

North West London NIPP CKD Utilities Evaluation

Implementation, adoption, usability and early impact of utilities to improve chronic kidney disease pathways

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Key findings

Intervention

The National Insights Prioritisation Programme (NIPP) chronic kidney disease (CKD) utilities are digital tools within EMIS and SystmOne supporting identification, accurate coding, and structured management of CKD in primary care. They were implemented across NW London aligned with the 2024/25 NW London CKD Enhanced Service Specification.

Evaluation

This report assesses real-world use, adoption and early impact through changes in CKD-related activity, combining qualitative insights from practice staff with analysis of routine data.

Headline insight

The CKD utilities support more structured and consistent CKD activity, but their value depends on how effectively they are embedded within local workflows and their alignment with future cardio-renal-metabolic (CRM) pathways.

What drives impact



Defining clear role in clinical pathway



Embedding use through practical support



Aligning with existing processes and clinical workflows



Making it easier to move from information to action



Preserving CKD-specific functions in integrated care

Implications

Insights for integrated CRM care

- Retain CKD staging, coding, monitoring and review functions
- Define a clear CKD role within integrated CRM pathways
- Reduce duplication while preserving clinical visibility

Insights for future evaluations

- Align digital tools with existing workflows
- Build embedding and support into implementation
- Design future programmes with evaluation in mind

1. Executive summary

1.1 Background and rationale

Chronic kidney disease (CKD) is a significant population health challenge across North West (NW) London. It is closely associated with deprivation, multimorbidity and cardiovascular risk, yet remains under-diagnosed and inconsistently managed in primary care. Variation in identification, coding, monitoring and treatment creates missed opportunities for earlier intervention and prevention of disease progression.

The NW London CKD utilities were developed to address these challenges through a set of practical tools embedded within EMIS and SystmOne. The utilities were developed as part of the National Insights Prioritisation Programme (NIPP), with partners including ARC Northwest London, Imperial College Health Partners, Imperial College Healthcare NHS Trust, the London Kidney Network and AstraZeneca. Priority challenges in early CKD management were identified through a co-design process with clinicians and patients and solutions were developed to improve identification and screening, coding accuracy, patient understanding and optimisation of care.

Following initial implementation in Ealing in 2023, the utilities were rolled out across NW London in April 2024 through the NW London CKD Enhanced Service Specification. While increases in CKD-related activity have been observed over time, there has been limited system-wide understanding of how the utilities are used in practice and how they contribute to patterns of care.

This evaluation was commissioned to address that gap and to support decisions about implementation, sustainability and future development.

1.2 Evaluation aims and scope

This evaluation provides a mixed-methods assessment of how the CKD utilities have been implemented and used in practice. Its primary purpose is to provide practical learning for NW London ICB commissioners to inform decisions about improvement support and future development. It aims to evaluate:

- how the utilities are understood and positioned within CKD care
- how they are used in everyday practice
- what supports or limits their use
- their perceived value and whether CKD-related activity has changed over time

This reflects the original evaluation aims to assess adoption, identify enablers and barriers, understand usability and explore impact, while recognising the constraints of a system-wide roll-out.

1.3 Methods overview

The evaluation combines qualitative and quantitative approaches to provide a system-level view of implementation. The qualitative component draws on interviews with a range of primary care staff involved in CKD care, including those responsible for reviews, coding, monitoring and prescribing. These interviews explore how the utilities are experienced in practice and how they fit within local workflows.

The quantitative component uses linked routine data to analyse trends in CKD identification, coding and management over time. This provides context on changes in activity, while recognising that attribution is limited by the system-wide and phased nature of implementation. Together, these approaches provide complementary insight into both how the utilities are used and how patterns of care are changing.

1.4 Headline findings

The utilities are now a well-established feature of primary care systems in NW London. However, their use varies across practices and contexts. The findings show that:

- Use of the utilities is concentrated among staff with dedicated responsibility for CKD reviews, coding and monitoring.
- The utilities add most value when embedded with structured CKD workflows, particularly annual review and monitoring processes. Perceived value of the utilities is linked to how well they are integrated into practice and supported over time.
- Adoption is shaped by local conditions, including leadership, familiarity, alignment with existing workflows and competing priorities.
- The role of the utilities within the clinical pathway is not always clearly defined, leading to variation in how they are understood and applied.
- The transition towards integrated cardiovascular-renal-metabolic (CRM) models creates opportunities for holistic care but also poses risks if CKD-specific functionality becomes less visible within broader pathways.

Quantitative analysis shows changes in CKD-related activity, but these cannot be attributed directly to the utilities. Overall, the utilities are established within the system but not yet consistently embedded in routine care.

1.5 Principles for future practice

The evaluation findings highlight that the impact of the CKD utilities is not only a product of their functionality and widespread availability, but by how they are used and the extent to which they are embedded in practice. A consistent message emerges: where the utilities are clearly positioned, aligned to workflow and reinforced over time, they are more likely to support structured and consistent CKD care.

The following principles reflect this learning and are intended to guide future implementation and development. They are grounded in observed patterns of use and variation across practices.

Give the utilities a clear place within the clinical pathway

The role of the template should be explicitly defined within the CKD pathway and linked to specific points of care. Greater clarity on when and how the utilities should be used will support more consistent understanding and reduce variation in use.

Embed use through practical support and repeated application

Use of the utilities is strongest where it is reinforced through routine processes, such as structured reviews, and supported through ongoing implementation activity. Sustained use is unlikely to be achieved through initial roll-out alone and requires continued reinforcement within practice.

Align the utilities with meaningful clinical work and existing workflows

The utilities are most consistently used where they support tasks that are already part of clinical activity. Further development should prioritise alignment with consultation flow and routine processes, ensuring that the template adds value without duplicating existing work.

Make it easy to move from information to action

To support consistent use, the utilities should enable clinicians to move efficiently from prompts and information to appropriate action, including testing, coding and management decisions. Reducing friction at this point is key to embedding use within routine care.

Preserve CKD-specific functions within integrated care

As systems evolve towards more integrated templates and broader approaches to long-term condition management, it will be important to retain the specific functionality and focus of the CKD utilities. This will help ensure that improvements in CKD identification and management are sustained.

1.6 Principles for future evaluation

Future implementation programmes should be designed with evaluation in mind from the outset. This includes embedding evaluation planning into programme design, maintaining clear implementation records, identifying data requirements early, and ensuring systems include measurable markers of adoption and use. These foundations will support more robust assessment of implementation, utilisation and impact over time.

1.7 Limitations

This evaluation reflects a real-world intervention implemented across a complex and changing system. Variation in roll-out, local implementation and wider transformation and improvement activity means that changes in CKD-related care cannot be attributed to the utilities alone. The findings should therefore be interpreted as system-level learning, particularly in relation to implementation and use, rather than as a definitive measure of impact.

2. Introduction

2.1 Programme overview: NIPP CKD Utilities

CKD is a significant and growing population health challenge across NW London, closely associated with deprivation, multimorbidity, cardiovascular risk, and health inequalities. Despite established clinical guidance, CKD remains under-diagnosed and inconsistently managed in primary care, with variation in identification, coding, monitoring and treatment contributing to missed opportunities for early intervention and prevention of disease progression.

The NW London CKD utilities were developed through the National Insights Prioritisation Programme (NIPP), a national initiative designed to accelerate the adoption of data-driven innovations to improve patient outcomes and support service resilience. Locally, this work brought together partners including the Applied Research Collaboration (ARC) Northwest London, Imperial College Health Partners (ICHP), Imperial College Healthcare NHS Trust, the London Kidney Network, and AstraZeneca, alongside primary and secondary care clinicians and patients.

The programme followed a structured discovery, co-design, testing and implementation approach, using patient insight, clinician experience and population health data to identify key challenges in the early management of CKD and to co-develop practical solutions. The original programme aimed to improve identification and screening of patients at risk of CKD, increase accuracy of coding for patients with CKD stages 3-5, strengthen patient understanding and self-management, and support optimisation of CKD management in line with clinical guidelines.

One of the solutions developed through the programme was a digital CKD template embedded within EMIS and SystmOne, the two primary care clinical systems used across NW London, and provides real-time decision support within routine clinical workflows. The utilities are designed to support:

- Proactive identification of patients at risk of CKD
- Prompting of appropriate testing and monitoring, such as estimated glomerular filtration rate (eGFR) and urinary albumin-creatinine ratio (uACR) testing
- Improved completeness and accuracy of coding
- Structured, evidence-based management and annual CKD review processes

In NW London, the NIPP utilities toolkit was initially implemented in Ealing in 2023 through local CKD transformation funding. It was subsequently expanded across all NW London boroughs in April 2024 through the NW London CKD Enhanced Service Specification, supporting local adoption and implementation within primary care. Since their introduction and

gradual roll-out from 2023 onwards, early signs of increased activity (for example testing and coding activity) have been observed. However, prior to this evaluation there had been no formal system-wide assessment to understand how the utilities are being used in practice, the extent to which they are achieving the intended objectives, or how they are experienced by practice staff.

2.2 Evaluation purpose, rationale and aims

This evaluation has been commissioned by NW London Integrated Care Board (ICB) and delivered by ICHP, building on scope originally developed by the ARC. It is designed as a proportionate, mixed-methods evaluation of a live digital intervention, focussed on generating practical insight to inform improvement, sustainability, and future planning.

Given the growing strategic priority of CKD within wider CRM conditions prevention, it is important to understand how the NIPP CKD utilities are used in routine practice, and the factors that influence their effectiveness. While the utilities represent a promising digital intervention to improve CKD pathways, robust evidence is needed on their real-world adoption, usability and impact. Understanding variation across practices, including the barriers and enablers to optimal use, are critical for maximising impact, reducing unwarranted variation, and ensuring equitable benefit across NW London.

Scope

This evaluation focuses on the implementation, adoption, and early impact of the CKD utilities within primary care systems. It is important to note that this report does not provide a full evaluation of the patient-facing and staff-facing resources developed for, or embedded within, the CKD utilities template within EMIS and SystemOne. These elements are considered only insofar as they influence use of the utilities within clinical workflows.

Evaluation approach and aims

The evaluation uses a mixed-methods design, combining qualitative insights from primary care staff with quantitative analysis of routinely collected health data. The qualitative component explores how the utilities are being adopted, what is enabling or discouraging use and how they fit with day-to-day workflows in general practice. The quantitative component complements the qualitative findings through examining trends in identification, coding, testing and management of CKD over time using linked, de-identified patient-level data from across NW London.

The evaluation aims to provide practical system-focused learning on implementation and efficacy. Specifically, the evaluation aims to:

- **Understand adoption and use** by exploring how the utilities are being applied in everyday primary care settings, including variation in uptake across boroughs.
- **Identify enablers and barriers** by examining the organisational, behavioural, and technical factors influencing implementation, highlighting both good practice and common

challenges.

- **Assess usability and workflow fit** by reviewing the ease of use and integration of the utilities in EMIS and SystmOne with existing clinical workflows, identifying opportunities to improve functionality.
- **Quantify early impact** of the intervention by analysing trends in clinical practice and outcomes, including identification, coding, testing and management of CKD, recognising the phased introduction of the tools and associated methodological constraints.

2.3 Key evaluation questions

The evaluation addresses a set of interlinked qualitative and quantitative research questions, aligned to the overall aims of understanding adoption, implementation and early impact.

Qualitative Lines of Enquiry

Role and level of engagement	How different staff groups interact with the utilities and the extent of their involvement
Use in everyday practice	How and when the tools are used within routine clinical care
Usability and workflow integration	Perceptions of ease of use, fit with EMIS / SystmOne workflows, and impact on workload
Perceived benefits and impact	Perceived effects on patient care, clinical decision-making and practice processes
Enablers and barriers	Factors that support or constrain uptake, including training, system design, incentives and local context

Quantitative Lines of Enquiry

Testing and screening	How have annual CKD-related testing rates (eGFR and uACR) for high-risk groups in NW London changed since 2017?
Treatment and prescribing	How have annual prescribing rates for ACE inhibitors, ARBs and SGLT2 inhibitors changed in NW London since 2017?
Identification and coding	How has the annual CKD incidence rate in NW London changed and has the clinical coding of CKD improved since 2017?
Ongoing management	How many patients are receiving annual CKD reviews, and how has this changed since 2017?

