

of underreporting of hypoglycaemia in clinical hospital settings in Poland caused by DRG-based financing standards. There is a need of reflecting real treatment cost in the level of reimbursement in this group of patients.

PDB164

PATIENT SPECIFIC LANDSCAPE OF INFORMATION TECHNOLOGY SOLUTIONS FOR DIABETES SELF-MANAGEMENT

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OBJECTIVES: Diabetes Mellitus affects approximately 60 million Europeans, with prevalence increasing. Diabetes is associated with a number of severe comorbidities, including visual impairment, lower extremity conditions/amputation, neuropathy, renal disease and cardiovascular disease. Managing underlying disease can significantly improve disease outcomes, though adherence remains a challenge. With the major expansion of consumer technology-based health care solutions and European initiatives like the REACTION project, diabetic patients are more involved in care than ever before. Our study looks at patient centric drivers of adherence to technology based diabetes self-management in Europe. **METHODS:** An in-depth analysis of current European initiatives implementing digital health management solutions was performed, as well as overall demographic and statistical research of the European diabetes population. Additionally, using dual data collection methods, involving telephone-based interviews and internet-based questionnaires, a total of 2,307 diabetes patients in the US were sampled. Questions focused on demographic, lifestyle, treatment, access to information, and socioeconomic status. Data from US diabetic patient preferences related to digital health solutions and patient engagement strategies were reviewed in the context of diabetes self-management solutions being deployed in Europe. **RESULTS:** Socioeconomic disadvantage amongst European citizens has been shown to significantly contribute to development of diabetes and related complications. Among our study population, diabetics with a lower socioeconomic status and the elderly showed drastically lower rates of access to internet at home or at work (58.1% and 66.3%, respectively), as compared to those who were employed with an average income >\$60,000 (92.2%). This same group preferred to get information from their health care providers versus the internet. **CONCLUSIONS:** While programs are being developed to impact diabetic treatment adherence via IT based diabetes self-management solutions, patient characteristics and preferences need to be understood to optimize impact. Additional research is required to understand the best methods to reach these at-risk populations.

PDB165

USING MODERN INFORMATION TECHNOLOGY FOR MEDICAL AND PHARMACEUTICAL CARE OF PATIENTS WITH DIABETES MELLITUS IN UKRAINE

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OBJECTIVES: In Ukraine, 1.2 million people have diabetes mellitus (DM), 80 insulins and 169 oral hypoglycemic preparations are registered. However, incomplete information on DM patients results in problems with providing their medicines. To develop a computer information retrieval system (CIS) for the registration of patients with DM and their pharmacotherapy (including financing sources) and to optimize the requirements for medicines, the CIS can be used to analyse the pharmaceutical care of patients with DM. **METHODS:** This study includes designing a CIS, entering pharmacotherapy information of DM patients, and use of the CIS to analyze the quality of pharmaceutical care of DM patients. **RESULTS:** The study was conducted at the Ternopil Region, Ukraine. The study was based in 2 hospitals, 2 dispensaries, and 12 pharmacies and examined the public and private sectors. The CIS was developed for use at national level and contains information on individual pharmacotherapy (27 insulins, 46 oral hypoglycemic preparations) of 2,186 patients (282 DM type I). The CIS consists of 4 blocks: "Patient" (935 men, 1261 women; from them 12 child) "Pharmacotherapy" (371 - insulin therapy, 1727 - oral hypoglycemic agents) and "Financing sources" blocks contain information on the centralized and local budgets, funds on maintenance of people that suffered from the Chernobyl accident, humanitarian help, and self-financing. The 4th block contains information on interactions of medicines. The analyses of individuals' pharmacotherapies has shown that the CIS is an effective tool and can support endocrinologists in monitoring consumption of medicines by each patient. The system also provides expert analyses of changes of schemes, doses of medicines, and financing sources for individual patients. **CONCLUSIONS:** The CIS provides the doctor with the ability to precisely define what medicines are necessary for the patient, define availability of medicines, and raise rationality and safety of use of antidiabetic medicines.

PDB166

QUALITY OF DIABETES CARE AMONG OBESE AND OVERWEIGHT PATIENTS AT NHG POLYCLINICS

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OBJECTIVES: The study aimed to examine the disparity of risk factor screening and clinical outcomes depending on bodyweight of patients with diabetes mellitus at 9 National Healthcare Group (NHG) Polyclinics in Singapore. **METHODS:** Data were extracted from NHG Diabetes Registry. Diabetes care bundle measures of 8 process indicators (biannual blood pressure (BP), bodyweight and HbA1c test measurement, annual serum cholesterol level, smoking, eye, foot and nephropathy assessment) and 3 intermediate outcome indicators (HbA1c \leq 7%, BP < 130/80 mmHg and LDL-C < 2.6mmol/L) were measured. Rates of these indicators were compared by BMI according to WHO classification. Multivariate logistic regression for achieving the individual indicators was referenced to the normal BMI group. **RESULTS:** In 2012, 87,552 patients were enrolled for diabetes care at 9 NHG Polyclinics. Mean age was 64.1 \pm 11.6. 51.8% were female. 70.6% were Chinese. 40.4% were overweight and 20.8% were obese. After adjusting for age, gender and ethnicity, overweight and obese

