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

Francisco Javier Somolinos Simón (javier.ssimon@upm.es), Gema García Sáez, Jose Tapia Galisteo and Maria Elena Hernando Pérez

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

Pooja Saini, Antony Martin (antony@qcmedica.com), Jason C. McIntyre, Laura Sambrook, Hana Roks, Sam Burton, Anna Balmer, Amrith Shetty and Rajan Nathan

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

https://doi.org/10.1017/S0266462321001598 Published online by Cambridge University Press

and cost impact associated with alternative care pathways in the National Health Service and other sectors of the economy. Based on the proforma developed and data extracted, an exploration of patient health and non-health outcomes associated with alternative care pathways will be conducted to inform service evaluation and to promote patient centric care.

PP451 Does NICE Reimburse Oncology Treatments Meeting End-Of-Life Criteria More Often Than Treatments That Do Not?

Prachi Manchanda (prachi.manchanda@clarivate.com), Karen Mark and Judith Rubinstein

Introduction. The National Institute of Health and Care Excellence (NICE) issued a supplementary advice in 2009 stating that treatments for patients with short life expectancies (<24 months) can exceed the cost-effectiveness threshold of GBP30,000 (EUR34,668) per additional quality-adjusted life-year (QALY), as long as the treatment is indicated for small patient populations and there is sufficient evidence that it extends life (≥ three months), compared with current National Health Service (NHS) treatments. This study investigated how often NICE reimburses treatments that meet end-of-life (EOL) criteria.

Methods. Health technology assessments (HTAs) conducted by NICE from 2009 to 2020 were reviewed for approved oncology drugs. Terminated appraisals were excluded. Data regarding EOL criteria in these submissions were then gathered. The HTA decisions were divided into the following categories: EOL criteria met; EOL criteria not met; and EOL criteria not applicable. A chi-square analysis was performed.

Results. A total of 316 reviews were assessed in the final sample, of which 71 percent (n = 223) of decisions were positive. Out of the positive decisions, 43 percent (n = 96), 25 percent (n = 55), and 32 percent (n = 72) of decisions were in the EOL criteria met, EOL criteria not met, and EOL criteria not applicable groups, respectively. The chi-square analysis showed a significant correlation between HTA decisions and EOL criteria ($p = 0.0008$). These results were consistent when the "EOL criteria not applicable" group was excluded ($p = 0.001$). When the analysis was performed between the "EOL criteria met" and "EOL criteria not met", along with "EOL criteria not applicable" groups, it showed a possible correlation ($p = 0.05$).

Conclusions. This study showed that in oncology, NICE reimburses treatments that meet EOL criteria more often than treatments that attempt, but fail, to meet the EOL criteria.

PP452 Impact Of Patient Access Schemes On Health Technology Assessment Agency Guidance For Rare Diseases In England and Scotland

Karen Mark (karen.mark@clarivate.com), Prachi Manchanda, Judith Rubinstein and Riza Veronica Inumerable

Introduction. Patient access schemes (PAS) are agreements that may enable patients to access drugs or other treatments that may not be cost effective under normal circumstances. The aim of this study was to determine whether the use of PAS by the National Institute for Health and Care Excellence (NICE) and Scottish Medicines Consortium (SMC) for recommended drugs can lead to greater access to medications for rare diseases.

Methods. Reimbursement data for rare diseases between 2004 and 2021 from health technology assessment (HTA) agencies, namely the SMC (Scotland) and NICE (England), were included. The reviews with positive HTA decisions were considered, while those with negative decisions were excluded. Several observations were made from these data and reported.

Results. Among the total positive reviews (n = 81), 43 included PAS. The inclusion of PAS in manufacturer submissions was more frequent for NICE than for the SMC (79% and 40% percent, respectively). Most of the drugs with PAS were included in the HTA guidance from both agencies. The positive NICE reviews contingent on PAS consisted of 20 drugs. For the same set of drugs, the SMC recommended 14 with PAS and one without PAS; five drugs were not assessed. Adalimumab was recommended by NICE with a PAS (base-case incremental cost-effectiveness ratio of GBP12,336 [EUR14,256]; GBP13,676 [EUR15,804]) and by the SMC without a PAS (base-case incremental cost-effectiveness ratio of GBP22,519 [EUR26,023]). Hence, without a PAS, the drug was costlier per quality-adjusted life-year for the National Health Service (NHS) Scotland.

Conclusions. PAS submissions for rare diseases are more frequent for NICE than for the SMC. With the PAS discounts, the overall cost of the drugs is reduced, resulting in cost effectiveness. The SMC approved some drugs for which NICE required a PAS to improve the economic argument. Hence, the use of PAS for these drugs could lead to potential cost-savings to the NHS Scotland.

https://doi.org/10.1017/S0266462321001598 Published online by Cambridge University Press