were classified by residential location (urban, suburban, rural), Massachusetts has 351 cities and towns; 10% urban, 19% rural, and 71% suburban. Hospital charges, adjusted by a 0.517 cost-to-charge ratio, medical inflation and geographic factors are reported in 2007 US$. RESULTS: The cohort (n = 53,604) had 92,776 asthma-related encounters (65% ED visits) during the year. The proportion of ED visits for suburban patients was significantly (p < 0.05) lower. On average, rural patients (2%) had 1.7 encounters (range: 1–11), 5.2 asthma-related care days and accrued $5280 per patient. Suburban patients (46%) averaged 1.6 encounters (range: 1–29), 5.5 care days and $9325 per patient. Urban patients (52%) had 1.8 encounters (range: 1–50), 5.9 care days and $8736 per patient, on average. Over the year, rural patients used 2768 inpatient days and 1582 ED hours accruing $4.9 million in asthma-related care costs. Suburban patients accrued 66,823 hospital days, 45,954 ED hours and $116.6 million. Urban patients used 74,359 hospital days and 46,196 ED hours in one year, accruing $116.1 million. CONCLUSION: Most patients were from urban locations; however those from suburban areas had a higher ratio of inpatient stays to ED visits, which contributed to the higher average asthma-related cost per suburban patient.

ECONOMIC EVALUATION OF SECOND-LINE THERAPIES IN ADULT PATIENTS WITH ASTHMA WHEN CONSIDERING COMPLIANCE—AN ANALYSIS FROM A SWEDISH HEALTH CARE PERSPECTIVE

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OBJECTIVES: The objective of this study was to compare costs and effects of montelukast (MON) as add-on to inhaled corticosteroids (ICS) with long-acting β2 agonist (LABA) as add-on to ICS in adult patients with asthma when compliance is taken into consideration and from a Swedish health care sector perspective. METHODS: A health economic model was developed to calculate the incremental cost utility ratio of MON compared to the LABA salmeterol (SAL). Head-to-head data from IMPACT, a two-year 48-week clinical study (N = 1490) of patients with moderate asthma, was used in the model to estimate the relative effectiveness of the two regimens. The relative compliance for SAL was assumed to be 0.8 vs 1.0 for MON in the base case scenario. The analysis included costs for drugs, asthma events and adverse events. Event rates and asthma specific quality of life data for MON and SAL treated patients were collected from the IMPACT trial, while resource utilization and unit costs to treat the events were collected from local sources. RESULTS: In comparison with SAL, MON is associated with somewhat higher cost, but has, due to similar efficacy and better compliance, better effectiveness (more prevented attacks and more QALYs gain), less asthma-related hospitalization, and less serious drug-related side effects. The incremental cost per QALY for MON + ICS compared to SAL + ICS after adjusting for relative compliance was 7 000 EUR per QALY in the base case. CONCLUSION: When added to ICS, MON compared to SAL shows a favorable cost-utility in Sweden. This conclusion was stable for reasonable variations in the modelling assumptions.

EXTENT OF UNCONTROLLED DISEASE AND ASSOCIATED MEDICAL COSTS IN SEVERE ASTHMA IN THE NETHERLANDS

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OBJECTIVES: Asthma is a major public health problem with considerable economic impact. The aim of this study was to assess the extent of uncontrolled disease and associated medical costs in severe asthma. METHODS: Data were obtained from the PHARMO Record Linkage System (PHARMO RLS) which includes drug dispensing and hospitalizations for 2 million subjects in The Netherlands. Severe asthma patients (12–49 years) were defined as those who had used long-acting beta-agonists and inhaled corticosteroids for over 200 days and short-acting beta agonists for at least 100 days in 2004. Uncontrolled asthma was defined as a hospitalization for asthma or use of multiple, short (<30 day) courses of oral corticosteroids. Reimbursed costs of asthma drugs and hospitalizations were calculated. A matched case-control analyses was performed to compare asthma treatment of cases (hospitalized for asthma or multiple courses of oral corticosteroids) and controls. RESULTS: A total of 4.7% of patients receiving at least 2 asthma preparations in the previous year had severe asthma. A total of 17.4% of these were defined as having uncontrolled asthma. Excess drug costs for uncontrolled asthma with hospitalization were €664 per patient per year and €282 per patient per year for patients without hospitalization. Including hospital admission costs, excess costs were over €10,000 per patient per year. Lack of control did not seem to be caused by under-treatment. CONCLUSION: Poor control of severe asthma leads to disproportionately increased direct costs compared to controlled severe asthma, especially when hospital admission is required. Hospitalized patients representing 2% of the patients with severe asthma are responsible for 23% of the total direct costs.

THE MONTREAL PROTOCOL: CONCERNS OVER THE FUTURE TREATMENT OF ASTHMA

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OBJECTIVES: It is estimated that over 4.6 million people suffer from asthma in England and Wales at an estimated annual cost to the National Health Service (NHS) of more than £889 million. Beclometasone dipropionate (BDP) is the current mainstay of inhaled corticosteroid (ICS) therapy for asthma, and approximately 80% of patients who are prescribed an ICS receive BDP. However, chlorofluorocarbons (CFC), which are used as propellants in the majority of BDP formulations, are now being phased out in accordance with the Montreal Protocol, a global initiative to reduce global warming. QVAR (BDP) utilises environmentally safe hydrofluoroalkane (HFA) in its delivery system. It has equivalent therapeutic effect at about half the daily dose of CFC BDP due to superior lung penetration. The UK National Institute for Health and Clinical Excellence (NICE) are currently appraising a broad number of ICS licensed for the treatment of chronic asthma. At the time of the enactment of the Montreal Protocol, when CFC-based BDP will no longer be manufactured, only HFA based alternatives will be available. We wished to explore the