NORTH EAST QUALITY OBSERVATORY SERVICE (NATIONAL COLLABORATING CENTRE FOR INDICATOR DEVELOPMENT)

FOR

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

INDICATOR DEVELOPMENT PROGRAMME

Feedback report on piloted indicators

Topic areas: Chronic Kidney Disease

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Output: Findings from qualitative pilot to contribute towards recommendations for NICE indicator menu

Contents

Summary of pilot findings

Indicator 1: Early identification of Chronic Kidney Disease (CKD)

The percentage of patients (excluding those on the CKD register) prescribed long-term (chronic) oral non-steroidal anti-inflammatory drugs (NSAIDs) who have had an eGFR measurement in the preceding 12 months.

Acceptability assessment

91% (30/33) of survey respondents felt that this indicator would improve the quality of care for patients. Over three quarters of respondents (79%, 26/33) thought the indicator was suitable for financial incentivisation. In the interviews, there was overall agreement from practices that this indicator was acceptable.

Implementation assessment

Despite the strong support for the rationale of this indicator, there were some concerns with implementation, as outlined in the table below.

Issues to be resolved prior to implementation

Issue	**Detail**	**Mitigating activity**
Workload	Some concern over the volume of patients that would require a blood test which could be unmanageable. No clear support for targeting the indicator on an older sub-group or patients on several nephrotoxic drugs.	Consider setting a lower achievement threshold initially?
Difficulty defining the cohort based on ’12 in 24 months’ prescriptions	Issues if patients are prescribed more than two months’ worth of medication.	Would require amendment of definition to allow for at least three months gaps in prescriptions.
Over-the-counter NSAIDs	Patients taking over-the-counter NSAIDs would be omitted from the indicator (as per the indicator definition).	Request SNOMED code for over-the-counter NSAIDs, for consideration as part of a future amended indicator?
Practice organisation	For patients not on other QOF registers, new systems would need to be set up to identify patients and organise blood tests.	

Indicator 2: Diagnosis of CKD

The percentage of patients with a new diagnosis of CKD stage G3a-G5 (on the register, within the preceding 12 months) who had 2 separate eGFR tests undertaken prior to diagnosis being confirmed with at least 90 days between tests and the second test no later than 90 days before the diagnosis was recorded.

Acceptability assessment

Although two thirds of survey respondents (67%, 22/33) thought it would improve the quality of care for patients, almost a quarter (24%, 8/33) felt there would be 'no change' and 9% (3/33) predicted it could 'worsen' the quality of care. Compared with the other three CKD-related indicators, a smaller proportion of respondents thought this indicator should be financially incentivised (64%, 21/33). However, issues around the acceptability of this indicator were highlighted by most of the practices interviewed.

Implementation assessment

The complexity of the indicator requirements was noted, with calls for the indicator to be simplified; 21% of respondents (7/33) thought the indicator wording should be changed. Some significant implementation issues were identified by practices, as summarised in the table below. While there are some potential mitigations, most would require significant amendments to the indicator definition.

Issues to be resolved prior to implementation

Issue	**Detail**	**Mitigating activity**
Complexity of indicator requirements	Indicator wording / requirements ambiguous potentially leading to poor understanding.	Simplify indicator definition (for example, move the timeframes into the supporting guidance).
Recall of patients for repeat blood tests	Call / recall processes. Potential high DNA rate, risk of CKD not being diagnosed.	Implement recall systems within practices. As one approach, patients could be identified via an automated process, with flags set up in systems to follow up.

Workload, including patient anxiety & clinical workload	Workload involved for repeat blood tests. The need to recall patients for a repeat blood test could cause patient anxiety and lead to an increase in clinical workload due to patient queries/requests.	As for indicator 1, consider setting a lower achievement threshold initially? Informed consent for the blood tests could reduce anxiety.

Indicator 3: Classification of CKD

The percentage of patients with a new diagnosis of CKD stage G3a-G5 (on the register, within the preceding 12 months) who had eGFR and ACR (urine albumin to creatinine ratio) measurements recorded 90 days before or after diagnosis.

