliable treatment cost data, which can be used for example for cost effectiveness analysis of screening.