associated with manually coded meters (model 1 and model 2) and autocoded meters (model 3). Cost data was based on median prices for medicines, devices, medical services in National health care system in the Russian Federation. **RESULTS:** Annual direct costs per patient in the group of manually coded glucose meters were 1533 euro (model 1) and 1574 euro (model 2), and in the group of autocoded meters were 1557 euro (model 3). Annual total costs per patient in the group of manually coded glucose meters were 2992 euro (model 1) and 2921 euro (model 2), and in the group of autocoded meters were 3034 euro (model 3). Cost-effectiveness ratio for autocoded meters was 1875 euro (model 3) and for manually coded meters was 1954 euro (model 1) and 1982 euro (model 2) per 1 LYG, respectively (discounted at 3%). Budget impact analysis showed that use of autocoded meters (model 3) instead of manually coded (model 1 and model 2) leads to the annually cost savings of 33 euro and 53 euro per patient, respectively (discounted at 3%). **CONCLUSIONS:** Obtained results approve the use of autocoded blood glucose meters instead of manually coded blood glucose meters to administrate blood glucose level as part of intensive glucose-lowering therapy from a pharmacoeconomic point of view.

PDB36

HEALTH ECONOMIC IMPACT OF BARIATRIC SURGERY REVISTED: STRUCTURED REVIEW OF LITERATURE AND HEALTH TECHNOLOGY ASSESSMENTS

Chawla AS[1], Tao C[2], Faulkner EC[3], Hsiao CW[4], Patkar AD[5], Romney M[6]
[1]*Quintiles Consulting, Durham, NC, USA,* [2]*Quintiles Consulting, Cambridge, MA, USA,* [3]*Institute for Pharmacogenomics and Individualized Therapy, Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC, USA,* [4]*Johnson and Johnson Medical Companies, Markham, ON, Canada,* [5]*Ethicon, Inc, Somerville, NJ, USA,* [6]*Jefferson School of Population Health, Philadelphia, PA, USA*

OBJECTIVES: The costs of obesity are staggering, accounting for 2-6% of global health care costs. The health economic benefits of bariatric surgery while notable, are multi-faceted, resulting in heterogeneous reporting in the literature. To that end, this study seeks to 1) highlight available evidence of the health economic impact of bariatric surgery, and to 2) identify key gaps in current evidence that may influence uptake by health care systems. **METHODS:** Evidence of the health economic impact was collated from 107 scientific articles, of which 19 were systematic reviews, published between 2010-March 2014 and archived in MEDLINE and PubMed. Additionally, HTAWatch identified 10 HTAs, largely from North America and the EU that evaluated economic benefits. **RESULTS:** In all countries where evaluated, bariatric surgery was cost-effective compared to non-surgical therapy. The surgery was likely more cost-effective with higher patient BMI and with comorbidities, especially for BMI> 40kg/m^2, although estimates varied. Furthermore, resolution of underlying comorbidities resulted in reduced utilization of health care services, pharmaceutical utilization, and improved work productivity, among others, resulting in cost saving of 60-70% relative to standard care over a 3-year period. Importantly, time to break even was typically in the 4-7 years range, and was shorter for patients with Type 2 Diabetes Mellitus (T2DM) and with BMI>40kg/m^2, typically in the 1.25-5 year range. Three key evidence gaps were identified: few studies computed long-term cost-effectiveness; no head-to-head trials have directly compared different surgical procedures; and heterogeneity across populations and health system impede meta-analyses of patient outcomes such as QoL and long-term health benefits. **CONCLUSIONS:** Although heterogeneous, reports of health economic benefits of bariatric surgery indicate an overall positive trend, largely via reduction of health resource utilization. To firmly establish its impact, future studies need to conduct head-to-head comparisons, determine optimal patient populations, and employ standard clinical endpoints to demonstrate real world, long-term benefits.

