Remote monitoring of patients with rheumatoid arthritis: a mixed methods evaluation across six hospitals in London, UK


Centre for Implementation Science, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, London, UK; Health Innovation Network, London, UK; Guy’s and St Thomas’ NHS Foundation Trust, London, UK; National Rheumatoid Arthritis Society, Maidenhead, UK; Patient Author; Patient Author from Guy’s and St Thomas’ NHS Foundation Trust, London UK

Background
- Rheumatoid arthritis (RA) is a chronic fluctuating condition requiring frequent monitoring of disease activity.
- Patient reported outcome measures (PROMs), for example the Rheumatoid Arthritis Impact of Disease (RAID) score, can support patient-centred care and improved clinical management.
- Remote monitoring (RM) of PROMs can offer potential benefits.

Aim
To evaluate the scale-up of a two-way RM service, capturing monthly RAID scores and patient-generated text messages, for patients with RA (in remission or with low disease activity) attending routine outpatient clinics across six hospitals in southeast London.

Objectives
To explore:
1. Patients and staff experiences
2. Implementation outcomes, including acceptability, feasibility and barriers and drivers to implementation.

Description of the RM service
- The RM service was piloted for 18 months and then rolled out to five additional hospitals:
  - Jan 2021 to Aug 2022
- Patients who meet the eligibility criteria are invited to join the RM service.
- Eligibility criteria includes being in remission or having low disease activity.
- Patients onboard the RM service are asked to submit monthly RAID scores, with the option to also submit free text messages.

Methods
- Multdisciplinary evaluation team.
- Patient and public involvement (PPI):
  - Two patient representatives recruited to evaluation team.
  - Patients informed of early protocol.
  - PPI workshops to inform data collection, analysis and interpretation.
  - Collaboration with the National Rheumatoid Arthritis Society (NRAS).
- Pragmatic, mixed methods evaluation with five areas of investigation:
  - Rapid evidence synthesis review
  - System-level data from the RM platform
  - Patient survey
  - Patient interviews
  - Staff interviews

Results

Rapid evidence review
- 37 articles included, covering themes of patient and clinician acceptability, engagement, feasibility and clinical impact.

RM system-level data
- 92% (n=202) of patients stayed onboard during the 34-month study period.
- 83% (n=2974) of total RAID scores were completed.
- 50% were completed following the first request and 72% within 4 days.
- Average RAID completion rates per patient remained consistently above 80% irrespective of time since joining the service.

Patient survey
- 83% of patients onboard the RM service are asked to submit monthly RAID scores, patients informed design of early protocol.
- 50% were completed following the first request and 72% within 4 days.
- Average RAID completion rates per patient remained consistently above 80% irrespective of time since joining the service.

Staff interviews
- Informed by EPIS framework.
- Exploration least prominent phase.
- Fit for purpose:
  - Good fit for most patients, but not all.
  - Good fit for clinicians, but concerns exist.
  - Good fit to system.

Facilitators and barriers:
- Mixed views about support, leadership and engagement.
- Some barriers specific to roll-out sites.
- Dual effects of COVID-19 pandemic.

Sustainability:
- Addressing current unmet needs, being responsive to evolving needs and prioritising clinician needs.

Conclusions
- First description of RM service for patients with RA across multiple organisations.
- Demonstrates the utility of COM-B and EPIS.

Patients
- Overwhelmingly positive experiences.
- High levels of engagement that were sustained over a long time.
- Key features: ease of use, improved access to care and increased self-management.

Staff
- Potential benefits to patients, clinicians and services.
- Mixed views and low engagement at roll-out sites.
- Staff needs not prioritised as highly as patients.
- Additional barriers at roll-out sites.

Equal levels of patient and staff engagement required for sustainability.

Challenges of innovation and implementation:
- in the NHS,
- in routine practice,
- during COVID-19.

Publications and upcoming events
- Visit the King’s Improvement Science project page for more info:
  - Livestreamed panel Q&A scheduled for 28 June 2023.
  - Peer-reviewed publication (under-review).

Please do not publicly share the contents of this poster.