**Abstract – Rheumatology Outpatient Clinic Backlog**

**Title:**

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

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**Introduction**

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, and electronic remote management forms (RMFs)).

**Methods:**

We selected a 12-month “window” 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 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. Each audit cycle was conducted using the same methodology.

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 a telephone, video or face to face appointments. Data from RMFs was stored in a secure database for clinician review.

Data analysis performed in Microsoft Excel and R (version 4.2.1).

**Results**

The number of patients without allocated follow-up appointments reduced from 3259 to 326 between Sep-21 and Sep-22. This is a 90% reduction in the backlog over a 12-month period, with a 71% reduction achieved by 6 months. There was a significant, progressive reduction in the number of patients over time (p<0.001 – Chi-square test for trend).

Of the 1956 RMFs completed between Sep-21 - Mar-22, only 261 patients recorded a previous appointment date. 154/261 (59%) were completed by patients waiting in the “window” of May-20 – May-21. This indicates a preferential use of RMFs targeting backlog patients. Between 2-8% of the total backlog patients were managed using RMFs based on available data.

**Conclusion**

We have significantly reduced the size of our backlog of outpatient follow-up due to COVID-19 over a 12-month period. In-addition these results likely underestimate the effect of RMFs due to this dataset being incomplete. Remote management made a sizeable contribution to this reduction, meaning some of this reduction was achieved without face-to-face encounters. The use of 1956 forms over 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.

430 Words

**[FIGURES OVERLEAF]**

**Figures**

**Figure 1**

Chart

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**Figure 2**

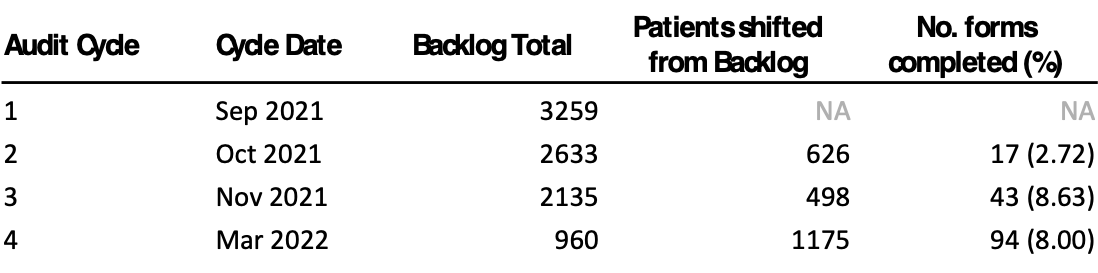
**Chart

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**Table 1**

**C1 C2 C3 C4 C5**

**3259 2633 2135 960 326**

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