Background: Increasing demand and shortage of specialists lead to long waiting times for initial appointments in rheumatology care [1]. These result in diagnostic delays in several rheumatic diseases, with the longest total delay reported for patients with axial spondyloarthritis (axSpA) [1]. Telemedicine, including symptom checkers (SC), capillary self-sampling, and electronic patient-reported outcomes (ePRO) could enable patients to prepare a standardized pre-visit assessment at home. Additionally, fast-track appointments supported by medical students could complement this standardized assessment to enable fast diagnostic assessments and ultimately accelerate start of therapy.

Objectives: This qualitative study was embedded in a clinical trial that investigated a new diagnostic pathway for patients with suspected axSpA, including telehealth tools and fast-track visits supported by medical students. The aim of this qualitative study was to explore patient experiences with this new care model.

Methods: Patients, purposively selected to reflect a heterogeneous sample in terms of age, gender, education and occupation, participated in an explorative, qualitative study using semi-structured phone interviews. Interview data was analyzed using structured qualitative content analysis.

Results: Qualitative interviews were conducted with twenty patients with suspected axSpA (Table 1). Patients perceived the initial consultation supported by students to be equivalent to standard rheumatology care. Patients considered the student consultation to be a valuable option to relieve workforce shortage in rheumatology care. The overall experience with the students was described as holistic and thorough by patients. Some participants pointed out that rheumatic patients often have long medical histories and, thus, may find it difficult to engage with initial care provided lead by students. Patients reported that using SC and performing capillary blood collection helped to better assess their disease status and promote mindfulness in this regard. Some patients described that the SC-questions were unspecific, which led to difficulties answering them. Furthermore, several patients requested a free-text note section to specify their standardized ePRO data. Patients considered the capillary blood collection to be helpful, especially in regard of travel and time savings. Reported disadvantages of self-administered blood collection were uncertainties about the amount of material and the unsustainable packaging material.

Table 1. Patient characteristics

Patient characteristics	Unit	Value (n=20)
Median Age (IQR)	Years	45.6 (18.2)
Mean Age (SD)	Years	43.3 (12.4)
Sex	patient number male/female	12/8
Final diagnosis	patient number axSpA/no axSpA	12/8

Conclusion: Patients perceived the new diagnostic pathway as an efficient and high-quality alternative to standard axSpA-care. Particularly, savings in time and travel were considered favourable by the interviewed patients. Personal comments or chat options could provide an even more individual patient experience.

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POS1596-HPR **IMPACT OF THE HEALTH STATUS ON THE WILL TO USE TELEMEDICINE AMONG RHEUMATIC PATIENTS: SECONDARY ANALYSIS OF DATA FROM A GERMAN NATIONWIDE SURVEY**

Keywords: Health services research, Telemedicine

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Background: Telemedicine (TM) is an effective tool to supplement rheumatology care and address staff shortages [1]. A previous study revealed that patients' willingness to try TM is closely connected to their perceived health status [2]. Yet, it is still unclear which factors are associated with patients' motivation to use TM according to the perceived health status.

Objectives: The study aimed to identify factors that determine patients' willingness to try TM (TM-try) and their wish that their rheumatologists offer TM services (TM-wish) according to their perceived health status.

Methods: We conducted a secondary analysis of data from a German nationwide cross-sectional survey among patients with rheumatic and musculoskeletal diseases (RMDs) [3]. Bayesian univariate logistic regression analysis was applied to the data in order to determine which factors were associated with TM-try and TM-wish, respectively. Predictor variables (covariates) studied individually included sociodemographic factors (e.g., age, sex) and health characteristics (e.g., health status). All the variables positively and negatively associated with TM-try and TM-wish in the univariate analyses were then considered for Bayesian model averaging analysis (BMA) after a selection based on the variance inflation factor (≤ 2.5) to identify determinants of TM-try and TM-wish, respectively.