3. Methods

3.1 Overall design

This evaluation uses a mixed-methods design, combining qualitative and quantitative approaches to examine the implementation of the NIPP CKD utilities and explore changes associated with their use across NW London. The evaluation design prioritised real-world feasibility, recognising the operational constraints of primary care settings and variation in local contexts across boroughs and practices. Given the phased roll-out of the utilities and the absence of a clearly defined implementation point, the evaluation does not intend to establish causal attribution for observed quantitative trends.

The qualitative component included semi-structured interviews with primary care staff, providing detailed insight into how the utilities are used in practice. It focused on user experience, how the utilities are integrated within clinical workflows, and the factors influencing adoption and variation in use. The quantitative component analysed routinely collected data to examine trends in CKD identification, coding, testing and management over time.

Findings from both components were brought together to support interpretation. Qualitative insights were used to contextualise observed quantitative trends, while quantitative findings provided a broader system-level view of change. Taken together, this approach enables robust inference on patterns of implementation and early outcomes, but does not aim to establish causal relationships.

3.2 Qualitative methods

Sampling and recruitment

A purposive maximum-variation sampling approach was used to select general practices across the eight NW London boroughs for qualitative fieldwork. The objective was to ensure that the sample captured meaningful variation in context and enabled exploration of how use of the CKD utilities differs across NW London.

The sampling frame included all NW London practices with complete data for key variables: borough, Primary Care Network (PCN), practice size (PCN-adjusted population), deprivation (percentage of patients in Index of Multiple Deprivation (IMD) deciles 1-2) and CKD prevalence (QoF 2025). A small number of atypical or non-standard providers (e.g. fully online, highly specialist or outlier sites) were also excluded where they were not comparable to standard general practice.

Practice deprivation, practice size and CKD prevalence were categorised into Low, Mid and High bands using NW London-wide tertile thresholds. Within each borough, practices were selected using a structured, rules-based approach designed to maximise variation. This

ensured representation across deprivation and size bands, inclusion of practices with differing levels of CKD prevalence, and a spread of recruitment across multiple PCNs. Where multiple practices met these criteria, selection prioritised those that increased overall variation.

The initial sampling strategy aimed to recruit five practices per borough. Due to practical challenges with engagement and recruitment, this was expanded to increase the pool of eligible practices. Final participation depended on practice staff availability and willingness to take part.

Data collection

A total of 21 in-depth video interviews were conducted with primary care staff, including practice and PCN clinical pharmacists, GPs and physician associates. Participants were drawn from 20 practices and 19 PCNs, covering seven of the eight NW London boroughs. The achieved sample included variation in practice size, CKD prevalence and percentage of residents living in the lowest IMD deciles 1-2. A summary of achieved sample characteristics is provided in the Appendix A.

3.3 Quantitative methods

Data sources and governance

This evaluation utilised de-identified electronic health records extracted from the Whole System Integrated Care (WSIC) dataset. Using a unique, de-identified patient key, it links primary and secondary healthcare records of approximately 2.8 million patients registered with a GP practice in NW London healthcare provider organisations, including more than 350 GP practices which continue to contribute data to the dataset¹. This evaluation extracted primary care data using selected Systematised Nomenclature of Medicine (SNOMED) codes, which is the primary clinical coding system. The use of Discover dataset for this evaluation was approved by the Data Access Committee on 19 February 2026.

All data outputs and presented results complied with WSIC extraction rules, with any counts of less than 5 suppressed.

Observation period

In the absence of a defined intervention start date, deidentified patient-level data from 1 Jan 2017 to 31 Dec 2025 were extracted to examine yearly trends, including the period from 2023 onwards when CKD tools likely began embedding into the clinical workflows. The effects of COVID-19 from 2019 to 2021 were annotated in plots, noting a potential increase in health events post-pandemic. Of note, this evaluation used calendar year for examining trends over

¹ Bottle, A., Cohen, C., Lucas, A., et al. (2020) 'How an electronic health record became a real world research resource: comparison between London's Whole Systems Integrated Care database and the Clinical Practice Research Datalink', BMC Medical Informatics and Decision Making, 20, Article 71. Available at: <https://doi.org/10.1186/s12911-020-1082-7>.

time.

Evaluation populations

Since this evaluation was unable to define a patient population when NIPP CKD utilities have been made available, all patients aged 18 or above who had registered with a general practice in NW London since 2017 were included throughout the study period. Mid-year patient population estimates were derived based on patient's registration status to calculate the standardised rate per 100,000 patients. Direct age standardisation was applied when appropriate. The 2024 mid-year population estimate for England and Wales was utilised as the standard population for adjustment, as 2025 estimates were not available as of 30 June 2026.

Some statistics were further broken down into the following patient subgroups as appropriate:

- **High-risk group:** Patients without diagnosed CKD but at elevated risk who would warrant CKD screening. This included patients with diabetes, hypertension or cardiovascular disease, as these conditions trigger annual eGFR/ uACR monitoring per guidelines. This cohort was relevant for evaluating improvements in screening uptake (ACR testing rates, etc.).
- **CKD patient group:** Patients who met CKD criteria, i.e. Patients had either two consecutive eGFR readings $< 60 \text{ mL/min/1.73m}^2$ or two uACR $> 3 \text{ mg/mmol}$ for ≥ 3 months, or had an existing CKD diagnosis.

Analysis and outcomes

The following evaluation questions were to explore the trends descriptively, with breakdown by demographic characteristics when appropriate (Table 1). All quantitative analyses were conducted in R (version 4.5.2) and RStudio (version 4.4.1) within an Azure Machine Learning environment.

- How has the annual CKD related testing rate for at-risk groups in NW London changed since 2017?
- How has the annual prescribing rates for ACEi/ARB or SLG-T2i in NW London changed since 2017?
- How has the annual CKD incidence rate in NW London changed since 2017? Has the clinical coding of CKD improved over the years?
- How many patients have undergone annual CKD reviews since 2017?

Secondary evaluation objectives, including pre-post analyses, were explored, though they were not examined since the intervention start date was unable to be established.

Table 1 List of demographic variables

Variable	Type	Details
Age at event / corresponding calendar year	Integer (years)	Used in categories (18-24, 25-44, 45-64, 65 or above) for demographic breakdowns.
Gender	Categorical	Used for demographic breakdowns and /or adjustment.
Ethnicity	Categorical	Board categories (Black/ Black British, Asian/ Asian British, Mixed, Other ethnic groups and White) used for demographic breakdowns.
Index of Multiple Deprivation (IMD) decile (2025)	Ordinal	Latest socioeconomic deprivation deciles based on the Lower Layer Super Output Area (LSOA) where a patient resided.
Borough	Categorical	The borough of the patient's GP practice.
Primary Care Network (PCN)	Categorical	The PCN of the patient's GP practice.

This evaluation utilised the latest available IMD (2025) decile, borough and PCN data since historical records were unavailable. Breakdown by these variables focused on the distribution in 2025.

Handling of invalid observations and missing values

Initial data exploration identified extreme or invalid clinical test values. These values were excluded based on the advice of the clinical leads to mitigate possible bias of measurement or data entry error. Some of the patients do not have demographic records, including ethnicity, IMD (2025) and deciles. The number of patients with missing values was reported in Appendix B.

3.4 Limitations

Qualitative limitations

There were limitations within the qualitative component that should be considered when interpreting findings. First, participation was voluntary and dependent on staff availability, which may have led to over-representation of practices or individuals with a particular interest in CKD or familiarity with the utilities. This may influence the balance of perspectives captured and perspectives may differ in settings not represented in the study. Second, the findings are based on self-reported experiences of use. These reflect how staff understand and describe their practice, rather than direct observation of behaviour within consultations. Additionally, participants were not always able to judge template usage by colleagues in other practices within their PCN. Where PCN-level variation was described, it was often linked to differences in local leadership, ownership, shared expectations or the extent to which practices had incorporated the template into their own processes.

Finally, as with all qualitative research, the findings are intended to provide depth of insight

rather than statistical generalisability, supporting interpretation of patterns and variation identified through the wider evaluation rather than representing all practice contexts.

Quantitative limitations

There were several important limitations to the quantitative evaluation. The roll-out date of the CKD utilities could not be clearly defined, and it was not feasible to identify which patients' records were entered using the new template, or which practices had adopted the utilities at any given point in time. As a result, a pre- and post-analysis could not be carried out and the observed trends should be interpreted only as indicative findings. In addition, eGFR and uACR results were recorded in different units throughout the observation period. Although this evaluation converted some test results to maintain consistency, data entry errors were still likely. Some test results also contained invalid values, such as negative eGFR results, and were therefore excluded from the evaluation.

Finally, the roll-out of CKD utilities has overlapped with the implementation of Harrow CRM clinics, a proactive primary care model that provides holistic risk assessment, lifestyle support, medicines optimisation and health coaching to identify and manage patients at risk of cardiovascular, renal and metabolic disease at an earlier stage. This model is likely to have provided an additional incentive for PCNs in Harrow to deliver more proactive care, including CKD testing, coding and prescribing activity.

4. Findings

This chapter presents four interrelated findings concerning how the CKD utilities are used, what influences adoption, and how they contribute to CKD care. Together, the findings show that use is concentrated among staff with dedicated CKD responsibilities, that the utilities add most value when embedded within structured workflows, that successful adoption depends on local implementation conditions, and that perceived impact is closely linked to wider CKD improvement activity. Throughout this chapter, qualitative findings are interpreted alongside routine data analysis to provide a combined indication of implementation, adoption and early signals of impact.

4.1 Use is concentrated among staff with dedicated CKD responsibilities

Roles involved in CKD care

Participants' use of the CKD template was shaped less by professional title alone than by how responsibility for CKD care had been organised within their practice. Those with clearly allocated responsibility for reviews, coding or monitoring encountered the template as part of an established workflow, while others came across it more selectively through wider clinical work.

Some participants had clearly defined responsibility for structured CKD work, including annual reviews, coding, monitoring and enhanced service delivery. This included clinical pharmacists, physician associates and GPs with a specific CKD or chronic disease role. For these staff, the template was not experienced as a standalone resource but as part of an established process for reviewing results, confirming stage, recording activity and planning follow-up. Its value was closely connected to the way CKD work had already been organised around them.

“ We recall all our CKD patients once a year, make sure their monitoring is in place and then complete the full annual review using the template. I pretty much follow it from start to finish.

Clinical pharmacist

Other participants encountered CKD more selectively through routine results review, diabetes or hypertension reviews, medication queries or opportunistic consultations rather than through dedicated CKD clinics or annual review work. In these accounts, CKD was one part of a broader general practice workload, and the template was less likely to be described as a routine consultation tool. Some clinicians remained responsible for reviewing results, making treatment decisions or overseeing care, while the more structured template-based work had been delegated to another member of the team. Limited template use therefore did not necessarily reflect limited involvement in CKD care, but differences in how responsibilities had been organised within practices. As a result, differences in perception of the utilities often

reflected differences in exposure and responsibility, rather than differences in opinions about the utilities themselves.

Levels of familiarity and experience

Familiarity with the CKD template was closely tied to repeated use. Staff who regularly completed CKD reviews, monitoring or coding tended to describe it as familiar and easy to navigate, with confidence developing through recurring usage rather than formal training alone. Some had used it extensively since joining their practice, since its initial roll-out or since CKD became more prominent within the enhanced service work. For these participants, the template had become part of the normal sequence of CKD work.

Familiarity was less consistent among staff who encountered CKD more intermittently. Some participants used the template only in specific circumstances, such as when reviewing abnormal results, updating CKD coding or completing a review outside a live consultation. In one case, a participant with CKD-related responsibilities had not previously opened the template and was unaware of its existence. This suggests that organisational availability does not necessarily translate into practical embedding across the wider workforce.

Familiarity was strongest where the template had a clear place within an established process, such as annual review, proactive monitoring, audit or enhanced service delivery. Where CKD arose incidentally during short appointments or alongside other clinical priorities, opening the template required a more deliberate interruption to the consultation and was therefore less likely to become habitual. This distinction is important because positive views of the template among regular users should not be taken as evidence that the template was equally visible or familiar across the wider workforce.

