

## PP259 Invisible Resilience: The Value Of Medical Technology In Reducing Population And Health Systems' Vulnerability To COVID-19.

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**Introduction.** COVID-19 has exposed population and health systems' vulnerability to a highly infectious disease. People with diabetes have a higher risk of COVID-19 hospitalization and death than those without. Medicines that control blood glucose reduce this risk. We quantified COVID-19 hospital admissions and deaths averted by diabetes medicines in the UK during the March-May 2020 wave.

**Methods.** We estimated COVID-19 hospital and intensive care unit (ICU) admissions averted and COVID-19 hospital deaths avoided by diabetes medicines, considering a counterfactual where those medicines were not available. We used published UK-data sources on diabetes prevalence, proportion of patients achieving diabetes control with medicines, COVID-19 infection risk, probabilities for COVID-19 hospital admission, subsequent ICU admission and hospital death. We calculated the relative risk reduction of controlled vs. uncontrolled diabetes on COVID-19 hospital or ICU admission (71% and 66%, respectively), and hospital death (38%) from the UK Open Safely data.

**Results.** Diabetes medicines are estimated to have averted 17,417 hospital admissions, 2,752 ICU-admissions and 438 hospital deaths due to COVID-19 compared to a counterfactual where those medicines had not been available in the UK.

**Conclusions.** Effective medicines to control diabetes contribute to population and health systems resilience against COVID-19. Health technology assessment and policy makers should recognize that adoption and usage of health technology reduces societies' vulnerability to similar shocks.

## PP261 Development Of A Mapping Algorithm To Predict SF-6D Values In People With Drug-Resistant Focal Onset Seizures

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**Introduction.** Focal-onset-seizures (FOS) are commonly experienced by individuals with epilepsy and have a significant impact on quality of life (QoL). This study aimed to develop a mapping algorithm to predict the 6 dimension short form questionnaire (SF-6D) values in adults with FOS for use in economic evaluations of a new treatment, cenobamate.

**Methods.** An online survey, including questions on sociodemographic, disease history, the short form (SF) 36, and an epilepsy-

specific measure (quality of life in epilepsy problems questionnaire, QOLIE-31-P) was administered to individuals with drug-resistant FOS in the top 5 EU countries (UK, Spain, Germany, Italy and France). A range of regression models were fitted to SF-6D scores including direct and response mapping approaches.

**Results.** The analysis included 361 people. In the previous 28 days, the mean number of FOS experienced was three, (range: 0–43) and longest seizure-free period was 14 days (range: 1–28). Mean responses on all SF-36 dimensions were lower than general population norms. Mean SF-6D and QOLIE-31-P scores were 0.584 and 45.72, respectively. The best performing model was the ordinary least squares (OLS), with root mean squared error (RMSE) and mean absolute error (MAE) values of 0.0977 and 0.0742, respectively. Explanatory variables which best predicted SF-6D included seizure frequency, seizure severity, seizure freedom, and age.

**Conclusions.** People with drug-resistant FOS have poor QoL. The mapping algorithm enables the prediction of SF-6D values from clinical outcomes in individuals with drug-resistant FOS. It can be applied to outcome data from clinical trials to facilitate cost-utility analysis.

## PP275 Incorporating Quality-Of-Care Indicators In Health Economic Modelling: A Case-Study On Surgical Site Infections In Cardiac Surgery

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**Introduction.** Surgical site infections (SSIs) are preventable adverse events placing a large burden on service providers. Reusable electrocardiogram lead-and-wire systems can hold infection vectors after cleaning. Single-patient-use cable-and-lead systems (spECG) may help prevent cross-contamination and SSIs. SSIs are commonly included in incentive schemes as quality-of-care indicators. Readmissions within 30 days due to SSI are not reimbursed by the UK's National Health Service (NHS). Reducing SSIs could improve patient care and result in cost-of-care savings. The cost-benefit of implementing spECG was investigated in this study.

**Methods.** NHS Digital 2019 data for cardiac surgeries were assessed for SSIs occurring during the index event or 90 days post discharge. Data from 88 centers performing 1,000 surgeries or more were used to update a published health economic model of the cardiac surgery care pathway. The population was on average 68 years old, 18 percent female, 33 percent obese, and 28 percent diabetic. Costs are reported in 2019 GBP (2019 EUR) and were sourced from NHS reports.

**Results.** In total, 2,580 in-hospital SSIs were reported from 317,825 cardiac surgeries, resulting in an increased length-of-stay (LOS) of between 4.4 to 29.4 days. The 1,975 SSI-related, post-discharge readmissions' mean LOS was 13.9 days. Cost-of-care was GBP8,127 (EUR9,259) per patient, in line with NHS data. Implementing spECG reduced per-case-costs to GBP8,094 (EUR9,221), saving GBP33 (EUR38): a 3.5-fold return-on-