extracted from a UK primary care database (The Health Improvement Network). Patients were required to have at least 12 months of data before and after switching. The principle analysis was the change in HbA1c; secondary analyses included change in weight and insulin dose. Hypoglycaemia could not be assessed due to inconsistency in the recording of episodes. Multivariate analyses were used to adjust for baseline characteristics and confounding variables. RESULTS: Mean HbA1c levels at baseline were similar in the T1 and T2 cohorts (8.8% and 8.9% respectively). After adjustment, both diabetic cohorts showed statistically significant reductions in mean HbA1c 12 months after switch, by 0.38% (p = 0.001) in T1 and 0.31% (p = 0.001) in T2 patients. Improvement in HbA1c was positively correlated with baseline HbA1c; patients with baseline HbA1c < 8% had reductions of 0.57% (p = 0.001) and 0.47% (p = 0.001), respectively. There was no significant change in weight or total daily insulin dose while on glargine. The majority of patients received a basal-bolus regimen prior to and after switch (mean 79.3% before and 77.2% after switch in T1 patients and 80.4% and 76.8%, respectively in T2 patients, p > 0.05). CONCLUSIONS: In routine clinical practice, switching from NPH to glargine provides the opportunity for improving glycaemic control in diabetes patients inadequately controlled by NPH.

PDB3
SWITCHING FROM PREMIXED INSULIN TO INSULIN GLARGINE-BASED REGIMEN IMPROVES GLYCEMIC CONTROL IN PATIENTS WITH TYPE 1 OR TYPE 2 DIABETES: A RETROSPECTIVE PRIMARY CARE-BASED ANALYSIS
McEwan P1, Gordon J1, Sharplin P1, Longman AJ1, Peters J1, Tetlow AP1
1Cardiff Research Consortium, Cardiff, UK, 2Cardiff University, Cardiff, UK
OBJECTIVES: To investigate the effect on glycaemic control of switching from a premix-based regimen to a glargine-based regimen in 528 patients with type 1 (n = 183) or type 2 (n = 345) diabetes, using unselected primary care data from a UK database (The Health Improvement Network). METHODS: Patients were required to have at least 12 months of available data, before and after switching. The principle analysis was the change in HbA1c; secondary analyses included change in weight, bolus usage and insulin dose. Hypoglycaemia could not be assessed due to lack of consistency in the recording of episodes. Multivariate analyses were used to adjust for baseline characteristics and confounding variables. RESULTS: Mean HbA1c levels at baseline were similar in the T1 and T2 cohorts (9.4% and 9.3% respectively). After adjustment both cohorts showed significant reduction in mean HbA1c 12 months after the switch: by −0.67% (p < 0.001) in the T1 cohort and by −0.53% (p < 0.0011) in the T2 cohort. Patients with a baseline HbA1c ≥ 10% had the greatest reduction in HbA1c, by −1.7% (p < 0.001) and −1.2% (p < 0.001), respectively. Proportion of patients receiving a co-bolus prescription went from 24.6% on premix to 95.1% on glargine in the T1 cohort, p ≤ 0.001 and from 16.2% to 73.9% in the T2 cohort, p ≤ 0.001. There was no significant change in weight in the T2 cohort with a moderate increase in T1 patients (0.3 kg and 3.7 kg respectively, p > 0.05). Total insulin use (≤ SD) increased in T2 patients (0.67 ± 1.35 IU/kg to 0.88 ± 1.33 IU/Kg, p < 0.001) with no significant increase in T1 diabetes patients. CONCLUSIONS: In everyday practice, patients with T1 or T2 diabetes inadequately controlled by premix insulins experienced significant improvement in glycaemic control over 12 months after switching to a glargine-based regimen. These findings support the use of glargine plus boluses in patients poorly controlled on premix.