Training, guidance and learning through use

Participants rarely described a formal training pathway into use of the template. Instead, their confidence developed through a mixture of formal support, informal instruction and repeated use within their role. Some recalled formal or semi-formal support, including roll-out webinars, specialist renal input, demonstrations and supervised practice. Others did not describe having

“ I started by shadowing GPs using the template, then had some of my first reviews overseen by the clinical lead. I also attended a webinar, but it was really that hands-on experience and supervision that built my familiarity and confidence.

Clinical pharmacist

had formal training and rather informal demonstrations from colleagues, finding the template themselves or learning through repeated use. This did not necessarily prevent users from becoming confident, because repeated practical use often compensated for limited formal instruction. However, it made successful adoption more dependent on local colleagues' ability to act as 'champions', individual initiative and whether someone had a role that required them to use the template frequently.

This approach worked reasonably well for those with regular CKD responsibilities but offered

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less protection against gaps in awareness among staff who encountered CKD less often, creating a risk that awareness and expertise remained concentrated among a relatively small group of regular users.

4.2 The utilities add most value when embedded within structured CKD workflows

Main use cases: annual review, coding, monitoring and results review

The CKD template was used primarily at points where CKD care needed to be converted into a structured and recordable process. Participants most commonly opened it when completing an annual review, confirming or updating a diagnosis, responding to abnormal results or deciding what monitoring and follow-up were required. Although these activities took place at different stages of care, they shared a need to bring together clinical information, interpret it and record clinical decisions clearly and consistently.

The template was therefore most embedded where CKD work had a defined purpose and endpoint. It was less a general source of information that clinicians consulted whenever CKD was mentioned than a working tool used when a patient's CKD status needed to be formally reviewed, classified or acted upon.

“ I have seven or eight CKD reviews booked most days, and the template guides me through the whole review — the coding, blood pressure, lifestyle, medication, what I've discussed with the patient, the care plan and when they need to be reviewed again.

Clinical pharmacist

Annual reviews provided the clearest example of workflow integration. They created a planned point at which results, staging, medication, risk factors and follow-up could be considered together, and the utilities provided a structure for completing and recording that work. This was particularly evident in practices where annual CKD reviews had been allocated to pharmacists or other staff with specific CKD responsibilities. These accounts are broadly consistent with the quantitative findings showing increasing rates of coded annual CKD review activity (Figure 1), although attribution is not possible as

reviews prior to implementation of CKD utilities may not have been fully captured under the standardised clinical code.

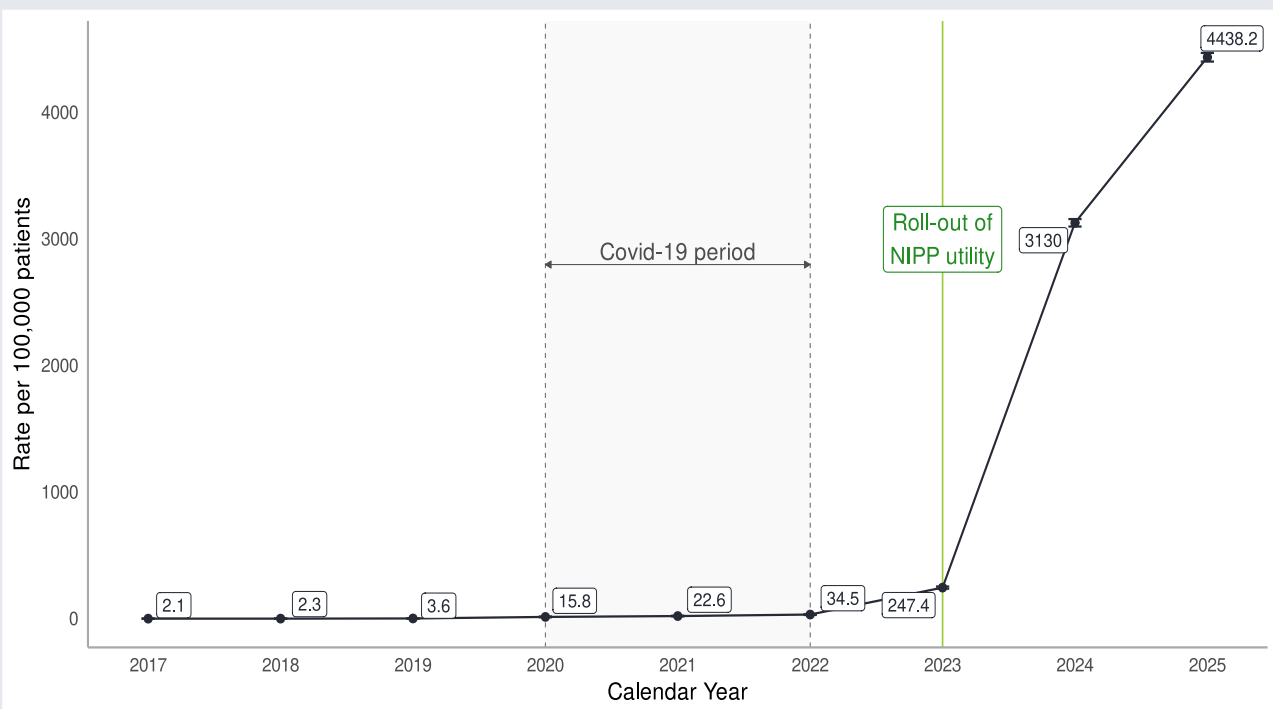


Figure 1 Age-standardised rate of patients with an annual CKD review record per 100,000 patient population

Coding and results review were often connected parts of the same process rather than separate uses of the template. Abnormal or changing eGFR and ACR results brought CKD into view, but the template became most useful once a clinician needed to interpret what those results meant for diagnosis, stage and subsequent management. It supported movement from recognising a possible problem to recording a more specific CKD classification and deciding whether repeat testing, review or treatment action was needed. Quantitative findings also showed CKD testing rates have increased steadily across all genders and ethnic groups (Figures 2 - 4) from 2023 onwards, following the initial roll-out period. These trends are consistent with participants' descriptions of more systematic review and follow-up processes, although they cannot be directly attributed to the utilities alone.



Quantitative data show increased testing activity from 2023 onwards; qualitative interviews suggest the utilities were rarely the sole mechanism for identifying patients, but helped clinicians act once abnormal results, searches or reviews brought CKD into view.

This distinction is important because the template did not usually identify patients independently. Participants more often described patients coming to attention through laboratory results, searches, audits, health checks or reviews for related conditions. The template then helped clinicians make sense of that information and translate it into a coded and documented response. Its principal role at this stage was therefore to structure action following identification, rather than to act as the sole mechanism through which CKD was detected.

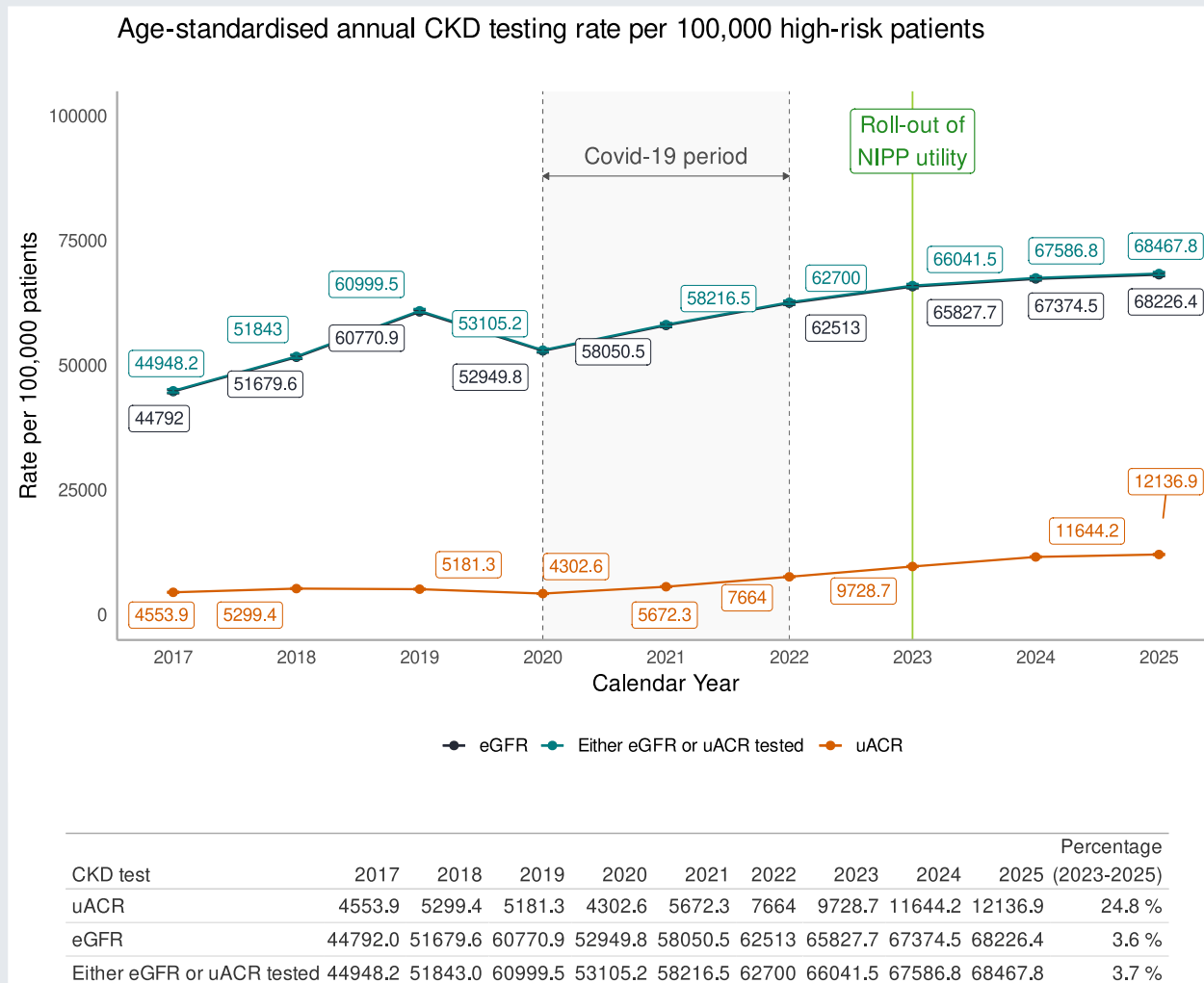


Figure 2 Annual CKD testing rate per 100,000 high-risk patients

A steady increase in annual CKD testing rate was observed between 2023 and 2025, a period that included the introduction of the NIPP CKD utilities. The annual uACR testing rate increased by 24.8% from 9,728.7 per 100,000 high-risk patients in 2023 to 12,136.9 in 2025. This upward trend is likely to continue, given that the 2026/27 Quality and Outcome Framework² encourages uACR measurement to facilitate early detection.

² NHS England (2026) Quality and Outcomes Framework guidance for 2026/27.

