represented by 15,332 survey participants. Participants were classified according to CVD risk as defined (history of coronary heart disease, angina, and/or myocardial infarction), at-risk (history of hyperlipidemia, hypertension, and/or diabetes mellitus), or low-risk (no history of any conditions). They were also classified according to the reported use of single-ingredient DSs including niacin, coenzyme Q10, fish oil, garlic, vitamin C, and vitamin E during the month prior to survey. Tests of moderation and confounding by age were performed. RESULTS: The prevalence of use of any of the six DSs increased with age. Odds ratios for any DS use for the at-risk and diseased groups, relative to the low-risk group, were 1.91 (95% CI: 1.67–2.17) and 2.25 (95% CI: 1.88–2.69), respectively. With adjustment for age, these became 1.32 (95% CI: 1.15–1.52) and 1.20 (95% CI: 0.99–1.44), respectively. There was no evidence of moderation (p = 0.123), though confounding was present (p = 0.001). CONCLU-SIONS: There is a potential for residual confounding by age in studies of CVD and DS use. After adequately controlling for age in this study, the relationship between CVD risk and DS use was greatly attenuated. The findings indicated different patterns of responses to cardiovascular disease risk between younger adults and older ones in terms of DS consumption. Awareness of the confounding effect of age in the association of CVD risk and DS use should be noted in clinical practice and health promotion.

Podium session II: Cost-effectiveness studies

CE1

Cost-effectiveness of switching patients with type 2 diabetes from insulin glargine to insulin detemir in a Chinese setting: a health economic model based on the predictive study

Yang Li1, Christensen T2, White J3, Sun F1

1. Peking University Health Science Center, Beijing, China; 2. Novo Nordisk A/S, Virum, Denmark; 3. Novo Nordisk, Zurich, Switzerland; 4. Novo Nordisk (China) Pharmaceuticals Co., Ltd., Beijing, China

OBJECTIVES: To evaluate the long-term cost-effectiveness of switching from insulin glargine (IGla) to insulin detemir (IDet) in type 2 diabetes patients in the setting of Chinese tier 3 hospitals. METHODS: A published and validated computer simulation model of diabetes (the CORE Diabetes Model) was used to make the long-term (30 years) projection of health economic outcomes. Patient demographic information and clinical endpoints were derived from a subgroup analysis of the PREDICTIVE study. PREDICTIVE was a large, multi-centre, 6 months observational study analyzing the safety and efficacy of IDet in everyday clinical practice. HbA1c was reduced of 0.35% by switching from IGla to IDet. Baseline risk factors and racial characteristic data were obtained from Chinese cohort studies. The market retail prices of medications were calculated to estimate treatment costs. The diabetes management and complications costs were obtained from Chinese published data and adjusted to 2009 values using the Chinese Consumer Price Index. An annual discounting rate of 3% was used for both health and cost outcomes according to the recommendation of Chinese Pharmacoeconomics guideline. One-way sensitivity analyses was performed and illustrated that the results were robust. RESULTS: Conversion to IDet from IGla was projected to improve patient life expectancy by 0.09 year and 0.36 quality adjusted life years (QALYs). Treatment costs, and management costs were increased of 4,004 (84,047 vs 80,043), 243 (28,913 vs 28,670) Chinese Yuan (CNY) respectively. However, the cost-effectiveness of complications including CVD, renal, ascertainment of coma, eye, and hypoglycaemia events were reduced by 4,931 CNY (89,628 vs 94,559), respectively. CONCLUSIONS: Conversion to IDet from IGla is the most cost-effective strategy. All vaccination policies initiated after the peak of the pandemic, were less cost-effective. Administering vaccinations to those aged under 20 years is the most cost-effective strategy. All vaccination policies initiated after the peak of the pandemic, were less cost-effective. Initiating vaccination earlier during a pandemic marginally improved cost-effectiveness.

CE4

A preliminary cost-effectiveness analysis of targeted vaccination policies to mitigate the impact of the H1N1 pandemic in the US

Herbst R, Reason T

Hereto Evidence Development Ltd, Luton, Bedfordshire, UK

OBJECTIVES: Under the circumstances of a severe pandemic and constrained resources in a manufacturing capacity, the need to appropriately deploy vaccination strategies becomes critical. The objective of this study was to provide insight into the most cost-effective vaccination strategy under constrained circumstances. METHODS: A deterministic and compartmental SIR (Susceptible-Infected-Removed) cost-effectiveness model was developed from a US CDC perspective using Microsoft Excel. The model consists of 6 distinct age groups, integrated by a contact matrix. The infectivity of the pandemic was based on reported CDC estimates, with the model calibrated accordingly. A 75% vaccination efficacy was used, consistent with previous studies. Under the assumption of stockpiling 50 million doses of vaccine, vaccination strategies were assessed in terms of infections avoided during the estimated 17 month period of the pandemic. The scenarios included strategies targeted to specific age groups: individually targeted age groups, groups under 20, over 20, 20–59 and 0–12 and 60+ combined. Costs were limited to vaccine acquisition, with the total rate of vaccination per year estimated at 74% for the base case, we initiate the pandemic in May 2009 and began vaccination in October. Sensitivity analysis on the initiation of vac- cination was also assessed. RESULTS: With no vaccination, a basic reproduction number of 1.3 and infectious period of 4.5 days yielded an attack rate of 27.7%. The cost-effectiveness of targeted vaccination strategies ranged from $4.87 (13–19 years) to $67.05 (65+ years) per infection avoided. Under the criteria of exhausting vaccine supplies, the most cost-effective strategy was to target those under 20 years old ($10.77 per infection avoided). Initiating vaccination earlier during a pandemic marginally improved cost-effectiveness, while delayed vaccination was associated with higher mortality rates. CONCLUSIONS: Administering vaccinations to those aged under 20 years is the most cost-effective strategy. All vaccination policies initiated after the peak of the pandemic, were less cost-effective.