South East London Integrated Care System

NHS South East London

Complex case management in the multi-morbidity model of care (MMMoC)

Phase II evaluation report

Prepared by the MMMoC evaluation working group

We are a partnership of NHS commissioners and providers, the boroughs of Bexley, Bromley, Greenwich, Lambeth, Lewisham and Southwark and the voluntary and community sector

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Executive summary

Background
Aligned with the 10-Year Health Plan for England, the South East London (SEL) multimorbidity model of care (MMMoC) was developed to shift care closer to communities, move from reactive treatment to prevention, and improve outcomes for people living with multiple long-term conditions (mLTCs). Chronic kidney disease (CKD), a highly prevalent but historically under-detected condition closely linked to cardiometabolic diseases, was identified as a key lens through which to redesign care. This report presents the Phase II evaluation of the complex case management element of the MMMoC, delivered through integrated neighbourhood teams (INTs) across SEL.

Ambition of the work and its evaluation
The ambition of the complex case management strand was to provide holistic, person-centred care for people with complex mLTCs whose needs were not being adequately met through existing pathways. The model aimed to improve clinical optimisation and experience of care, strengthen multidisciplinary working across primary, community and secondary care, and reduce avoidable system pressure. The evaluation sought to assess whether this approach led to measurable improvements in clinical processes and outcomes, service utilisation, holistic care, and staff and service user experience, while also testing an integrated care board (ICB)-led evaluation approach that could support future spread and scale.

Describing the intervention
Complex case management was delivered across six SEL boroughs and 12 primary care networks (PCNs) through INTs comprising clinical and non-clinical staff, including ARRS-funded roles and specialist input from pharmacists and consultants. Service users were identified using population health tools and local clinical knowledge and supported through longer holistic assessments, co-produced care plans and multi-disciplinary team (MDT) discussion where required. In total, 1,050 service users were seen on this ‘short list’, with over 100 MDT meetings held between April 2024 and September 2025. The intervention focused on unblocking barriers to care, optimising medicines, addressing mental health and social needs, and managing care in the most appropriate setting, often avoiding onward referral.

Method of evaluation
A mixed-methods evaluation was undertaken, combining quantitative interrupted time series analysis of routinely collected NHS datasets with service user and staff experience surveys. Outcomes were assessed at both service-user and population level, comparing MMMoC cohorts with relevant comparator groups within SEL. The evaluation focused on CKD detection, medicines optimisation, clinical outcomes, healthcare utilisation, mental health and holistic care, and experience of care. Findings are indicative of impact over a 12-month pre and post-intervention period, acknowledging the limitations of routine data and wider system disruption during delivery.

Results

The evaluation demonstrates that complex case management delivered through the MMMoC was associated with significant improvements in key areas. The short list cohort saw rapid increases in evidence-based prescribing, particularly SGLT2i and statins, alongside marked improvements in monitoring (eGFR and uACR) and blood pressure control. Mental health screening using PHQ-2 and GAD-2 was embedded at scale within routine care. System utilisation shifted, with substantial reductions in outpatient activity and GP appointments for short list service users, indicating more effective resolution of need and care delivered closer to home. While short-term impacts on non-elective admissions and A&E attendances were limited, the model showed clear changes in care pathways and service use. Service user and staff feedback was consistently positive, highlighting improved experience, trust, MDT working and job satisfaction.

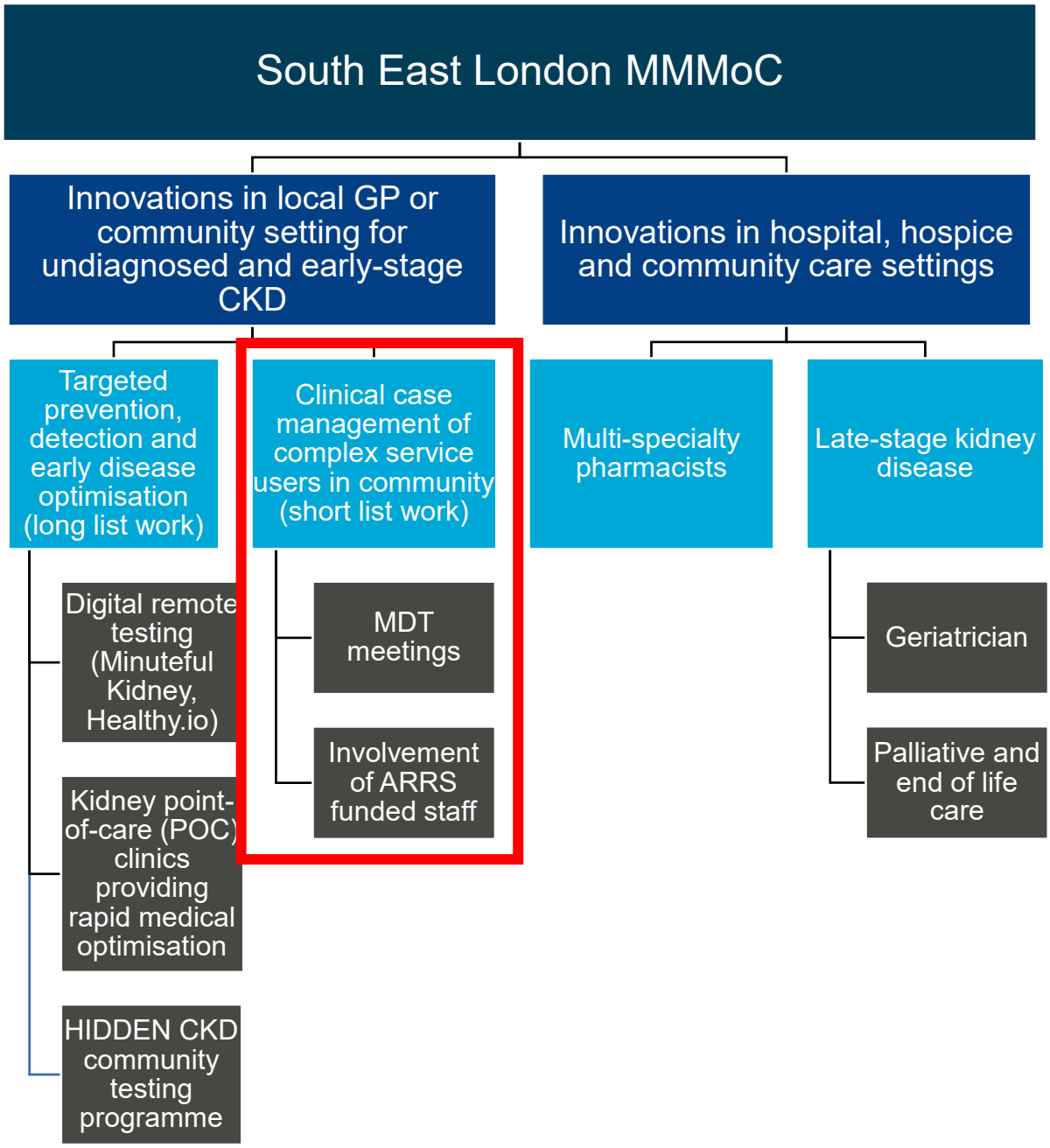
Conclusion

The Phase II evaluation provides robust real-world evidence that INT-led complex case management within the SEL MMMoC can deliver meaningful improvements in clinical optimisation, holistic care and system utilisation for people with complex mLTCs. By embedding multidisciplinary expertise within neighbourhood teams, the model supported a sustained shift away from fragmented, referral-based care towards coordinated, preventative and person-centred support. These findings have clear implications for practice, policy and future research, supporting the continuation and spread of neighbourhood-based multimorbidity care as a key enabler of the ambitions set out in the 10-Year Health Plan.

Structure of the multimorbidity model of care (MMMoC)

This diagram illustrates the structure of the South East London (SEL) multimorbidity model of care (MMMoC) and can be used to support understanding. This report focuses on the complex case management element of the work, as highlighted by the red box.

Figure 1 Structure of the multimorbidity model of care (MMMoC)



Chapter 1. Introduction and background

Aligned with the 10-year health plan for England [1], the multimorbidity model of care (MMMoC) aimed to shift healthcare provision from hospitals to community and from sickness to prevention. The Government proposed the Neighbourhood Health Service as the solution to delivering this shift, particularly for those with multiple long-term conditions (mLTCs). Integrated neighbourhood teams (INTs) were framed as the proactive delivery vehicle to address health inequalities, improve service user access and outcomes and reduce hospital admissions. This report evaluates the case management of the complex mLTC cohort seen through the MMMoC INTs.

Chronic kidney disease (CKD) is a historically overlooked condition – it is known as a "silent killer" [2] that in its early stages often remains unnoticed and poorly understood by service users. Meanwhile, CKD registers in South East London (SEL) reflect the national picture and are only half their expected size [3, 4]. Service users who have CKD and are not coded have double the mortality rate and double the risk of being prescribed nephrotoxic drugs compared to correctly coded service users [5]. Therefore, there is substantial potential to improve clinical outcomes for service users with coded and uncoded CKD through early detection, risk stratification and evidence-based medicines optimisation.

As a condition, deterioration of kidney function does not act in isolation. CKD is part of a cluster of conditions, acting as a risk factor for cardiovascular events [6] and cardiovascular disease [7]. Meanwhile, in the UK, diabetes and hypertension are the leading causes of CKD [8], and yet CKD remains under-detected in these groups, especially among people with hypertension [9]. Whilst CKD is clearly part of a cardiorenal metabolic (CRM) cluster, care for these various conditions is often siloed which further exacerbates the issue of undetected CKD alongside increased risk factors for interconnected events [10]. Whilst we have medications (e.g. ACEi/ARB, SGLT2i) that once optimised may delay progression to end-stage kidney disease in some service users by up to 15 years [11], a significant proportion of our CKD population require regular reviews and medicines optimisation [12].

It was in these pressured circumstances that each London ICS was awarded £2 million over two years to implement transformation in the renal pathway with the dual aim of improving service user experience and outcomes and reducing the unmitigated growth in dialysis [13]. The MMMoC is the name of SEL's programme of work that arose through this NHS England (London) funding stream.

A comprehensive breakdown of Phase II evaluation assumptions and definitions for the purpose of pulling data can be found in Appendix 1. For this report, any relevant definitions and abbreviations are included in the glossary in Chapter 13.

Chapter 2. Ambition of the work

2.1 Ambition of the MMMoC overall

Overall, the MMMoC aimed to build a person-centred, holistic, and fully integrated model of care for people living with mLTCs across the care pathway in SEL. The model sought to strengthen both horizontal integration (within care settings e.g. across specialties and roles) and vertical integration (across primary, secondary and community care), improving coordination, access and outcomes for service users with complex needs. The various interconnected areas, as described in Figure 1, functioned collaboratively to deliver effective and equitable care for service users, improve clinical and non-clinical staff experience and collaboration, and build efficiency into the system overall.

2.2 Ambition of the complex case management branch of the work

The ambitions of the complex case management can be defined at three levels:

For service users to:

- Feel heard and valued through holistic care
- Shape their care on outcomes that matter to them (person-centred goal setting)
- Hold realistic expectations of the multidisciplinary team (MDT) and their own role
- Build confidence to engage with a supportive and increasingly familiar environment

For the multidisciplinary staff (clinical and non-clinical) to:

- Provide consistent and diverse care that builds trust
- Work as an integrated team horizontal Place-based integration and vertical integration with specialist teams
- Develop codesigned care plans based on service user goals and priorities
- Include additional roles reimbursement scheme (ARRS) [14] funded roles
- Provide comprehensive case management of service users living with CRM conditions through the lens of CKD who are at high risk of needing more specialist care
- Deliver care in the most appropriate setting given context, need and complexity
- Strengthen confidence and expertise in managing complex mLTCs across prevention, detection, diagnosis, medicines optimisation and holistic support

For the system overall to:

- Be coordinated and clinically effective
- Reflect local context, needs, strengths and assets through innovation
- Prioritise accessibility in terms of language and approach to build equal partnerships between service users and care teams
- Embed a ‘test and learn’ culture driven by feedback, reflection and psychological safety
- Reduce siloed working and repetitive care cycles by shifting single-issue, single-specialty care to coordinated, holistic and prevention-focused support.

Chapter 3. Describing the intervention

3.1 The MMMoC overall

The interventions implemented as part of the MMMoC span innovations in local GP or community settings for service users with undiagnosed and early-stage CKD as well as innovations in hospital, hospice and community care settings for those with late-stage CKD. The work took place at various locations across SEL, a diverse and relatively deprived population with over two million residents. A description of the SEL population and MMMoC cohorts can be found in Appendix 2.

Each element of the MMMoC, as reflected in Figure 1, took an integrated approach to service-user care. Across all elements, there was horizontal and vertical collaboration to ensure a service-user-centric approach that engaged with the whole person, their priorities and needs. In addition, population health data was used in each instance to ensure care was proactive, preventative of disease progression and worked to reduce inequalities. A comprehensive list of the stakeholder organisations involved in the MMMoC can be found in Appendix 3 and includes PCNs, hospital trusts, hospices, clinical effectiveness groups and numerous other local organisations.

3.2 The complex case management branch of the work (short list)

An activity capture survey was distributed to all project sites to document the work undertaken for service users with early-stage CKD. Responses from the six project sites across SEL captured work from 12 PCNs. Responses to the survey can be found in Appendix 4.

Project sites were identified in each SEL borough through an expression of interest process in September 2023. Between October 2023 to January 2024, SEL ICS facilitated monthly, in-person, codesign workshops. These four workshops enabled relationship development, trust building and thus the formation of each INT. Teams included a range of clinical and non-clinical staff from primary, secondary, community and voluntary care settings, and included ARRS funded roles. From January to April 2024, INTs finalised their operating procedures, ran their service user searches and risk stratified their cohorts. Service users were identified using the Clinical Effectiveness Group (CEG) APL-Renal risk stratification tool [15], which is compatible with EMIS, CKD staging guidance [6] and local knowledge.

Most activity began in March and April 2024 although some elements were delayed locally. Vital context to the MMMoC is the Synnovis incident, whereby the pathology laboratory which processes blood tests on behalf of several NHS organisations in SEL was the victim of a cyber-attack. This critical incident in pathology caused significant disruption to routine and urgent care across primary and secondary care settings throughout June to September 2024. This disruption delayed some MMMoC activity, making findings more noteworthy given the significant disruption of this event.