Acceptability assessment

Most survey respondents (73%, 24/33) thought the indicator could 'improve' the quality of care for patients, although almost a quarter (24%, 8/33) thought there would be 'no change' and one person (3%) believed it could 'worsen' the quality of care. Seventy percent (23/33) of respondents thought this indicator should be financially incentivised. However, there were concerns from the interviews over the acceptability of this indicator, with practices being unclear on its rationale.

Implementation assessment

Some potential issues associated with implementing this indicator were highlighted by practices, as outlined in the table below.

Issues to be resolved prior to implementation

Issue	**Detail**	**Mitigating activity**
Unclear rationale	Purpose of the indicator is 'unclear/pointless' unless further action is required.	Supporting guidance on the rationale and implications of staging.
Workload	Obtaining urine samples would generate additional work.	Consider targeting ACR testing at a sub-group (for example, people with GFR category G3a and/or G3b patients only).
	Difficulty in classifying CKD stage from eGFR and ACR results using table in NICE guidelines.	Provide an electronic solution for an automated approach to classification.

Communication	Challenges communicating about CKD with patients when prognosis is not clear.	Information for patients.
Capacity of labs	An increase in the volume of blood and urine samples to be tested may exceed hospital lab capacity to process.	'Near patient testing' - digital solution using patient home testing kits and private labs?

Indicator 4: Management of CKD

The percentage of patients with CKD on the register and with an ACR of <70mg/mmol, without moderate or severe frailty, in whom the last blood pressure reading (measured in the preceding 12 months) is 140/90 mmHg or less.

Acceptability assessment

Most respondents to the survey agreed the indicator could 'improve' the quality of care for patients (76%, 25/33) and thought it should be financially incentivised (79%, 26/33). There was overall support for this indicator from the interviews, with practices recognising the importance of monitoring patients' blood pressure to provide high quality care.

Implementation assessment

Minor problems with implementation were identified, as summarised in the table below, with some mitigations available.

Issues to be resolved prior to implementation

Issue	**Detail**	**Mitigating activity**
ACR requirement	Suggestions by some to remove ACR requirement to avoid some patients who need treatment being missed.	Would require amendment of definition.
Frailty exclusion	View that targeting those aged under 80 years would be more appropriate due to poor frailty coding and the challenge of managing blood pressure of those aged over 80 due to multimorbidity.	Would require amendment of definition to exclude those aged 80 and over rather than by frailty.
Re-instating retired indicator	Mixed views from practices on the acceptability of re-instating the retired indicator CKD004.	

Duplication of payment	Additional payment for work some practices may already be doing for other QOF indicators.	Suggestion that indicator could focus on patients with CKD not on other registers.
Duplication of work due to overlapping indicators	Potential duplication with other QOF indicators for diabetes and hypertension; consistency of BP targets also requested.	Ensure consistency of BP targets across indicators.
Personalised Care Adjustment (PCA)	Suggestion that a PCA code needs to be available relating to 'unsuitability for the patient' or for 'tolerated therapy/not indicated' due to other comorbidities not captured by frailty coding.	PCA code to be available.

Background

As part of the NICE indicator development process, all clinical and health improvement indicators for general practice proposed for inclusion in the NICE Indicator Menu are piloted, using an agreed methodology, in a representative sample of GP practices across England.

The aim of piloting is to test whether indicators work in practice, have any unintended consequences, and are fit for purpose.

The full background to the inclusion of this topic in the pilot, including a list of piloted indicators, is presented in Appendix A along with a description of the method and approach to piloting.

Practice recruitment

A summary of the general practice recruitment methodology is shown in Appendix B.

Number of practices recruited, ready to commence pilot (January 2022)	**27**
Final number of practices in the pilot	**16**
Number of practices participating in feedback	**16**

Feedback was obtained via interviews and an online survey, and it was possible for individuals to participate in both the survey and the interviews. At least one survey was completed by each of the 16 participating practices. The quantitative responses to the online survey are shown in Appendix F. The table below indicates the practice participation in the pilot specifically for the chronic kidney disease topic.

