the Private Hospital Data Bureau. Two scenarios were modeled comparing the three and five-year battery life of the recharge-free devices with 15 years for a rechargeable device. Sensitivity testing was conducted based on potential uptake and dropout rates (due to death, dementia, etc.).

Results. Rechargeable neurostimulators were found to be dominant (cost-saving) in all modeled scenarios, facilitated by a reduction in the frequency of battery replacement procedures and their associated risks for patients. Rechargeability also facilitated higher power settings for optimal symptom control, without trading off device longevity. Younger patients are expected to derive the greatest benefit from the extended battery life as data showed that 40 percent of the implantations were for patients younger than 65 years. The key uncertainty in this analysis was the limited real-world data on patient selection and preferences, which may influence uptake and dropout rates.

Conclusions. Rechargeable sacral neurostimulators deliver cost savings to the healthcare system due to their extended battery life. Fewer replacement surgeries are an important patient-relevant outcome, especially for younger populations. This finding is important because it demonstrates the economic value of rechargeability to payers and provides robust evidence supporting therapy access for privately insured patients in Australia.

PP439 Data Driven Subgroups Of Patients With Type 1 Diabetes Based On Health Technology For Insulin Delivery

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Introduction. Patients with type 1 diabetes (T1D) require the administration of insulin to maintain glycemic control. Currently, two modes of subcutaneous insulin delivery have gained wider acceptance: multiple daily injections (MDI) and continuous subcutaneous insulin infusion (CSII). Randomized controlled trials have shown that CSII is associated with a slightly lower glycated hemoglobin (HbA1c) level when compared with MDI.

The case study on diabetes by the H2020 Next Generation Health Technology Assessment project aims to link evidence from randomized controlled trials to real-world data to estimate the impact of health technology on specific subgroups of patients, as a first step in building prediction models to personalize treatment strategies. This work aims to assess whether patients with T1D can be stratified according to the use of health technology for insulin delivery and associated glycemic control from real-world data.

Methods. We used a longitudinal prospective data repository of T1D patients from 83 clinics in the United States (T1D exchange). A data-driven two-step clustering analysis was done on adult individuals (n = 8,034) with more than five years of disease duration. Clusters were based on body mass index (BMI), sex, age at diagnosis, diabetes duration, HbA1c level, and insulin delivery method. The optimal number of clusters was estimated based on silhouette width.

Results. We identified the following four clusters of T1D patients characterized by differences in gender and insulin delivery method: men and women with insulin injections or pens and men and women with CSII. Individuals that used CSII had lower HbA1c levels, a higher BMI, and longer diabetes duration than those using Injections or pens.

Conclusions. This preliminary work identified subgroups of T1D patients linked to insulin delivery methods. Future research includes the study of complications associated with different clusters and additional data sources. While the data were sourced from the T1D Exchange, the analyses, content, and conclusions presented have not been reviewed or approved by the T1D Exchange.

PP447 Informing The Development And Evaluation Of An Evidence-Based Service Delivery Model For Mental Health Patients With Complex Needs

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Introduction. Mental health services for adults have been developed to provide community-based interventions. There is a recognized unmet need in some of the most complex patients that may not be adequately met by existing mental health services provision. Research is warranted to consider the best model of service delivery for this group of service users. The aims of this research were to examine the profile and history of service users defined as having complex needs as well as their service use and associated costs in the Cheshire and Wirral Partnership NHS Foundation Trust (CWP).

Methods. A diverse group of stakeholders were invited to provide feedback on the content and design of the proforma for data collection from the medical records of service users. The rationale of the data collection was described to ensure relevant patient-level cost information was collected to identify and quantify the relevant resources consumed, to inform the evaluation of direct medical costs, direct non-medical costs, and indirect costs for each patient. The proforma was designed to also permit comparisons of clinical and service use outcomes for evaluation of patient health and non-health outcomes associated with alternative care pathways.

Results. Stakeholder feedback comprised representatives from the CWP, patients, commissioners, the Local Authority, and housing. Relevant data for extraction from patient medical records were identified and a proforma was developed. The following items were identified for inclusion: baseline demographic data, service user data (family background, contact with the criminal justice system, social history), and clinical data (diagnosis, treatment, hospital visits, and other health service use).

Conclusions. A proforma was developed with diverse stakeholder involvement to inform data collection on the resource use