A local patient focus group identified the need for trustworthy information, written and reviewed by their rheumatology team to aid self-management. They felt information should be readily accessible, in one place, to re-read / re-listen to, as required.

Objectives: To develop a Rheumatology App, for any patient attending our department, to support self-management.

Methods: We worked with a number of rheumatology patients, of differing ages, the Rheumatology multi-disciplinary team (MDT) and an industry partner, hci.digital, to develop our App, called 'Rheumatology Connect'.

We developed over 30 short videos, provided links to other valuable patient websites e.g. Versus Arthritis, NRAS, NASS, and wrote short articles, to provide basic headline information about various different diseases, common treatments e.g. Methotrexate. We provided easily accessible contact details and information about our clinic locations (including postcodes, bus links, car parking). Video content was written by the clinical authors and filmed by hci.digital.

Patient involvement in designing the layout was particularly important for the App to be easily navigable by all.

We launched the App, in June 2018, at a local patient educational conference. We encourage all patients on regular follow up to download it / use it and remind everyone about it in our clinic letters.

Results: Downloads have been ongoing since launch, with over 1953 downloads and 21930 page views, with peaks around the time of our monthly education sessions when we advertise the App to new patients.

Over 54% spent between 2 to 5+ minutes in the App at a time. Most of the videos in the App are about 2 minutes long. Common hits include: videos on medications, various conditions, contact details, clinic locations, and services available. We have had a number of spontaneous contacts from patients saying how valuable they find the information we have given them.

The App aids efficiency by allowing direct phone calls to the correct member of the MDT e.g. rheumatology physio, rather than going through the secretaries. We are also encouraging direct email contact via the App. These aspects are helping us make our services more efficient.

Conclusion: The App continues to be downloaded and used by our patients. It has become an important part of our patient education efforts, especially for those with a new diagnosis.

We have had a significant increase in email contact from patients, allowing us to be more efficient by responding more quickly to patient queries, avoid additional telephone calls and avoid ansa-phone messages.

To date, the App continues to be downloaded by patients and we have received very positive feedback. Having surveyed the users, our next step is to develop interactive PROMS, a calendar reminder function and medicines management function as these have been identified as additions users would find helpful to manage their disease. We have raised funds to develop the App. The updated app should be available by May 2020

Download free from App store (search 'Rheumatology Connect') or go to www.rheumatologyconnect.info.

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AB1348-HPR TELEMEDICINE IN RHEUMATOLOGY: ACCEPTANCE BY PATIENTS AND MEDICAL PRACTITIONERS IN GERMANY (TELERHEUMABB) - INTERIM ANALYSIS

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Background: The number of rheumatologists in Germany does not cover the minimum medical need [1]. This implies long journeys and waiting periods for patients in the context of rheumatologists' consultations. International studies suggest that telemedicine could resolve these issues and support health care professionals in rheumatologic care [2, 3]. So far, comprehensive sustainable approaches are still pending in Germany. By addressing the potential users, TeleRheumaBB investigates whether and how telemedicine can support rheumatologic care in Germany. The study is realized from Oct. 2017 until Jun. 2020.

Objectives: The objectives of the study are to evaluate the acceptance and willingness of patients and medical practitioners (MP) to implement telemedicine into rheumatological care as well as to understand how telemedical approaches should be designed to be applied in daily practice.

Methods: The study design contains a mixed-methods approach, which combines qualitative and quantitative data. In the qualitative part of the study 28 in-depth interviews and 3 focus groups involving patients, rheumatologists,

general practitioners and stakeholders were conducted. The quantitative part of the study comprised a questionnaire survey with rheumatologists (n=48) and referrers (n=444) and a second questionnaire survey with patients (n=734).

Results:

Qualitative Data: The term "telemedicine" is filled with different meanings. Motives to implement telemedicine into daily practice are patient guidance, information, substantial time savings, desire of a modern practice etc. Reported risks of telemedicine are adverse impacts on the doctor-patient-relationship as well as low benefit with high effort.