PDB4
GLYCEMIC CONTROL OF TYPE 2 DIABETES IN MAKKAH SECURITY FORCES HEALTH CARE CENTER (MSSHCC), SAUDI ARABIA: A DISCRIPTIVE PILOT STUDY
Suliman MA1, Alkelya MA2, Al-Shareef MA1
1Makkah Security Forces Health Care Center, Makka, Saudi Arabia, 2King Abdullah International Medical Research Center, Riyadh, Saudi Arabia
OBJECTIVES: The control of blood glucose improves the long term outcomes for patients with type 2 diabetes; this study examined the levels of glycaemic control in a clinic at MSFHC, Saudi Arabia. METHODS: Data were obtained from patient medical records. All patients who met the inclusion criteria: (with type 2 diabetes, made at least four visits during one year, had their glycated hemoglobin (A1c) level checked), the time frame for sampling is 18 months ending in December 2007. Descriptive statistics, logistics regression, and ANOVA were used in the analysis. RESULTS: Four hundred nine patients’ records met the inclusion criteria, male are 64.7% of the sample, the means for age, A1c, BMI, the duration of the DM were 53.4, 8.3%, 30.6 and 9.3 years, respectively. A total of 24.9% of the sample has A1c at the target control level (<7%), the test of differences of means of age, BMI and Duration of having DM across the levels of A1c (controlled , not well controlled (7% ≤ A1c < 8.5), and poorly controlled (A1c ≥ 8.5)) did show consistent results except BMI variable, group at the controlled HbA1c level has significant higher BMI means than the group with poorly controlled A1c level. 13.2% of the sample treated with oral monotherapy anti-diabetic drugs, 25.6% with a combination of Insulin and Metformin, and the rest were with multitherapy. In the logistic regression model, the type of therapy and the duration of diabetes were significant predictors for whether patient has controlled A1c level. CONCLUSIONS: The high rate of uncontrolled diabetic patients is an evidence of shortcoming. Large data might provide much and precise information to explain this high rate. The unexpected relationship between BMI and A1c level which noticed in controlled group could be explained by short duration of diabetes, early aggressive therapy regimens or other pathophysiological factors. Further follow up of such controlled group may provide an explanation of such relationship.

PDB5
GLYCEMIC CONTROL FOLLOWING INITIATION OF INSULIN GLARGINE OR DETEMIR IN PATIENTS WITH TYPE 2 DIABETES MELLITUS: AN ANALYSIS OF ELECTRONIC MEDICAL RECORDS
Levin P1, Danel A2, Bromberger L1, Choi JC1, Mersey J1
1MODEL Clinical Research, Baltimore, MD, USA, 2Sanofi-Aventis, Paris, France, 3Rutgers University, Piscataway, NJ, USA
OBJECTIVES: We examined glycaemic outcomes in patients with type 2 diabetes (T2D) initiated to insulin glargine (GLAR) or detemir (DET) using electronic medical records (EMR) from a specialty practice in Baltimore, US. METHODS: Patients’ EMRs using GLAR (n = 134) or DET (n = 88) between January 2005–2007 with at least 4 available clinic visits were evaluated. Each patient on DET was matched with one or more patients on GLAR by baseline HbA1c. Average follow-up time was 6 months. RESULTS: Patients were similar in age (59 vs 60 years), HbA1c (8.65 vs 8.46%), and BMI (33.6 vs 33.7 kg/m2) but differed in T2D duration (12.9 vs 10years, P = 0.03) and gender (female 58 vs 44%, P = 0.04) between GLAR and DET, respectively. Prior use of antidiabetic drugs was similar except for a higher percentage of patients using premixed insulin in GLAR (24.9% vs 9.9% [DET], P = 0.004) and of patients using exenatide in DET (32.9% vs 6.2% [GLAR], P = 0.0001). Unadjusted A1C values
were 7.64% for GLAR and 7.87% for DET at the follow-up visit. After adjusting for baseline characteristics and HbA1c and concomitant antidiabetic medications during the follow-up period, A1C remained lower in GLAR versus DET (7.06 vs 7.84%, \( P = 0.0178 \)). Total insulin dose in GLAR was increased from 45.3 U to 75.8 U at the follow-up visit and 33.5 U to 48.6 U in DET. Adjusted weight was 101.2 kg for GLAR and 97.1 kg for DET. CONCLUSIONS: Initiation of GLAR relative to DET in T2D patients is associated with greater improvement in glycemic control achieved within six months. More exenatide use in DET relative to GLAR may possibly explain the group difference in body weight. This analysis was conducted in a single clinical practice hence further studies are needed to determine reproducibility of the findings.

**PDB6**

**EFFECTS OF PIOGLITAZONE AND ROSIGLITAZONE ON GLUCOSE AND THE CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH TYPE 2 DIABETES: A META-ANALYSIS**

Lee JK1, Lee EK2

1Sookmyung Women’s University, Seoul, South Korea, 2Sook Myung Women’s University, Seoul, South Korea