PDB37

ASSOCIATION OF CHANGES IN BODY WEIGHT WITH HEALTH CARE COSTS AMONG PATIENTS WITH NEWLY-DIAGNOSED TYPE-2 DIABETES IN SWEDEN

Sabale U[1], Bodegård J[1], Sundström J[2], Svennblad B[3], Östgren CJ[4], Nilsson P[5], Johansson G[3], Henriksson M[1]
[1]*AstraZeneca Nordic-Baltic, Södertälje, Sweden,* [2]*Uppsala University, Uppsala, Australia,* [3]*Uppsala University, Uppsala, Sweden,* [4]*Linköping University, Linköping, Sweden,* [5]*Lund University, Malmö, Sweden*

OBJECTIVES: Type 2-diabetes and excess weight incur large costs to health care systems, but the association between weight progression in diabetes and health care costs is unknown. We investigated those relations using real world data in a sample of newly diagnosed diabetes patients in Sweden by using repeated body mass index (BMI) measurement and health care resource utilization data **METHODS:** Patients with a BMI (kg/m^2) measure at diagnosis and subsequent BMI measures at 12,24,36,48, and 60 months were identified from a previously conducted register study. Individuals were classified into three groups based on their BMI change over 5 years: *increase* (>1 BMI unit increase), *decrease* (>1 BMI unit decrease), and *stable* (≤1 BMI unit change). Each group was stratified by BMI at diagnosis (BMI 18-25; 25-30; ≥30). Health care costs for each group were estimated by applying Swedish unit costs to the health care resource data extracted from electronic patient journals and a national patient register. **RESULTS:** The study included 903 T2D patients (women, 43%; mean age, 62; mean HbA1c, 6.78%; mean BMI, 30.9). The BMI increased, decreased, or remained stable in 178 (20%), 387 (43%), and 338 (37%) patients, respectively. Among patients with baseline BMI 18-25 (n=104), the five year cumulative health care costs were €13,695, €9,059, €8,936, in the increase, decrease, and stable group, respectively. Corresponding figures were €11,470, €7,950, €8,683 for patients with baseline BMI 25-30 (n=321), €14,387, €9,465, and €9,302 for patients with BMI ≥30 (n=478). **CONCLUSIONS:** In newly diagnosed diabetes, an increase in BMI lead to increased health care costs, irrespective of baseline BMI. Linking registry data on repeated BMI measurements and health care utilization is a valuable approach to investigate the association between weight changes and costs. Costs of interventions that maintain weight in patients with diabetes should be considered in the context of costs associated with weight gain.

PDB38

EFFECT OF SMOKING STATUS ON HEALTH CARE COSTS IN PATIENTS WITH TYPE 2 DIABETES: A RETROSPECTIVE NESTED CASE-CONTROL ECONOMIC STUDY IN ROUTINE CLINICAL PRACTICE

Sicras Mainar A[1], Rejas Gutiérrez J[2], Navarro Artieda R[3], Ibánez Nolla J[4], De Lossada Juste A[5]
[1]*Badalona Serveis Assistencials SA, Badalona (Barcelona), Spain,* [2]*Pfizer S.L.U., Alcobendas/Madrid, Spain,* [3]*Hospital Germans Trias i Pujol, Badalona (Barcelona), Spain,* [4]*Badalona Serveis Assistencials, Badalona, Spain,* [5]*Pfizer, S.L.U, Alcobendas/Madrid, Spain*

OBJECTIVES: Smoking in diabetics is associated with a worse prognosis and vascular complications. The available evidence on health care resources utilization and associated costs in diabetics who smoke is limited or nonexistent. Thus, the objective was to compare health care resource utilization and costs according to smoking status in patients with type 2 diabetes in clinical practice. **METHODS:** A retrospective cohort nested case-control study was designed. Cases were current smokers, while two types of controls (former smokers and never smokers) were matched, two controls per case, for age, sex, duration of diabetes, and burden of comorbidity using data from electronic medical records. Non-institutionalized diabetics, both genders, age >18 years, seen consecutively over a 5-year period before the index date were enrolled. Perspective of both the National Health System and the Society were chosen and costs of health care resource utilization and loss of productivity due to sick leaves were compared among groups using a linear general model with covariates. **RESULTS:** A total of 2,490 records were analyzed: 498 from cases, 996 from former smokers, and 996 from never smokers. Mean age was 63.4 years (64.9% male). Smokers had higher HbA1c (7.4% vs. 7.2% and 7.2%, respectively, p = 0.013) and a lower degree of metabolic control (49.2 % vs. 54.7% and 55.8%, p = 0.036). Smokers had higher average annual costs (€3,583) than former smokers (€2,885) and never smokers (€2,183), p<0.001. Mean annual health care cost saving per patient was associated with elapsed time of quitting smoking from €950 in subjects quitting smoking 2-year to €1173 5-year or more, p<0.05. **CONCLUSIONS:** Diabetic smoker patients had lower metabolic control, higher health resource utilization, and more sick leave, resulting in higher health care costs and lost productivity compared with both former and never diabetic smokers. Health care cost-savings was associated with elapsed time from quitting smoking.