Quantitative Data: 62% of the MPs surveyed answered that they would like to use telemedical approaches. 81% of the participants supported doctor-doctor communication via telemedicine. Only 47% of the MPs surveyed supported doctor-patients communication via telemedicine. MPs state that there are barriers which prevent them from implementing telemedicine (89%). These are among others acquisition of technology, administrative expenses and poor remuneration. 53% of the patients surveyed stated that they had heard the term telemedicine before. 30% of the participants answered that they would like to try out telemedicine. 38% answered with "no" and 29% with "do not know." Further results from the patient survey will be available in June 2020.

Conclusion: The study results show high acceptance rates of telemedicine regarding doctor-doctor communication. Doctor-patient communication via telemedicine is less accepted. However, MPs are reporting obstacles preventing the implementation of telemedicine in rheumatology. In order to implement telemedicine in rheumatological care comprehensively, adequate conditions must be established in the German health care system.

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AB1349-HPR IMPLEMENTATION OF A GROUP EDUCATION SERVICE FOR RHEUMATOLOGY OUTPATIENTS COMMENCING BIOLOGIC THERAPY AT UNIVERSITY COLLEGE LONDON HOSPITAL (UCLH)

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Background: Biologic therapies are commonly prescribed in a range of rheumatic conditions. From 2016 - 2018, a mean of 226 rheumatology outpatients at UCLH commenced biologic therapy per year for inflammatory arthritis alone¹. Patient education is required prior to initiation. At UCLH this is delivered via individual appointments with specialist nurses, contributing to waiting times for nurse appointments and thus delays in starting treatment.

Objectives:

- 1.To evaluate patient satisfaction following group education.
- 2.To reduce the burden on specialist nurses delivering multiple individual sessions.

Methods: A once-weekly group education service was set up at UCLH. This comprised: an oral PowerPoint presentation; injection demonstration; question and answer session; and written leaflets. Patients were provided with pre- and post-session questionnaires to evaluate the service.

Results: Over the first five weeks of the service, 18 patients attended group education (a median of 4 patients per session). Nine patients (50%) had previously researched the medication via internet search engines. Patients' questions prior to the session were most commonly centred on side effects and long-term risks. All of the patients (100%) felt that "most or all" of their questions were answered during the session. Patients gave their awareness of the reason for therapy a median score of 7/10 pre-education; this rose to a median of 10/10 post-education. The median score given for confidence to self-administer the drug was

5.5/10 pre-education; this rose to a median of 10/10 post-education. The median anxiety score was 3/5 pre-education; this dropped to 2/5 post-education. The presentation was adapted based on questions that arose during the sessions. Multiple patients gave informal, verbal feedback stating that they found the group environment to be beneficial, providing a chance to meet others with similar conditions, share experiences and feel reassured that they are not alone in starting biologic therapy.

Conclusion: Patient feedback demonstrated that the group education sessions at UCLH were effective in improving their understanding of the rationale for biologic treatment, increasing their confidence in self-administration, and reducing anxiety. Verbal feedback illustrated that many patients enjoyed the group environment, and the opportunity to interact and share experiences with others. At an average rate of 4 patients currently being seen a week, it is estimated that this will save 192 specialist nurse appointments per year (out of an estimated 226 commencing biologic therapy). There is scope for further research into the effects that this has had on waiting times to receive education / start treatment, and on drug compliance.

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AB1350-HPR SOCIOECONOMIC BURDEN OF NON-ATTENDANCE IN RHEUMATOLOGY CONSULTATION

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Background: Outpatient non-attendance refers to the phenomenon of patients who have a medical appointment but do not show up at the specified date, time, and location without giving previous notice.¹ In addition to affecting the efficiency and thereby increasing the healthcare total costs, nonattendance might also delay access to care for users on waiting lists.¹ Nonattendance at health appointments is costly to services, and can risk patient health.² There is very little data on the nonattendance prevalence and impact in Portugal. This knowledge might be fundamental to improve effectiveness of outpatient care in Portugal.

Objectives: 1) describe patient's non-attendance rate; 2) assess and characterize the sociodemographic and clinical characteristics among non-attending patients; 3) estimate the economic burden of non-attendance.

Methods: Retrospective, cross-sectional and analytical study. We reviewed a one-month Rheumatology consultation period regarding performed medical consultations and non-attended consultations without previous notification from patients. Direct economic costs of non-attended appointments were calculated based on the "Amending Agreement to the ULSAM, EPE Program Agreement".