Available at: [Quality and Outcomes Framework guidance for 2026/27](#) (Accessed: 27 April 2026)

Age-standardised annual CKD testing rate per 100,000 high-risk female patients

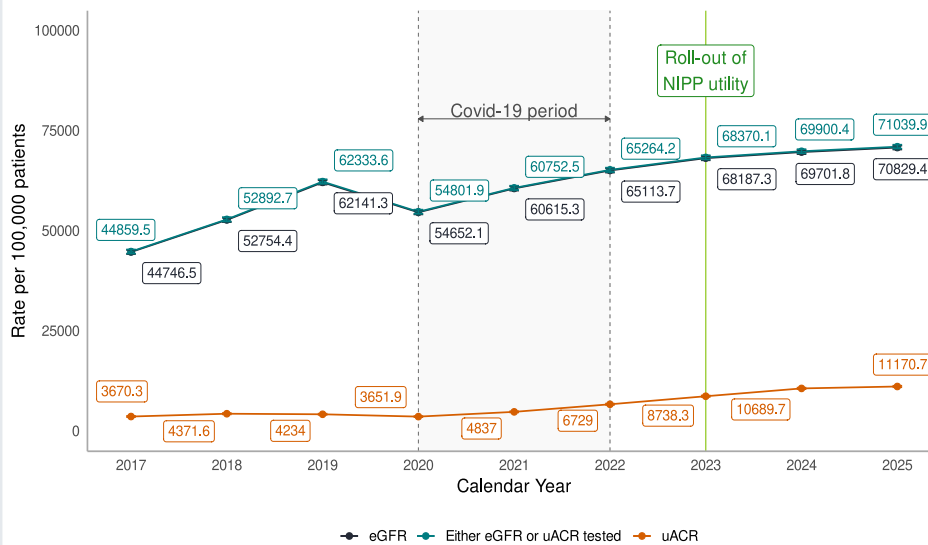
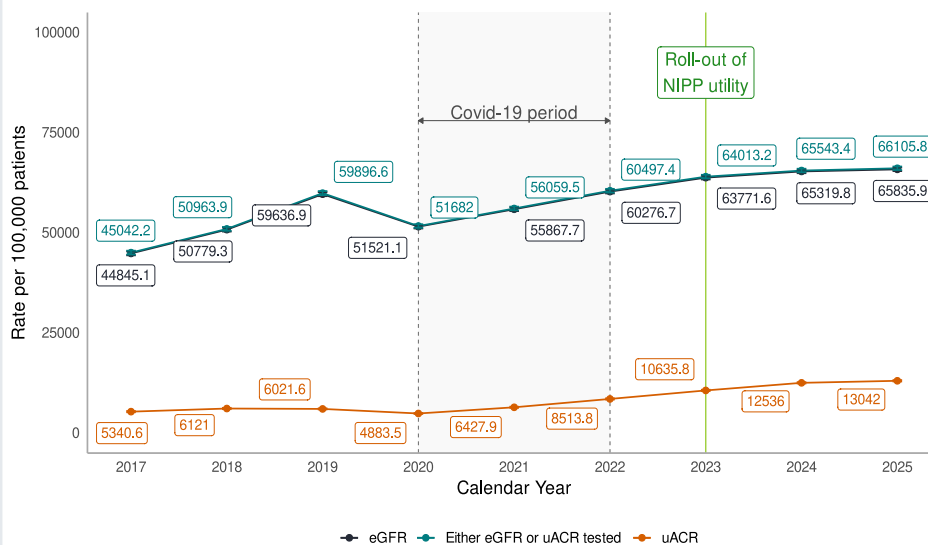


Figure 3 Age-standardised annual CKD testing rate per 100,000 high-risk patients by gender

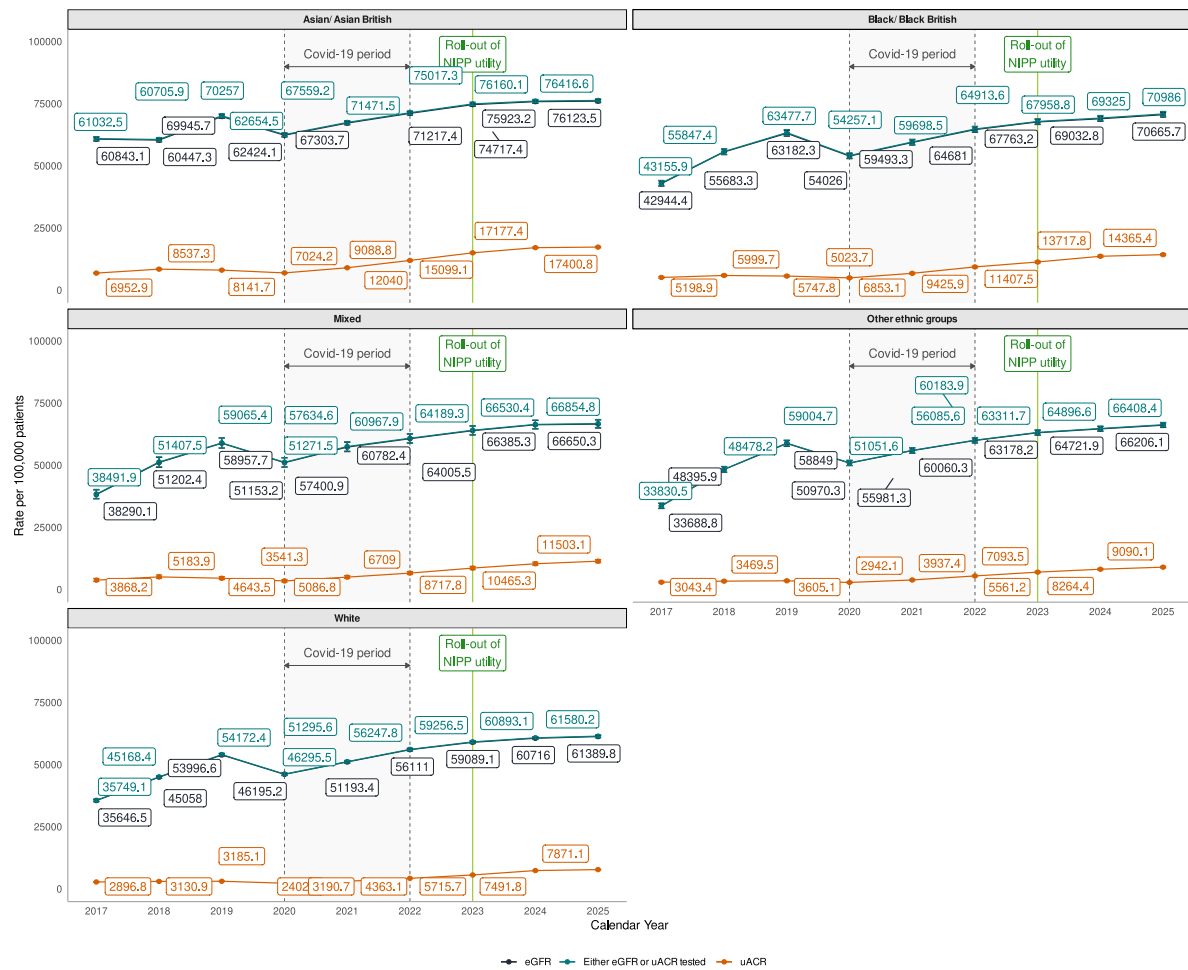
A steady increase in annual CKD testing rate was observed among all genders during a period that included the introduction of NIPP CKD utilities in 2023, with 3.9% and 3.3% increases in female and male patients respectively.

CKD test	2017	2018	2019	2020	2021	2022	2023	2024	2025	Percentage (2023-2025)
uACR	3670.3	4371.6	4234.0	3651.9	4837.0	6729.0	8738.3	10689.7	11170.7	27.8 %
eGFR	44746.5	52754.4	62141.3	54652.1	60615.3	65113.7	68187.3	69701.8	70829.4	3.9 %
Either eGFR or uACR tested	44859.5	52892.7	62333.6	54801.9	60752.5	65264.2	68370.1	69900.4	71039.9	3.9 %

Age-standardised annual CKD testing rate per 100,000 high-risk male patients



CKD test	2017	2018	2019	2020	2021	2022	2023	2024	2025	Percentage (2023-2025)
uACR	5340.6	6121.0	6021.6	4883.5	6427.9	8513.8	10635.8	12536.0	13042.0	22.6 %
eGFR	44845.1	50779.3	59636.9	51521.1	55867.7	60276.7	63771.6	65319.8	65835.9	3.2 %
Either eGFR or uACR tested	45042.2	50963.9	59896.6	51682.0	56059.5	60497.4	64013.2	65543.4	66105.8	3.3 %



Age-standardised annual uACR testing rate per 100,000 high-risk patients by ethnicity

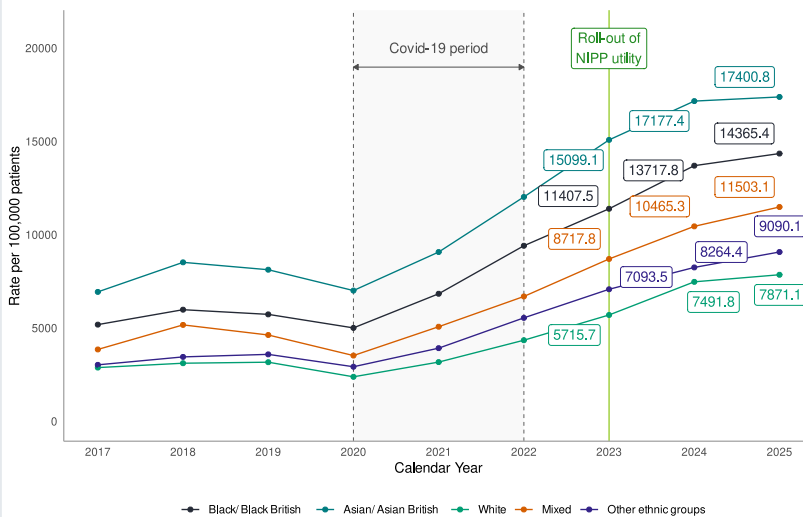


Figure 4 Age-standardised annual CKD testing rate per 100,000 high-risk patients by ethnicity

A steady increase in annual CKD testing rate was observed across all ethnic groups during the period following introduction of the NIPP CKD utilities in 2023. The largest increase was seen in other ethnic groups, with a 4.9% rise from 2023 to 2025, followed by Black/ Black British at 4.5%, and mixed ethnicity at 4.2%.

For uACR testing rate, the white ethnic group recorded the biggest increase since 2023 at 37.7%, followed by mixed ethnicity at 31.9% and other ethnic groups at 28.1%.

Ethnicity											Percentage
	2017	2018	2019	2020	2021	2022	2023	2024	2025	(2023-2025)	
Black/ Black British	5198.9	5999.7	5747.8	5023.7	6853.1	9425.9	11407.5	13717.8	14365.4	25.9 %	
Asian/ Asian British	6952.9	8537.3	8141.7	7024.2	9088.8	12040.0	15099.1	17177.4	17400.8	15.2 %	
White	2896.8	3130.9	3185.1	2402.8	3190.7	4363.1	5715.7	7491.8	7871.1	37.7 %	
Mixed	3868.2	5183.9	4643.5	5086.8	6709.0	8717.8	10465.3	11503.1	11503.1	31.9 %	
Other ethnic groups	3043.4	3469.5	3605.1	2942.1	3937.4	5561.2	7093.5	8264.4	9090.1	28.1 %	

Routine, selective and opportunistic use

Use differed according to whether CKD work formed part of a planned and recurring workflow or arose incidentally within wider clinical care. Routine use was most evident among staff responsible for annual CKD reviews, coding, monitoring or audit activity, where opening the template was not a separate decision but was the expected route for completing and recording CKD work.

Where clinicians encountered CKD through abnormal results, medication review or care for another long-term condition, the template was more likely to be used when a more structured assessment or recording process was needed. This was particularly evident during diabetes or hypertension work, where changes in renal function, urine results, blood pressure or medication could prompt a closer review of CKD status. Selective use in these circumstances did not necessarily indicate weak adoption. For clinicians whose role was not centred on planned CKD reviews, it often reflected the point at which the template became relevant within a broader clinical workload.

“ If someone comes in with back pain and I notice their CKD review is overdue, I might use the template then. But it is difficult in practice because they have come in for something else, there are often several outstanding indicators and you are very time pressured.

GP

Opportunistic use was concentrated among a smaller number of confident users and was less consistently embedded than use within planned reviews. Participants might open the template where a consultation revealed abnormal results, an overdue review or a need to explain CKD, but it was rarely prioritised during short or acute appointments where CKD was peripheral to the reason for contact. The barrier was therefore not simply awareness: using the template opportunistically required the clinician to recognise its relevance and judge that the additional

structure justified interrupting an already time-pressured consultation.

Variation in use across roles and practices

As discussed in section 4.1, consistent use depended less on professional role than on whether responsibility for structured CKD work had been clearly allocated. Use was typically concentrated among staff responsible for reviews, coding, audit or monitoring, particularly clinical pharmacists and designated CKD leads. This often resulted in high levels of consistency within CKD workforce but much greater variation across the wider practice workforce.

Use among GPs was more variable because the template occupied a less consistent place within their broader clinical workload. Partners and GPs with responsibility for CKD, chronic disease management or enhanced service delivery were often regular users, while others opened it mainly when results, coding or a related long-term condition brought CKD into focus. Some continued to manage CKD through clinical judgement and free-text recording without routinely using the template. Variation in GP use therefore reflected both differences in

responsibility and the absence of a shared expectation that every CKD-related contact should be completed through the template.

Practices with established CKD review processes often described the template as a standard part of those workflows. However, this did not always mean it was used consistently across the wider practice or PCN. In several accounts, use was concentrated among pharmacists, CKD leads or particular partners, but not embedded across the wider clinical team, with other clinicians using free text or only opening the template when a specific need arose.