OBJECTIVES: A meta-analysis of Pioglitazone and Rosiglitazone in patients with type 2 diabetes was conducted to evaluate the effects of each drug on glycemic control, lipids, blood pressure, and weight. In addition, this study was aimed to identify if there is an ethnic difference in the effects between Asian and Caucasian patients by subgroup analysis. METHODS: Among the randomized controlled trials of Pioglitazone or Rosiglitazone which had been published before February 2008, 63 randomized controlled trials that were eligible for the inclusion/exclusion criteria were collected. For quantitative meta-analysis, the weighted pooled effect sizes and their 95% confidence intervals were calculated. RESULTS: Glucose lowering effect was higher in Rosiglitazone, whereas Pioglitazone produced a more favorable lipid profile. Both thiazolidinediones demonstrated similar increases in body weight. The effect on blood pressure was slightly higher in Pioglitazone. Regarding the effects of Pioglitazone, the pooled effect sizes of Pioglitazone 15 mg were very similar for two different ethnic groups in all parameters. When the effects of Pioglitazone in Caucasian patients group at dose of 30 mg and Asian patients group at dose of 15 mg were compared, most of the overall effects sizes were higher in Caucasian patients group than that of Asian patients group. In case of Rosiglitazone, the pooled effect sizes of Asian patients group administered 4 mg were higher than Caucasian patients group administered the same dose. Furthermore, in comparing the effect sizes of Asian patients group administered 4 mg and Caucasian patients group administered 8 mg, the effect sizes were rather similar than they administered the same dose. CONCLUSIONS: The effects of Pioglitazone on the cardiovascular risk factors are almost the same in different ethnic groups, whereas those of Rosiglitazone varies with ethnicity. In this regards, well-designed head-to-head comparative trials as well as long-term cardiovascular outcome studies should be conducted in order to accurately determine the various effects of the two thiazolidinediones on different ethnic groups.

**PDB7**

**LONG TERM HEALTH OUTCOMES IN NEWLY DIAGNOSED TREATMENT NAIVE TYPE 2 DIABETES PATIENTS INITIATED WITH BIPHASIC INSULIN ASPART IN CHINA: DATA FROM THE IMPROVE STUDY**

White J1, Aagren M1, Jing L3

1Novo Nordisk International Operations A/S, Zurich, Switzerland, 2Novo Nordisk A/S, Virum, Denmark, 3Novo Nordisk (China) Pharmaceuticals Co. Ltd, Beijing, China

OBJECTIVES: The objective was to estimate the long-term clinical outcomes in pharmaceutical treatment naive type 2 diabetes patients when initiated with biphasic insulin aspart (BIAsp) in a secondary care setting in urban China. METHODS: A validated computer simulation model of diabetes (the CORE Diabetes Model) was used to make long-term projections of clinical outcomes based on patient characteristics (mean age 49.7 years, time since diagnosis 1.61 years, HbA1c 9.86%, BMI 24.62 kg.m\(^{-2}\)) and treatment effects of BIAsp (HbA1c improvement of 3.27 percentage points, an increase in hypoglycemic events of 2.4 per patient-year). All background and treatment data were obtained from the Chinese part of the IMPROVE study (n = 7012). Treatment management practices were taken from Chinese urban hospitals. RESULTS: Superior glycemic control with BIAsp led to a delay in the onset of diabetes-related complications by 0.31 years (1.16 vs 0.85), e.g. the delay of onset to neuropathy, myocardial infarction and stroke were 1.09, 0.55, and 0.41 years, respectively. The cumulative incidence of complications was projected to decrease with BIAsp in the majority of parameters studied e.g. the incidence of neuropathy was decreased by 9.3%. Life expectancy increased from 13.62 to 14.05 years. Quality-adjusted life years (QALYs) (mean ± sd) increased by 0.772 (9.01 ± 0.171 vs 8.24 ± 0.146). CONCLUSIONS: The long term health outcome projections based on surrogate endpoints reported in the Chinese cohort of the IMPROVE study, indicate that initiating treatment with BIAsp in treatment naive (including OAD naive) type 2 diabetes patients will improve life expectancy and quality-adjusted life years, delay the onset of diabetes related complications, and reduce their cumulative incidence over patient lifetimes.

**PDB8**

**BURDEN OF DIABETES AND ASSOCIATED TREATMENT PATTERNS IN EUROPE: A COMPARISON OF SIX COUNTRIES**

Narayanan S1, Potthoff P1, Guether B2

1TNS Healthcare, New York, NY, USA, 2TNS Healthcare, Munich, Bavaria, Germany

OBJECTIVES: To assess diabetes disease burden and associated treatment patterns among six European nations. METHODS: A large multi-country online cross-sectional survey of approximately 175,000 adults was conducted in 2007 in France, Germany, Italy, Spain and the UK and The Netherlands by TNS Healthcare. The survey enabled TNS to build an epidemiological database based on its proprietary European Healthcare Panel (EHP) of consumers in these 6 countries. The data is representative of population gender and age (18–24, 25–34, 35–44, 45–54, 55–64, 65–89 yrs) strata in respective countries, ensured by sampling and intensive panel management. The survey collected information on select health conditions (incl. diabetes; in the past 12-months) and health care-utilization. RESULTS: Diabetes disease prevalence varied widely between the 6 nations, as follows (All pts, Males/Females, proportion type 1/type 2/Gestational/Unknown): Italy: 4%, 5%/3%, 28%/61%/3%/8%; France: 5%, 5%/4%, 21%/63%/4%/12%; Spain: 5%, 6%/5%, 18%/66%/3%/13%; The Netherlands: 5%, 6%/5%, 13%/5%/3%/1%; Germany: 6%, 6%/5%, 14%/81%/1%/4%.