

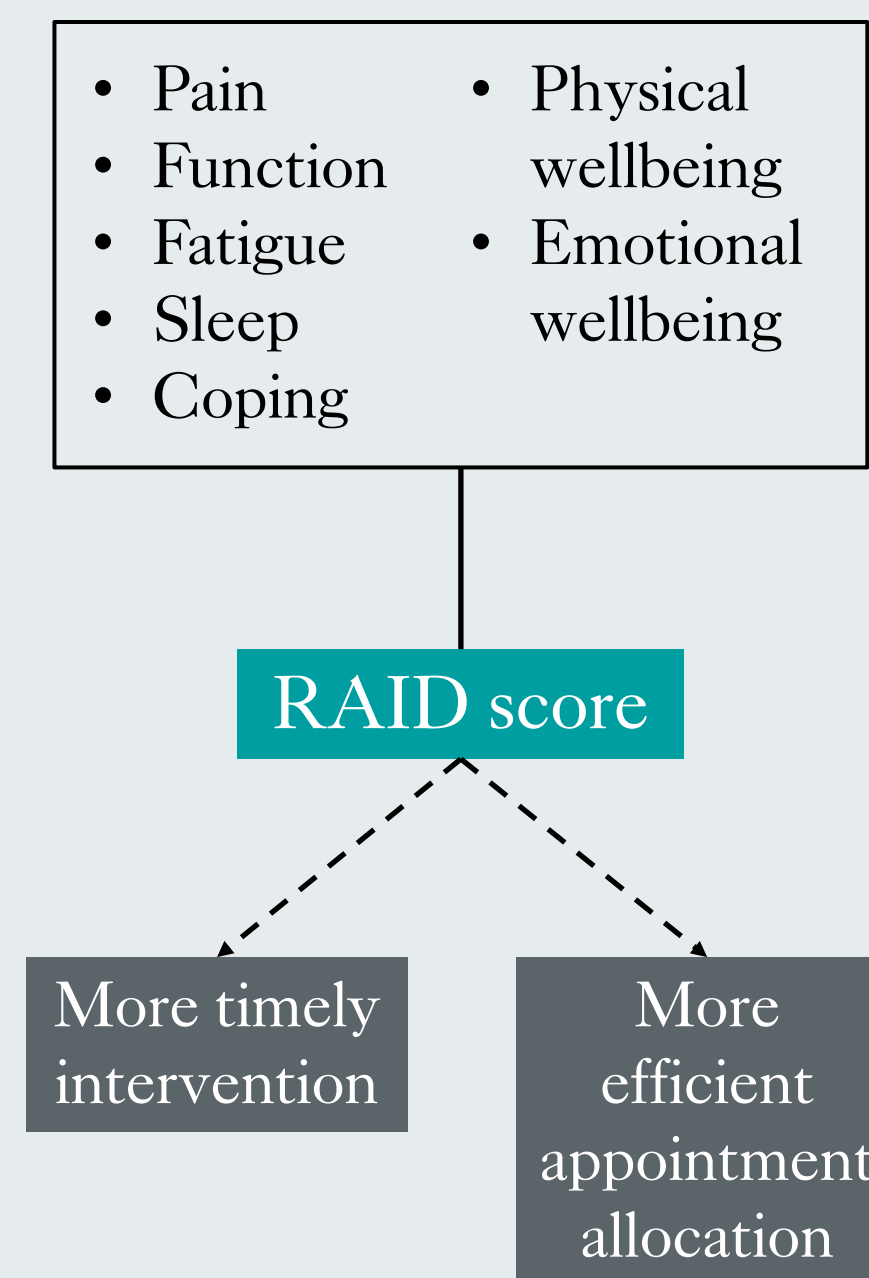
Remote monitoring of patients with rheumatoid arthritis: a mixed methods evaluation across six hospitals in London, UK

Kathryn Watson¹, Helen Sheldon², Elena Pallari², Nikita Arumalla³, Rachel R. Olive¹, Olga Boiko¹, Camille Aznar², Emma-Jayne Adams⁵, Ailsa Bosworth⁴, Len Demetriou¹, Melanie Martin³, Mary-Ann Palmer⁶, Polly Sinclair², Emily J. Smith³, Nick Sevdalis¹, Andrew Walker², Toby Garrood³