Feedback participation by role and method

Staff role	**Interviews - number of participants**	**Survey - number of respondents**
GP	6	16
Practice manager	3	5
Other senior management	0	2
Pharmacist	0	2
Practice Nurse	0	3
Practice administrative staff	0	5
Number of participants	**9** From 8 practices [#]	**33***

[#] As described in Appendix A, not all interviews covered all topics and only 8 out of the 16 practices were asked questions about CKD in their interviews.

*Not all respondents completed all of the CKD-related indicator survey questions (see Appendix A).

Assessment of clarity, feasibility, reliability and acceptability

Clarity

The requirements of indicator 2 ('Diagnosis of CKD') were thought to be ambiguous and the indicator requires greater clarity. Some specific amendments to the other indicator definitions and wording were also suggested by practices in both the interviews and survey, such as improving the definition of 'long term' use of NSAIDs for indicator 1 (see p26).

These indicators may require additional refinement or testing prior to widespread implementation.

Feasibility and reliability

Some issues were noted with the feasibility of identifying the cohort of patients, particularly for indicator 1. One practice noted that the use of Arden's templates is becoming fairly standard and that most practices have got some IT support to assist with running searches.

Practices' inability to reliably identify and to code patients taking over-the-counter NSAIDs was raised as a concern, resulting in this group of patients being missed from the early identification of CKD (indicator 1). One practice suggested that if the recording of this information had a consequence, it could lead to increased and better monitoring enabling the inclusion of such patients on the CKD register where appropriate.

The feasibility of identifying the cohort of patients for indicator 1 was regarded by some practices to likely improve once the initial workload to set up the searches was complete, and that the amount of additional workload would lessen over time. A couple of practices suggested initially starting with a smaller cohort to aid workload.

Concerns were raised by some practices about their ability to implement the frailty exclusion in indicator 4 (Management of CKD), due to potentially inaccurate and incomplete coding of frailty.

Acceptability

This section summarises practice views from the interviews and the survey on the acceptability of the topic; the potential impact on quality of care; the importance of the issues covered by the indicators for patients and families; the role of financial incentivisation; and, separately for each indicator, any specific acceptability issues identified.

Topic feedback

There was overall support for the early identification of CKD (indicator 1), with practices reporting it would improve the quality of care for patients. Five practices thought it would be good practice to undertake an annual renal function test, with one asserting that it would encourage practices to follow the guidelines.

"I thought it was a good idea, good in theory." [GP, Interview]

"I think there is a slight concern on the scale of the number of patients that we have - will people be on this – on this register. However, I think we do see the value with it." [GP, Interview]

There was variation between practices in whether they are already carrying out annual measurements of eGFRs on people prescribed NSAIDs. Three practices noted that they are already doing this, for example:

"I have been doing this personally for a long time with patients on NSAIDs. I think it is good practice. I think it being a NICE indicator would help encourage people who don't necessarily follow all guidelines to do it. So, I think it is good practice – I would be quite happy to see that in the QOF guidelines." [GP, Interview]

However, four practices explained that they are likely to be conducting regular measurements of eGFRs as a matter of course for these patients, as part of having blood tests for other conditions:

"….I think partly because patients who are on regular NSAIDs, they usually are having their bloods taken at some point during the course of the year; usually because they have lots of other issues going on as well. They might be under rheumatology, and they may have other medical problems which will require a blood test done anyway on a yearly basis." [GP, Interview]

Although these practices also pointed out this would depend on whether patients are in other chronic disease management systems:

"…this would be an indicator that would change our practice. So, people who are on non-steroidal and in another population that are getting chronic disease management, yes, they'll have their renal function measured, but the people on non-steroidals and not in any other chronic disease management system, won't be." [GP, Interview]

There was some concern by practices over the acceptability of indicator 2 (Diagnosis of CKD) and indicator 3 (Classification of CKD) with issues being raised about the rationale, indicator requirements and implementation (see relevant sections).