The complex case management branch of the MMMoC is termed the 'short list' throughout this report. Short list work provided holistic, person-centred case management for service users with more complex needs, led by a senior pharmacist, nurse or GP. It was led by service user priorities and focused on unblocking barriers to care together. Those seen on the short list were likely not having their needs met by the healthcare (or wider social care) system at the time of their first appointment. This approach aimed to reconstruct the service user to staff relationship to enable better access to successful care situated in primary care. It was supported by a MDT of clinical and non-clinical staff from both the primary and secondary care settings.

The short list cohort population was defined as including adults:

- Over the age of 18 years old
- With an eGFR between 45 and 60 ml/min/1.73m^2 with or without microalbuminuria [if cohort numbers too low, can go down to eGFR of 30. Left to local discretion]
- With at least one other LTC like diabetes and/or hypertension
- Who are a 'complex' service user for locally determined reasons. E.g. social-housing resident, carer responsibilities, severe mental illness, chronic pain, etc.

Once identified, service users appropriate for the short list were contacted by a care coordinator, GP or other project member to onboard them onto the programme. At some sites this was initially done by Accurx [16], a digital communication tool, via a text message and a welcome letter whilst at other sites phone calls were made. In total, 1,050 service users were seen on the short list, with did not attend (DNA) rates estimated at around 6%. All service users had an initial holistic assessment at a 30-minute appointment. This was an opportunity for service user activation, including the co-production of a care plan with ongoing engagement and support. Appointments also included use of the PHQ-2 and GAD-2 shortform mental health screening tools [17] which ensured mental health and wellbeing was engaged with from the outset. Most project sites used the Ardens Multimorbidity Template [18] to structure their appointments. Following this, service users could work with their point of contact to carry out the agreed steps in the care plan; be referred on to other colleagues involved in the integrated team; or brought as a case to an MDT meeting for discussion with clinical and non-clinical colleagues. Case managed service users were expected to have check-ups for up to a year with the potential for routine follow up thereafter dependent on need.

MDT meetings were planned to take place in all project sites. In five of the boroughs, the frequency varied between fortnightly and six-weekly with most meetings online but some in-person. In one borough, only the first MDT meeting took place because a practice-based model was used which meant clinicians took advice from their GP lead as opposed to from further afield. Overall, between April 2024 and September 2025 over 100 MDT meetings took place at the various project sites. This meant that over 425 service user cases were discussed by a combination of clinical and non-clinical colleagues from primary and secondary care settings. In turn, colleagues believe that approximately 66 onward referrals to secondary care have been avoided and 64 onward referrals to secondary care have been fast-tracked due to MDT meetings. All MDT meetings were attended by a range of colleagues including the GP clinical lead,

social prescriber, care coordinator, advanced nurse practitioner or clinical pharmacist, the project manager, one multi-specialty pharmacist (MSPs) and at least one of the diabetes or renal specialist consultants. Cardiology specialists attended a small number of meetings. Additional roles in attendance at some MDT meetings included data analysts, clinical directors, mental health nurses, digital and transformation leads and clinical managers.

ARRS roles were essential to ensuring sustainability was built into the MDTs due to the recurrent nature of their funding. A breakdown of the specific time commitments and set up of each project site's ARRS funded roles can be found in Appendix 4. However, the specific roles involved included: adult mental health practitioners; advanced practitioners; care coordinators; clinical pharmacists; enhanced practice nurses; GP associates; health and wellbeing coaches; peer support workers; physician associates; and social prescribing link workers.

The service-user population seen on the short list differed demographically from that of the SEL population overall. Overall, the short list population had a greater representation of older age groups compared to the SEL population. High levels of deprivation across SEL were mirrored among the short list cohort. Meanwhile, residents from black ethnic backgrounds are substantially over-represented in the short list (36% compared to 18% across SEL). Rates of coded mental health conditions are slightly higher among the short list, with anxiety and depression rates between 3 and 5% higher than rates seen in SEL overall (15% and 11% respectively). Lastly, whilst the SEL population overall have relatively low GP appointment rates per resident (3.98 appointments per year in a national context of 3.98 average [19]), short list residents see substantially higher GP appointment use of 14.79 appointments per year. This is reflective of the greater complexity and need of the populations selected for intervention through the MMMoC and highlights the importance of care pathways that better meet the needs of these cohorts. Additional information on SEL and MMMoC populations can be found in Appendix 2.

Chapter 4. Key areas for evaluation

The evaluation of the complex case management element of the work aims to capture the holistic and sustained impact, alongside the system-wide value of the MMMoC model in SEL. Specifically, it focuses on:

- Measure the impact on CKD detection and optimisation of care, focusing on key clinical outcomes and prescribing practices, including statin use, eGFR and ACR monitoring, ACEi/ARB and SGLT2i prescribing, and associated outcomes such as blood pressure and HbA1c control.
- Understand system utilisation, including non-elective hospital admissions, outpatient activity, A&E attendances and GP appointments, to determine the impact of the MMMoC on service demand and delivery of care.
- Explore holistic and mental health support, including the integration of mental health screening (PHQ-2 and GAD-2) and the contribution of broader holistic approaches to service user care.
- Evaluate innovative workforce and specialist input, specifically the role of MSPs in supporting medicines optimisation and integration across primary and secondary care.
- Capture service user and staff experience, exploring perceptions of care, accessibility and impact to inform future design and implementation
- Observe delivery and outcomes across different service user cohorts and sites and between MMMoC and non-MMMoC sites.
- Assess the potential to build a case for spread and scale of the MMMoC model across different disease groups, populations and geographies, to inform a clear case for change and support wider adoption.
- Develop and test an integrated care board (ICB)-led evaluation approach, building evaluation capability within SEL and establishing a model that can be adopted by other ICBs.

Chapter 5. Methodology of the evaluation

The evaluation approach was developed iteratively through the evaluation working group over a series of months. This group brought together clinical, analytical, and programme expertise and was responsible for agreeing the scope, focus, and feasibility of the evaluation activity. The working group developed a shared theory of change (Appendix 5) describing how the MMMoC intervention was expected to deliver impact. The theory of change was used as the primary framework for determining which aspects of the MMMoC programme should be prioritised for evaluation.

With regards to the short list, evaluation includes a regression analysis of quantitative datasets available through SEL business intelligence capabilities as well as both service user and staff experience surveys.

5.1 Regression analysis of central datasets

An initial list of candidate metrics for the quantitative aspect was developed, drawing on clinical guidelines, national indicators, and locally available datasets. Each metric was then assessed for expected impact and feasibility of data availability, quality, population coverage and suitability for quantitative analysis. Metrics were discussed and refined through structured working group sessions, with the full list of metrics considered retained for transparency and presented in Appendix 6.

Following this prioritisation process, the working group agreed a focused set of metrics organised into six evaluation domains:

1. CKD detection
2. Medicines optimisation
3. Clinical outcomes
4. Healthcare utilisation
5. Mental health and holistic care
6. Service user and staff experience.

As analysis progressed, ongoing assessment of data quality, limitations and completeness led to further refinement of the metric set. Some initially selected metrics were subsequently excluded where data quality issues limited interpretability or robustness. This was the case in the following instances:

- Prescribing data for ACEi and ARBs were dropped from final analyses due to inconsistencies in recording and attribution. This is a limitation of primary care data generally. In routine practice, ACEi or ARBs are typically optimised prior to initiation of SGLT2 inhibitors; therefore, improvements in SGLT2i prescribing were interpreted as indicative of upstream optimisation of ACEi/ARB therapy and thus used as a clinically appropriate proxy indicator for broader medicines optimisation.
- Monitoring HbA1c within expected ranges was removed on the basis that short-term changes were unlikely to be meaningful. Clinically, HbA1c results remain valid for approximately three-month intervals but, in practice, is often undertaken

annually in routine care. This limits the ability to observe reliable post-intervention trends within a short 12-month evaluation window. As such, the metric was excluded to avoid diluting findings with indicators poorly suited to short-term analysis.

- Similar limitations apply to uACR and eGFR testing metrics, which are also commonly undertaken on an annual basis. As a result, short-term changes in testing rates or outcomes may not accurately reflect the impact of the intervention. In addition, eGFR relies on blood testing activity, which may have been adversely affected during the evaluation period by the Synnovis cyber-attack described above.
- A deliberate attempt was made to prioritise the capture of additional holistic measures to recognise the intention of the model to support integrated, whole-person care. These proposed measures included: social prescribing activity, patient activation measure (PAM) assessment activity and scoring, peer support work and mental health referrals. However, poor data quality and wider data limitations meant this was not possible. For instance, social prescribing metrics could not be used due to highly variable and incomplete coding in primary care. Similarly, it was not possible to extract anonymised data at an ICB-level for PAM assessments as the answers are held as free text fields. Meanwhile, the timeframe available was too short to include follow-up PAM assessments. To mitigate this gap, we introduced bespoke service user experience surveys to try and capture the holistic aspects that existing datasets could not provide. In addition, mental health referral data was also not accessible at ICB-level. Although PHQ-2 and GAD-2 completion could be reported as a process measure, the short timeframe prevented the inclusion of follow-up scores, and limitations in data availability meant that onward referrals resulting from these assessments could not be analysed.

A range of metrics were combined to assess impact in a robust, comprehensive and unbiased manner. For certain measures, such as blood pressure, the threshold for a “to target” reading varies according to patient characteristics (for example, if the patient has co-morbidities such as diabetes, patient age etc.). Accordingly, when evaluating these metrics, the most appropriate threshold was assigned to each patient cohort in line with best-practice guidance and then aggregated into a single overall measure. Further details and breakdown on each metric are provided in Appendix 1.

More broadly, the evaluation is subject to several common limitations associated with the use of routinely collected NHS data. These include variation in coding practices across organisations, and differences in local clinical processes that may affect how activity is recorded. Data completeness may also vary over time and between sites, particularly where tests or activities are delivered in different care settings. In addition, the evaluation period may have coincided with external system pressures or operational disruptions, which can influence service delivery and data capture independently of the intervention. As this analysis relies on observational, routinely collected data rather than a controlled experimental design, it is not possible to attribute causality with certainty. The findings should therefore be interpreted as indicative of trends rather than definitive evidence of impact. This pragmatic approach balances

analytical rigour with clinical credibility, ensuring that reported findings remain meaningful despite limitations in the underlying data.

The core dataset was built within a set time-period, from April 2023 to April 2024 (the pre-intervention period) and April 2024 to April 2025 (the post-intervention period). This allows for a trend analysis of changes in detection rates, care optimisation, and hospital utilisation between MMMoC sites and non-participating sites in SEL.

A quasi-experimental interrupted time series (ITS) [20] regression approach was used to assess changes in outcomes over time associated with the introduction of the programme. ITS was selected to enable robust assessment of intervention effects in a real-world setting where randomisation was not feasible and where repeated outcome measures were available before and after implementation. The analysis considered cohorts involved in the MMMoC work, namely the short list (defined above) and the long list cohort[1]. Meanwhile, in the absence of a formalised control group, comparable cohorts were used as real world control groups. These included the CKD register[2] (54,771 service-user population), and non-MMMoC sites within SEL. These groups were selected as they have shared qualities and geography with intervention groups and reflect likely care practices that the long and short list cohorts would have received without the MMMoC transformation work.

In this context, ITS analyses were undertaken at two levels:

- Service user-level: examining within-cohort changes over time for the CKD register, long list and short list cohorts
- Population-level: examining trends within MMMoC and non-MMMoC sites.

To define service user cohorts, the evaluation relies on Quality and Outcomes Framework (QOF) CKD registers, distinguishing between those on the long list and the short list. Inclusion criteria are based on SNOMED codes, ensuring a consistent and standardised approach across different sites. In cases where coding inconsistencies exist between project sites, additional validation steps are undertaken to align datasets as closely as possible, with an allowed error margin of 10%. The PCN breakdown for the number of service users in the short and lost list are shown in Table 1.

[1] Adults over the age of 18 years old; with an eGFR measurement over 60 ml/min/1.73m2 with microalbuminuria or with an eGFR measurement under 60 ml/min/1.73m2 with or without microalbuminuria; and with or without other LTCs

[2] Adults placed on the Quality and Outcomes Framework (QOF) register for CKD with a diagnosis of CKD stage 3-5 only, as per the QOF guidelines. For service user-level metrics, this cohort includes all service users on the CKD register, excluding those on the long list or short list.

Table 1: Identified long and short list numbers for each PCN of service users registered on 31 March 2025.

Borough	PCN	Long list service user count	Short list service user count
Bexley	Albion, Plas Meddyg and Lyndhurst	0*	200
	Clocktower	0*	214
Bromley	Mottingham, Downham and Chislehurst	95	41
	Orpington	5	0**
	Penge	126	4
Greenwich	Heritage	193	52
Lambeth	Clapham	174	26
	Hills, Brooks & Dales Group	186	55
	North Lambeth	162	51
Lewisham	Lewisham Care Partnership	636	27
Southwark	North Southwark	287	211
	South Southwark	1358	169

*PCNs in Bexley took a holistic, case management approach to all service users identified. They activated trained clinicians at each practice to run the service with a GP lead who could support as required. This approach meant more service users could be seen through the short list and none were required through the long list.
**Orpington PCN joined the MMMoC with only a couple of months left on the programme of work and focused their attention on the long list only.

For service user-level analyses, outcomes were aligned using relative time, such that month 0 corresponded to the start of intervention for each service user within intervention cohorts. This approach ensured that all service users, regardless of when they were identified or engaged, were analysed on a common temporal scale. Cohorts who did not receive the intervention were assigned the arbitrary 'intervention' date of April 1, 2024, consistent with the project implementation. Months were coded relative to the intervention, with up to 12 months prior coded as negative values and up to 12 months post-intervention coded as positive values, where cohort data were available. This alignment allowed consistent estimation of pre-intervention trends, immediate level changes, and post-intervention trends across cohorts, while avoiding dilution of effects that would arise from using absolute calendar time when intervention dates varied.