patients were more likely to have annual cholesterol test, smoking status assessed, eye and renal function screening than normal weight patients. However, the overweight and obese class I/II patients were less likely to achieve optimal HbA1c (7% or less) and BP (< 130/80 mmHg) than normal BMI patients. The AdjOR for achieving optimal HbA1c decreased from 0.88 (95%CI 0.86-0.91) for overweight to 0.77 (0.72-0.83) for obese class II; and BP decreased from 0.74 (0.99-1.05) for overweight to 0.48 (0.45-0.52) for obesity class II. More obese class II and III patients had optimal LDL-cholesterol control compared to normal BMI patients, AdjOR 1.11 (1.03-1.19) and 1.16 (1.04-1.29) respectively. **CONCLUSIONS:** Overweight and obese patients with diabetes were less likely to achieve the optimal HbA1c and BP control than normal BMI patients. Clinicians can identify the patients with higher BMI and poor risk factor control for more intense intervention to improve diabetes care and outcomes.

PDB167

DATA SOURCES OF DISEASE EPIDEMIOLOGY IN GERMAN DRUG REIMBURSEMENT DOSSIERS: CASE STUDY OF DIABETES MELLITUS TYPE II

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OBJECTIVES: Investigating and comparing the sources of prevalence data used in German drug reimbursement dossiers within the AMNOG-framework in order to explore causes for deviating prevalence estimates. **METHODS:** All publicly available dossiers on diabetes mellitus type II were retrieved from the Federal Joint Committee's homepage (<http://www.g-ba.de>). We investigated the epidemiological sources in the dossiers on their representativity (i. e., population-level epidemiological data), actuality (year of data collection), method of data collection, data quality, and open access. **RESULTS:** As of early June 2014, 13 dossiers were published on diabetes mellitus type II. Overall, 23 different sources for quantifying the prevalence were used, which can be grouped into 5 categories: clinical trials, registries, health insurances' claims data, commercial data-providers, and a governmental data-provider. Data was mostly collected 5 or more years ago (except for the commercial and governmental data-providers). Data was retrieved by means of physicians' statements; patient surveys with voluntary disclosure; diagnostic tests (such as the oral glucose tolerance test); national registries; secondary data from health insurances, and (raw) secondary data of pharmacy prescriptions with physician diagnoses. Besides differences in diagnostic criteria, reasons for deviation among sources include: the sample size and making adjustments to improve representativity for Germany; the chosen approach to analyze secondary data; differentiation of type II from type I diabetes mellitus, and (not) considering undiagnosed or untreated cases. While accessing the data of publications and of the commercial providers requires a payment, health insurance data is not freely available in Germany (yet). The governmental data-provider is accessible without restrictions and free of charge. **CONCLUSIONS:** The need for accurate population-level data and access to it is highlighted by the present case-study. Sources for prevalence data in diabetes mellitus type II were characterized by a variety of differences in the methods applied to derive (the) data, leading to deviating estimates.

PDB169

EXAMINING THE ECONOMIC BENEFITS OF LIFESTYLE INTERVENTION IN SEGMENTS OF A PREDIABETIC POPULATION

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OBJECTIVES: Published studies have shown that lifestyle intervention in adults with prediabetes can improve health outcomes and reduce or delay onset of type 2 diabetes. Improved health translates to lower medical costs, reduced mortality, and higher levels of employment and productivity. This study examined patient characteristics that help predict future medical expenditures avoided and economic benefits to society associated with lifestyle intervention. **METHODS:** A Markov-based microsimulation model utilizing Monte Carlo simulation was constructed to simulate patient health and economic outcomes over ten years with and without a lifestyle intervention. The population examined was a nationally representative sample (n=2,887) of US adults with prediabetes from the 2003-2010 National Health and Nutrition Examination Survey who meet the American Diabetes Association's screening criteria for diabetes. Prediction equations for diabetes and sequelae, medical expenditures, economic outcomes, mortality, and quality of life came from the published trials and studies, such as the UK Prospective Diabetes Study. The analysis simulated body weight and hemoglobin A1c benefits reported in the 10-year follow-up results from the lifestyle arm of the Diabetes Prevention Program and Outcomes Study (DPPPOS). OLS regression was subsequently used to analyze the initial patient characteristics and their relation to subsequent outcomes. **RESULTS:** Simulated outcomes suggest that age, sex, race, obese status, and HbA1c at time of intervention are strong predictors of successful economic outcomes (medical expenditures and societal benefit). Intervention impact on medical savings generally increased with age through age 65, while total economic benefits of the intervention increase through age 60. Women had \$4,200 in higher medical savings than men. Obese participants had \$3,000 higher medical savings than non-obese participants. **CONCLUSIONS:** The expected economic benefit of lifestyle intervention varies systematically by patient characteristics. Patients age 55-64 experienced the most medical savings, while patients age 45-54 experienced the largest societal economic impact.

PDB170

EFFICACY OF THE AUTOMATED TARGET GLUCOSE CONTROL: A SYSTEMATIC REVIEW

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OBJECTIVES: Tight glucose control in critically ill patients is difficult and labor intensive, resulting in poor efficacy of glycemic control and increased hypoglycemia rate. The purpose of this study was to evaluate the safety and effectiveness of the automated target glucose control using computer-based insulin algo-