Results: Regarding TM-try, a total of 26 (30.6%) and 45 (27.1%) variables/factors (answers to the 25 questions), out of 85, were found to be positively or negatively associated (ROPE% ≤ 5%) with a perceived okay and bad/very bad health statuses, respectively. Regarding TM-wish, a total of 14 (16.5%) variables/factors (answers to the 25 questions), out of 85, were found to be positively or negatively associated for both a perceived okay and bad/very bad health statuses, respectively. A total of 19 and 13 determinant factors (Figure 1) were identified for TM-try and TM-wish, respectively. Patients with a perceived bad/very bad health status that did not want to try TM were more frequently 60-69 years old, living 10-15 km from the GP's office, being diagnosed with rheumatoid arthritis and had more often less TM knowledge than patients wanting to try TM. Patients with a perceived bad/very bad health status that did wish that TM services were offered by rheumatologist were more frequently older, not documenting their health status and more being diagnosed with osteoporosis than patients wishing that TM services were offered by RM.

Conclusion: Our results indicate that RMD knowledge, age, RMD type, health status documentation and access to technical equipment and infrastructure influence RMD patients' motivation to use telehealth.

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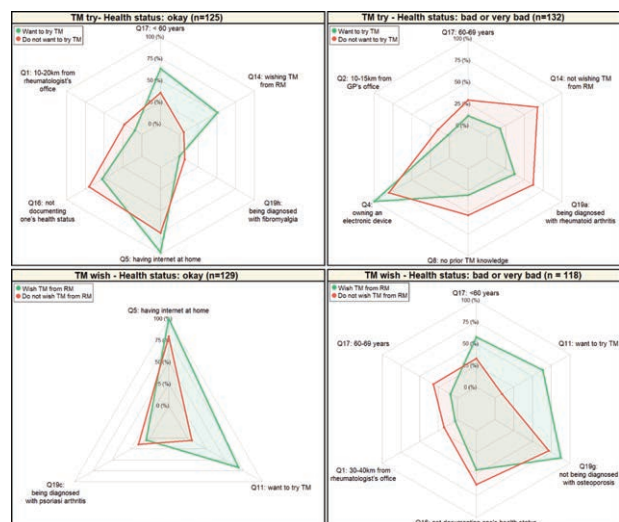

Figure 1. Profile of RMD patients motivated to try TM vs. RMD patients not motivated to try TM

POS1597-HPR | **ASSESSING THE USE OF VOICE COMMANDS IN THE CLINICAL SETTING**

Keywords: Artificial intelligence, Health services research

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Background: Artificial intelligence (AI) could reduce the administrative workload of clinicians, thus allowing them to focus more on clinical work. AI-powered voice-recognition programs can record appointments and request additional diagnostic tests through automatic flows generated by specific voice commands, reducing the administrative burden. Although some clinicians consider these programs helpful in the clinical setting, others consider them challenging to learn and not to save time.

Objectives: To investigate the impact of voice commands in clinical practice: i) on time spent on different tasks (clinical and administrative) during the appointment, ii) on the accuracy of records, iii) on patients' and clinicians' satisfaction.

Methods: We undertook a single-centre prospective quality improvement project between 26/10/22 and 20/12/22 in the rheumatology department of Nuffield Orthopaedic Centre - Oxford University Hospitals. We included patients attending general rheumatology (GR), complex musculoskeletal (CMSK) and vasculitis clinics, performed by clinicians using voice commands (group 1, N=1) and clinicians not using voice commands (group 2, N=4). The voice command program used was Dragon Medical One. We defined "using voice commands" when this tool was used to insert a pre-prepared text template or order diagnostic exams. One investigator attended the clinics and timed the tasks performed during the appointment. Clinicians and patients answered questionnaires attributing satisfaction scores from 0 (very unsatisfied) to 10 (very satisfied). Univariate analysis was performed, as appropriate, using SPSSV25.