Monthly outcome measures were aggregated at cohort level. For each outcome, segmented regression models of the form below were fitted:

$$Y_t = \beta_0 + \beta_1 Time_t + \beta_2 Intervention_t + \beta_3 PostTime_t + \varepsilon_t$$

Where:

- $Time$ represents continuous time (months) prior to intervention;

- $Intervention$ is a binary indicator (0 pre-intervention, 1 post-intervention) estimating the immediate level change;
- $PostTime$ represents time elapsed since intervention, estimating change in trend; and
- ε represents the error term.

The intervention month (month 0) was excluded from modelling to determine clear pre- and post-intervention boundaries. For clinical and process measures, models were weighted by the corresponding denominator so that months with larger underlying populations contributed proportionally more to the model estimates. To support interpretation of percentage point changes, absolute service user counts were calculated by multiplying coefficient estimates by time-matched denominators (pre-intervention average for pre-intervention trends, month 0 denominator for immediate level changes, and post-intervention average for post-intervention trend changes). It should be noted that the CKD cohort is substantially larger than the intervention cohorts (long list and short list). Therefore, absolute service user counts should not be compared directly across cohorts. These figures are provided solely to contextualise the clinical significance of percentage point changes within each cohort. Moreover, those seen through the MMMoC intervention, those on the long list and short list, have data points alongside those seen on the CKD register as this is deemed a reasonable comparator for what routine care would have looked like among this population had they not been seen on the innovative MMMoC pathways. To account for autocorrelation in the monthly time series, coefficient standard errors were estimated using Newey–West HAC standard errors (lag = 1).

For utilisation outcomes, results were expressed as rates per 1,000 population; for clinical and process measures, outcomes were expressed as proportions or percentage points. Results are reported with 95% confidence intervals (represented by the shaded areas in the graphs) and p-values, with statistical significance assessed at the 5% level. P-values were adjusted for multiple testing using the Benjamini–Hochberg false discovery rate method.

Only analysis that highlight statistically significant results that are relevant to the short list cohort are included in this report. All other elements have not been included to ensure key findings are the focus. In instances where said lack of significance is of interest, this is drawn out in the discussion.

5.2 Service user experience and staff experience surveys

Stakeholder engagement complements the quantitative analysis by providing qualitative insights into staff culture change and service-user experience. This mixed methods approach ensured that both measurable outcomes and experiential feedback inform evaluation conclusions.

The service user experience survey was open from 10 August 2024 to 8 September 2025 and received responses from 126 service users seen on the short list across MMMoC sites. Meanwhile the staff experience survey was open from 19 November to

20 December 2024 and received responses from 71 members of staff involved in the MMMoC. To capture qualitative measures related to staff and patient experience of the MMMoC project, two structured feedback questionnaires were developed. Both included demographic questions, Likert-scale questions [21] with five graduated response levels, and open-text questions. A blank version of each questionnaire can be found in Appendix 7. Both surveys only collected responses in a single time point during the intervention. Given limited available resources, the decision was made to frame questions to capture perceived impact as opposed to conducting a true pre- and post-intervention comparison.

Thematic analysis was performed on the free-text responses to identify recurring ideas and patterns, which were then grouped into broad-level themes, with representative quotations presented for each main theme. Statistical analysis of the Likert-scale responses was carried out using Kruskal-Wallis tests [22] to examine differences across gender, age groups, and ethnicities.

Both surveys are potential limitations as they rely on voluntary participation which can introduce several biases. For instance, individuals who had a particularly good experience may be more motivated to complete a survey than those who felt neutral or dissatisfied. This positive experience bias can skew results toward more favourable feedback and reduce representation of other viewpoints. Surveys can also be affected by low response rates, misunderstanding of questions, or respondents giving socially desirable rather than fully accurate answers. These limitations should be considered when interpreting survey findings, as they may not fully reflect the experiences or opinions of the entire population.

A full analysis of responses to both the service user and staff experience surveys can be found in Appendix 8.

Chapter 6. Results

6.1 CKD detection

CKD register prevalence (population-level)

The intervention coincided with a short-term uplift in CKD case finding in MMMoC sites. However, the longer-term trajectories of MMMoC and non-MMMoC sites converged.

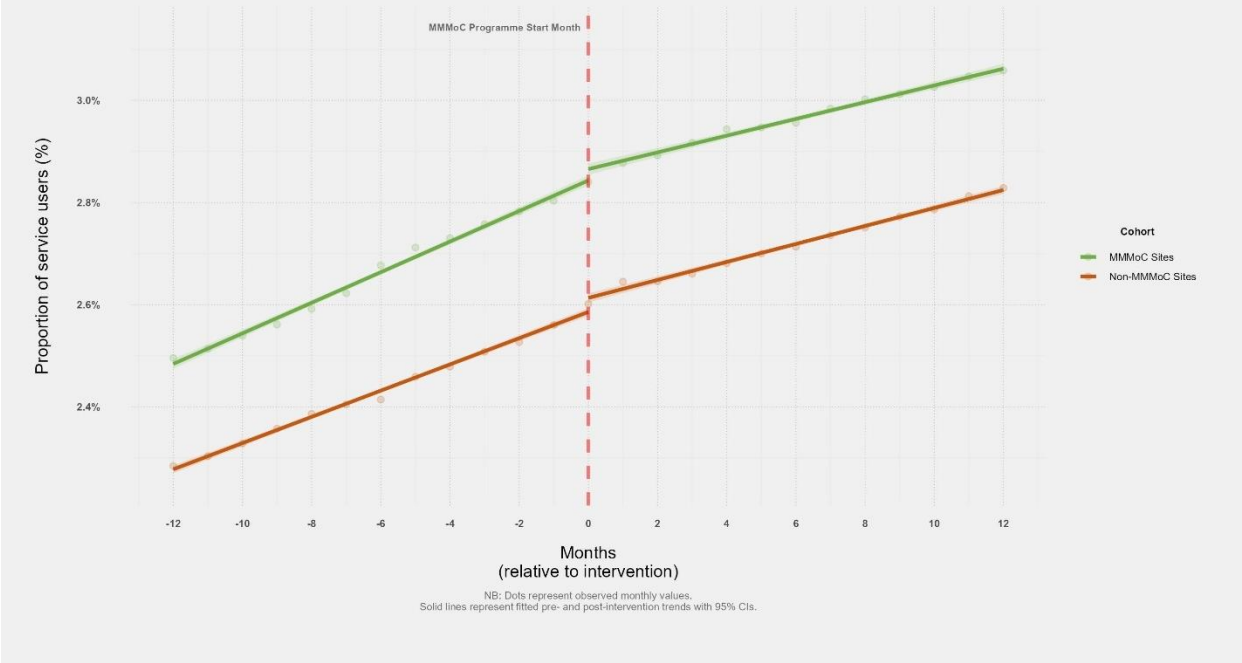


Figure 2: The proportion of the population on the QOF CKD register [population-level].

As per Figure 2, prior to the intervention, both MMMoC and non-MMMoC sites showed a steady increase in the proportion of service users on the QOF CKD register (+0.03 percentage points per month (pp/month) in both groups). At the point of intervention, both groups experienced a small immediate increase (MMMoC: +0.02pp; non-MMMoC: +0.03 pp), with a subsequent slowing of growth in the post-intervention period (-0.01pp/month in both groups). At month 12, the MMMoC sites saw 3.05% of the population with a CKD diagnosis compared to 2.83% in non-MMMoC sites. Full model estimates with confidence intervals are presented in Table 2.

Table 2: Full model estimates with confidence intervals for the proportion of the population on the QOF CKD register.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend difference**
Detections	**Population**	**MMMoC sites**	**+0.03** (0.03 to 0.03, p < 0.001)	**+0.02** (0.01 to 0.04, p = 0.008)	**-0.01** (-0.02 to -0.01, p < 0.001)
		Non-MMMoC sites	**+0.03** (0.02 to 0.03, p < 0.001)	**+0.03** (0.02 to 0.04, p < 0.001)	**-0.01** (-0.01 to -0.01, p < 0.001)

6.2 Optimisation

Care processes

SGLT2i prescribing

The programme was particularly effective at accelerating prescribing of SGLT2is, especially when supported by structured identification and review (long and short list) and combined with MDT support (short list specifically).

Service user-level:

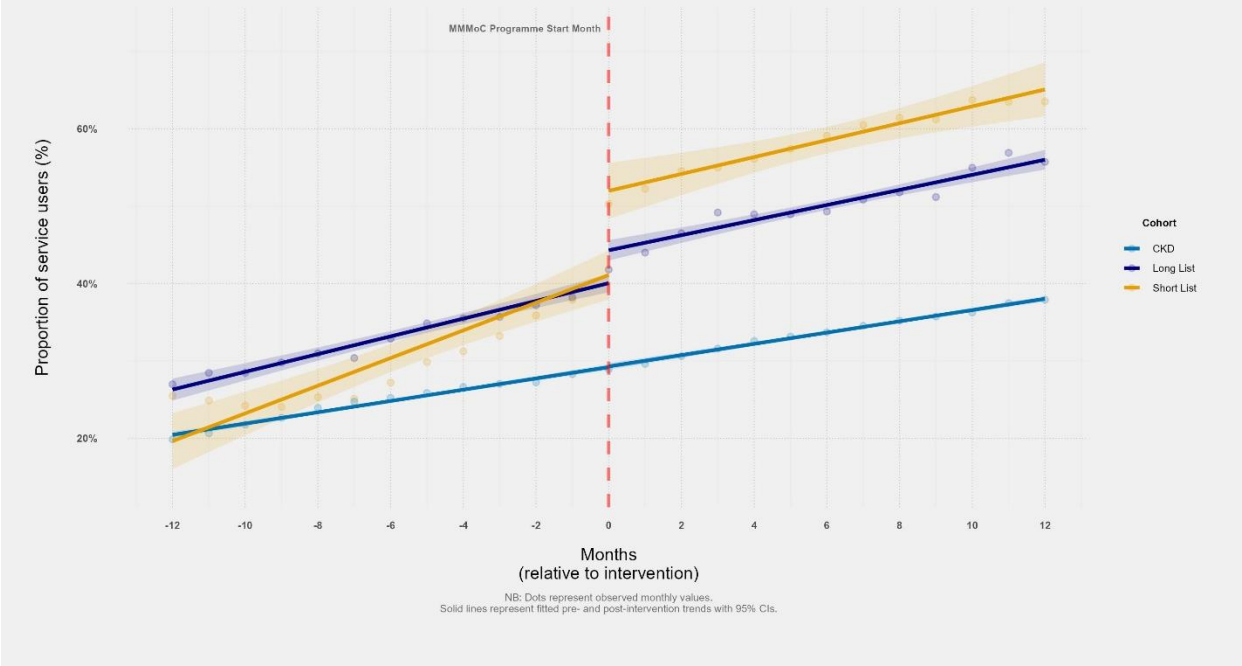


Figure 3: The proportion of service users prescribed an SGLT2i [service user-level].

Evidenced in Figure 3, all cohorts demonstrated strong pre-intervention growth, reflecting increased national uptake of SGLT2i prescribing (CKD +0.75pp/month; long list +1.03pp/month; short list +1.27pp/month). Substantial immediate increases were observed in both intervention cohorts (long list: +5.05pp, ~22 service users; short list: +15.48pp, ~51 service users), consistent with significantly improved SGLT2i prescribing at the point of intervention. This significant improvement is clearest among the short list group. Post-intervention trends remained stable, with no statistically significant differences observed between pre- and post-intervention trends for any groups. Full model estimates with confidence intervals are presented in Table 3.

Population-level:

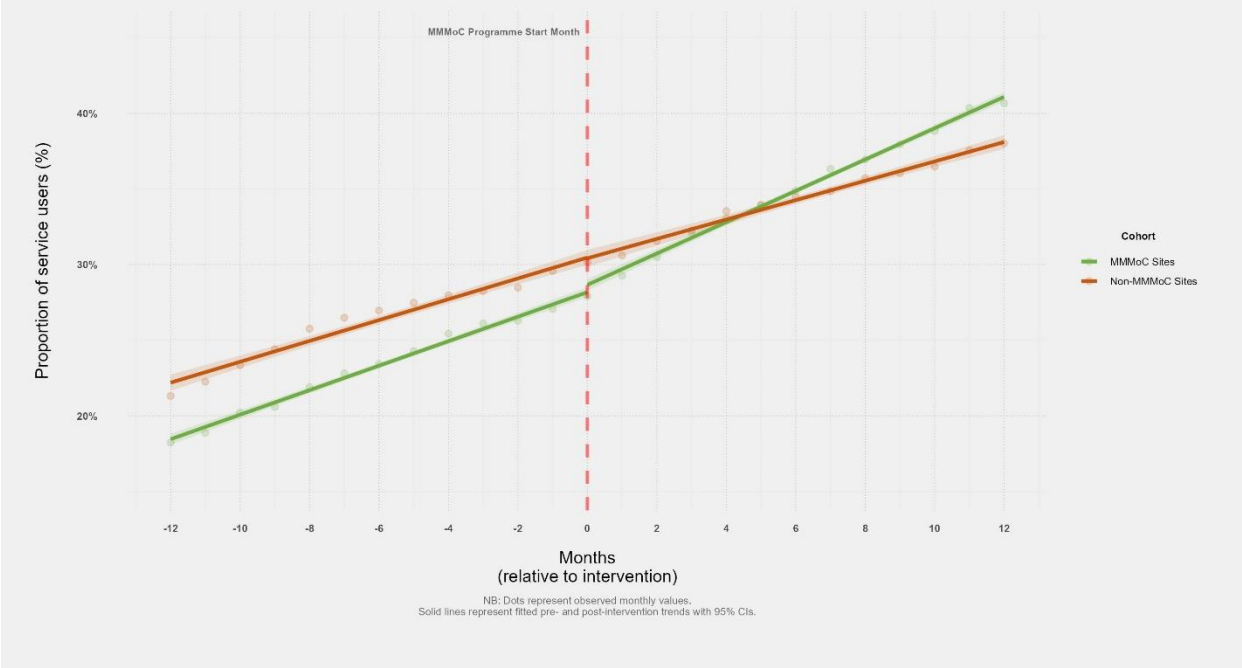


Figure 4: The proportion of service users prescribed an SGLT2i [population-level].

