were positively correlated to age (p $<$ 0.05). This effect was caused by slightly rising total treatment costs over age and a declining number of patients fulfilling the effectiveness criterion.

CONCLUSION: Cost-effectiveness ratios are positively correlated to age in the treatment of moderate asthmatics.

PP3

INCREMENTAL COST OF DISEASE IN NOSOCOMIAL PNEUMONIA FROM A HOSPITAL'S PERSPECTIVE: A FEASIBILITY STUDY

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OBJECTIVE: To investigate the feasibility of different methodologies for a prospective matched-pair design study on the incremental daily cost of disease for patients with nosocomial pneumonia (NP) from a hospital's perspective.
METHOD: Adult patients newly admitted to three ICUs with $<$3 days of hospitalization and without preexisting pneumonia were followed up daily until discharge (maximum 30 days). Any new onset of NP was registered. Gender, age, diagnosis at admission, underlying disease, surgery, ward, further diagnosis, Apache II-Score, and Kropec-Pneumonia-Risc-Score were preselected as matching criteria for controls. Consumed resources were documented daily. Costs were calculated by two methods: a combined bottom-up approach (resource consumption of drugs, blood products, diagnostics, other medical materials) and top-down approach (proportionate cost based on accounting figures by ward for all other costs). Alternatively, all costs were calculated top-down based on administrative data.
RESULTS: In 25 days 112 patients were registered; 50 met all study criteria, of whom 3 developed nosocomial pneumonia. Matching was possible only on gender, age, reason for admission (eight categories), ward, hospital days until onset, immunosuppressive and respiratory status. The average incremental daily cost for patients with NP was DM 440 $\pm$ 140%. Both costing methods led to similar results (2% difference). The first method required significantly more time for data collection. The sample size for a study, given that the 95% confidence range of cost equals the mean of the incremental cost (33%), is 40 patients with NP, plus an adequate number of controls.
CONCLUSION: The approach involving some bottom-up data is not feasible for a full study. The top-down only approach more efficiently leads to quite similar results. For reconfirmation, a larger sample size would be necessary. However, time saved accompanies a loss in precision. In the future, more wards, with preferably long average stays, should be included to efficiently document more cases of nosocomial pneumonia.

PP4

ECONOMIC IMPACT OF SMOKING IN GERMANY

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Smoking is a high-risk behavior affecting the health and economic welfare of a society. Thus it is important to quantify the economic burden of the negative impact due to smoking in Germany. Approximately 33.4% of the male and 20.4% of the female German population are current smokers.
OBJECTIVE: This study investigates the healthcare costs of smoking on the six most frequent diseases associated with the inhalation of tobacco smoke: lung cancer (ICD 162; attributable to smoking, 89%), cancer of the mouth and larynx (ICD 140–149, 161; 85%), chronic obstructive pulmonary disease (COPD, ICD 490–491; 73%), coronary artery disease (ICD 410–414; 35%), stroke (ICD 434–438; 28%), and atherosclerotic occlusive disease (ICD 440; 28%).
METHODS: A data search was carried out using several literature databases including MedLine and DIMDI, as well as health insurance and Federal Institute of Statistics databases.
RESULTS: Total smoking-related costs for these diseases in Germany are 31.4×10^9 DM, equivalent to 49% of the overall costs. In detail (1995 figures), smoking-related lung cancer contributes 4.8×10^9 DM, cancer of the mouth and larynx 2.5×10^9 DM, COPD 11.3×10^9 DM, coronary artery disease 8.6×10^9 DM, stroke 3.1×10^9 DM, and atherosclerotic occlusive disease 1.1×10^9 DM.
CONCLUSION: The conservative calculation of the economic impact based on only 6 of more than 25 diseases known to be associated with smoking results already in a burden of more than 31 billion DM. Further detailed analyses are needed to better quantify the health economic impact.

PIM1

COST-EFFECTIVENESS ANALYSIS OF A FIXED COMBINATION (DICLOFENAC + MISOPROSTOL) IN THE PREVENTION OF GASTROPATHY IN ARTHRITIS PATIENTS IN BELGIUM

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OBJECTIVES: To calculate the costs and cost-effectiveness of a fixed combination of diclofenac 75 mg + misoprostol 200 μg bid compared with diclofenac 75 mg bid in preventing gastropathy in Belgium.
METHODS: We developed a new decision-analytical model comparing diclofenac + misoprostol (DM) to diclofenac (D), taking into account clinical data on gastrop-