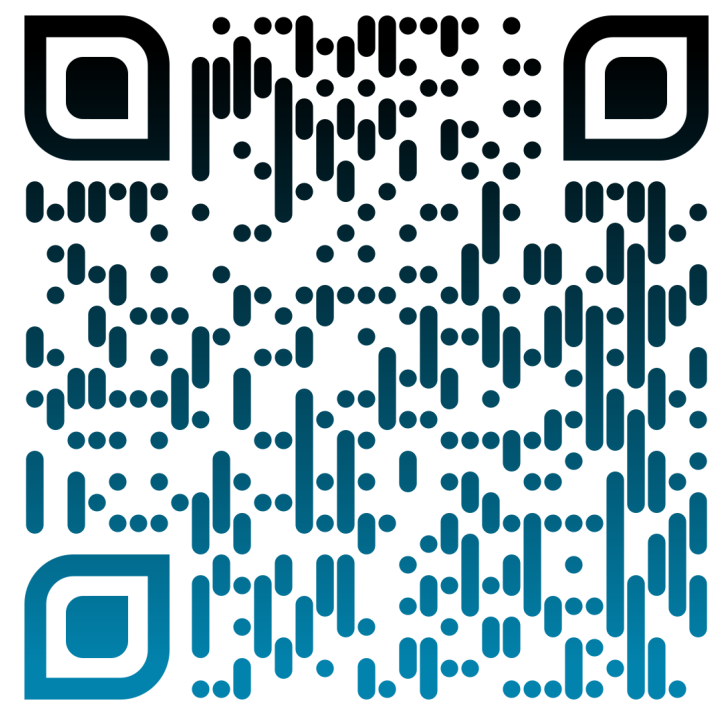


Using novel remote electronic monitoring to measure and manage the Rheumatology Clinic backlog generated by COVID-19

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Background & Aims

- During the COVID-19 pandemic we were unable to provide regular outpatient services for patients with chronic rheumatic diseases. A backlog of 6812 patients without an allocated follow-up appointment accrued by September 2021.
- We quantified this cohort and analysed attempts to deliver care remotely using:
 - Video
 - Telephone
 - Electronic remote management forms (RMFs).

Methods

- We selected a 12-month window from May 2020-May 2021 and analysed the number of patients awaiting follow-up during this period. This was initially 3259 patients out of the total backlog of 6812.
- We revisited the number of patients remaining in that cohort on four occasions between September 2021 and September 2022: at baseline, then at 1-, 2-, 6- and 12-month intervals (Fig. 1)
- Alongside usual follow-up pathways, (face to face, video or telephone), we implemented remote management forms (RMFs) for different disease groups which were designed by the department; they contained a triage questionnaire, including calculation of disease severity scores, and questions about medications. These were sent out by clinicians to some patients in lieu of telephone, video or face to face appointments¹
- Data from RMFs was stored in a secure database for clinician review.
- Data analysis performed in Microsoft Excel and R (version 4.2.1).

We have significantly reduced the size of our backlog of outpatient follow-up due to COVID-19 over a 12-month period with a sizable contribution from remote management