Figure 4 shows that prior to the intervention, both MMMoC and non-MMMoC sites showed steady increases in SGLT2i prescribing (+0.83 and +0.71 pp/month, respectively). Following the intervention, neither group demonstrated an immediate level change. However, MMMoC sites showed an accelerated growth rate (+0.21 pp/month), of approximately 7 additional service users per month above the pre-intervention trend. This amounted to MMMoC sites with a higher SGLT2i prescribing rate (40.66%) than non-MMMoC sites (38.02%) 12 months after the intervention. Full model estimates with confidence intervals are presented in Table 3.

Table 3: Full model estimates with confidence intervals for the proportion of service users prescribed an SGLT2i

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend**
SGLT2i	**Service user**	**CKD**	**+0.75** (0.66 to 0.84; p < 0.001)	NS	NS
		Long list	**+1.03** (0.97 to 1.08; p < 0.001)	**+5.05** (3.49 to 6.61; p < 0.001)	NS
		Short list	**+1.27** (0.82 to 1.71; p < 0.001)	**+15.48** (12.20 to 18.75; p < 0.001)	NS
	Population	**MMMoC sites**	**+0.83** (0.76 to 0.89; p < 0.001)	NS	**+0.21** (0.12 to 0.30; p < 0.001)
		Non-MMMoC sites	**+0.15** (0.11 to 0.18; p < 0.001)	NS	NS

Statin prescribing

Findings suggest that while statin optimisation was improving overall, the MMMoC intervention produced clear and clinically meaningful step-changes, particularly in the short list cohort. At a population level, the programme helped sustain improvement rather than dramatically alter trends.

Service user-level:

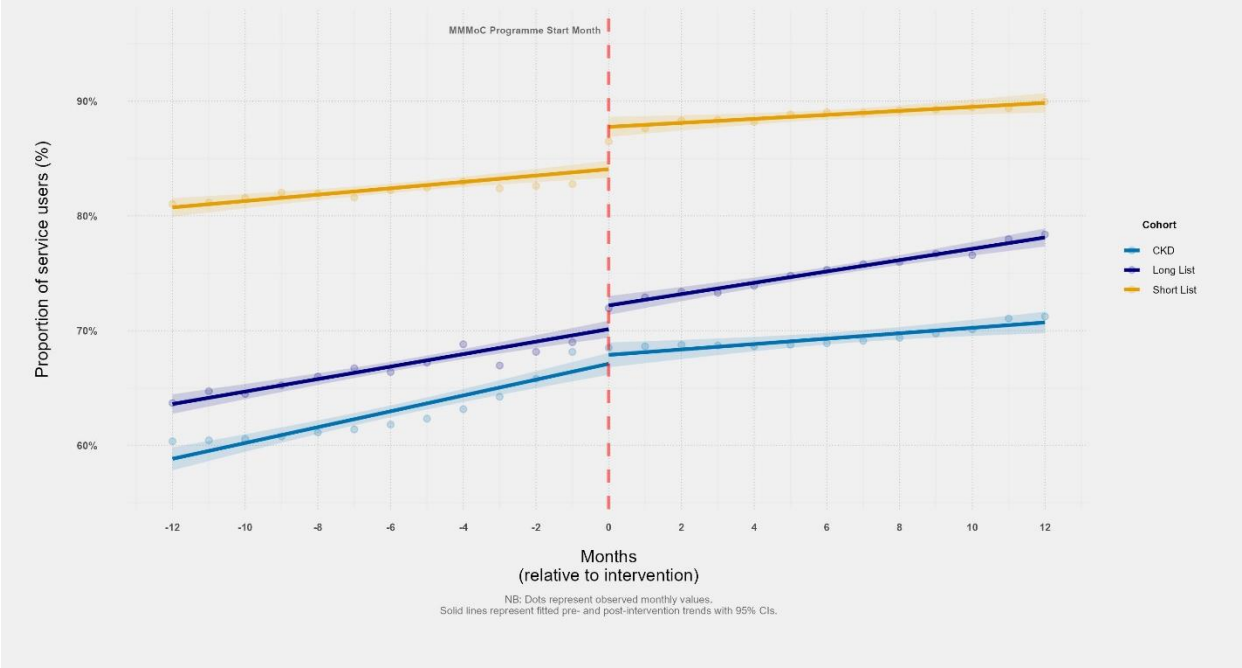


Figure 5: The proportion of service users prescribed a statin [service user-level].

Figure 5 shows that prior to the intervention, statin prescribing increased steadily across all cohorts (CKD: +0.62pp/month; long list: +0.41pp/month; short list: +0.15pp/month). Following the intervention, immediate level jumps were observed in both the long list (+2.58pp, ~51 service users) and short list (+4.32pp, ~39 service users). Post-intervention trends contrasted between groups. Whilst the CKD cohort showed decelerated growth (-0.39pp/month, ~220 fewer service users per month relative to pre-intervention trend), the short list demonstrated slight acceleration (+0.17 percentage points per month, ~1 more service users per month relative to pre-intervention trend). Full model estimates with confidence intervals are presented in Table 4.

Table 4: Full model estimates with confidence intervals for the proportion of service users prescribed a statin

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend**
Statins	**Service user**	**CKD**	**+0.62** (0.37 to 0.87; p < 0.001)	NS	**−0.39** (−0.66 to −0.11; p = 0.009)
		Long list	**+0.41** (0.34 to 0.49; p < 0.001)	**+2.58** (1.56 to 3.60; p < 0.001)	NS
		Short list	**+0.15** (0.11 to 0.18; p < 0.001)	**+4.32** (3.91 to 4.72; p < 0.001)	**+0.17** (0.11 to 0.23; p < 0.001)
	Population	**MMMoC sites**	**+0.65** (0.39 to 0.91; p < 0.001)	NS	NS
		Non-MMMoC sites	**+0.62** (0.38 to 0.86; p < 0.001)	NS	**-0.40** (-0.67 to -0.13; p = 0.005)

eGFR and uACR testing

The intervention delivered rapid gains in monitoring for targeted service users. Mirrored trajectories were seen in the analysis of both uACR and eGFR testing, thus Figure 6 can be viewed as reflective of trends observed in uACR, comparable to those seen for eGFR.

Service user-level:

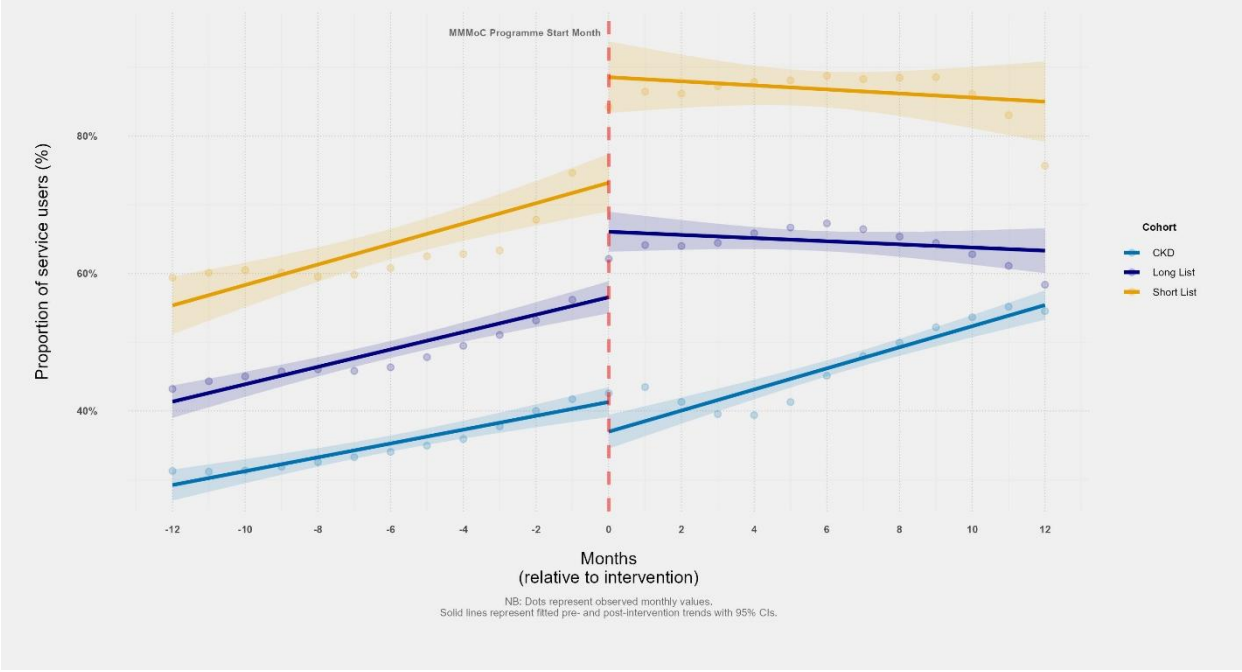


Figure 6: The proportion of service users with an uACR test in the last 12 months [service user-level]

As shown in Figure 6, pre-intervention increases were observed across all groups for uACR testing (CKD: +0.95; long list: 1.01; short list: +0.98 pp/month), Similarly, for

eGFR testing, pre-intervention increases were seen for CKD and long list service users (+0.22pp/month for both groups).

Regarding immediate level changes for uACR, large increases were seen in the intervention groups (long list: +11.65pp, ~428 additional service users; short list: +19.54pp, ~209 additional service users). Similarly, for eGFR, immediate level increases were observed in both intervention groups (long list: +4.57pp, ~157 additional service users; short list: +4.38, ~48 additional service users).

For both uACR and eGFR, trends flattened with slight reductions in post-intervention rates in long list users for both and short list users only for uACR. Despite this flattened post-intervention trend, attainment remained high across the board. Namely, for uACR attainment was above 60% and 80% for the long and short lists respectively. Similarly, for eGFR attainment was above 85% and 95% respectively for long and short lists.

Full model estimates for both eGFR and uACR are presented in Table 5.

Table 5: Full model estimates with confidence intervals for the proportion of service users with an uACR test in the last 12 months.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend**
uACR	**Service user**	**CKD**	**+0.95** (0.68 to 1.22; p < 0.001)	NS	NS
		Long list	**+1.01** (0.72 to 1.31; p < 0.001)	**+11.65** (7.61 to 15.69; p < 0.001)	**−1.24** (−1.75 to −0.73; p < 0.001)
		Short list	**+0.98** (0.33 to 1.64; p = 0.005)	**+19.54** (12.70 to 26.38; p < 0.001)	**−1.28** (−2.16 to −0.40; p = 0.007)
	Population	**MMMoC sites**	**+0.01** (0.07 to 0.14; p < 0.001)	NS	NS
		Non-MMMoC sites	**+0.12** (0.09 to 0.15; p < 0.001)	NS	NS
eGFR	**Service user**	**CKD**	**+0.22** (0.14 to 0.29; p < 0.001)	NS	NS
		Long list	**+0.22** (0.07 to 0.36; p = 0.005)	**+4.57** (2.52 to 6.62; p < 0.001)	**−0.51** (−0.74 to −0.27; p < 0.001)
		Short list	NS	**+4.38** (2.25 to 6.51; p < 0.001)	NS
	Population	**MMMoC sites**	**+0.04** (0.02 to 0.07; p = 0.002)	NS	NS
		Non-MMMoC sites	**+0.05** (0.02 to 0.07; p < 0.001)	NS	NS

Clinical outcomes

Blood pressure control

Improvements in blood pressure control were most evident among short and long list cohorts.

Service user-level:

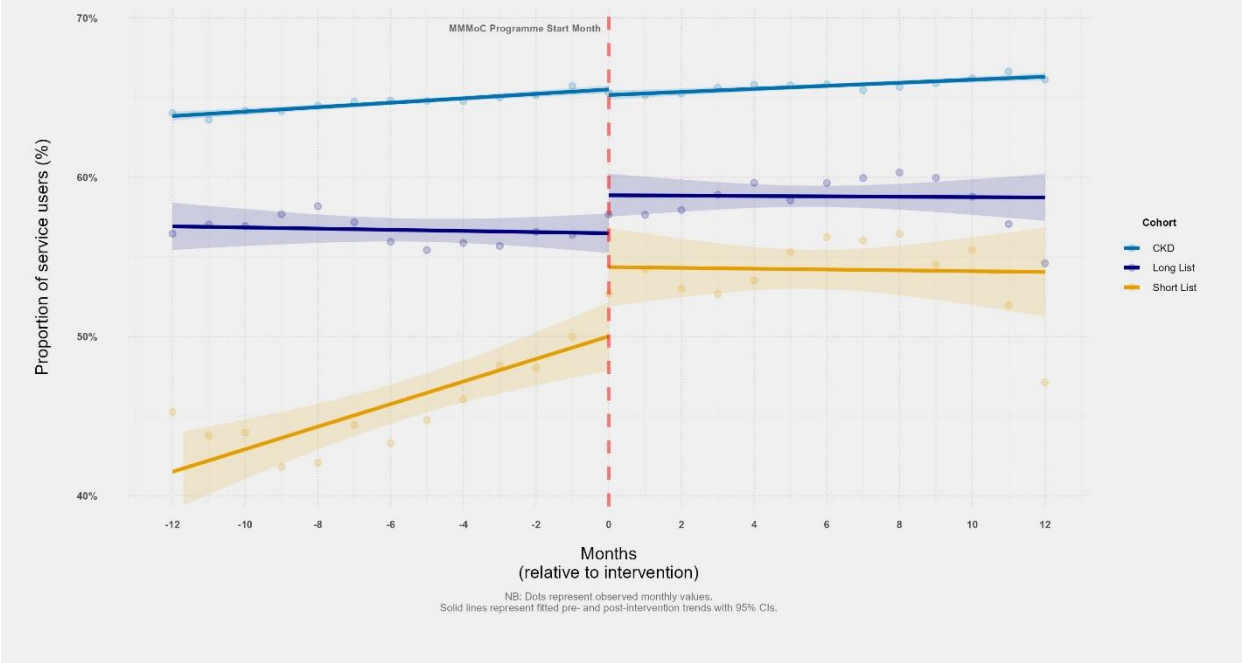


Figure 7: The proportion of the population with controlled blood pressure [service user-level]

The proportion of the population with controlled blood pressure at a service user level can be seen in Figure 7. Pre-intervention increases were observed in the CKD and short list cohorts (+0.15 and +0.55pp/month, respectively). Contrasting patterns emerged in the level jump at the point of intervention: a substantial reduction for CKD service users (-0.43pp, ~148 fewer service users) and a substantial increase in both intervention groups (long list: +2.98pp, ~42 additional service users; short list: +5.62, ~47 additional service users). No post-intervention trends were seen in the intervention groups, however, a reduction in in growth was seen in the CKD cohort (-0.05pp/month, ~20 fewer service users per month below the pre-intervention trend).