There was overall support for the rationale behind indicator 4 (Management of CKD) with some practices recognising the importance of measuring blood pressure to ensure good quality care:

"I think the blood pressure is important to measure and make sure that it is well controlled and, if not, we need to at least intervene there." [GP, Interview]

"I think yes it should be work that we are doing anyway – if someone has got CKD we want to be at least checking their blood pressure every year and making sure it is controlled because there are things we can do to stop it progressing." [GP, Interview]

However, concerns were raised with regard to frailty coding and potential duplication with other indicators.

Indicator-level feedback

Quality of care

Nearly all respondents (90.9%, 30/33) thought the early identification of CKD (indicator 1) would 'improve' the quality of care for patients, with just 3 respondents (9.1%) believing there would be 'no change' (Table 1). Most respondents also thought the other three indicators would improve the quality of care for patients, though not with the same level of support (Table 1). For indicators 2, 3 and 4, almost a quarter (24.2%, 8/33) felt there would be 'no change' to the quality of care from implementing these indicators. Indicator 2 had the most respondents who felt that the quality of care could 'worsen' (9.1%, 3/33) relative to other indicators.

Table 1: Views on the impact of quality of care of chronic kidney disease-related indicators (survey)

What impact do you think the following indicators could have on the quality of care for patients?				
	Improve	No change	Worsen	Total
Indicator 1: Early identification of CKD	30 (90.9%)	3 (9.1%)	0 (0%)	33
Indicator 2: Diagnosis of CKD	22 (66.7%)	8 (24.2%)	3 (9.1%)	33
Indicator 3: Classification of CKD	24 (72.7%)	8 (24.2%)	1 (3.0%)	33
Indicator 4: Management of CKD	25 (75.8%)	8 (24.2%)	0 (0.0%)	33

Value to patients

There were mixed views on whether the indicators represent an issue that is important to patients, families, and carers. Over half of the respondents thought the indicators would be important to patients, families, and carers. However, more than one quarter of respondents (27.3%, 9/33) did not think that indicator 2 or indicator 3 represent issues which are important for patients, families, and carers, with a further 15.2% (5/33) being ‘unsure’ (Table 2).

Table 2: Views on the importance of the chronic kidney disease related indicators to patients, families, and carers (survey)

Do you think the following indicators represent an issue that is important for patients, families, and carers?				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	21 (63.6%)	6 (18.2%)	6 (18.2%)	33
Indicator 2: Diagnosis of CKD	19 (57.6%)	9 (27.3%)	5 (15.2%)	33
Indicator 3: Classification of CKD	19 (57.6%)	9 (27.3%)	5 (15.2%)	33
Indicator 4: Management of CKD	20 (60.6%)	6 (18.2%)	7 (21.2%)	33

The practices that were asked whether indicator 1 would be valued by patients also gave mixed responses. A couple of practices thought patients would appreciate having blood tests or would expect this level of review anyway. For example, related to indicator 1:

"My own personal experience is that when you tell patients you are doing blood tests and monitoring their medication, they all seem quite happy with it actually and they seem pleased that you are taking an interest and making sure everything is safe". [GP, Interview].

"I think if they are on regular medication, […] a lot of patients have this expectation that they will be reviewed anyway with their medication – that they may need a blood test anyway". [GP, Interview].

However, another practice believed the value of indicator 1 would vary between patients, with some attending the practice for blood tests and others not wishing to attend and/or would be confused as to why the practice had not provided this care sooner:

"I think that there would be some people who would say, 'Well, why are you suddenly interested in this when you've not been doing it for years and years and years?' Some people would ignore an invitation, some people would want to go to the Nth degree of finding out why a test has been requested." [GP, Interview]

One GP also highlighted the additional workload that could result from implementing these indicators, due to the importance of dealing with increased questions and requests from patients (see p36 for further detail).

Financial incentivisation

There was overall support from over half of all survey respondents for the financial incentivisation of the four indicators. This was particularly the case for the early identification of CKD (indicator 1) and management of CKD (indicator 4), with 78.8% (26/33) of respondents agreeing these indicators should be financially incentivised (Table 3).