¹Centre for Implementation Science, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK; ²Health Innovation Network, London, UK; ³Guy's and St Thomas' NHS Foundation Trust, London, UK; ⁴National Rheumatoid Arthritis Society, Maidenhead, UK; ⁵Patient Author; ⁶Patient 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

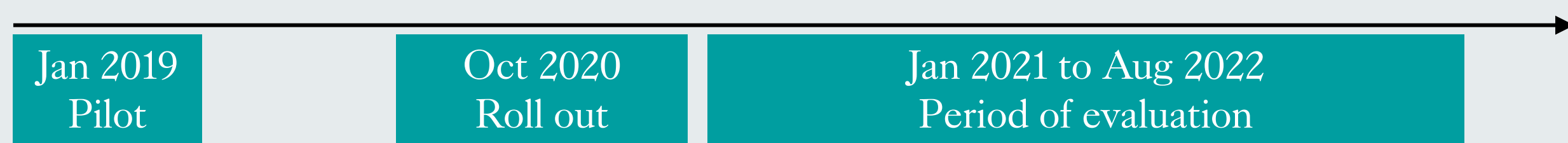
To evaluate the scale-up of a two-way RM service, capturing monthly RAID scores and patient-generated text messages, for patients with RA (in remission or with low disease activity) attending routine outpatient clinics across six hospitals in southeast London.

Objectives

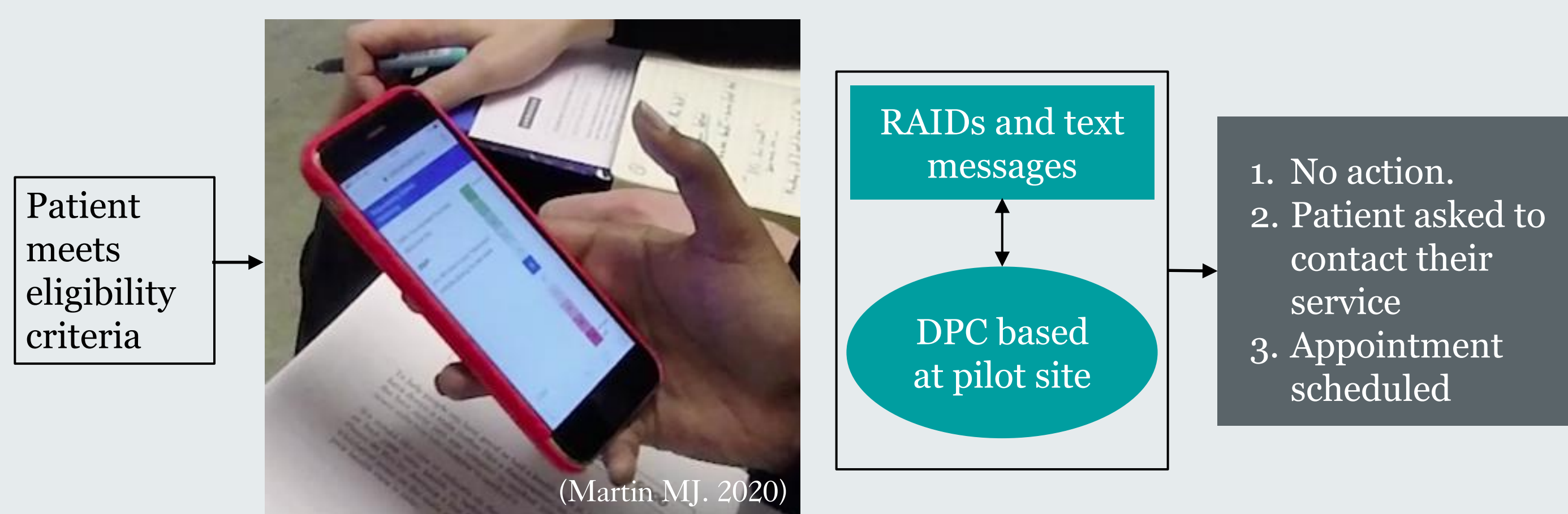
- To explore:
- Patients and staff experiences
 - Implementation outcomes, including acceptability, feasibility and barriers and drivers to implementation.

