

**Results.** There was evidence of stockpiling of medicines during March 2020 (for example, oral-contraceptives and oral-anticoagulants with 11.6 and 18.5 percent increases from March 2019), followed by a short-term reduction in prescribing for oral-contraceptives (a reduction of 12.9 percent), but not oral-anticoagulants (an increase of 6.5 percent). However, GP level data show considerable deviation from the national trend for several GPs, which may be due to health and socio-demographic factors.

**Conclusions.** COVID-19 has had a major impact on primary care prescribing in Wales. The distribution of changes in prescribing will not be even across the country or the population. Identification of systematic variation in impacts on prescribing could identify geographical areas or patients in need of additional support to ensure uninterrupted and appropriate access to medicines.

### OP338 Involving Patients In Research: Early Consultation Of Women To Improve Study Design And Investigate Trial Acceptability

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**Introduction.** Gaining the perspective of patients is invaluable in the design, management and reporting of research. As part of the process of facilitating clinical research into the effectiveness of a digital colposcope in a cervical cancer pathway, patients were involved from the outset.

**Methods.** Using funding made available by a Public Involvement Fund, a patient consultation group was established. The group's initial discussions informed the design of a feasibility study and funding application, which was submitted to the UK National Institute of Health Research (NIHR). A Patient and Public Involvement (PPI) representative was recruited and along with the consultation group, contributed to the ethical approvals for the study. The Patient Information Sheet and Consent Form were reviewed by the patients, to ensure readability, understandability and accessibility. The patient questionnaires and interview topics that are part of the feasibility study were also developed in conjunction with the PPI group, to make sure that women's concerns are being addressed in the research design and protocols.

**Results.** The PPI consultation group's contributions helped strengthen the funding application and funding for a feasibility study was granted as part of the NIHR's Research for Patient Benefit funding scheme. Part of the grant will be used for training and reimbursement for time spent for the PPI representative. Data collection for the study is due to commence in the summer of 2021. The PPI group will be consulted at the beginning and end of the data collection period and will contribute to the data analysis and dissemination of the research output, including a Plain English Summary.

**Conclusions.** Involving patients greatly amplified the quality of the funding and ethical applications and will continue to benefit the ongoing research. Resources were widely available within the researcher's University and also through UK-wide schemes. Such resources are crucial and should be encouraged as part of all clinical research.

### OP339 Virtual COVID Ward: The Use Of Telehealth In The Emergency Response To COVID-19

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**Introduction.** With unprecedented times, comes accelerated change. Hospitals in our region have begun to facilitate safe discharge for COVID-19 patients in the form of "The virtual COVID ward". This has enabled patients to be monitored safely in the community using pulse oximetry, Florence (a telehealth mobile app) and remote consultations. Our objective is to expand upon this model by providing home oxygen therapy for these patients facilitated by telemedicine.

**Methods.** Patients were discharged with an oxygen concentrator if they had an oxygen requirement equal to or less than four litres/minute. Fraction of inspired oxygen needed to be stable and an early warning score of less than four was also required. Once admitted, the Florence app and daily remote consultations were crucial to closely monitor the patient's clinical status. The patient was instructed to enter oxygen saturations and heart rate into the app four times daily. The app would then alert our team if any patients observations deteriorate, triggering immediate assessment.

**Results.** We have discharged ninety patients to the virtual ward, fifty-six of these with home oxygen. The average age was fifty-seven and the Clinical Frailty Score ranged between one and six. At present, ten patients have been re-admitted, four with increasing oxygen requirements, and six with unrelated symptoms. Two patients had oxygen concentrators installed at home after we were alerted to their desaturation by the Florence App. The re-admission rate is eleven percent, which mirrors that of other virtual wards (who do not provide home oxygen). In total, the ward has saved the trust 627 hospital inpatient 'days'. Patients report increased satisfaction at playing a meaningful role in monitoring their own healthcare using the app.

**Conclusions.** Our novel model of supported discharge with oxygen therapy using telehealth demonstrates that it is possible to manage such patients, safely, in the community. Other trusts could utilise this model to reduce inpatient bed occupancy. Looking to the future, could telehealth be utilised further to facilitate other "Virtual wards" in the community?

### OP340 Kidney Patients' Preferences For A Wearable Digital Health Technology To Support Self-Management Of Chronic Kidney Disease - A Discrete Choice Experiment

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**Introduction.** Wearable Digital Health Technologies (WDHTs) can support and enhance self-management by giving individuals

with chronic conditions more control over their health, safety and wellbeing. Involving patients early on in the design of these technologies facilitates the development of person-centered products. It may increase the potential uptake of (and adherence to) any intervention they are designed to deliver. This research aims to elicit chronic kidney disease (CKD) patients' preferences for WDHTs that may help patients manage their conditions.