These variations in clinical practice also contributed to observed geographic and socioeconomic differences in CKD testing rate (Figures 5-7). For instance, despite an overall improvement, some general practices that ordered fewer uACR tests also served more socioeconomically deprived populations (Figure 5).

“ I use it every day, but I know other people do not. It is straightforward for planned CKD work because everything you need is there, but if someone is booked for another type of review, clinicians do not necessarily think to open a separate CKD template as well.

Physician associate

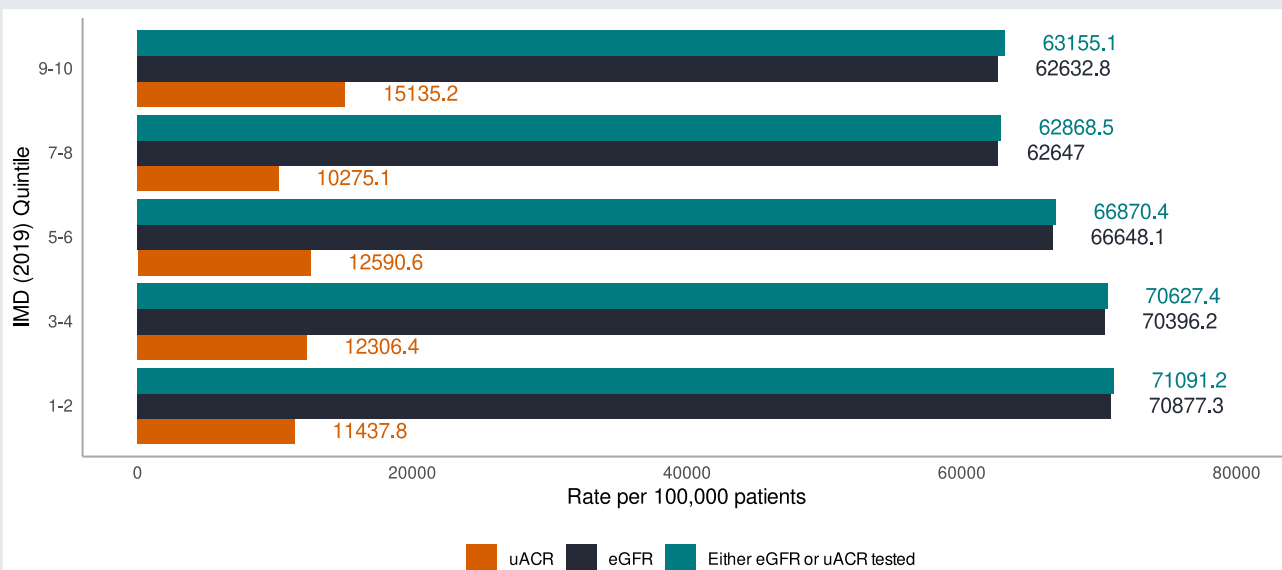


Figure 5 Age-standardised CKD testing rate per 100,000 high-risk patients by IMD (2025) Quintile in 2025
(Decile 1 is the most deprived; decile 10 is the least deprived.)

In 2025, high-risk patients from the most deprived groups (deciles 1-4) received either eGFR or uACR test. In contrast, patients from the least deprived groups (deciles 9-10) had a higher uACR testing rate compared to those in the more deprived groups.

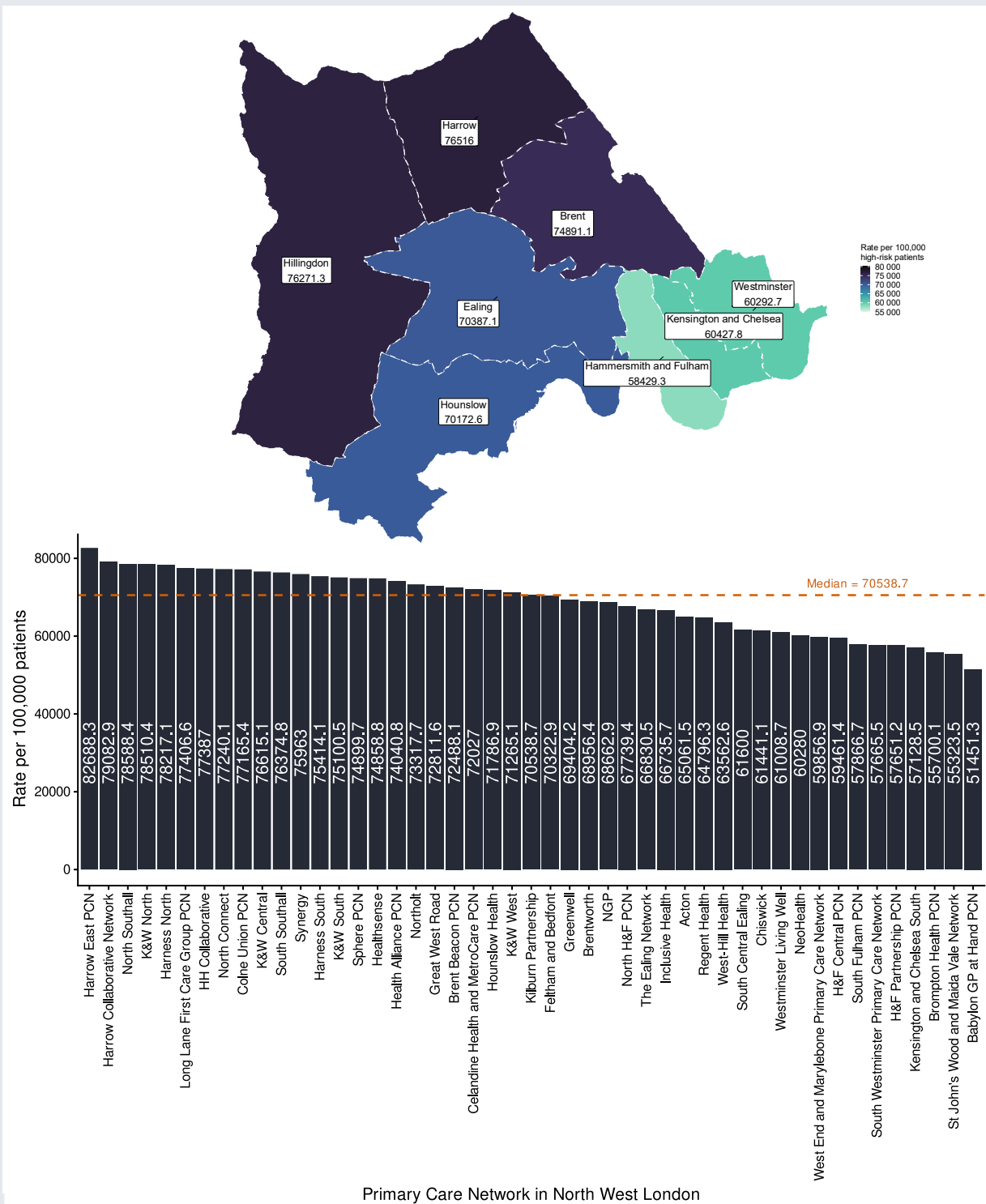


Figure 6 Age-standardised CKD testing rate per 100,000 high-risk patients by Health Borough in 2025 (Top)
 In 2025, Harrow had the highest age-standardised CKD testing rate with 76,516 per 100,000 high-risk patients, followed by Hillingdon and Brent with 76,271.3 and 74,891.1 per 100,000 high-risk patients respectively. It is to note that a cardiovascular-renal-metabolic clinic intervention has been implemented in Harrow since November 2024, which may offer further incentives to proactively test high-risk patients for CKD conditions.

Figure 7 Age-standardised CKD testing rate per 100,000 high-risk patients by Primary Care Network in 2025 (Bottom)
 Harrow East PCN, Harrow Collaborative Network, North Southall, K&W North and Harness North were the five PCNs with the highest age-standardised CKD testing rates per 100,000 high-risk patients.

4.3 Successful adoption depends on local ownership, support and workflow alignment

Awareness, training and local embedding

The CKD template was most successfully embedded where practices had translated its availability within the clinical system into a clear expectation about who should use it, when it should be opened and how it fitted within the wider CKD process. Where the template was visible, easy to find and linked to established review or coding processes, its use became part of completing the work rather than an additional activity competing for attention.

Local leadership and peer reinforcement helped make the template visible and gave staff a practical route into using it. Clinical pharmacists, GP partners and other clinicians acted as informal champions by showing colleagues where to find it, explaining when it was relevant and incorporating it into existing ways of working. This appears to have been particularly important where formal training was limited, because staff could draw on support from someone who understood both the template and how CKD work was organised locally.

However, reliance on local champions could also leave use concentrated among a relatively small number of staff. Where knowledge and responsibility sat mainly with a pharmacist, CKD lead or particular partner, the template could be well established within the review process without being equally familiar across the wider clinical team.

As discussed previously, participants had reached confident use through a mixture of roll-out webinars, specialist input, colleague demonstrations and learning through practice rather than through a consistent training pathway. For implementation, the important distinction was not simply whether formal training had been provided, but whether staff subsequently had opportunities and reasons to apply what they had learned.

“ The template is easy to find, and our practice manager created a shortcut so we can bring it up quickly. We also discuss our experiences in practice meetings and update each other, so over time it has become part of how we work.

GP

Repeated use, clear responsibility and access to local support allowed confidence to build over time, while staff who encountered CKD less frequently could remain unaware of the template even when it was well established among colleagues. This created a self-reinforcing pattern in which those already responsible for structured CKD work became increasingly confident users, while those outside those processes had fewer opportunities to become familiar with it.

Incentives and enhanced service requirements

Incentives and enhanced service requirements influenced not only whether the template was used, but how CKD work was organised and prioritised within practices. Financial incentives, QOF and enhanced service requirements gave practices a clearer reason to identify eligible

patients, allocate staff time and record activity in a way that could be counted.

The template provided the mechanism through which this work could be recorded consistently and evidenced, including completion of reviews, updating of coding and achievement of enhanced service requirements. In some practices, this created a close relationship between the incentive and the template: the incentive generated the activity, while the template made that activity visible and countable. Use could therefore increase around reporting periods or deadlines, when practices had a stronger reason to ensure that eligible work had been completed and coded.

Participants differed in how they interpreted this relationship. Where the enhanced service had enabled practices to allocate staff time, carry out searches or establish a more systematic review process, incentives were seen as creating the capacity needed to improve CKD care. Where the emphasis was primarily on completing fields or securing payment, the same process could be experienced as a tick-box exercise. The difference was therefore not simply whether incentives were present, but whether the activity they generated remained connected to a wider clinical purpose. This distinction matters for interpreting later findings on value, because the perceived impact of the template was often difficult to separate from the wider enhanced service context in which it was used.

Workflow fit, usability and system integration

Once staff knew where to find the CKD template and had become familiar with its structure, most described it as straightforward to use. Regular users particularly valued the way it brought the information and recording functions needed for CKD care into one place, reducing the amount they had to locate elsewhere in the record. This was particularly valued in structured reviews, where clinicians needed to see results, staging, coding options, review fields and prompts without moving repeatedly across the patient record.

“ It brings the results, CKD stage and care plan together on one page, with links to the guidance if you need them. You can also see the trends and whether the patient’s kidney function is stable or progressing.

Clinical pharmacist

The template fit most naturally into planned CKD work where its structure broadly followed the sequence of the task and helped clinicians move from reviewing information to recording a decision or plan. In these contexts, participants often described the template as supporting rather than disrupting the task. It helped clinicians organise the review, check relevant information and reduce reliance on memory or free-text notes.

The fit was less straightforward in time-pressured or more complex consultations. Some participants said they were less likely to open the template during short or acute appointments, especially where CKD was not the main reason for the consultation, due to time constraints and competing priorities. Others described needing to move between the template and other parts of the clinical record, including test results, medication records, patient notes or referral

pathways. The difficulty in these circumstances was therefore less about the usability of the template itself than the additional steps involved in bringing it into a consultation that was already shaped by limited time and competing clinical priorities.

