

episodes are associated with economic consequences for patients and employers. Hypoglycaemia has a negative impact on work productivity and patients' presence at work.

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HEALTH CARE RESOURCE USE AND COST IN ALZHEIMER'S DISEASE IN THREE EUROPEAN COUNTRIES – BASELINE FINDINGS OF THE GERAS STUDY

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OBJECTIVES: To describe baseline health care resource use and costs associated with Alzheimer's disease (AD) for patients and caregivers in three European countries from the GERAS study. **METHODS:** A prospective, multi-centre, non-interventional cohort study in France, Germany and the UK, enrolment October 2010–October 2011. Patients presenting within the normal course of care who were >55 years, diagnosed with probable AD (NINCDS-ADRD), not institutionalised and with an informal caregiver were categorised according to Mini-Mental State Examination (MMSE) score as mild (26–21), moderate (20–15) or severe (14 or less) AD. Patient and caregiver resource use in the previous month was collected using the Resource Use in Dementia (RUD) instrument. 2010 unit costs per country were applied. **RESULTS:** The study cohort included 1497 AD patients (38% mild, 32% moderate and 31% severe AD) and their caregivers (n=419 France, n=552 Germany and n=526 UK) with a mean (SD) patient age of 79.4 (6.8) France, 75.2 (7.6) Germany, 78.5 (7.8) UK and 62% females in France, 50% Germany, 54% UK. One or more nights in hospital were recorded for 4% of patients in France, 7% Germany, 1% UK. One or more outpatient visits (including GP visits) were recorded for 84% of patients in France, 86% Germany, 73% UK. Total mean (SD) patient health care costs were €407 (970) in France, €570 (1618) in Germany, €197 (312) in the UK. Overall mean (SD) caregiver time spent on patients was highest in the UK 208.2 (189.8) hours per month [170.1 (184.8) France and 180.0 (198.4) Germany]. **CONCLUSIONS:** Health care resource use in the month prior to baseline was lower than expected. The UK had the fewest patients with nights spent in hospital and outpatient visits but total caregiver time was highest. Understanding differences in resource utilisation patterns between countries is necessary when examining cost of illness in AD.

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HOSPITAL STAYS OF MULTIPLE SCLEROSIS PATIENTS IN GERMANY – REASONS, FREQUENCIES, DURATION AND IMPACT ON DRUG THERAPY

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OBJECTIVES: This study provides insights into hospital stays of German statutorily insured MS patients, compared to all insurants, not affected by the disease. **METHODS:** Information was extracted from a large longitudinal database of German health claims data. Roughly 3,000 MS patients were identified by ICD-10 diagnoses and information on drug prescriptions. The observational period lasts from 2006 until 2010. All hospitalizations of MS patients were included in the analysis. **RESULTS:** In 2009, MS patients had 0.57 hospitalisations on average (SD 1.30) with a mean length of stay of 6.7 days (SD 8.0). Hospital stays of all insured patients were less frequent (0.20; SD 0.71) and had an average duration of 6.9 days (SD 11.9). Roughly 46.4% of the hospital stays of MS patients were due to MS. Among those, 78% were coded with the DRG B68D [treatment of MS and cerebral ataxia without complications or comorbidities (CCs)], while 19% were coded as treatment of MS with CCs (DRG B68A). The following diagnostic procedures were observed quite often visual evoked potential (12%), somatosensory evoked potential (11.6%), and MRT (8%), as were procedures such as 6-003.f0 [Natalizumab, parental 300–600 mg] related to escalating drug therapy (6%). Many hospital admissions were observed shortly before changes in drug therapy: 41% of patients with a transition from basic to escalating treatment regime were hospitalized within 6 months preceding the therapy change. 11% of those patients were admitted in the month of treatment transition. Changes of medication within the basic therapy seem to be similarly affected by admissions (28% and 10% respectively). **CONCLUSIONS:** MS patients are hospitalized on average more than twice as often as all insurants. Almost half of all hospital stays among MS patients are related to the treatment of MS, which frequently leads to a change in drug therapy.