Table 3: Views on financial incentivisation of chronic kidney disease-related indicators (survey)

Do you think the following indicators should be financially incentivised?				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	26 (78.8%)	4 (12.1%)	3 (9.1%)	33
Indicator 2: Diagnosis of CKD	21 (63.6%)	9 (27.3%)	3 (9.1%)	33
Indicator 3: Classification of CKD	23 (69.7%)	8 (24.2%)	2 (6.1%)	33
Indicator 4: Management of CKD	26 (78.8%)	5 (15.2%)	2 (6.1%)	33

One GP commented that there would need to be a financial incentive for implementing indicator 2, due to the increase in the workload associated with recalling patients for another blood test within 90 days:

"For this to work, there needs to be a strong, financial incentive to get patients on the register, well not an overly strong financial incentive- the reason why- because I think, this is a little bit more legitimately difficult to sort out – because we […] would need to be conscious of – when we are going through lots of blood results, we may pick up low eGFRs but we wouldn't necessarily do anything about it though because it is quite stable. But what you are asking is to make sure that it is definitely repeated after 90 days – I think there is a lot of work here." [GP, Interview]

It was queried by one GP whether the proposed new indicator for the management of CKD (indicator 4) would lead to duplication of payment, as some practices may already be fulfilling the work through working towards other indicators, such as in QOF for Diabetes and Hypertension.

Quality improvement

There were mixed views from survey respondents on whether the indicators could be suitable for quality improvement without financial incentive. Whilst more than half of respondents thought each of the indicators would be suitable for quality improvement, a fairly large proportion were either 'unsure' or did not think they were suitable (Table 4). This was particularly the case for Indicator 2, where one third of respondents (33.3%, 11/33) did not think this indicator was suitable for quality improvement without financial incentive, and a further 12.1% (4/33) were 'unsure'.

Table 4: Views on suitability of chronic kidney disease-related indicators for quality improvement (survey)

Do you think the following indicators could be suitable for quality improvement, without financial incentive?				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	21 (63.6%)	5 (15.2%)	7 (21.2%)	33
Indicator 2: Diagnosis of CKD	18 (54.5%)	11 (33.3%)	4 (12.1%)	33
Indicator 3: Classification of CKD	20 (60.6%)	8 (24.2%)	5 (15.2%)	33
Indicator 4: Management of CKD	19 (57.6%)	8 (24.2%)	6 (18.2%)	33

Indicator 1: Early identification of CKD– specific issues identified in interviews and survey

Whilst there was agreement that indicator 1 was good 'in theory', some practices expressed some concerns over the practicalities of implementation. As outlined in the '*Workload, resource utilisation and costs*' section of this report there were concerns from some practices that this indicator could be unmanageable due to the large number of patients to whom the indicator could apply.

Another issue identified from the interviews was the difficulty in defining the cohort of patients based on the number of prescriptions for NSAIDs. For instance, some patients may have a small number of prescriptions but with a large quantity of tablets, or prescriptions may be given in longer than two month quantities. Therefore patients could be missed if the cohort was defined as 12 prescriptions in 24 months:

"We thought it would be quite difficult to define population and that, actually, the way that our prescribing system works, some people will have a small number of prescriptions for quite large numbers of tablets in one go. So, some people will have a, relatively small, but just over a threshold number of prescriptions, for a relatively small number of tablets each time. Picking up on the number of prescriptions, to try and define the population, was going to be quite difficult." [GP, Interview]

The issue of how to define 'long term use of NSAIDs' is discussed further in the *'Suggested amendments to indicator definitions/wording'* section.