Full model estimates and confidence intervals are presented in Table 6.

Table 6: Full model estimates with confidence intervals for the proportion of the population with controlled blood pressure.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend difference**
Blood Pressure	**Service user**	**CKD**	**+0.15** (0.12 to 0.18; p < 0.001)	**−0.43** (−0.81 to −0.06; p = 0.025)	**−0.05** (−0.10 to −0.01; p = 0.023)
		Long list	NS	**+2.98** (1.01 to 4.94; p = 0.005)	NS
		Short list	**+0.55** (0.20 to 0.91; p = 0.004)	**+5.62** (2.45 to 8.80; p = 0.001)	NS
	Population	**MMMoC sites**	**+0.33** (0.25 to 0.42; p < 0.001)	**−2.93** (−3.73 to −2.13; p < 0.001)	NS
		Non-MMMoC sites	**+0.21** (0.06 to 0.37; p = 0.011)	NS	NS

6.3 System utilisation

Non-elective admissions

The impact of the MMMoC on non-elective admissions appears limited in the short-term and no significant trends were seen among the short list after the intervention. Full model estimates and confidence intervals and presented in Table 7.

Table 7: Full model estimates with confidence intervals for the rate of non-elective hospital admissions.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend**
Non-elective admissions	**Service user**	**CKD**	**-0.51** (-0.76 to -0.27; p < 0.001)	**+3.22** (1.36 to 5.07; p = 0.002)	**+0.35** (0.09 to 0.62; p = 0.011)
		Long list	**+0.25** (0.06 to 0.44; p = 0.011)	**+5.05** (3.49 to 6.61; p < 0.001)	**-0.70** (-1.11 to -0.28; p = 0.002)
		Short list	NS	NS	NS
	Population	**MMMoC sites**	NS	NS	NS
		Non-MMMoC sites	NS	NS	NS

Outpatient utilisation

Outpatient attendance patterns across all outpatient specialties were considered. These show that following the long and short list interventions, service users have significantly decreased use of specialist services. Meanwhile, the CKD cohort see continued increased use of specialist services. This is most clear when all outpatients'

services are considered, but remains true when focus is on cardiology, renal and diabetes, or CRM relevant, treatment functions.

Service user-level:

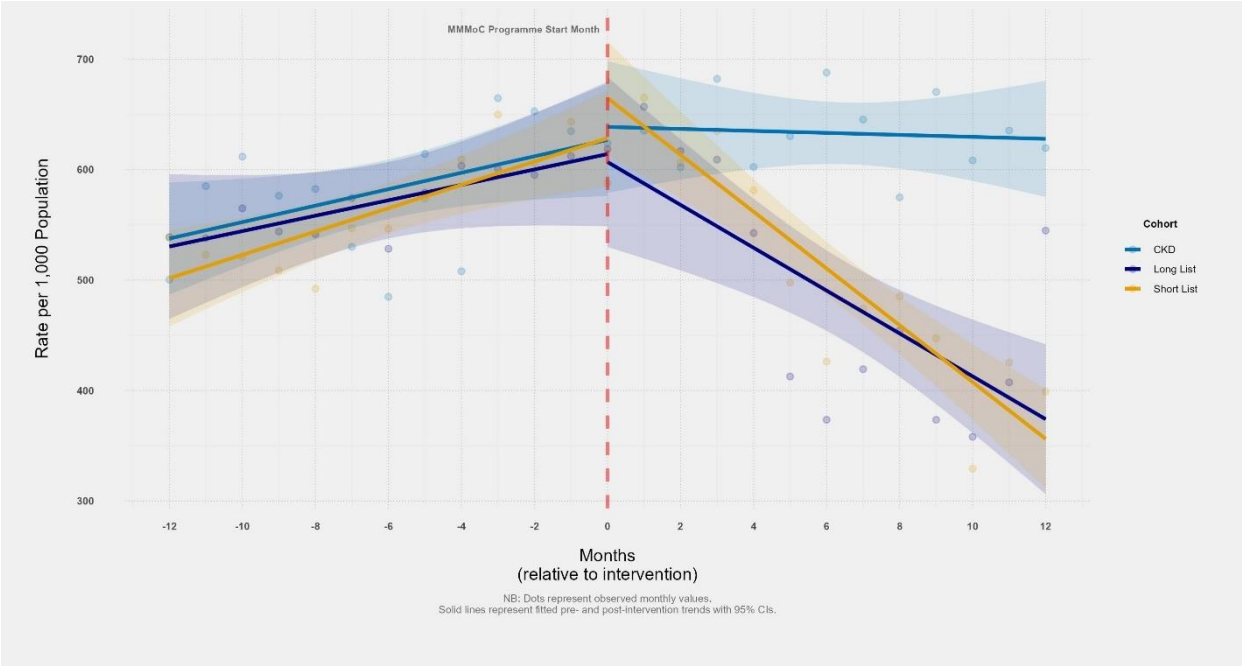


Figure 8: The rate of outpatient attendances [service user-level].

Figure 8 shows that trend changes here were observed in the intervention groups only regarding attendance rates for all outpatient appointments. Prior to the intervention, attendance rates increased considerably in both groups, with higher rates in the short list (short list: +12.42 attendances per 1,000 population per month) compared with the long list (long list: +6.78 attendances per 1,000 population per month). Following the intervention, no immediate levels changes were observed; however, post-intervention trends reversed dramatically, with substantial decreases exceeding the pre-intervention increases (long list −26.18 attendances per 1,000 population per month; short list −38.13 attendances per 1,000 population per month).

For CRM-relevant outpatient attendances (cardiology, diabetes and renal) reflected in Figure 9, pre-intervention rates decreased steadily for both the CKD cohort (-1.69 attendances per 1,000 population per month) and long list (-1.38 attendances per 1,000 population per month). Whilst no significant step changes were seen at the point of intervention, significant postintervention trends are apparent. Whilst the CKD cohort showed acceleration (+1.87 attendances per 1,000 population per month relative to pre-intervention trend), the short list demonstrated substantial deceleration (-2.33 attendances per 1,000 population per month relative to pre-intervention trend).

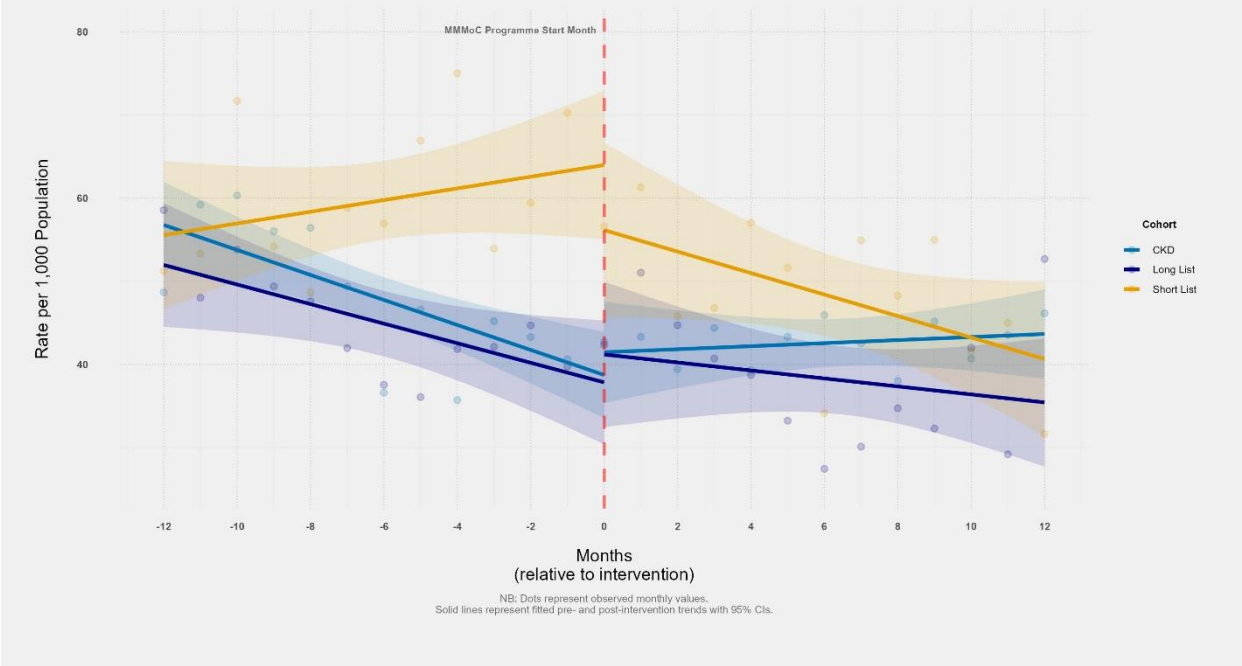


Figure 9: The rate of outpatient attendances for cardiology, diabetes and renal specialties [service user-level].

Population-level:

Population level data here showed limited detectable changes. These results are likely driven by CKD list activity given that the CKD cohort is a larger group than the long or short list. Full model estimates and confidence intervals are presented in Table 8.

Table 8: Full model estimates with confidence intervals for the rate of outpatient attendances, and specialist outpatient attendances (cardiology/diabetes/renal).

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend difference**
Outpatient attendances (all)	**Service user**	**CKD**	NS	NS	NS
		Long list	**+6.78** (5.15 to 8.41; p < 0.001)	**+4.57** (2.52 to 6.62; p < 0.001)	**-26.18** (-42.02 to -10.35; p = 0.003)
		Short list	**+12.42** (7.29 to 17.55; p < 0.001)	NS	**-38.13** (-45.29 to -30.98; p < 0.001)
	Population	**MMMoC sites**	**+2.45 (**0.69 to 4.22; p = 0.009**)**	NS	NS
		Non-MMMoC sites	**+2.76 (**1.03 to 4.50; p = 0.003**)**	NS	NS
Outpatient attendances (cardiology, renal and diabetes)	**Service user**	**CKD**	**-1.69** (-2.63 to -0.74; p = 0.001)	NS	**+1.87** (0.88 to 2.85; p < 0.001)
		Long list	**-1.38** (-2.15 to -0.62; p = 0.001)	NS	NS
		Short list	NS	NS	**-2.33** (-4.11 to -0.55; p = 0.013)
	Population	**MMMoC sites**	**-0.20** (-0.32 to -0.08; p = 0.003)	NS	**+0.24** (0.11 to 0.36; p < 0.001)
		Non-MMMoC sites	NS	NS	NS

A&E utilisation

Initial findings suggest that it may be too early to see significant changes within A&E attendances with further exploration required to understand the nature of attendances.

Service user-level:

Trend changes in A&E attendances were observed in the intervention groups only. Notable pre-intervention trend increases were observed in the long list (+0.57 attendances per 1,000 population per month), with no observed change in level or difference between pre- and post-intervention rates. For short list service users, no pre-intervention trends or immediate level changes were observed. However, the post-intervention trend increased relative to the pre-intervention trend (+2.26 attendances per 1,000 population per month). Full model estimates and confidence intervals are presented in Table 9.

Table 9: Full model estimates with confidence intervals for the rate of A&E attendances.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend difference**
A&E attendances	**Service user**	**CKD**	**+0.19** (0.12 to 0.25; p < 0.001)	NS	NS
		Long list	**+0.15** (0.02 to 0.29; p = 0.024)	NS	NS
		Short list	**−0.47** (−0.62 to −0.33; p < 0.001)	**+1.71** (0.52 to 2.90; p = 0.007)	**+0.68** (0.47 to 0.88; p < 0.001)
	Population	**MMMoC sites**	NS	NS	NS
		Non-MMMoC sites	NS	NS	NS

GP appointments

Findings indicate that the short list cohort saw the largest sustained reduction in GP attendances, and the programme appears to lead to significant immediate reductions in primary care utilisation within participating sites.

Service user-level:

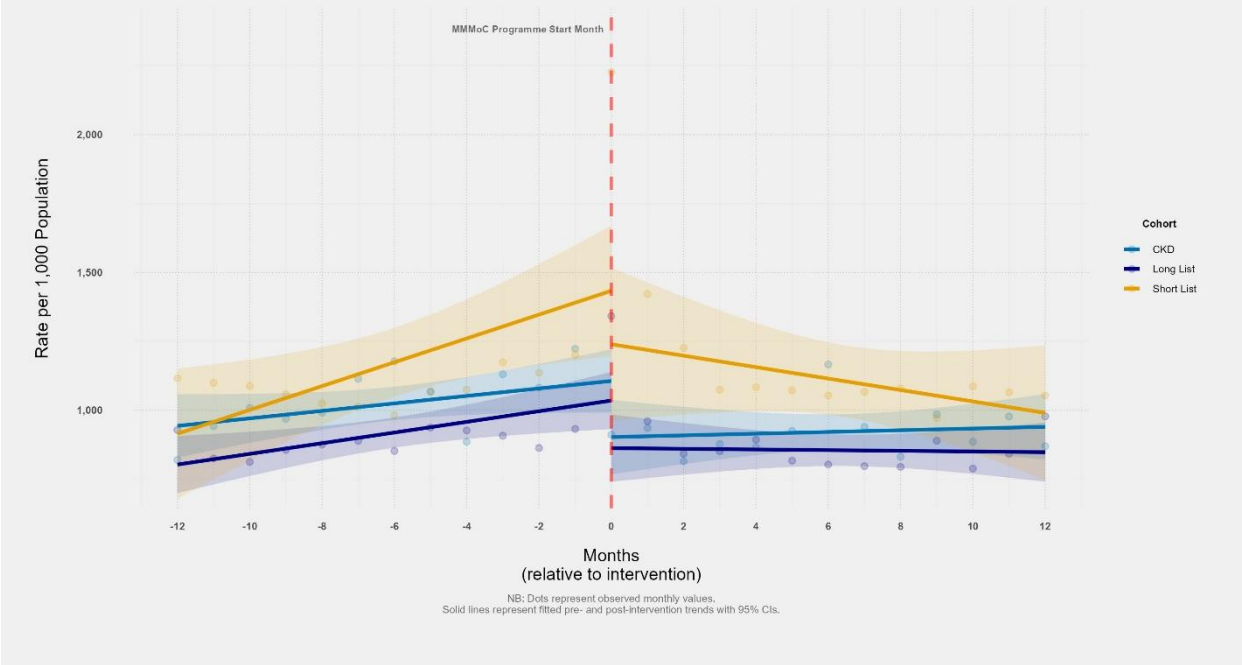


Figure 10: The rate of GP appointments [service user-level].