Across both EMIS and SystmOne, participants generally felt that the template integrated well with the wider clinical record, particularly where results and previous information populated automatically or could be viewed alongside staging, coding and review fields. Experiences appeared to be shaped more by familiarity with the local workflow than by either clinical system being consistently easier to use. Several participants valued the way relevant test results appeared automatically within the template or could be used alongside it. Some also described movement between the template and other parts of the patient record as straightforward once they were familiar with the workflow.

The integration issues participants raised were more specific. Some wanted clearer visibility of particular test results, better links to medication information or renal referral pathways, or easier ways to record plans without duplicating work in the notes. A smaller number raised uncertainty about when to code patients and having to complete fields without fully understanding the implications.

“ The template brings most things together, but you cannot see the patient’s medication without leaving it. I have to come out, check the repeat medication on another screen and then go back into the template.

GP

CKD template use alongside CRM template

As practices moved towards the CRM template, developed as part of the Harrow CRM clinic model and newer enhanced service requirements, the standalone CKD template no longer occupied the same clear place within the workflow. The CRM model promotes integrated reviews across cardiovascular, renal and metabolic risk factors through a single patient-centred consultation, bringing together assessment, prevention and long-term condition management activities that were previously delivered separately. Some participants had stopped using the CKD template almost entirely, while others continued to open it alongside the CRM template because they felt the broader template did not cover all the CKD-specific work they still needed to complete.

Some participants continued to value the CKD template because it retained a clear focus on staging, coding and annual review requirements. Compared with CRM, it was often described as shorter, more focused and easier to fit into a CKD consultation. Their concern was not simply that CRM contained less detail, but that CKD had become one element within a much broader process and could therefore receive less attention or be completed less systematically.

Where CRM had become the focus for the current service period, participants were not always clear whether the standalone CKD template should still be used, which elements were duplicated across the two templates or where particular activity should be recorded. In some

practices, this had led to the CKD template being used only when staff felt CRM was insufficient, while elsewhere practices had begun adapting or developing their own local approaches. The transition therefore risked replacing one relatively clear CKD workflow with a less consistent combination of overlapping templates and local workarounds.

Participants recognised the clinical logic of bringing CKD into a more holistic cardiovascular-renal-metabolic approach, particularly because renal function, diabetes, hypertension, cardiovascular risk and medication decisions often needed to be considered together. A more integrated process could reduce duplication and avoid asking patients to attend separate reviews for closely related conditions. However, participants' accounts suggest that integration will only improve workflow if information flows across the different elements of care rather than simply adding further sections or templates to an already time-pressured process. They were particularly concerned that the structured staging, coding and monitoring functions of the CKD template should not become less visible as the scope of the review widened.

Participant suggestions for template improvement

Participants' suggestions were generally aimed at helping the template work more consistently within existing practice processes, rather than fundamentally redesigning it. Many suggestions related to awareness and local embedding, including showing staff where the template was located, explaining when it should be used and reinforcing this through practice or PCN meetings.

“ I would definitely like the patient resources to be available in different languages, particularly because of the area and the communities we work with.

Clinical pharmacist

Suggestions for refinement of the template or its surrounding workflow focused on reducing uncertainty at the point where information needed to lead to action. This included clearer guidance on coding borderline or changing results, a clearer distinction between essential and optional fields, more direct links to renal referral pathways and better visibility of relevant results and medication

information. Some also wanted patient-facing materials that were easier to use with different patient groups, including resources in a wider range of languages.

Discussions about future development increasingly focused on the transition towards integrated CRM pathways. Participants consistently emphasised the importance of retaining the functions they valued in the CKD template, including preserving CKD-specific coding, annual review fields and management prompts, while also reducing duplication between templates and making it clearer which process staff were expected to follow. For some, the priority was therefore not further refinement of the standalone CKD template, but ensuring that the transition to CRM did not recreate variation or make CKD work less visible.

4.4 The utilities support more consistent CKD care, but wider system factors drive impact

Perceived value to coding, staging and structured review

Participants most consistently described the value of the CKD template in relation to coding, staging and structured review. Rather than introducing an entirely new approach to CKD care, it made existing information easier to interpret and act on by bringing results, coding options and review prompts into a single process. Its value was therefore greatest where clinicians would otherwise have needed to search across the record, consult external guidance or rely on memory.

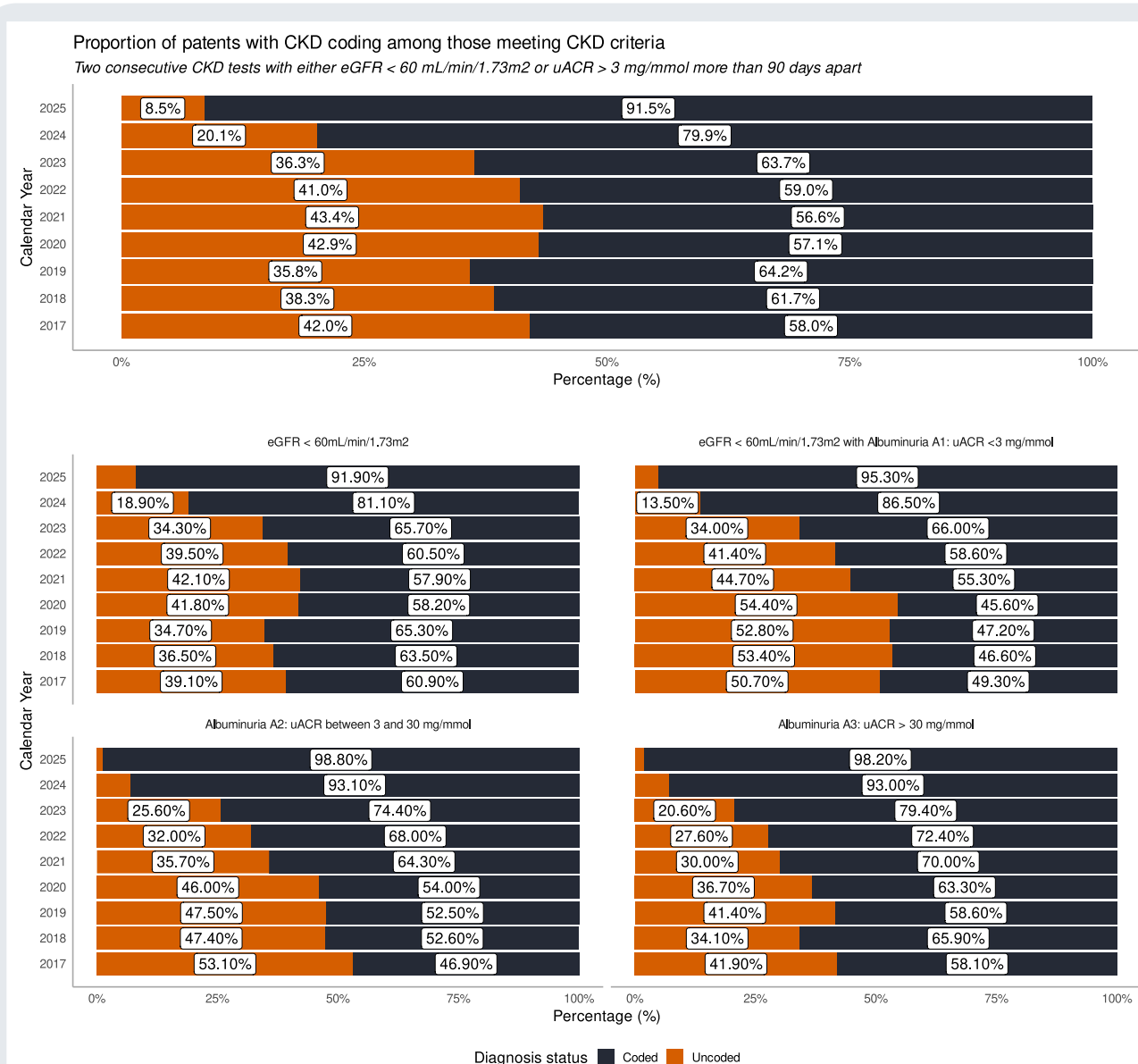


Figure 8 Proportion of patients with CKD coding among those meeting CKD criteria

During the period following introduction of NIPP CKD utilities in 2023, the proportion of patients coded with CKD has increased among those who met CKD criteria. While the level of uncoded patients remained similar to the pre-Covid period in 2023, it dropped to 8.5% in 2025. In particular, the proportion of patients with two consecutive uACR test results over 3 mg/mmol who were not coded with CKD decreased from above 20% in 2023 to less than 2% in 2025.

Coding was one of the clearest and most directly attributable areas of benefit. Participants described the template as helping them move from broad or incomplete CKD codes to more specific classifications based on both eGFR and ACR, without having to remember categories or consult external staging tables. This was particularly important where patients had abnormal eGFR or ACR results, where coding had previously been broad or incomplete, or where a review needed to be recorded for enhanced service purposes. For some participants, the template made coding quicker and more accurate because the relevant categories and codes were visible within the same workflow. Quantitative findings also showed improved CKD diagnosis coding, with the proportion of uncoded CKD patients dropping significantly after the introduction of CKD utilities (Figure 8). This may also attribute to the steeper upward trends in annual incidence and prevalence rates of coded CKD cases since 2023 (Figure 9 and 10).

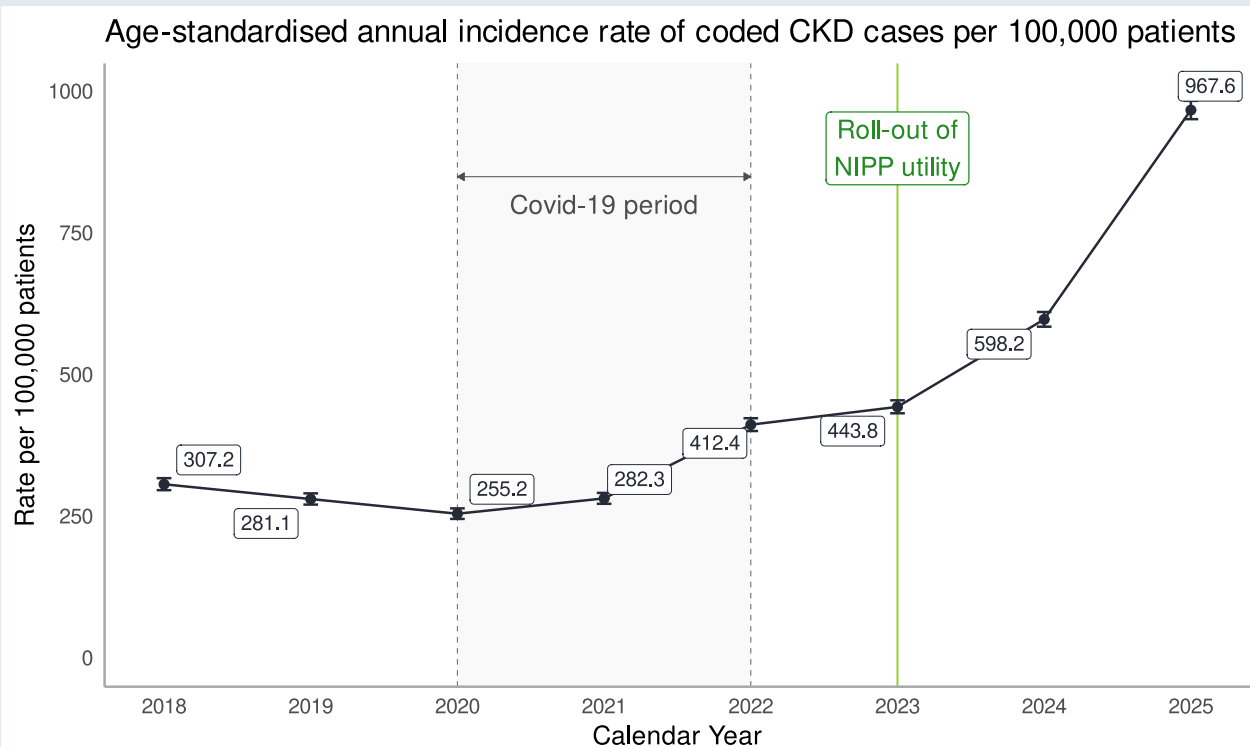


Figure 9 Age-standardised annual incidence rate of coded CKD cases per 100,000 patients
 Since the introduction of the NIPP CKD utilities, the age-standardised annual incidence rate of coded CKD cases per 100,000 patients has increased from 443.8 in 2023 to 967.6 in 2025.