Some interviewees highlighted that patients who take over-the-counter NSAIDs would be missed from this indicator. One practice also raised the point that not all patients would 'cash' their prescriptions (or not all of the time) which would also have implications for the indicator:

"…there is no control on over-the-counter ibuprofen and we've been actively encouraged to ask patients to buy this over the counter." [GP, Interview]

"…not all patients do cash their prescriptions so sometimes you might find that it has been prescribed and the patient hasn't really received these yet and the other thing which is missing is the over-the-counter medications which we know a lot of people do". [GP, Interview]

One GP suggested using a code[1] for over-the-counter medication to avoid missing people from the cohort for this indicator:

"We did think that we'd end up missing quite a lot of people who took over the counter ibuprofen and wondered if there was any way to pick that up, whether including the code on over-the-counter non-steroidal, might be a useful way of doing it." [GP, Interview]

In contrast, one GP questioned whether the safety profile of the medication supplied over-the-counter had been assured and that this would need to be considered:

"There are some medications that are over the counter – is that because the safety profile has been proven – so that is one thing that we probably need to ask ourselves whether – is it because the safety profile has been proven – that is why they are over the counter and some are not over the counter." [GP, Interview]

There were some suggestions by practices to target this indicator at certain groups to make the workload more manageable and/or to avoid duplication (see '*Workload, resources and costs'* section).

Indicator 2 – Diagnosis of CKD – specific issues identified in interviews and survey

Two interviewees thought this indicator was clear and would ensure good practice. However, the other practices all expressed some level of concern over the

[1] To note that SNOMED codes do not currently exist to record this.

acceptability of this indicator. Issues highlighted included the complexity of the indicator requirements, difficulty with recalling patients within the specified timeframe, and the potential for causing unnecessary anxiety for patients. These are discussed further below.

Complexity of indicator

Some practices thought the requirements of the indicator were difficult to understand due to the complexity around the diagnosis process and wording. A couple of the GPs reported that they would conduct three blood tests before a patient was diagnosed with CKD, with one noting that a second test would be performed two weeks after the first to check for acute kidney injury:

"I am just thinking about when my bloods come in, I see my first one, it's down, right that means a repeat in two weeks, that's my default. You would then make your 90-day decision on the back of your second one. If your second one is normal, you are not going to bother but if your second one is abnormal, then you are going to bother and that is […] a really complex thought process just for me to sit here and do – let alone expect all my other clinicians to look and pay that much attention. It would be really hard I think in practice." [GP, Interview]

"CKD2 - sorry but unable to think of a better way [to word it]*, it's very complicated indicator." [GP, Survey]*

"I think it would need simplifying. Anything that actually needs a diagram to describe how you do it – life's too short!" [Practice Manager, Interview]

"We thought this was a bit of a ridiculous indicator and wouldn't work in practice. We thought that we've got people who feel that, in the main, there's nothing wrong with them, who have come in for one blood test and we find a mildly impaired renal function, who would then have to do another blood test in fairly short order, to make sure it's not an acute kidney injury that's going off rapidly. We then have to do another blood test three months later, to make sure that everything is still the same as it was when they had their third blood test and they think they've got nothing wrong with them." [GP, Interview]

One GP highlighted that this indicator is operating in an area where there is a significant risk of potential misdiagnosis, and noted that eGFR measurements are not always straightforward with some patients' measurements rising and falling around a normal range:

"I definitely think the issue about mis-diagnosis is a big one, because […] I know when we are coding it […] we don't always get an accurate diagnosis […] I find this

90-day thing really hard because – it is very straightforward – if it is clear cut, it is really easy but a lot of them hover and bounce around in the middle and they're the ones who are a little bit more tricky I think and I don't know how you fit them in with this group to be honest." [GP, Interview]

Another GP noted that in some ethnic groups additional measurements are required to ensure accurate blood test results:

"I was just going to add the additional element of ethnicity because in some ethnic groups you have to multiply by 1.22 and you might then find that because they have their own muscle bulk, which is quite high, their eGFR levels might be inappropriately high. So, you then have to modify that – drink plenty of water, let's see what your levels are when you have had – you are no longer dehydrated. So, I guess there is also that element to consider too […] When they have corrected the hydration, you might find that it has all settled again and I think that can create more work for us." [GP, Interview]

Difficulty recalling patients

One practice did not think there would be any issues around the need to recall patients for this indicator due to a 'good recall system' already being in place. Another agreed that they could recall patients but was strongly against the indicator.

There appeared to be some confusion around the requirements of the indicator, with concern expressed by some practices that they would have to recall patients within 90 days for a repeat blood test. (However, this is not the case as the indicator asks for 'at least 90 days between tests').