PDB39

EVALUATION OF POTENTIAL WASTE OF GROWTH HORMONE ACROSS AVAILABLE GROWTH HORMONE PEN DEVICES AND AN ELECTRONIC GROWTH HORMONE DELIVERY DEVICE

Locklear J[1], Edwards N[2], Phillips AL[1]
[1]*EMD Serono, Inc., Rockland, MA, USA,* [2]*Health Services Consulting Corporation, Boxborough, MA, USA*

OBJECTIVES: The aim of this analysis was to estimate the potential GH waste per patient with pen devices and the easypod® device, and to quantify the potential economic impact of expected GH waste from patient and health care organization perspectives. **METHODS:** A Waste Calculator Model was developed to examine GH waste. All somatropin products available in pen or electronic devices were included. The user may define distribution across cartridges sizes. The mechanical/priming loss applied to each product was based upon each product's prescribing information and/or instructions for use. The base case model utilizes a US patient daily dose of 1.4 mg. The model assumes that the easypod® dose adjustment feature is activated by the clinician (±25%). Model assumes that 42.6% of caregivers discard the remaining amount left in the cartridge (eg waste) if less than a full dose. Annual amount of GH waste (mg, cartridges, dollars) per patient and per population (based on US national market shares) for each pen/device is reported. **RESULTS:** The expected annual amount of waste per patient was lowest for easypod®. The expected annual amount of waste per patient was highest for Omnitrope®. The expected annual amount of waste ranged from 0 to 38.9mg per patient per year, which is equal to 0 to 8 cartridges per patient per year and/or 0 to $2,935 per patient per year. For a patient population of 100 GH-treated patients, the annual amount of waste is estimated at 2,009 mg, which can be translated into approximately 342 cartridges or about $162,000 per year. The results in GH waste fluctuated depending upon daily dose, cartridge size, and dose spread assumptions. **CONCLUSIONS:** The expected annual amount of GH waste evaluated in this Waste Calculator was lowest with easypod®. Cost of GH waste can be an important consideration when evaluating GH delivery devices.

PDB40

BENEFIT OF POSITIVE AIRWAY PRESSURE (PAP) THERAPY IN SLEEP APNOEA (SA) PATIENTS WITH TYPE II DIABETES MELLITUS (T2DM) IN GERMANY: A RETROSPECTIVE COMPARATIVE COHORT ANALYSIS BASED ON A STATUTORY HEALTH INSURANCE DATABASE

Doess A[1], Zucca F[2], Woehrle H[3], Brueggenjuergen B[4]
[1]*ResMed Germany Inc., Martinsried, Germany,* [2]*HGC GesundheitsConsult, Duesseldorf, Germany,* [3]*ResMed Science Center, Martinsried, Germany,* [4]*Institut für Sozialmedizin, Epidemiologie und Gesundheitsökonomie, Charité - Universitätsmedizin Berlin, Berlin, Germany*

OBJECTIVES: It is estimated that the prevalence of moderate-to-severe SA (apnoea-hypopnoea index >15/h) is 10%. Patients with T2DM have a particularly high incidence of SA. T2DM and SA influence the development and progression of each other. This study investigated the effects of PAP therapy in SA patients with T2DM on all-cause mortality and cost of illness (COI) in Germany from a statutory health insurance (SHI) perspective. **METHODS:** A total of >4 million individuals covered by the SHI database were analysed (≈5% of the German SHI population). PAP therapy was initiated in 4,068 patients with SA (PAP group). Propensity score matching was used to define a control group (CG) of 4,068 SA patients matched for age, sex, risk factors/aetiology, region and medication who received usual care (no PAP). Of these, 1,280 patients in the PAP group and 1,186 patients in the CG had comorbid T2DM. This subgroup of patients was followed for 3 years after initiation of PAP therapy. **RESULTS:** Total COI was higher in the PAP group versus CG in year 1 (€8,105 vs €7,037, p<0.0001). After 2 years' follow-up, COI in the PAP group decreased but remained higher versus CG (€6,842 vs €6,625, p<0.001). After 3 years, PAP group COI