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ESTIMATING THE RESOURCES NEEDED TO IMPLEMENT A POPULATION-BASED COLORECTAL CANCER SCREENING PROGRAM THROUGH DISCRETE EVENT SIMULATION

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OBJECTIVES: Recent guidelines recommend colorectal cancer screening of average-risk population. Our objective was to estimate the resources needed (costs and colonoscopies) to implement a population-based colorectal cancer screening program. **METHODS:** A discrete-event simulation model was built to represent a colorectal cancer screening program for a target population of 100,000 women and men aged 50 to 69 years. The conceptual model for the screening process was based on the European Guidelines, which recommend biennial screening with

immunochemical faecal occult blood test (iFOBT) and colonoscopy for positives of iFOBT. Follow-up after adenoma removal differed according to findings of each colonoscopy classified by risk of adenomas. Parameters for initial screening were estimated from the areas corresponding to Hospital del Mar within the Colorectal Cancer Screening Program of Barcelona. Parameters for successive screenings were obtained from the literature. A 20-year horizon was simulated. The model included the population ageing. Costs included, lettering, personnel, iFOBT and colonoscopy. **RESULTS:** Annual cost of screening a target population of 100,000 people varied from 899 thousand euro the first simulated year to 1,322 thousand euro the 20th year. The number of screening colonoscopies varied from 1,659 the first year to 1,790 the 20th year. Colonoscopies for following-up screening findings should be added to this numbers, starting in the second year: from 245 to 1,371 follow-up colonoscopies the 20th year. **CONCLUSIONS:** Implementing a population-based colorectal cancer screening program following the European guidelines represents a cost of around 1 million euro by year the first five years for a target population of 100,000 inhabitants. The cost increases during the following 15 years until 1322 thousand euro. An important consequence of screening is the increase in the demand of confirmatory and follow-up colonoscopies related to the findings generated by the program. The demand of follow-up colonoscopies is directly related to the intensity of follow-up through colonoscopy.

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USE OF HEALTH CARE ADMINISTRATIVE DATABASES TO ESTIMATE THE BURDEN OF MULTIPLE SCLEROSIS: A POPULATION-BASED STUDY

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OBJECTIVES: To assess the economic burden of multiple sclerosis (MS) from a large population-based study. **METHODS:** Lombardy Region includes 9.9 million individuals. Its MS population was identified through a data warehouse (DENALI), matching with probabilistic record linkage demographic, clinical and economic data of different Healthcare Administrative databases. All individuals who during the year 2006 had an hospital discharge with a ICD-9 CM code 340.XX, and/or an exemption from co-payment health care costs specific for MS (code 46.34), were selected and followed up until December 31st 2009 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 1,020 eligible subjects were identified according to the inclusion criteria. The study population (35.1% male) had a mean age of 40.5 years at the index date (median: 39.0 years). Total health care costs were €7,325, €4,753, €4,901, €5,081 per patient-year at first, second, third and fourth year of observation, respectively. During the first year hospitalizations were the costs driver (60.0% of total costs), with drugs and outpatient claims contributing to 30.4% and 9.6% of total costs, respectively. Over the following years (2, 3, 4) drug expenditure was the most relevant cost, accounting for 59%-68% of total costs. Among pharmaceutical costs, ATC-class L drugs (antineoplastic and immuno-modulating agents) contributed for 83-90%, followed by ATC-class B drugs (blood system drugs; range: 4-7%). Only 384 of the 1,020 patients (27.8%) received MS specific treatment (interferons and/or glatiramer acetate) during the first year of follow-up. **CONCLUSIONS:** Administrative database analysis is an efficient tool to track medical costs in MS. Diagnosis in the hospital setting is the main reason of costs at disease onset, with drugs becoming a very relevant cost with disease progression.

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USE OF HEALTH CARE ADMINISTRATIVE DATABASES TO ESTIMATE THE HEALTH CARE BURDEN OF BONE OR BONE MARROW METASTATIC DISEASES 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 ICD-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 pa-