Results: Data regarding 80 appointments were collected: 40 from group 1 and 40 from group 2. The proportion of the clinic types in groups 1 and 2 was: GR 52.5% vs. 0%; CMSK 0% vs. 40%; and vasculitis 47.5% vs. 60%, respectively. There were no differences between the groups regarding new and follow-up patients or face-to-face and phone clinics. Group 1 finished recording the consult in a shorter time than group 2 (mean±SD: 5.6±1.8min vs. 8.9±3.7min, p<0.001). The time spent with the patient (mean±SD: 16.9±7.0 vs. 17.7±7.6, p=0.637) and ordering diagnostic tests (mean±SD: 2.9±1.7 vs. 2.7±1.2, p=0.803), did not differ between the groups. To compare the groups performing the same type of clinic, we conducted a subanalysis including only the vasculitis clinics (group 1 N=19 and group 2 N=24). In this setting, group 1 also finished recording the vasculitis consultations in a shorter time than group 2 (mean±SD: 5.2±1.6min vs. 8.9±4.5min, p<0.001). Moreover, group 1 had more final records with spelling mistakes than group 2 (26 vs. 13, p=0.004) but no more clinically significant errors (8 vs. 3, p=0.105). The latter consisted of one drug dose error, seven nonsense sentences from group 1, and 3 nonsense sentences from group 2. Regarding the clinicians' satisfaction levels, 5 out of 7 items evaluated showed significant differences between both groups. Group 1 had higher median scores of satisfaction regarding how the consultation went (9 [1] vs. 8 [1], p<0.001); the time they had to address the patient's concerns (9 [1] vs. 8 [2], p<0.001); and the way the dictation worked (8 [1] vs. 6 [1.75], p<0.001), compared to group 2. Moreover, group 1 felt that they spent more time listening and talking to the patient as opposed to doing administrative work (8 [1] vs. 7 [3], p<0.001), and also considered they had to do less writing (2 [1] vs. 5 [2], p<0.001), than group 2. There was no difference between the groups concerning patient satisfaction levels.

Conclusion: We report that voice commands: (i) were useful in reducing the time spent recording the consultation but did not influence the time spent with the patient or the time spent ordering diagnostic tests; (ii) resulted in a higher number of spelling mistakes but not clinically significant errors; and (iii) improved the clinicians' satisfaction at most levels and did not influence patients' satisfaction. Medical staff should be trained to adopt this technology, and developers should focus on improving accuracy and misspelling minimization.

HPR Professional education, training and competencies

POS1598-HPR | **TEACHING AND CLINICAL OUTCOMES OF A NOVEL FELLOWS' INJECTION CLINIC**

Keywords: Education, Patient reported outcomes

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Background: The skills of performing joint/periarticular injections by rheumatology fellows are learned during training but achieving the necessary level of expertise can be challenging if the rotations lack dedicated skills teaching. There is also a paucity of literature reporting how injection proficiency evolves and how the type and number of procedures can affect performance.

Objectives: To combat these issues and enhance fellow training and patient outcomes, we started an exclusive fellows' monthly injection clinic and assessed the learners' progress by analyzing their proficiency scores (PS) over time, and asking if these differ between size of joints and number of procedures done. We selected 10 or more procedures as the number needed to achieve higher expertise and determined the patient response (efficacy) and side effects as secondary outcomes.

Methods: The clinic is led by a single attending rheumatologist who demonstrates the proper technique prior to the encounter, supervises the procedure and provides feedback. Outcome measures include the procedure type classified as small/medium or large joint/periarticular structures. The PS was measured by the same teacher throughout and used a numerical scale of 1-3 defined as 1 – early, 2 – progressing, or 3 - advanced. Factors affecting proficiency score included preparation, technique, and cleanup. Efficacy was measured by successful aspiration and for steroid injections, by patient report of >50% improvement in joint pain at the next follow-up visit. Patients were advised to call the clinic to report any adverse events.

Results: Thirteen clinics took place between December 2020-August 2022. Fellows performed an average of 4 procedures per clinic for a total of 52 procedures. PS were compared at initial (n=15) and last clinic encounter (n=17), and between large (n= 32) and small/medium joints/periarticular procedures (n=20). PS steadily increased over time with higher proficiency achieved by the 3rd or 4th clinic compared to the initial clinic [2(1-3) vs 1(1-2), p=0.018]. Fellows tended to achieve higher PS for large joint/periarticular procedures (hip and knee) compared to the more technically difficult small/medium joint/periarticular procedures (shoulder, feet and hands) [2[1-3] vs 1(1-2), p < 0.0001]. We arbitrarily selected 10 or more procedures as the number needed to achieve higher expertise but found no difference in PS between performing <10 versus > 10 injections [2(1-3) vs 2(1-3), p= 0.35]. The procedures were highly effective and safe with favorable responses seen in 94.0% (49/52 procedures) with no reported side effects.

Conclusion: The longitudinal injection clinic demonstrated a steady improvement in proficiency among fellows while minimum number of procedures needed to attain expertise needs further studies. Our data can provide a useful template for designing a skills-based curriculum for rheumatology training programs.

REFERENCES: NIL.