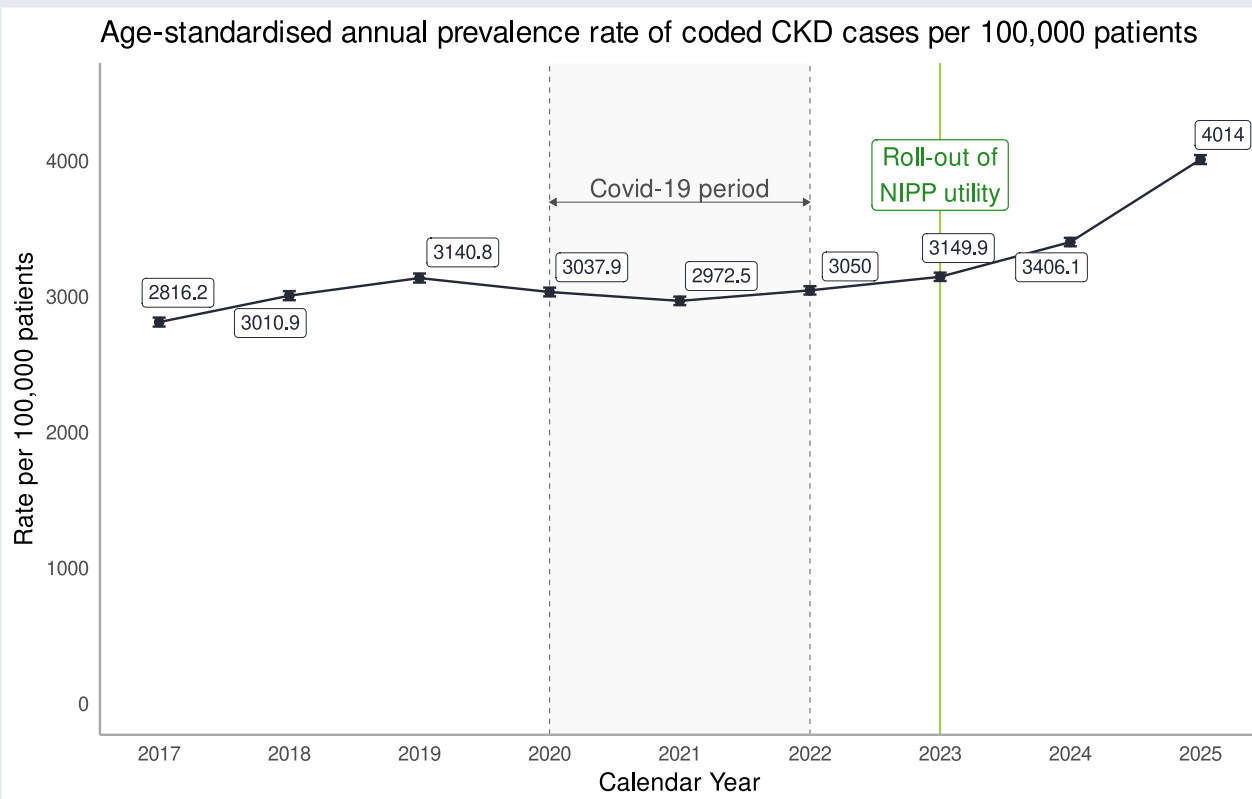


Figure 10 Age-standardised annual prevalence rate of coded CKD cases per 100,000 patients
Following the introduction of the NIPP CKD utilities, the age-standardised annual prevalence rate of coded CKD cases per 100,000 patients has increased by 28.0%, rising from 3,149.9 in 2023 to 4,014 in 2025.

More specific staging also had value beyond the accuracy of the code itself. By making both kidney function and albuminuria visible within the classification, the template gave clinicians a quicker indication of the patient's level of risk and made CKD status more intelligible to colleagues viewing the record later. In this sense, staging acted as a link between the underlying results and subsequent decisions about monitoring, medication or follow-up, rather than being solely an administrative recording exercise.

The template was also valued as a structure for annual reviews. Participants described it as helping them work through the relevant elements of CKD management, including blood and urine results, CKD category, medication considerations, care planning and follow-up. For regular users, this structure reduced the need to piece together information from different parts of the record or remember each element of the review unaided. It also created a clearer record of what had been considered, what action had been taken and what still required follow-up, making the review easier for other members of the team to understand and continue. This value appeared strongest among staff who carried out CKD reviews frequently, particularly clinical pharmacists and others with defined CKD responsibilities.



Quantitative data show improvements in coding completeness; qualitative interviews provide a plausible mechanism, with staff describing the template as making eGFR/ACR-based coding and staging more visible and easier to complete.

How the template supports prioritisation, risk awareness and treatment decisions

“ It helps you identify which stage someone is at because it gives you the thresholds for both eGFR and urine ACR. They are visible on the first page, alongside the other information you need, so it is much easier to understand the patient’s CKD.

GP

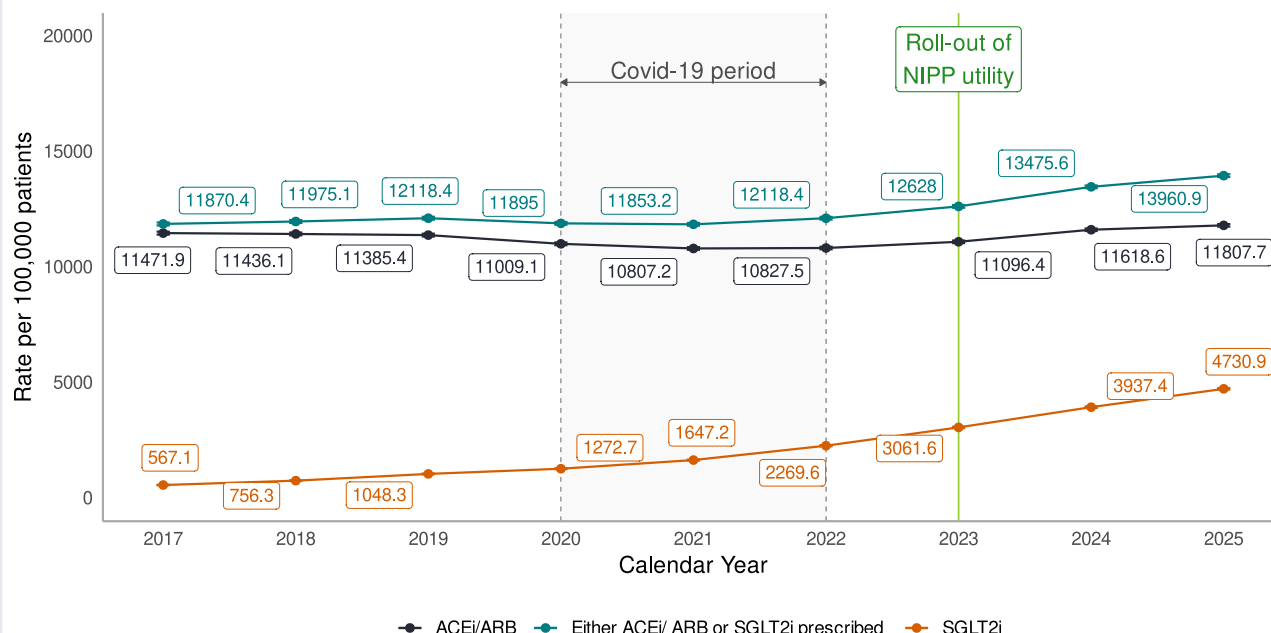
The template’s contribution to prioritisation, risk awareness and treatment decisions was less uniform than its contribution to coding and structured review. Participants generally described it as helping clinicians interpret and act on information that was already available, rather than independently identifying risk or directing management. By bringing together eGFR, ACR, staging and relevant prompts, the template helped clinicians understand the severity and pattern of a patient’s CKD without having to reconstruct this

from individual results. For some, this made it easier to distinguish patients who required closer monitoring or more immediate action from those whose condition was stable and could remain within routine follow-up.

This support for risk stratification was not equally developed in every account. Some participants used CKD stage, changes over time or the kidney failure risk equation to guide follow-up more objectively, while others described a less systematic assessment based on results and clinical judgement. The template therefore made risk information more visible, but did not by itself ensure that practices used a common method for prioritising patients.

The template most often influenced treatment by prompting clinicians to consider whether management had been fully optimised, including blood pressure control, monitoring intervals and the use of ACE inhibitors, ARBs, statins or SGLT2 inhibitors. This is also supported by the increasing annual prescription rate of either ACE/ARB or SGLT2 inhibitors across NW London (Figure 11). It could also make previous decisions and contraindications more visible, reducing the risk that clinicians repeated an intervention that had already been considered or stopped.

Clinical judgement, comorbidities, patient history and wider guidance continued to determine whether action was appropriate, but the template reduced the likelihood that relevant treatment considerations would be overlooked.



Prescription	2017	2018	2019	2020	2021	2022	2023	2024	2025	Percentage (2023-2025)
ACEi/ARB	11471.9	11436.1	11385.4	11009.1	10807.2	10827.5	11096.4	11618.6	11807.7	6.4 %
SGLT2i	567.1	756.3	1048.3	1272.7	1647.2	2269.6	3061.6	3937.4	4730.9	54.5 %
Either ACEi/ ARB or SGLT2i prescribed	11870.4	11975.1	12118.4	11895.0	11853.2	12118.4	12628.0	13475.6	13960.9	10.6 %

Figure 11 Age-standardised annual prescription rate per 100,000 patients

Since the introduction of the NIPP CKD utilities, the age-standardised annual prescription rate of either ACE/ARB or SGLT2 per 100,000 patients has increased 10.6%, rising from 12,628 in 2023 to 13,960.9 in 2025. Among these, the SGLT2i prescription rate showed the greatest increase, with a 54.5% rise between 2023 and 2025.

“ We had already done a lot of CKD training and built good links between primary and secondary care. The knowledge and guidance were already there, so the template helped us put that into a structured process.

Clinical pharmacist

As reflected in the introduction to this chapter, participants’ interpretation of the template’s clinical value was shaped by their exposure to wider CKD improvement work. Those who had received more training or had greater responsibility for CKD were more likely to connect the prompts and staging information with earlier action, prevention and treatment optimisation. Those with less exposure tended to understand the same functions more through completion of reviews, recording activity and meeting enhanced service requirements. The difference was

therefore partly one of how the purpose of the template had been explained and experienced, rather than simply whether participants believed it was useful.

The evidence that the template itself drove detection was limited. Patients generally came to attention through searches, audits, alerts, health checks, abnormal results or reviews for related conditions, after which the template helped clinicians confirm whether CKD criteria were met, apply the appropriate code and decide what should happen next. In some accounts, this led to an increase in recorded CKD prevalence because patients whose results already indicated CKD were identified and coded more systematically. This is better understood as improved recognition and recording of previously visible risk than as the template independently finding new patients.



Quantitative data show increased prescribing activity; qualitative interviews suggest the template supported consideration of treatment optimisation, but decisions remained dependent on clinical judgement, comorbidities, patient history and wider guidance.

Limited evidence of direct patient outcomes

Participants were generally more confident that the template had improved the processes through which CKD care was delivered than that it had produced observable changes in patients' health. Earlier review, more accurate coding, clearer staging, more reliable follow-up and more systematic consideration of treatment were all seen as creating better conditions for care, but participants could rarely demonstrate what difference these changes had made for individual patients.

A smaller number of participants connected the template with patients receiving a review or being treated sooner, receiving more appropriate medication or being monitored more closely. Some also felt that improved prescribing and earlier action might help stabilise kidney function or slow deterioration. These examples remained anecdotal, however, and participants often found it difficult to separate the contribution of the template from the wider programme of CKD searches, education, incentives and treatment optimisation.

Several participants were cautious about attributing patient outcomes directly to the template. Some said they had not observed clear changes in patient outcomes, could not provide examples or felt it would be difficult to demonstrate impact without audit or longer-term data. Others described the template as creating the conditions for better management, rather than directly producing observable changes in patients' health.

The patient-facing resources had a more variable role in supporting outcomes because they were not used consistently across clinicians. Some participants valued the leaflets, information links and sick day guidance as a way of reinforcing conversations about CKD, medication and self-management, particularly where patients had little prior understanding of the condition. Others were unaware of the resources, used only selected elements or preferred to explain CKD in their own way. Their potential contribution therefore depended on whether clinicians incorporated them into the consultation, rather than simply on their presence within the template.