**Methods.** We used discrete choice experiments (DCE) to elicit preferences for WDHTs characterized by their generalizable characteristics. The study design was informed by a multi-stage mixed-method approach (MSMMA). This included a review of the published literature, focus group interviews and one-to-one interactions with CKD patients to identify relevant characteristics (that is, attributes and levels) associated with wearable DHTs. We collected the data from 113 patients (age  $\geq 18$  years) with stage 3 or above CKD. The analysis started with a conventional multinomial logit model and was extended by investigating heterogeneity in preferences via latent class models.

**Results.** Our MSMMA yielded ten potential attributes for consideration in a choice task. The final list included five attributes, cross-checked and validated by the research team, and patient representatives. The most preferred attributes of WDHTs were device appearance, format and type of information provided, and mode of engagement with patients. Respondents preferred a discreet device, which offered options that individuals could choose from and provided medical information.

**Conclusions.** We show how to use MSMMA to elicit user preferences in (and to inform the) early stages of the development of WDHTs. Individuals with CKD preferred specific characteristics that would make them more likely to engage with the self-management support WDHT. Our results provide valuable insights that can be used to inform the development of different WDHTs for different segments of the CKD patients population, moving away from a one-size-fits-all provision and resulting in population health gains.

## OP345 Evaluation Of An Artificial Intelligence-assisted Service For Cardiac Monitoring As Part Of A National Institute For Health And Care Excellence (NICE) Digital Health Technology Pilot

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**Introduction.** Zio XT Service was one of five Digital Health Technologies (DHTs) to be assessed by the National Institute for Health and Care Excellence (NICE) as part of their evaluation pilot. The King's Technology Evaluation Centre (KiTEC) act as an External Assessment Centre for NICE and worked on this pilot evaluation. The service comprises a I-Lead ECG patch, an inbuilt software that makes use of artificial intelligence (AI) algorithms to record, store and analyze ECG traces, and a team of cardiac physiologists.

**Methods.** Although the methods were based on NICE's existing Medical Technologies Guidance Process, they were modified to suit the assessment of DHTs. The process was split into two

sections, with the option to discontinue the assessment if it was considered that insufficient evidence was available for the technology. Clinical experts and patients were consulted through the process and clinical, economic and technical evidence was considered. Costs for three care pathways were modelled.

**Results.** A total of thirty relevant clinical studies were identified, with a further study being reviewed as part of a separate technical assessment, focusing on the AI component of the technology. Four of the studies were considered to be pivotal to the decision problem, one of which was a Randomized Controlled Trial. The technology was found to have a greater diagnostic yield than a standard ambulatory monitor, however diagnostic accuracy measures were absent in the literature. Three economic models were developed to represent three care pathways: patients with syncope, patients who have had a stroke or transient ischaemic attack and a third model assessing downstream costs associated with stroke treatment.

**Conclusions.** Digital Health Technologies and Artificial Intelligence Technologies pose novel and unique challenges to health technology assessment (HTA) bodies. Zio XT Service is a diagnostic tool, with both human and AI input, making it a particularly complex technology to assess. This work serves as a case-study in the evaluation of DHTs and AI and the lessons learned may contribute to the development of guidelines for such technologies.

## OP348 Assessing The Potential Value Of Wearable Digital Health Technologies In Chronic Kidney Disease Using Early Health Technology Assessment Methods

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**Introduction.** Wearable digital health technologies (WDHTs) offer several solutions in terms of disease monitoring, management and delivery of specific interventions. In chronic conditions, WDHTs can be used to support individuals' self-management efforts, potentially improving adherence to (and outcomes resulting from) interventions. Early health technology assessment (HTA) methods can inform considerations about the potential clinical and economic benefits of technology in the initial phases of the product's lifecycle, facilitating identification of those Research & Development (R&D) investments with the greatest potential stakeholders' payoff. We report our experience of using early HTA methods to support R&D decisions relating to novel WDHT being designed to support self-management of chronic kidney disease (CKD).

**Methods.** We performed a literature review, focus-group interviews with patients, and qualitative interviews with the prototype development team to understand the relevant characteristics of WDHTs, quantify relevant clinical indications and existing technological constraints. An early economic evaluation was used to identify the key drivers of value for money, and a discrete choice experiment shed light onto patient preferences towards what key features the WDHT should have for the users to adopt it. Then a model-based cost-effectiveness analysis was undertaken