Figure 10 shows the rate of GP appointments for long list, short list and CKD cohorts. The CKD cohort was the only group with substantial trends in the pre-intervention period (increasing: +22.44 appointments per 1,000 population per month) and immediately following the intervention (decreasing: -277.52 appointments per 1,000 population). In the post-intervention period, CKD service users also had a marked reduction in appointments compared to the pre-intervention trend (-19.34 appointments per 1,000 per month). With regards to the short list, although it appears that there was a significant increase prior to the intervention when observing the line of best fit, consideration of the specific data points highlights that there was no significant trend observed pre-intervention. However, a large post-intervention difference was observed in the short list cohort (-27.96 appointments per 1,000 population per month). No observable changes were observed in the long list group.

Population-level:

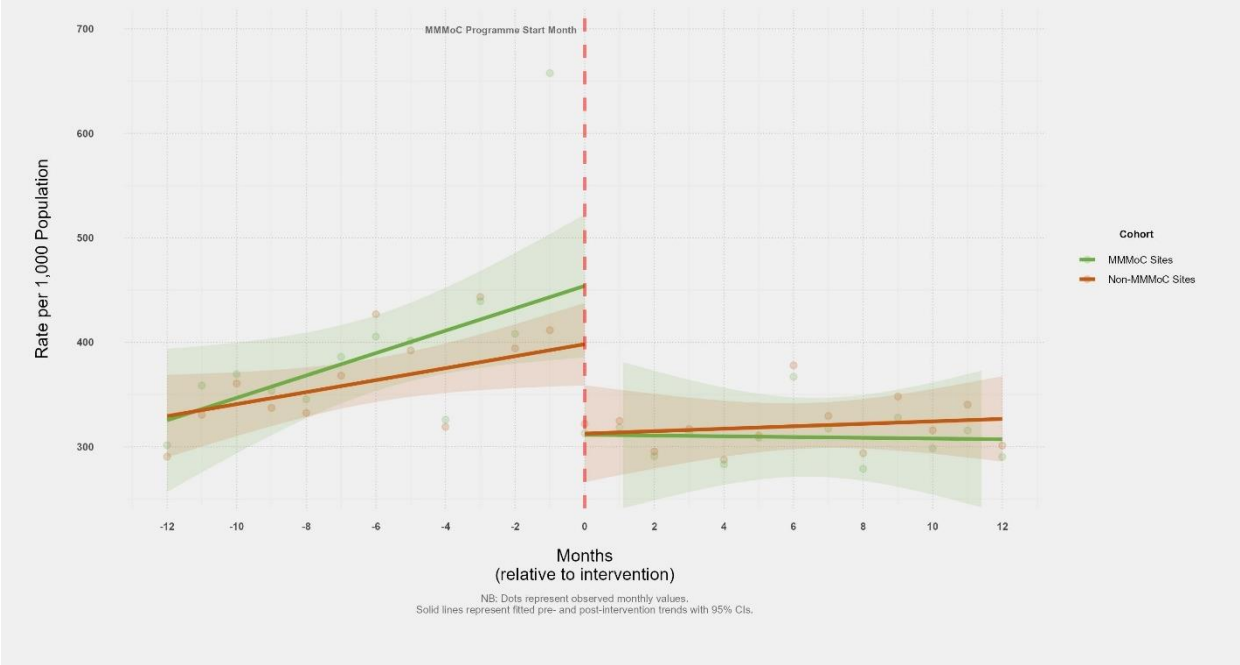


Figure 11: The rate of GP appointments [population-level].

The rate of GP appointments is shown at a population level in Figure 11. Prior to the intervention, no detectable trends were observed in MMMoC sites, while non-MMMoC site appointment rates steadily increased (+9.20 appointments per 1,000 population per month). Following the intervention, both groups experienced immediate reductions in GP appointments, with a larger decrease in MMMoC sites compared to non-MMMoC sites (−195.96 vs −114.47 per 1,000 population per month). Post-intervention trends also differed: non-MMMoC sites demonstrated a substantial decrease in appointment rates relative to pre-intervention (−8.03 appointments per 1,000 population per month) whilst MMMoC sites saw no significant change. Despite this, MMMoC sites retained a GP appointment rate lower than non-MMMoC sites throughout the 12-month post-intervention period. Table 10 shows full model estimates and confidence intervals.

Table 10: Full model estimates with confidence intervals for the rate of GP appointments.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend**
GP appointments	**Service user**	**CKD**	**+22.44** (10.74 to 34.14; p < 0.001)	**-277.52** (-419.29 to -135.76; p < 0.001)	**-19.34** (-34.95 to -3.73; p = 0.018)
		Long list	NS	NS	NS
		Short list	NS	NS	**-27.96** (-49.54 to -6.38; p = 0.014)
	Population	**MMMoC sites**	NS	**-195.96** (-333.34 to -58.57; p = 0.007)	NS
		Non-MMMoC sites	**+9.20** (4.90 to 13.50; p < 0.001)	**-114.47** (-159.74 to -69.20; p < 0.001)	**-8.03** (13.68 to -2.37; p = 0.008)

6.4 Mental health and holistic care

PHQ-2 and GAD-2 screening

Analysis of short-form mental health screening approaches, PHQ-2 and GAD-2, clearly highlights the embedding of this type of assessment into care for long and short list service users. However, given existing data limitations, it is not possible to analyse or consider the findings of the mental health screenings or the next steps that were taken in response to this process measure.

Service user-level:

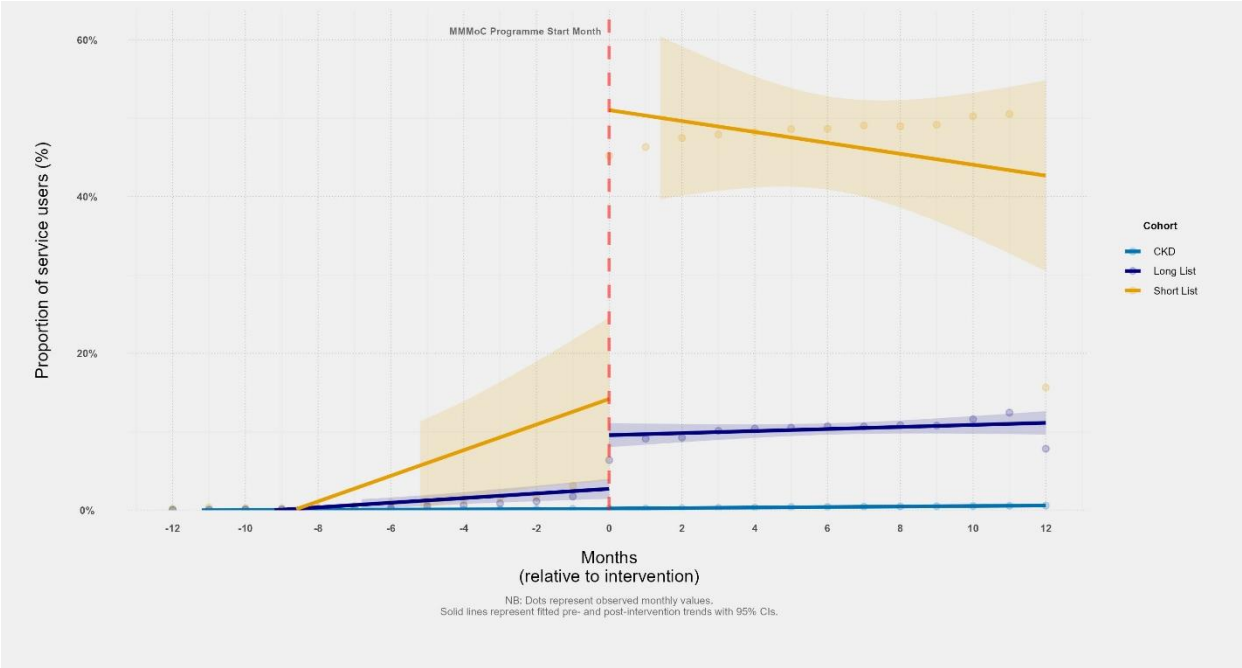


Figure 12: The proportion of service users screened for mental health with PHQ-2 or GAD-2 [service user-level].

The proportion of service users screened for mental health with PHQ-2 or GAD-2 shortform tools is shown in Figure 12. Prior to the intervention, mental health screening rates steadily increased across all groups (CKD: +0.01pp/month, ~6 additional service users; long list: +0.13pp/month, ~4 additional service users; short list: +0.22pp/month, ~4 additional service users). Immediately following the intervention, immediate level increases were observed in all cohorts (CKD: +0.07pp, ~35 additional service users; long list: +7.39pp, ~ 255 additional service users; short list: +46.60pp, ~510 additional service users), with substantial, larger increases in the intervention cohorts. Post-intervention trends showed acceleration, relative to pre-intervention trends, in both the CKD cohort (+0.02pp/month, ~ 12 additional service users per month) and long list service users (+0.27pp/month, ~8 additional service users per month).

Population-level:

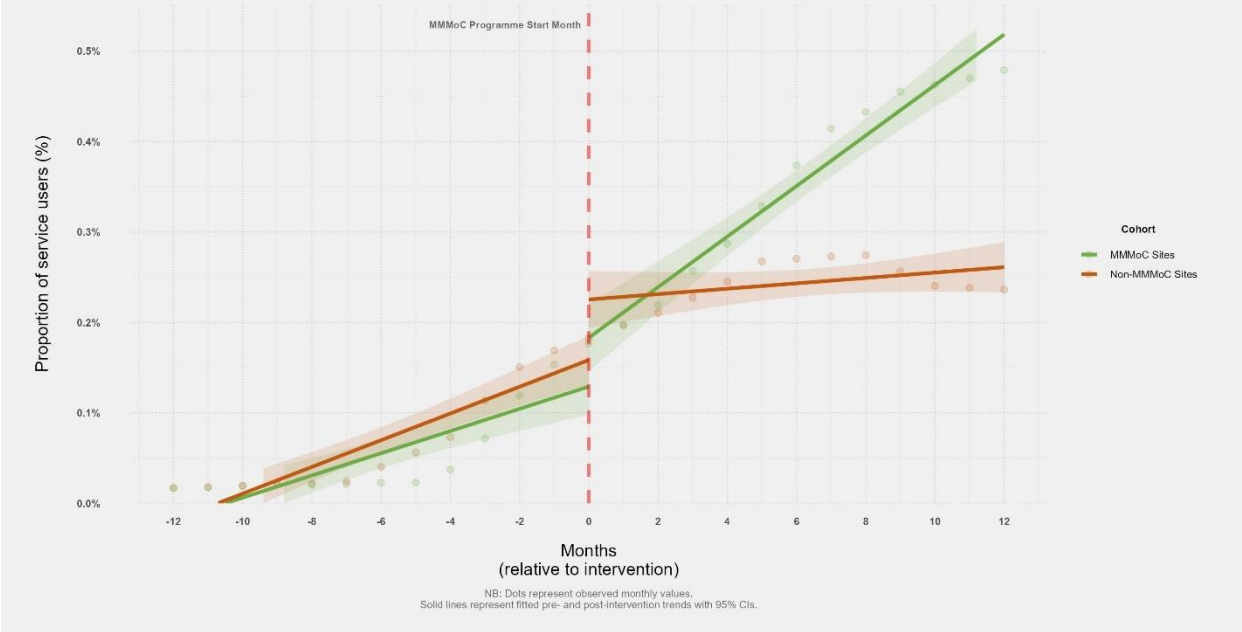


Figure 13: The proportion of service users screened for mental health with PHQ-2 or GAD-2 [population-level].

Meanwhile, Figure 13 shows the proportion of service users screened for mental health with the shortform PHQ-2 and GAD-2 tools at a population level. Pre-intervention trends were increasing steadily at +0.01 pp/month for both groups. Following the intervention, both groups experienced an increase in level that was substantial for non-MMMoC sites only (+0.08pp, ~938 additional service users). Post-intervention trend changes differed: MMMoC sites experienced a marked acceleration compared to pre-intervention levels (+0.02pp/month, ~155 additional service users per month), while non-MMMoC sites experienced a marked deceleration (-0.01 pp/month, ~133 fewer service users per month). Full model estimates and confidences intervals are reported in Table 11.

Table 11: Full model estimates with confidence intervals for the proportion of service users screened for mental health with PHQ-2 or GAD-2.

			***Estimate** (95% CI; p-value)*		
Metric	**Analysis level**	**Cohort**	**Pre-intervention trend**	**Immediate level change**	**Post- vs pre-intervention trend**
PHQ-2/GAD-2	**Service user**	**CKD**	**+0.01** (0.01 to 0.02; p < 0.001)	**+0.07** (0.02 to 0.11; p = 0.012)	**+0.02** (0.02 to 0.03; p < 0.001)
		Long list	**+0.13** (0.07 to 0.18; p < 0.001)	**+7.39** (6.82 to 7.95; p < 0.001)	**+0.27** (0.17 to 0.36; p < 0.001)
		Short list	**+0.22** (0.13 to 0.30; p < 0.001)	**+46.60** (40.21 to 52.99; p < 0.001)	NS
	Population	**MMMoC sites**	**+0.01** (0.00 to 0.02; p = 0.004)	NS	**+0.02** (0.01 to 0.03; p < 0.001)
		Non-MMMoC sites	**+1.03** (0.97 to 1.08; p < 0.001)	**-0.01** (0.02 to 0.14; p = 0.016)	**-0.01** (-0.02 to -0.00; p = 0.004)

6.5 Service user experience and staff experience surveys

Service user experience survey

The service user experience survey gathered feedback from 126 individuals receiving care under the short list of the MMMoC project. Respondents self-reported on various demographic characteristics:

- A relatively balanced gender representation: 43% female and 47% male (10% offered no response or preferred not to say).
- An older age profile reflective of the typical targeted service user cohort: almost two thirds of respondents aged 65 and over.
- Diverse range of ethnic backgrounds reflective of the SEL population: 44% White (English, Welsh Scottish, Northern Irish or British), 20% Black, Black British or African, 13% Caribbean. Smaller representation was seen by respondents who identify as Asian or Asian British (Indian), White Other/Irish, Mixed, and Latin American backgrounds.