Description of the RM service

- The RM service was piloted for 18 months and then rolled out to five additional hospitals:



- 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.



- Automated reminders are sent at intervals to patients who don't respond.
- RAID scores and text messages are monitored by a Digital Pathway Coordinator (DPC) based centrally at the pilot site.
- The DPC manages the flow of patient data to enable clinicians to make triage decisions about whether patients need an appointment or remote advice.

Methods

- Multidisciplinary evaluation team.
- Patient and public involvement (PPI):
 - Two patient representatives recruited to evaluation team.
 - Patients informed design 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:



Results

Rapid evidence review

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

RM system-level data

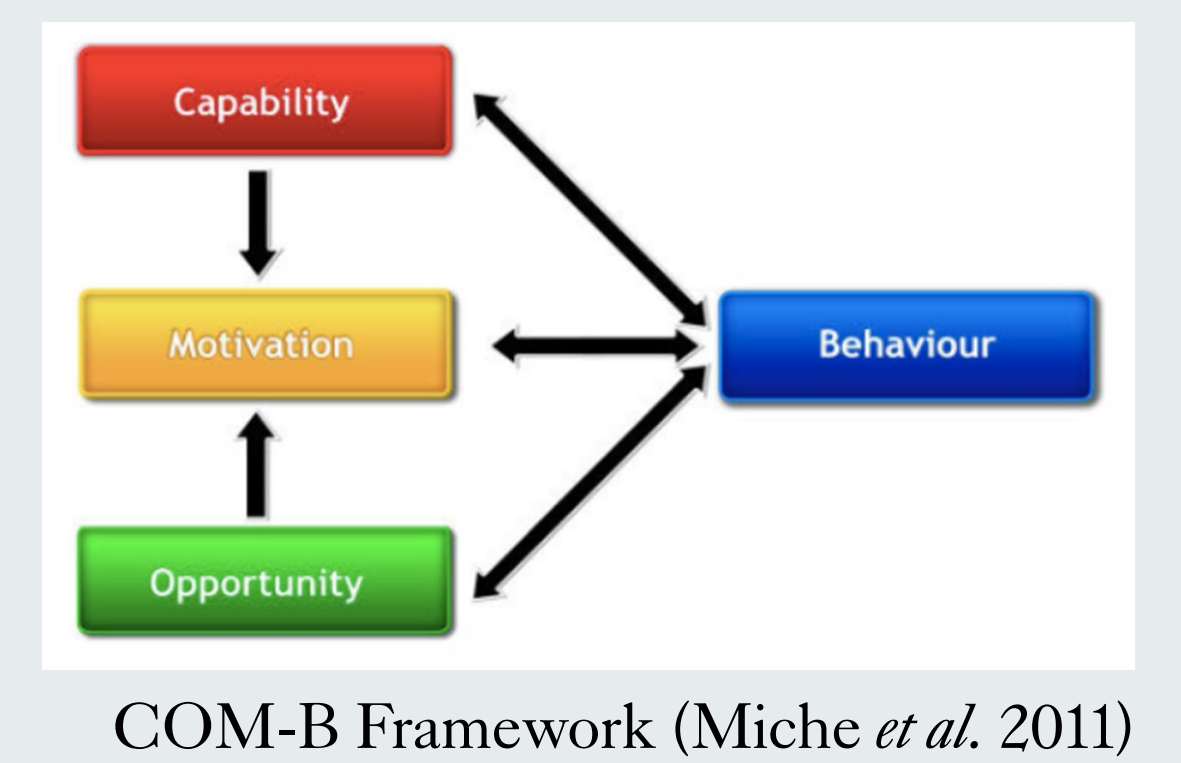
- 92% (n=202) of patients stayed onboard during the 34-month study period.
- 83% (n=2974) of total RAIDs were completed.
- 50% were completed following the first request and 72% within 4 days.
- Average RAID completion rates per patient remained consistently above 80% irrespective of time since joining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

Patient survey

- Patients had high confidence in the service, felt it improved their access to care and sense of being cared for, and they also felt it was easy to use.

