RESPIRATORY-RELATED DISORDERS – Cost Studies

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OPTIMA MODEL-BASED COST-UTILITY ANALYSIS OF FIXED COMBINATION FORMOTEROL/FLUTICASONE VS. BUDERUSONIDE FORMOTEROL IN TREATMENT OF ASTHMA IN RUSSIA

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OBJECTIVES: To compare cost and utility of asthma treatment with fixed combinations ICS+LABA Salmeterol + Fluticasone (SAL/FP maintenance treatment) vs. Budesonide-Formoterol (BUD/FOR) in both maintenance and rescue treatment.

METHODS: OPTIMA model includes 4 steps-by-step sub-analyses of 1- drugs cost, 2- cost and utility (quality of life; QoL) with controlled and uncontrolled asthma, 3- proportion of controlled and uncontrolled asthma achieved by using comparators, 4- total cost, saving and utility. In this analysis we used: average drug prices and drugs dosage proportion sold in reimbursement in 2008 from Farmexpert market monitoring; number of inhalations per day data was derived from instruction and published study (Johansson G. et al. 2006) for SAL/FP and Budesonide-Formoterol, respectively; QoL and number of resources with controlled and uncontrolled asthma was derived from doctoral dissertation of Demko LV. 2007, resources unit-cost from government regulation on 2009 health care insurance program; work-off day cost respected; QoL and number of resources with controlled and uncontrolled asthma, respectively.

RESULTS: Average monthly cost of drugs were 1672 Rub and 1458 Rub (~134% published % of asthma-control days because of no data on % of asthma-control). Total cost were lower in SAL/FP arm is lower than in BUD/FOR, but utility is higher. Therefore, SAL/FP is the dominating alternative.

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THE IMPACT AND COSTS OF REIMBURSED SMOKING CESSATION USING VARENICLINE IN DENMARK

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OBJECTIVES: To show the economic consequences of implementing reimbursement for pharmacological smoking cessation, i.e. varenicline, in Denmark compared with future disease events avoided and corresponding savings in the health care sector and the society due to reduced smoking prevalence.

METHODS: A costing template developed by the National Institute for Health and Clinical Excellence in UK for the implementation of varenicline in smoking cessation in the UK (http://guidance.nice.org.uk/TAI23/CostTemplate/xls/English) was adjusted and applied for Denmark using Danish data on smokers, costs of pharmacological smoking cessation, costs of disease, morbidity and mortality and Danish reimbursement rules. RESULTS: The public health insurance costs in Denmark for reimbursing a quit-smoked smoker 12 weeks of prescribed varenicline will amount to 949.1-920 DKK (1 Euro = 7.45 DKK) with co-payment being lower for chronically ill persons. Assuming reimbursing 40,000 smokers will then be a cost for the national health insurance between 38.7-76 million DKK. However, the benefit will be 9,000 abstinence persons, thus preventing respectively 2110, 3383 and 5214 disease events (50% COPD) after 2, 10 and 20 years, respectively. Accordingly after 2 years, the health care sector savings due to an avoided first acute hospital contact (DKK-charges for each disease) amount to 47 mill. DKK or 281 mill. DKK for the society, when health care savings after the first acute contact and production loss are included. At 20 years health care sector savings rise to 141 million DKK (or 846 million DKK in societal savings) due to 9000 abstinent persons.

CONCLUSIONS: The study shows that break-even between higher health insurance costs (reimbursement of prescribed varenicline) and costs saved due to avoidance of the first acute hospital contact will for persons with a low reimbursement rate appear after less than 2 years after initiation of smoking cessation. Varenicline is reimbursed in Sweden, UK, Ireland and Belgium, but not in Denmark.

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THE ECONOMIC IMPLICATION OF EARLY DETECTION OF COPD IN GENERAL PRACTICE IN DENMARK

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OBJECTIVES: To estimate direct and indirect costs and quality of life (QoL) of patients with COPD exacerbation in comparison with costs and QoL of patients with similar COPD severity (GOLD criteria) but without exacerbation. METHODS: A total of 90 in- and outpatients with COPD (grade II-IV) exacerbation were assessed retrospectively (3 month prior to exacerbation) and prospectively (3 month after exacerbation). A control (CO-group) of 90 patients with the same grade distribution but in stable health during past 3 months was assessed retrospectively (past 3 months). Direct costs were hospitalization, outpatient visits, laboratory tests, imaging, medication and rehabilitation. Indirect costs included short and long term disability payments. All costs were converted to a period of 180 days; health care costs used 2008 prices from the payer’s perspective. At inclusion day (in both groups) and at final visit in the EXA-group a validated Czech translation of the EQ5D was completed. RESULTS: Both groups were comparable at baseline in terms of age, gender, duration of COPD. Mean 6-months costs were significantly higher, €3796 vs. €1540 (HÉ = 262CZK), in the EXA-group (p < 0.001). Direct costs accounted for 86 % in the EXA-group and 78 % in the CO-group. Costs for exacerbation management (hospitalization and/or outpatient treatment) and medication represented major cost-drivers in the EXA-group. In the CO-group medication represented 52 % of direct costs. EQ5D utilities in the CO-group and in the EXA-group at final visit were comparable (0.566 EXA-group vs. 0.582 CO-group, NS). EXA-group utilities at inclusion were significantly lower compared to final measurement (0.566 vs. 0.582; p < 0.001), reflecting the quality of life impairment during COPD exacerbation.

CONCLUSIONS: The BURDEN study confirmed for the Czech Republic a considerable economic burden of COPD exacerbations. It also showed severe impairment of QoL. Results are in accordance with international literature.