Service users were asked to rate their experience across key aspects of care. This included how likely they were to recommend the service, their overall opinion of the care provided, whether their personal and social needs were given time to be understood, and how involved they felt in decisions about their care.

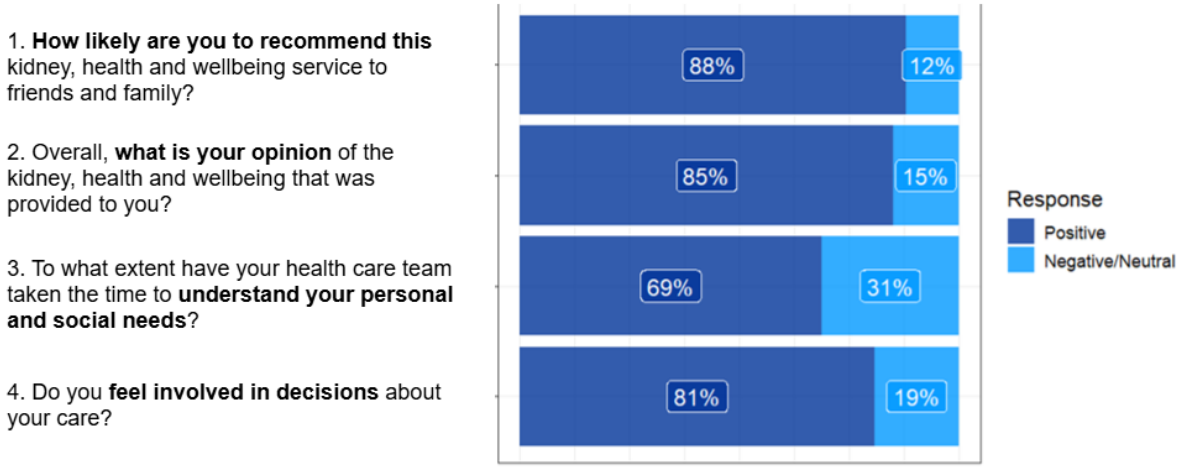


Figure 14: Overview of service user experience survey responses to Likert-scale questions.

As seen in Figure 14, most service users provided extremely positive feedback, with 88% stating that they would recommend the service to friends or family. Additionally, 85% of service users rated their overall care experience as positive. Notably, 69% agreed that their healthcare team took the time to understand their personal and social needs, reflecting a strong focus on holistic care. Furthermore, 81% of service users felt involved in decisions about their care, indicating service users could engage in the decision-making process. Importantly, responses did not differ significantly by ethnicity, age or gender, which suggests a consistent experience of care across demographic groups.

Free-text responses echoed these trends, with common themes emerging around communication and clarity, service satisfaction, professionalism and courtesy, appointment availability and follow-up and additional support and personalised care.

Service users frequently commented on feeling better informed about their health or their families health, with one stating,

> *'She made sure that we understood what she meant to convey [to] us regarding my mum's kidney condition'*

Several responses also emphasised the importance of personalised and holistic care, with service users appreciating the additional support provided beyond their physical health support. One respondent remarked that,

> *'No one has ever explained properly to me about my kidney and last week, the pharmacist explained it well to me, talked to me like a person, not just staring at the computer. We talked about my pension and finances, and they asked someone to call me and explained all to me'*

A full analysis of responses to the service user experience survey can be found in Appendix 7.

Staff experience survey

The staff experience survey engaged 71 members of staff across a broad range of settings, namely:

- Different care settings: 80% based in primary care, 19% based in secondary care
- Range of backgrounds: 48% with a clinical background, 53% from a non-clinical background

Staff were asked to rate their experience across key aspects of care delivery. This included the extent to which they agreed that this integrated model of care is a more sustainable model of working for the future, if their trust in working within a MDT has increased, if working in an integrated manner has increased their job satisfaction, if their confidence in working with complex patients with mLTCs has increased, if their team has improved the way that they provide holistic care and if it is easier for them to access a range of colleagues who can support complex service-user needs.

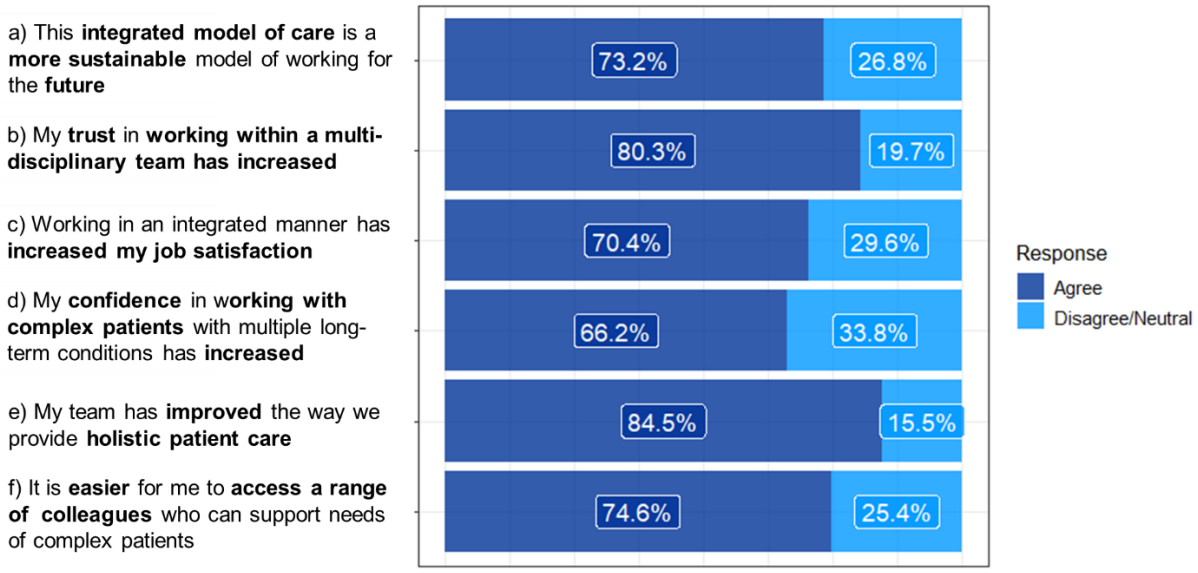


Figure 15 Overview of staff experience survey responses to Likert-scale questions

As seen in Figure 15, responses were positive:

- 84.5% of staff agreed that the MMMoC improved holistic service user care
- 80.3% felt that their trust in MDT working increased
- 74.6% reported easier access to a range of colleagues
- 66.2% reported increased confidence when working with complex service users
- 73.2% agreed that the model supports a more sustainable way of working
- 70.4% reported improvement in job satisfaction.

Thematic analysis of free text responses relating to the sustainability of the MMMoC indicated positive perspectives: the model improved service user outcomes, holistic care, collaboration and workforce development; and drove efficiency alongside some concern around resource challenges for sustainability. One staff member noted,

> *'This is the only model. We must see the patient's health as whole. Gone are the days of one appointment, one problem, we need to be linking them together.'*

highlighting the profound engagement seen from staff in the vision of the MMMoC.

Staff also identified key themes pertaining to how the MMMoC project has impacted their job satisfaction. High numbers expressed improved ability to work collaboratively; provide holistic, service-user-centred care; enable development and build relationships. One member of staff highlighted that their job satisfaction has been increased because,

> *'Working in an integrated manner led to positive patient outcomes.'*

However, some staff highlighted evident systemic challenges, resource strains and support requirements. This suggests that there is work required to ensure smooth and viable expansion of the model. A full analysis of responses to the staff experience survey can be found in Appendix 7.

Chapter 7. Discussion

The impact of this transformational, complex case management approach to care can be seen at three levels:

1. Service users experienced better quality care: This equates to improved experience of care, better met health needs, more appropriate identification and preventative treatment of LTCs. Analysis indicates that barriers to care were unblocked and holistic needs better centred alongside physical health needs.
2. Multidisciplinary staff spent time more appropriately across care settings and experienced a culture shift towards integrated care provision: Relationship and team building facilitated effective collaboration at a novel scale, this enabled more effective mLTC care provision. Through this embedded culture shift, staff worked more preventatively and built confidence and capability within this model.
3. System wide pressure was alleviated in multiple care settings with savings reflected within the transformation activity period and projected due to the preventative nature of the approach. Moreover, the short list cohort are more likely to remain healthier for longer, with extrapolations of reduced future need for dialysis (compared to prior estimations). Prevention and collaboration are less costly than crisis response.

Findings show system level movement in activity towards prevention of CRM LTCs and their progression. This shift is likely reflective of a culture shift towards preventative, multi-condition care that is closer to home and centres service user priorities. The MMMoC has taken place amidst a national movement to improve CKD detection, treatment and health outcomes, spurred by pressures experienced by and predicted for dialysis wards, especially in London [23]. Evidence supports this move towards early diagnosis, alongside coding and medically optimising those with CKD as uncoded individuals with CKD have double the mortality rate of those correctly coded and medications (ACEi/ARBs, SGLT2is) can delay end stage kidney disease by upwards of 15 years. In many cases, delaying end stage kidney disease will avoid need for dialysis consideration, reflecting savings in those instances of approximately £34,000 per person, per year [24], to the system. Looking at the short list improvements to SGLT2i prescribing highlights that these changes in process have not only been made, but embraced, expediting the shift towards the effective prevention of disease progression for CKD. It is reasonable to assume that, as per the national and local guidelines, those prescribed SGLT2is have already been maximised on an ACEi or an ARB. Although this will not be the case 100 per cent of the time, results bode well for a system looking to maintain and care for a healthier population.

Through the complex case management, staff confidence and intention enabled swift implementation of a CRM approach to care. Whilst there is a national drive to reduce care siloes [1] and consider the whole person throughout their care journey, the MMMoC staff body implemented relational changes at a pace that led to statistically significant change, whilst this guidance for many still sits in policy documents. This programme included numerous forms of training and education alongside both in-person and remote support across the system. Staff response to this call for action is reflected in increases observed on CKD prevalence. A historically lesser considered

disease [25], the importance of CKD identification and diagnosis in the context of its interplay with cardiometabolic conditions has seen increased detection rates at MMMoC sites up to 3%. Whilst the true UK prevalence is predicted at 6% [26], MMMoC sites have engaged with this existing unknown at a population level. This approach has been guided in large part by known cardiometabolic risk factors for CKD which have warranted the need for testing as opposed to an exploratory case finding approach. This heightened improvement at MMMoC sites compared with non-MMMoC sites evidences the translation of momentum into an actionable shift towards preventative, multi-condition care.

Moreover, at an individual level, this integrated approach reflected a fundamentally better-quality service user experience. Not only did those seen on the short list receive better medical care, but they likely were more activated in taking ownership of their own health, better informed about their health needs, aware of lifestyle and holistic factors as well as medicinal ones. With protected time and capacity to take a population health approach that considered CRM conditions and holistic needs together, multidisciplinary staff could provide high quality care that met the needs of service users to a high standard. This is observed in statin prescribing rates retained at over 90%, uACR attainment over 80% and eGFR attainment over 95% among the short list cohort post-intervention. However, it is also indicated by the more than 500 people short form screened for mental health needs through their initial holistic assessment. This demonstrates clear progress but also highlights longstanding limitations in the way primary care electronic patient record systems capture and record non-physical health related needs. Historically, EMIS coding has prioritised clinical activity and coding, with poor linkages across NHS and wider community systems and services. This restricts the ability to understand how service users moved between services, particularly in relation to the newer roles of social prescribers and the nature and impact of appointments with these colleagues. Despite this, findings indicate that MDTs did begin to embed more holistic approaches into routine care.

Health outcome data speaks to the quality, appropriateness and success of care at the individual, multidisciplinary staff and system level. Despite limitations of monitoring data, consideration of blood pressure suggests that there are tangible, positive health impacts sustained across the 12-month period for those on the short list. Whilst prior to the MMMoC they were not having their care needs met and often had uncontrolled blood pressure, the short list population saw a significant step increase of 47 additional service users with controlled blood pressure immediately after the intervention. Given that blood pressure control is an outcome of optimisation, improvements reflect several improvements in care processes and benefits for the system. Improved blood pressure required improved identification, better optimised medication and a likely engagement with broader complexities that could include social needs or multiple conditions. For the individual, controlled blood pressure leads to improved health outcomes, sustained health and less chance of acute incidents. In turn, this benefits the system, with multidisciplinary working and care as a preferential alternative for many service users.

Given the prevalence of system and staff pressures nationally [27], the statistically significant overall reduction in service use across the short list cohort which translates into primary and secondary care settings is noteworthy. A clear priority of the MMMoC

was to improve efficacy of system use by service users and to alleviate pressures on staff and services by transforming the nature of care delivery. Reductions in outpatients' appointments across the board of 38 attendances per 1,000 individuals per month after the intervention, in the context of a steady increase (12 attendances per 1,000 individuals per month) prior to the intervention, is significant. These findings suggest that the model altered care pathways. By positioning specialist time within the MDT rather than relying on referral into secondary care, the MMMoC enabled service users' needs to be met within primary and community care settings more effectively. This could indicate that the MDT was able to identify, optimise and respond to clinical needs without escalation to hospital services, and therefore reducing system pressure on the acute service, alongside improved experience for service users whose care was managed closer to home. Importantly, this pattern is mirrored across outpatient appointments across CRM specialities, further reinforcing that multidisciplinary and integrated approaches can deliver measurable improvements on system utilisation whilst supporting healthier and more satisfied service users.