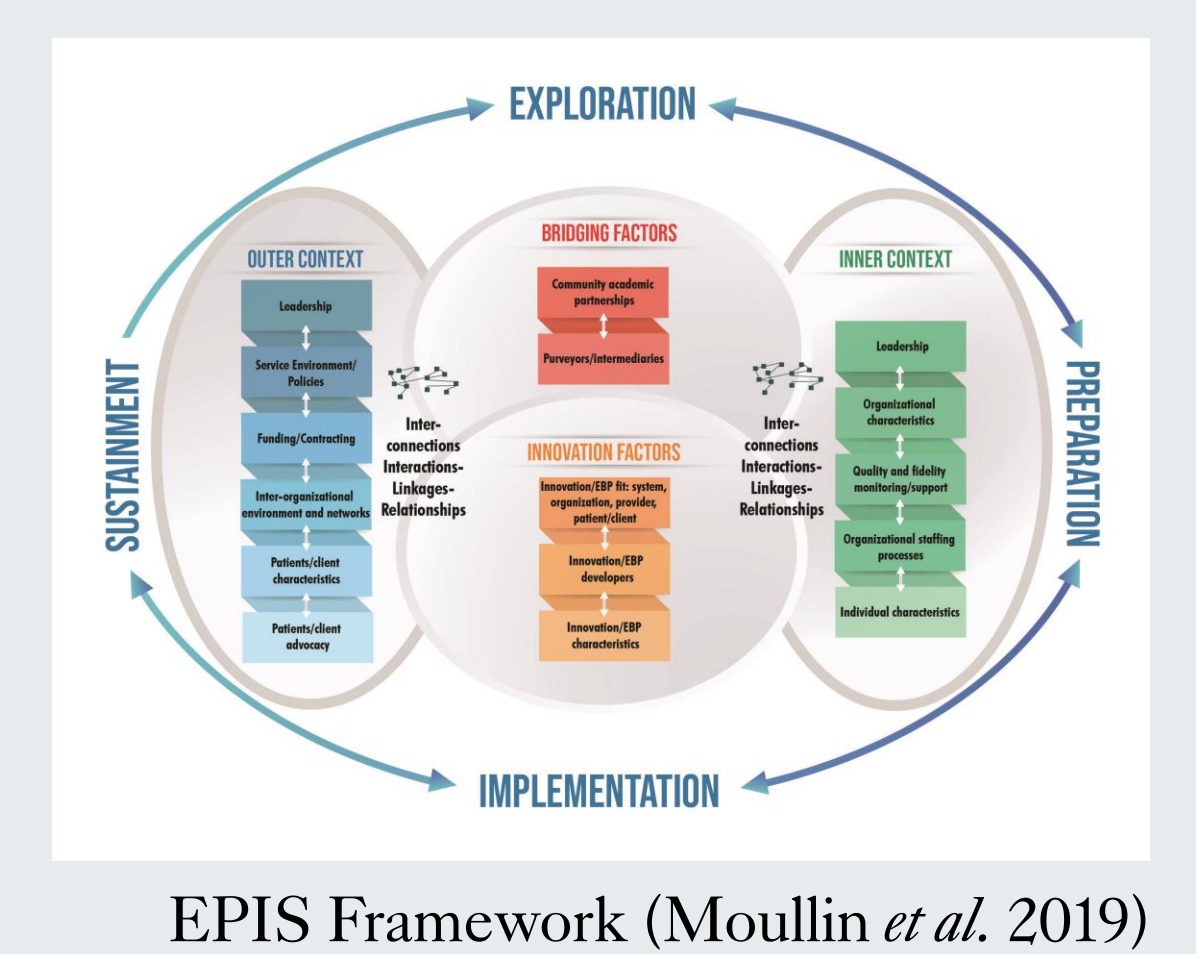
Patient interviews

- Informed by COM-B framework.
- Positive experiences.
- Capability facilitated by user-friendly design.
- Opportunity provided to support self-management.
- Motivation driven by increased responsiveness and ease of contact with the clinical 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.

Stepping-stone for a larger, randomised-controlled evaluation of the RM service.

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).



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