

# Use of Health Care Administrative Databases to Estimate the Health Care Burden of Bone or Bone Marrow Metastatic Disease in Breast Cancer Patients: A Population-Based Study

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## Objectives

To assess the burden of disease of bone or bone marrow metastases (B/BMM) in breast cancer (BC) patients from a large population-based.

## Methods

Lombardy Region includes 9.9 million individuals. Eligible patients were identified through a data warehouse (DENALI), which matches with a probabilistic linkage demographic, clinical and economic data of different Healthcare Administrative databases. After excluding patients with diagnosis of BC during the 2000-2003 period, all female who during the year 2004 had a first hospital discharge with a IDC-9-CM code 174.XX, and diagnosis B/BMM (ICD-9-CM 198.5) were identified and followed up to 5 years or death (if occurring before the last day of observation). We evaluated demographic characteristics and total costs, (hospitalizations, drugs and outpatient examinations/visits) from the National Health Service's perspective.

## Results

A total of 10,435 eligible subjects were identified, 5.2% with B/BMM. Compared with patients without metastatic disease, patients with B/BMM were older (66.6 vs 62.1 years), showed higher mortality (34.5 vs 3.7 deaths/100 patient/years), and increased per patient health care cost (Euro/patient-year) in the first (21,014 vs 11,931), second (10,576 vs 4,190), third (9,394 vs 3,305), fourth (8,132 vs 3,364) and fifth (8,485 vs 3,360) year after diagnosis. In 2004, hospitalizations were the driver of total cost in both B/BMM (72.5%) and non-B/BMM (70.2%) groups, followed by drugs (21.0% and 14.9%) and outpatient claims (6.5% and 14.9%). Over the following years (2005-2009) drug expenditure on total costs increased in both B/BMM (41.5%) and non-B/BMM (40.7%) groups. All differences presented above, are statistically significant at the conventional level of significance.

## Conclusions

Administrative database analysis is an efficient tool to track medical costs in patients with BC and B/BMM, which poses a significant burden in term of both cost and mortality.