Sustained reduction in GP appointments across the short list cohort suggests that the MMMoC equipped service users to have their needs met more effectively, reducing reliance on repeated GP visits. There was a large post-intervention reduction in GP appointments (-29 appointments per 1,000 population per month), indicating that longer, holistic MDT appointments reduced duplication and addressed service user needs more fully than traditional 10-minute "one problem" consultations. These results show a transformation to routine care pathways, which has led to a reduced pressure on GP services, alongside empowered service users who are better able to manage their care.

This evaluation is strengthened by its grounding in real-world delivery of complex case management across 12 PCNs in SEL, offering insight into how INTs operate in routine practice. The scale and geographic spread of the intervention, combined with longitudinal analysis of routinely collected NHS data, enable examination of trends over time and across settings. The inclusion of staff and service user experience alongside quantitative analysis adds depth, allowing observed changes to be interpreted in the context of workforce practice, service user perceptions and care relationships.

Several limitations should nevertheless be considered when interpreting the findings. As with all evaluations using routine datasets, variability in data quality and coding restricts sensitivity for some measures, particularly those capturing holistic or non-clinical activity. Key clinical indicators such as eGFR, uACR and HbA1c are typically measured infrequently in routine care and may require repeated measurements over longer periods to demonstrate sustained change, limiting detection of short-term effects within a 12-month post-intervention window. Wider system disruption during the evaluation period is also likely to have influenced both delivery and data capture. While changes in utilisation were observed in primary and outpatient care, short-term impact on non-elective admissions and A&E attendance appeared limited, indicating that further follow-up is required to assess downstream effects on acute activity.

Despite these limitations, this work contributes to an area where evidence has been limited: how integrated, MDT-led case management for people with complex multimorbidity operates at scale within everyday system constraints. The findings demonstrate that coordinated neighbourhood-based working can translate national policy ambitions into practice and are consistent with emerging literature advocating preventative mLTC care. In particular, the evaluation clarifies how embedding specialist expertise within MDTs may influence optimisation of care processes and patterns of service utilisation, addressing uncertainty about the operational impact of integrated care models.

The implications for future research and practice are clear. Longer-term evaluation is needed to assess effects on disease progression, emergency care and dialysis demand. Improved routine capture of holistic outcomes, including patient activation, social prescribing and mental health follow-up, will be essential as care models continue to extend beyond single-condition metrics. From a service perspective, the findings underscore the importance of multidisciplinary capability, protected time for case management and sustainable workforce models, including ARRS-funded roles, to support delivery at scale. Together, these considerations provide a foundation for refining, extending and evaluating integrated multimorbidity care within and beyond SEL.

Chapter 8. Next steps

Building on the Phase II findings, the following next steps are proposed to support the continuation and spread of the MMMoC particularly the complex case management approach:

1. Scale neighbourhood-based delivery across SEL: Extend the INT-led case management approach across SEL, embedding it as a core neighbourhood way of working and expanding its application to wider mLTC cohorts using population health insight.
2. Ensure provision is reaching the breadth of the SEL population: Build an expanded approach that recognises areas of greatest need, likely those with the highest levels of deprivation, to ensure the entirety of SEL is served by this model of care. Keep provision open to all but geographically closest to areas of deprivation with other elements of accessibility guiding decision making.
3. Embed MDT case management into routine practice: Consolidate MDT-led working with protected time, clear role definition and sustained specialist input, supported by ARRS-funded roles, to ensure coordinated, holistic care for people with complex needs. This requires expanded clinical and non-clinical expertise for holistic needs to be sufficiently met and lead the progression of care pathways.
4. Sustain culture change towards integrated, preventative care: Continue reinforcing the shift away from siloed, single-condition care towards integrated, person-centred practice, embedding MMMoC principles into pathways, training and leadership. This requires the embrace of a test-and-learn approach, where models are given permission to evolve with experience and need.
5. Strengthen system learning and evaluation: Embed MMMoC learning within central SEL evaluation capacity to support ongoing monitoring, adaptation and longer-term assessment of outcomes. Meanwhile, improve capture of broader holistic activity to accurately assess the impact and effectiveness of care as service models continue to evolve.
6. Continue alignment with the 10-Year Health Plan for England: Further align the MMMoC with national priorities to bring care closer to communities, strengthen neighbourhood health services and reduce reliance on hospital-based care, including opportunities to shift elements of specialist care into community settings.

Chapter 9. Conclusion

This Phase II evaluation demonstrates that complex case management delivered through the SEL MMMoC can achieve meaningful improvements in clinical optimisation, holistic care delivery and system utilisation for people living with complex mLTCs. The findings show that targeted, pharmacist- and MDT-led case management accelerated evidence-based prescribing (notably SGLT2 inhibitors and statins), improved monitoring and key clinical outcomes such as blood pressure control, and embedded routine mental health screening within care for high-need populations. At the same time, the model supported a sustained shift of care closer to home, with significant reductions in outpatient activity and GP appointments for the short list cohort, indicating more effective resolution of need and reduced service fragmentation. Importantly, these measurable system and clinical gains were achieved alongside consistently positive service user and staff experience, reflecting improved trust, activation and confidence within INTs. Taken together, this evaluation provides robust real-world evidence that coordinated, multidisciplinary case management for complex CRM disease is not only clinically effective but operationally valuable, offering a scalable and policy-relevant model for delivering preventative, person-centred care within pressured health systems.

Chapter 10. Acknowledgements

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The comprehensive evaluation was prepared by and only possible due to the evaluation working group:

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- Lauren Blum, Project Manager for MMMoC (SLOSS / SEL ICS)
- Nandini Mukhopadhyay, GP Clinical Lead for LTCs (SEL ICS)
- Sharif Yacoob, Service Improvement Manager (CESEL/Lambeth GP federation)

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Chapter 12. Appendices

Appendix 1. Phase II evaluation methodology assumptions and definitions

- Accessible via this web link: https://www.selondonics.org/download/22045/

Appendix 2. Describing the SEL population

- Accessible via this web link: https://www.selondonics.org/download/22027/

Appendix 3. List of stakeholder organisations involved in the MMMoC

Clinical Effectiveness South East London
Crossman Connections Ltd
Crosspath Consulting Ltd
Guy's and St Thomas' NHS Foundation Trust
King's College Hospital NHS Foundation Trust
Kings College London
Kings Health Partners
Ladywell Pharmacy
Lewisham and Greenwich NHS Foundation Trust
London Kidney Network
NHS England
Primary Care Networks across South East London: Albion, Lyndhurst and Plas Meddyg; Clocktower; Heritage; Hills, Brook and Dales; Improving Health Limited; Mottingham, Downham and Chislehurst; North Lambeth and Clapham; Orpington; Penge; Quay Health Solutions; The Lewisham Care Partnership
Queen Mary's APL-Renal Risk Stratification Tool
South East London Integrated Care System
South East London Workforce Development Hub
South London Office of Specialised Services
South London Health Innovation Network
St Christopher's
The Community Hospice
Universal Care Plan
Vital 5

Appendix 4. MMMoC activity capture survey results

- Accessible via this web link: https://www.selondonics.org/download/22030/

Appendix 5. MMMoC theory of change

- Accessible via this web link: https://www.selondonics.org/download/22033/

Appendix 6. Phase II list of metrics

- Accessible via this web link: https://www.selondonics.org/download/22036/

Appendix 7. Blank surveys: service user experience and staff experience

Accessible via the below web links:
- Service user experience: https://www.selondonics.org/download/22039/
- Staff experience: https://www.selondonics.org/download/22042/

Appendix 8. Survey analyses: service user experience and staff experience

Accessible via the below web links:
- Service user experience: https://www.selondonics.org/download/22048/
- Staff experience: https://www.selondonics.org/download/22051/

Chapter 13. Glossary

The following definitions and abbreviations are key for understanding the contents of this report:

Term	Full term	Definition
ACEi	Angiotensin-converting enzyme inhibitors	Blood pressure lowering medication that prevents an enzyme from making angiotensin 2, a hormone that narrows blood vessels and raises blood pressure. They help to protect kidney function and treat heart failure.
ARB	Angiotensin receptor blockers	Blood pressure lowering medication that blocks the action of angiotensin 2, a hormone that narrows blood vessels and raises blood pressure. They help to protect kidney function and treat heart failure.
APL risk stratification tool	Active service link risk stratification tool	A tool developed by Queen Mary's University London that organises routine data to help primary care prioritise CKD management tasks, e.g., identifying service users with a diagnosis of CKD but no recent blood test and uncontrolled blood pressure.
ARRS	Additional roles reimbursement scheme	NHS England funding scheme to expand the primary care workforce by providing recurrent funding for specific multi-disciplinary roles at PCN and practice level.
Blood pressure	Measurement of the force of blood pushing against artery walls as it circulates the body.	Blood pressure is influenced by factors such as lifestyle, stress, medication, medical conditions, genetics and age. A healthy blood pressure is 120/80 mmHg for an adult without underlying health conditions. High or low blood pressure can both have damaging effects on the body to varying degrees of risk.
CE (G) N/S EL	Clinical effectiveness (group) North/South East London	Data-driven, evidence-based units leading transformation and quality improvement to improve service user outcomes and reduce inequalities.
CI	Confidence interval	The range of data values likely to contain the true population parameter with a specified level of confidence (e.g. 95%).
CRM	Cardiorenal metabolic	The interconnected dysfunction of the heart, kidneys and metabolic system (including obesity and diabetes).
CKD	Chronic kidney disease	A chronic condition where the kidneys cannot effectively filter waste and excess fluid from the blood. It can lead to kidney failure, requiring dialysis or a transplant.
Diabetes	A chronic metabolic disorder characterised by high blood-glucose levels	High blood-glucose (sugar) levels can either be caused because the body does not produce enough insulin, or because the body becomes resistant to the effects of insulin. High glucose levels can lead to organ damage over time.
eGFR	Estimated glomerular filtration rate	A blood-test-derived estimate of how well the kidneys filter waste from the blood. Used to stage chronic kidney disease and guide treatment plans.
EMIS	Egton Medical Information Systems	Widely used UK primary care electronic health record system enabling GPs to record consultations, medications, diagnoses, test results and care plans. It is the system used by most GPs across South East London.

GAD-2	Generalised anxiety disorder 2-item	Two-question screening tool for generalised anxiety symptoms.
HbA1c	Glycated haemoglobin	Measure of the percentage of haemoglobin coated with glucose, reflecting the average blood sugar levels over approximately 8-12 weeks. Used for diagnosing and monitoring diabetes.
Hypertension	High blood pressure	A condition where blood pressure is consistently high. This is often asymptomatic but increases the risk of kidney disease, heart attack and stroke.
ICB	Integrated care board	NHS regional bodies responsible for planning and funding health services across a geographical area.
ICS	Integrated care system	The NHS, council, social services and voluntary services form a partnership across regions to help improve the delivery of health and social care for their populations. An ICB sits within the ICS.
INT	Integrated neighbourhood team	Where all parts of the health and care system – primary care, social care, community health, mental health, acute, and wider system partners – work closely together to support service user's needs more systematically.
ITS	Interrupted time series	A statistical evaluation method that analyses trends before and after an intervention to understand its impact when randomised trials are not feasible.
MDT	Multidisciplinary team	A group of professionals from different disciplines who collaboratively assess and plan care, ensuring holistic, coordinated, and service user centred management.
mLTCs	Multiple long-term conditions	When a person lives with two or more chronic illnesses at the same time (e.g., diabetes, heart failure, CKD).
MMMoC	Multimorbidity model of care	A person-centred, holistic, and fully integrated model across all care settings delivered through INTs. Aims to shift care nearer to the service user, through community-based INTs and optimising proactive care.
MSP	Multispecialty pharmacists	Innovative pharmacist roles that work across CRM specialities and across care settings to train colleagues, streamline care and enable medicines optimisation. These roles were key integrators, bridging gaps and working collaboratively across SEL in the MMMoC.
NHS	National Health Service	The NHS is the UK's publicly funded healthcare system that provides medical care, free at the point of use for residents.
Non-elective inpatient admissions	Emergency treatment including an overnight stay in hospital	Non-elective refers to the emergency/unplanned element of the visit. An inpatient admission is where a service user is required to stay overnight in hospital.
NS	Not significant	The observed effect or difference in the data is small enough that it could reasonably have occurred by chance rather than reflecting a true underlying effect.
Outpatient attendances	Treatment received in a hospital or clinic without requiring an overnight stay	Planned attendance at a hospital or clinic without the need to stay overnight. This can be for a consultation, diagnostic test, minor procedure or follow up.
PCN	Primary care network	Groups of GP practices serving populations, working with community, mental health, pharmacy, and voluntary partners to deliver enhanced and shared services.

PHQ-2	Patient health questionnaire 2-item	Two-question screening tool for low mood and/or depression symptoms.
Place	[within an ICS]	A local area (often a borough) where health, social care, and community organisations collaborate to plan and deliver services aligned to local population needs. Often covers a population of 250,000-500,000.
PP	Percentage point	A unit used to describe the absolute difference between two percentages. For example, an increase from 40% to 50% represents a 10-percentage point (pp).
QOF	Quality and outcomes framework	A national NHS voluntary primary care reward and incentive scheme. It supports resourcing and rewarding good clinical practice (prevention, screening and disease clinical management) in primary care.
SEL	South East London	A geographic area and NHS Integrated Care System covering the London boroughs of Bexley, Bromley, Greenwich, Lambeth, Lewisham and Southwark.
SGLT2i	Sodium-glucose co-transporter 2 inhibitors	A class of medications that lower blood glucose levels by increasing glucose excretion in the urine. These medications are protective of the kidney and the heart.
Statins	A type of lipid lowering medication	The most used medicine to lower cholesterol levels in the blood. Statins have been shown to reduce the risk of heart attacks and strokes and are the recommended first line for people with CKD.
(u)ACR	(urine) Albumin creatinine ratio	A urine test that measures how much protein (albumin) is present in the urine, adjusted for the amount of creatinine in the same sample. This is used to screen for, stratify and monitor CKD. A raised ACR is associated with more advanced CKD and is an independent risk factor for cardiovascular disease.