Attribution of template versus wider CKD work, incentives, training and CRM changes

Participants generally understood the improvements in CKD management to be the result of several changes working together, rather than as an effect of the template in isolation. Enhanced service requirements and incentives increased the priority given to CKD, while pharmacist-led reviews, searches, training, nephrology input and stronger practice processes created the knowledge and capacity needed to act. Within this wider system, the template provided a practical structure through which that activity could be completed and recorded.

Participants were most able to attribute changes directly to the template where the mechanism was immediate and visible.

More specific coding, easier staging, clearer documentation and a more structured review process were repeatedly linked to the template itself. They were much less able to isolate its contribution to

earlier detection, treatment optimisation or patient outcomes, where searches, clinical education, incentives and changes in how practices organised CKD care were also involved.

“ I'd say it is probably half and half. The audits and incentives encourage everyone to do more CKD monitoring, while the template makes the work easier and means we are less likely to miss things.

Physician associate

As discussed in section 4.3, incentives and enhanced service requirements often supplied the motivation and resource for practices to undertake CKD work more systematically, while the template provided the mechanism for recording and standardising it. Several participants felt that neither would have had the same effect alone: incentives without a usable template might have generated activity without consistency, while the template without incentives or protected capacity might have remained underused among competing priorities. Where payment became the dominant purpose, however, the same relationship could narrow use towards completion of required fields rather than fuller clinical review.

The value participants derived from the template also depended on the clinical knowledge and local support they brought to it. Those with greater exposure to CKD training, specialist advice or case-based learning were more able to use its prompts and information as part of clinical decision-making. Those with less exposure could still complete the template but were more likely to understand its purpose through coding, contractual requirements or the completion of required activity. The template therefore helped clinicians apply and record knowledge but could not substitute for the knowledge needed to interpret what it presented.

As discussed in section 4.3, the shift towards CRM makes future attribution more difficult because CKD management is increasingly being incorporated into a broader cardiorenal metabolic process. This may support more integrated care, but it also means that any subsequent changes will reflect both the wider model and the way CKD-specific functions have been carried forward. Assessing the continuing contribution of the original template will therefore depend on whether its most valued functions, particularly staging, coding and structured review, remain visible within the newer workflow.

5. Principles for future practice

Principles for implementation and improvement

This section draws together the findings from the evaluation to identify a small number of principles that could guide the future implementation and development of the CKD template and related clinical tools. These are not intended as detailed recommendations, but as broader considerations arising from the evidence about what helped the template become embedded, where its value was strongest and what may need to be protected or strengthened as CKD care becomes more integrated.

5.1 Give the template a clear place within the clinical pathway

The findings show that the CKD template became most consistently embedded where practices had clearly defined who was responsible for using it, when it should be opened and how it fitted within the wider CKD pathway. As discussed in findings section 4.1 and 4.3, use was strongest where responsibility for annual reviews, coding or monitoring had been allocated to specific staff and the template had become the expected route through which this work was completed. Section 4.3 also shows that simply making the template available within the clinical system was not enough to ensure consistent adoption.

A key principle for future implementation should be that clinical tools be given a clear and agreed role in how care is delivered. Staff need to understand which tasks the template supports, when its use is expected and how responsibilities are distributed across the practice or PCN. This clarity should extend beyond designated CKD leads so that use does not remain dependent on a small number of experienced individuals.

5.2 Embed use through practical support and repeated application

The findings show that confidence in using the CKD template developed through a combination of formal training, informal support and repeated use within day-to-day work. As discussed in section 4.1, staff who used the template regularly became familiar with where to find it, which fields were relevant and how it supported review or coding processes. Section 4.3 also shows that local colleagues often played an important role in helping staff understand when and how the template should be used, particularly where formal training had been limited.

Future implementation should therefore focus on practical support that continues beyond the initial roll-out. Staff need opportunities to apply the template in practice, ask questions and

receive support from colleagues with relevant experience. Practical demonstrations, refresher activity and reinforcement through existing practice or PCN processes can help confidence build over time and reduce the risk that knowledge remains concentrated among a small number of regular users.

5.3 Align the template with meaningful clinical work and existing workflows

Participants valued the CKD template most where it supported a task they already needed to complete, rather than creating an additional layer of work. Section 4.2 shows that it fitted particularly well with annual reviews, coding and follow-up, where there was a clear point at which information needed to be brought together and recorded. The workflow evidence in section 4.3 also suggests that most difficulties arose not from the template being inherently hard to use, but from having to introduce it into short consultations, move between different parts of the record or duplicate information. Incentives could help practices create the time and focus needed to use it, although this was less effective where completion became detached from its clinical purpose.

Implementation should therefore begin with the work clinicians are trying to complete and design the template around that process. It should reduce searching, repetition and reliance on memory, while making the next clinical action easier to identify and record. As wider CRM approaches develop, integration should simplify the pathway rather than adding overlapping templates or further steps to an already time-pressured workflow.

5.4 Make it easy to move from information to action

One of the clearest strengths of the CKD template was its ability to bring together information that clinicians would otherwise have needed to find and interpret separately. Sections 4.1 and 4.2 show that this supported more specific coding, clearer staging and more systematic consideration of monitoring and treatment. However, section 4.3 also identifies points where staff still experienced uncertainty, particularly around borderline or changing results, coding decisions, referral thresholds and which fields were essential.

Future clinical tools should therefore do more than present information and should help staff understand what that information means and what should happen next. This includes making relevant results and previous decisions easy to see, distinguishing clearly between required and optional activity and providing direct routes into guidance, medication review, monitoring or referral where needed. The aim should not be to replace clinical judgement, but to reduce avoidable uncertainty and make it less likely that an important action is delayed, overlooked or recorded inconsistently.

5.5 Preserve CKD-specific functions within integrated care

Participants broadly supported the move towards more integrated CRM approaches, but participants were less certain that integration would automatically improve care. As section

4.3 shows, the standalone CKD template was valued because it gave staging, coding, monitoring and annual review a clear and visible place within the workflow. Some participants were concerned that these functions could become diluted when CKD was treated as one part of a broader review, particularly where staff were already moving between overlapping templates or developing local workarounds.

Future development should preserve the functions that made the CKD template useful while reducing duplication across related pathways. Integrated care should allow information to flow across conditions and support a more joined-up review, but CKD-specific requirements must remain easy to identify and complete. This means retaining clear staging and coding functions, relevant prompts and a recognisable route through CKD management, rather than assuming that broader integration will by itself deliver consistency.



Implications for the NW London CRM model

The evaluation provides several insights that are directly relevant to the development of the NW London CRM model of care and the ongoing pathway redesign work that originated in Harrow and is now being expanded further in NW London. The NW London CRM Enhanced Service represents a shift towards a more integrated and proactive approach to long-term condition management, combining earlier identification, risk stratification, personalised care planning, treatment optimisation and structured follow-up across cardiovascular, renal and metabolic conditions. The original aims of the CKD utilities are broadly aligned with these objectives, particularly in relation to supporting earlier identification and systematic management of CKD.

The findings suggest that, as with the CKD utilities, successful adoption of CRM tools will depend both on their design and on how effectively they are embedded within day-to-day clinical workflows. The evaluation consistently found that uptake of the CKD utilities was strongest where staff understood their purpose, knew when and by whom they should be used, and could see how they supported the wider care pathway. These same implementation principles are likely to be important for the CRM model, particularly given its complexity and emphasis on integrated, multidisciplinary care. The transition towards integrated CRM pathways creates an opportunity to reduce duplication and support more holistic care. However, the evaluation highlights potential risks if functions that participants valued within the CKD utilities become less visible within broader workflows. It will be important to retain the structured functions that participants valued within the CKD utilities, including support for CKD staging, coding, monitoring and review processes that contribute to consistency in CKD care.

More broadly, this evaluation suggests that successful implementation of tools to support the CRM model will require attention to the same factors that shaped the uptake of the CKD utilities: clarity of purpose, local ownership, workflow integration, practical implementation support and continued reinforcement through training, service requirements and local leadership over time.

5.6 Principles for future evaluations

A consistent challenge within this evaluation was identifying when and where the utilities had been introduced, which practices had adopted them and how use could be tracked over time. The following principles draw directly from these evaluation challenges and are intended to support more robust assessment of future interventions.

Embed evaluation into programme design from the outset

An evaluation plan should be built into the programme design process rather than developed separately after implementation. A logic model could help articulate the intended outcomes, identify appropriate outcome measures, and determine how quantitative and/or qualitative insights should be used to assess the impact of the programme. Engaging evaluation specialists early helps ensure that both the programme and its evaluation are designed in a coordinated, feasible and robust way.

Document implementation dates, coverage and changes consistently

Key implementation details, including programme's roll-out dates, intended populations, geographic or temporal coverage of the programme, and any changes made during delivery, should be systematically recorded and maintained throughout the programme. This information is fundamental for understanding how the programme was delivered and enabling a robust assessment of its effectiveness.

Review existing data sources and plan data collection early

Data requirements should be considered at the design stage to ensure that the information needed for evaluation will be available. Existing data sources should be reviewed first to determine which outcome can be measured and where data gaps remain. If additional data are required, data collection should be planned early and embedded into existing processes whenever possible, such as creating programme-specific clinical codes to capture utilisation, so as to support robust evaluation.

Design future digital interventions for evaluability

Future digital interventions should be designed with evaluation in mind. Where possible, systems should include identifiable markers of use, standardised activity codes or other mechanisms that make adoption measurable through routine data. This allows implementation, utilisation and outcomes to be assessed more reliably over time.

6. Conclusion

The evaluation suggests that the NIPP CKD utilities have become an important component of structured CKD care across NW London primary care. Their clearest contribution has been to make key elements of CKD management, including coding, staging, review, monitoring and documentation, easier to complete consistently within routine primary care. Positive changes in CKD-related activity have been observed since implementation, although these are best understood as the result of a wider improvement context that included enhanced service requirements, training, local leadership and broader transformation activity. Although the NIPP CKD utilities have not acted as a standalone driver of CKD improvement, they have provided an important practical infrastructure for more structured CKD care across NW London.

A consistent theme throughout the evaluation is that the benefit of the utilities is shaped by how they are incorporated into routine care. Where practices had clear ownership, a defined role within the pathway and strong alignment within workflows, use was more consistent and the utilities were perceived to add greater value. Where those conditions were weaker, use remained more selective, opportunistic or concentrated among a small number of staff. Variation in use was associated with these factors, rather than due to functional limitations of the tools themselves.

As NW London moves towards a more integrated CRM model, a key consideration is ensuring the CKD-specific functions that practice staff value most are retained while simplifying delivery for primary care. The CKD utilities should therefore be understood as both an intervention strengthening CKD pathways in their own right and a source of learning for ongoing CRM approaches emphasising that integration should preserve clarity, workflow support and evaluability. The lessons from this evaluation are that successful embedding and impact requires clear ownership, alignment with workflow, practical support and sustained use over time. As NW London continues to develop integrated CRM preserving these conditions and the principles underpinning them remain highly relevant and provide a strong foundation for delivering high-quality CKD care across NW London.

7. Appendices

Appendix Table A. List of sample characteristics

Sample characteristic	Achieved characteristic
Borough	
Brent	1
Ealing	3
Hammersmith & Fulham	4
Harrow	0
Hillingdon	3
Hounslow	1
Kensington and Chelsea	6
Westminster	3
Participant Role	
Clinical pharmacist	9
GP	9
Physician associate	3
PCNs/Practices Represented	
Total Practices	20
Total PCNs	19
Practice CKD Prevalence (%)	
High (>2.66%)	5
Medium (2.65 - 2.00%)	5
Low (<1.99%)	10
Practice Residents in IMD Deciles 1-2 (%)	
High (>15.60%)	9
Medium (15.59 - 6.58%)	7
Low (<6.57%)	4
Practice size - PCN adjusted population	
High (>8530)	8
Medium (8529 - 5596)	6
Low (<5595)	6

Appendix Table B. Summary of missingness across demographic variables

Variable	Proportion of patients with no data (%)
Gender	< 0.1%
Ethnic Category	3.8 %
IMD Decile (2025)	< 1%