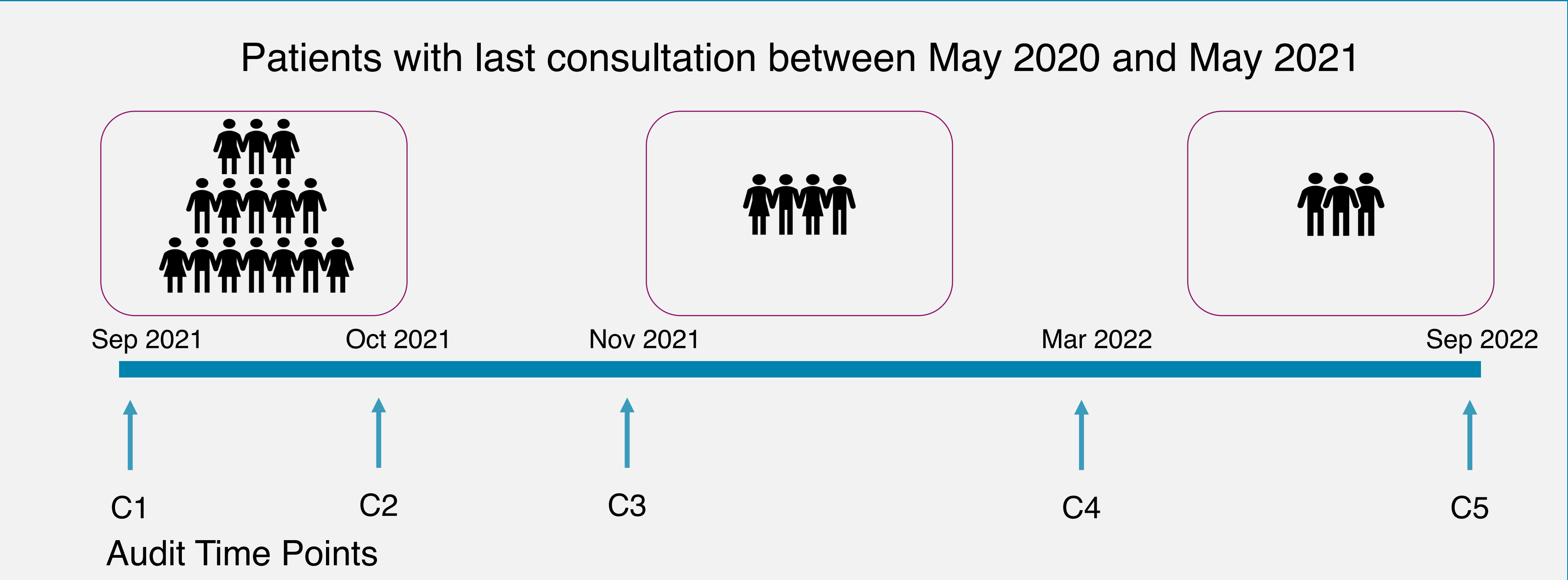


Figure 1. Schematic diagram of the timeline of this project

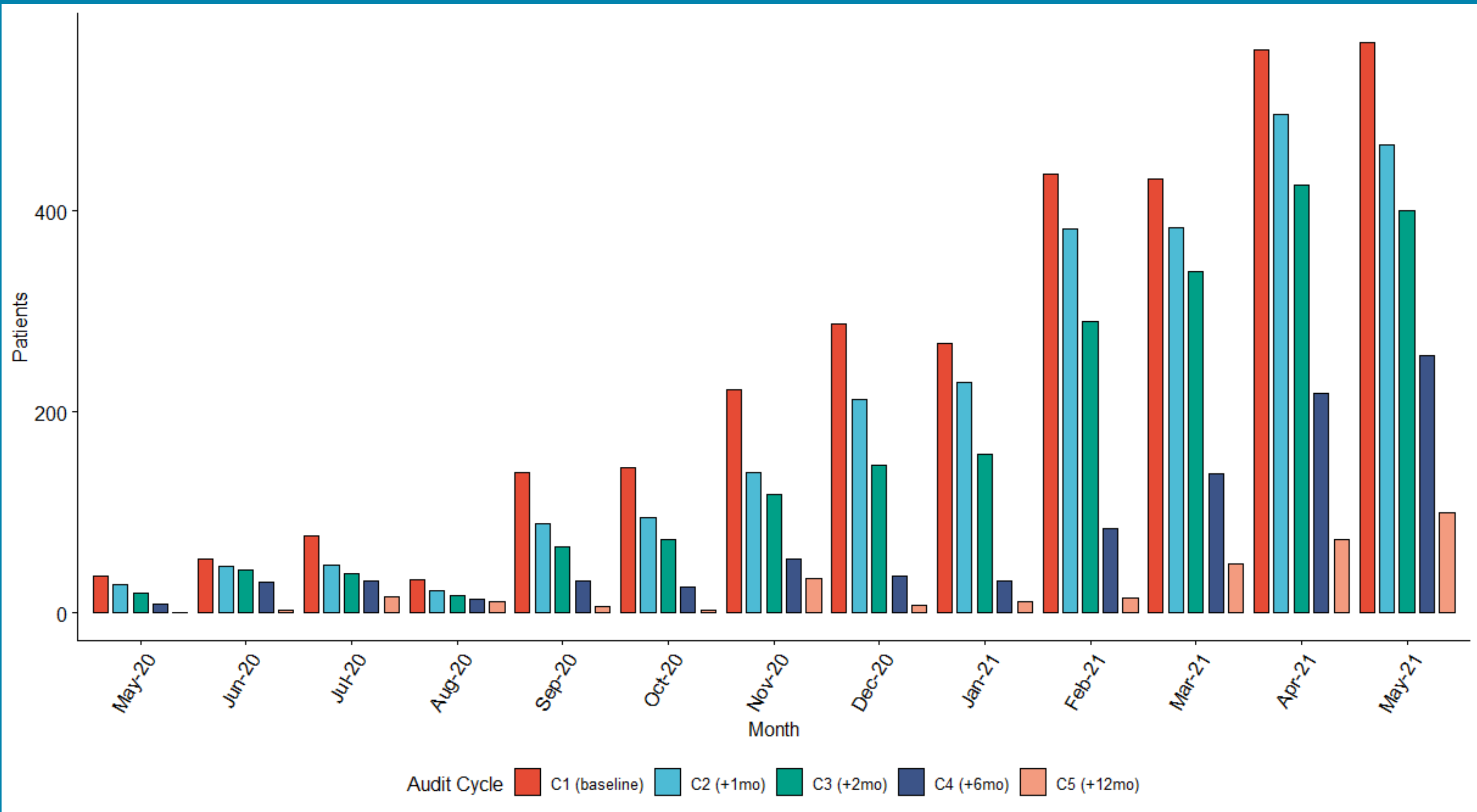


Figure 2. Number of patients remaining on the backlog in each month of May 2020 - May 2021 reduced over time

Results - For full analysis scan the QR code

We demonstrate a 90% reduction in patients awaiting follow-up 3259 to 326 over 12 months. 71% reduction achieved by 6 months (Fig. 2)

This reduction was statistically significant and progressive ($p<0.001$ - Chi-square test for trend).

Remote Management Forms

- 1956 RMFs were completed between Sep-21 - Mar-22 (no data available since then)
- Only 261 patients recorded a previous appointment date.
- 154/261 (59%) were completed by patients in the “window” of May-20 - May-21, indicating a preferential use of RMFs targeting backlog patients.
- Between 2-8% of the total backlog patients were managed using RMFs based on available data (Table. 1.).

Audit Cycle	Backlog Total	Patients shifted	No. RMFs complete (%)
1	3259	NA	NA
2	2633	626	17 (2.72)
2	2135	498	43 (8.63)
4	960	1175	94 (8.00)

Table 1 Proportion of patients for whom RMFs were used in lieu of other consultation type (data is incomplete)

Conclusions

Our outpatient backlog has been significantly reduced over a 12-month period.

Remote management made a sizeable contribution to this reduction, meaning some of this reduction was achieved without face-to-face encounters; these results underestimate the effect of RMFs due to this dataset being incomplete

1956 RMFs completed in a 6-month period shows robust integration of our RMFs into outpatient services disrupted by COVID-19 and provides evidence for remote management as a useful tool in outpatient management, with relevance to areas such as Patient Initiated follow-up pathways.

Further work is needed to clarify where remote management is best deployed and which patient groups benefit most from this.

References

- Malley T, Jackman J, Manderson S, et al. Annals of the Rheumatic Diseases 2021;80:289-290.