Results: 982 consultations within January 2018 were included. Appointments episodes for therapeutic prescription, medical reports or programmed admissions were excluded. Fifty-seven (5.8%) of scheduled outpatient appointments were non-attended. Subsequent consultations represented 85.2% of attended appointments and 80.7% of non-attended appointments. Female gender was the most prevalent in both groups – 620 (67.0%) among attended consultations and 37 (65.0%) among non-attended consultations. Mean age was 57±15 years in the first group and 54±16 years in the second one. Among attended appointments, mean education level was 8±5 years versus 9±6 years among non-attended appointments. There were no differences between both groups in gender, age, education level, diagnosis, disease duration and activity or appointment type (first or subsequent consultation). A cost of 2,438 euros was estimated regarding non-attended appointments for this period, what could represent a burden of more than 29,000 euros yearly, in direct costs, only.

Conclusion: Non-attendance at scheduled appointments in public hospitals seems to be influenced by other factors besides gender, age and education level. The burden of non-attended appointments is undeniable. In addition to the costs estimated in this study, further indirect costs such as poorer patients outcomes, impaired access to medical care and hospital penalties should be taken into account. Implementation of awareness strategies aiming the optimization and effectiveness of healthcare system are required.

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AB1351-HPR A HAND EXERCISES MHEALTH APP FOR PATIENTS WITH RHEUMATOID ARTHRITIS: DEVELOPMENT, DESIGN AND USABILITY STUDY IN TURKEY

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Background: The Strengthening and Stretching for Rheumatoid Arthritis of the Hand (SARAH) programme has been shown to provide long term improvement in hand function for patients with rheumatoid arthritis (RA) affecting their hands. In Turkey, limited number of physiotherapists work in rheumatology departments so there is an opportunity to use the digital technologies for exercise prescription and follow up to improve access to treatment. Growing research evidence supports the effectiveness of mHealth interventions for improving exercise adherence and motivation. To our knowledge, there is no hand exercises mHealth program for patients with rheumatoid arthritis designed by experts with the user-centered method.

Objectives: The aim of our study is to develop and design a smartphone application for structured hand exercise program for patients with RA in Turkey and to test its usability.

Methods: We used a qualitative user-centered design approach with 2 phases. PHASE 1: we conducted focus group meetings to discuss the content, feature and design of app to produce a prototype version of smartphone software for RA hand training program. The Focus Group consisted of two physiotherapists and three hand therapists working in the field in different rheumatology or hand rehabilitation clinics, two software-computer engineers, and three patients with RA who had previously participated in hand therapy. The focus group met 4 times during phase 1. PHASE 2: we investigated the usability of prototype version of the rheumatoid hand exercise smartphone app software. All focus group members (n=10) and 6 patients used the app for one week. All users filled the usability questionnaire and provided written feedback on the app. Revisions were made and the revised version was tested. We put the revised app in digital markets in Turkish and English.

Results: The major themes identified from the Focus Group discussions during phase 1 were (a) Login techniques (b) self-monitoring (c) exercises types/frequency/diary, (d) patient education, (e) behavioral change and encouragement (f) exercise adherence. Patients and therapist all agreed the login needed to be easy. Patients wanted to be able to monitor their pain levels and hand function in the app. Patients thought the SARAH exercise were suitable for the app. A patient said: 'SARAH exercises is beneficial for my hand and tendon gliding exercise, I will be happy to see these exercises in app'. Patients wanted exercise reminders using push up notifications to encourage exercise were proposed and included. A patient commented 'in the morning and after work, motivational push up messages could be beneficial for exercise habit.' During the phase 2, we identified a need for education on how to use digital app, ways to provide patient follow up to monitor adherence, the need to allow patients to select the amount of notifications. This feedback was incorporated into the final version.

Conclusion: mHealth applications represent an easily accessible bridge between patients and health professionals for home-based programs. Using a user-centered approach ensured that we developed an application that met the needs of therapists and patients. Physiotherapists are using the app in rheumatology clinics in Turkey and long-term usability and feasibility studies are ongoing.