"I think it is going to be tricky […] I think it is too prescriptive. If you are missing it by a day or two or you are too soon or you are too late. I think, two blood tests within a period would be more acceptable than being as prescriptive as this." [Practice Manage, Interview]

If under 90 days it was felt that, due to the volume of patients, this would generate considerable work for practices:

"I just think executing it is going to be quite difficult because you are going to have to recall these patients […] that is a lot of patients by the way and that is a lot of recall. So, I think that is going to be really tricky." [GP, Interview]

It was also noted that it would be difficult to ensure patients returned for a repeat blood test, with the potential for not diagnosing patients with CKD:

"We thought there'd be just too much drop out, before we got to the end of this stage, to make it a worthwhile indicator." [GP, Interview]

"We thought, they're [patients] *not going to come in and we're going to end up not diagnosing CKD as a result. We thought it was pragmatically better to have people put on the CKD register with their investigations partly worked up and then chase them over, sort of, an annual basis and get things refined as we go, annually, rather than go for gold standard, straight away." [GP, Interview]*

There was concern around increased patient anxiety as a result of the indicator. One practice argued that the long time-frame between the two tests could lead to greater patient anxiety. A different practice also thought it would increase patient anxiety and questioned the purpose of the indicator as, although the indicator would pick up a lot of patients with CKD, there would be not much intervention they could provide except advice following this diagnosis:

"…the vast majority will be stable and there you just want to pick up the ones that are going to progress. (…) you pick up a lot of CKD which really there is not much intervention but just giving them advice and telling them to – so that is also the main challenge again." [GP, Interview]

"…there might be some anxiety about why they're [patients] coming back for the second test so I think that's something that we need to be quite clear, when the initial one's being done, what the expectation is for the second test. Because patients, you know, when you do call them back in for a repeat blood test or whatnot, there is a level of anxiety about why. So, I think, you know, if this was to go ahead, I think the information provided to patients should be super clear for them(…) and patients' anxiety levels at the minute are high. So, you know, and I can only see that just getting worse, to be honest with you, so I think that's, yes, because there is a big gap in between the two tests. That's something to maybe, yes, consider" [Practice Manager, Interview]

Rather than recalling patients for another blood test, one GP proposed that the diagnosis of patients with CKD could be a 'passive' (automated) process in which the clinical system automatically flags when a patient has two low eGFR readings:

"I think there needs to be passive process […] as opposed to being a proactive process […] That would make more sense to start off with anyway because I think the recalling process is just far too difficult [..] [GP, Interview]

And later, the same GP noted:

"I mean if you are doing it as a passive process, you can put it on the computer system so that the computer system will look at this, look at the criteria – so if the

patient fits the criteria, an alert will pop up and say 'patient has CKD based on last two eGFR readings that fit this criteria in the last year, please consider coding CKD and discussing with the patient of the diagnosis'." [GP, Interview]

Similarly, another practice questioned whether hospital blood tests could be used to fulfil the requirements of this indicator, and noted the risk that this could lead to practices just downloading hospital blood results to increase the number of patients on the CKD register to receive payment:

"If a patient is having to go to hospital and then have a whole pile of bloods done, they might well have these tests done but we don't get them. Is this going to encourage us to download hospital blood results just to tweak up our register to get a higher prevalence and therefore to get more cash?" [Practice Manager, Interview]

Indicator 3 – Classification of CKD – specific issues identified in interviews and survey

A couple of the interviewees felt this indicator was appropriate; however, the other practices noted potential issues with its acceptability and/or implementation. Practices raised concerns around the rationale for the indicator, the potential impact on workload, the difficulty in obtaining urine samples, and challenges around communicating with patients about CKD.

Unclear rationale

At least half of the practices interviewed believed the rationale for this indicator was unclear and that it lacked any follow-up action that would make it useful. It was also noted that obtaining urine samples for the ACR measurement would generate considerable workload for very little perceived gain in their view:

"When I saw this I suddenly thought, what is its purpose? It's just to categorise people and it is not kind of clear that there is that step after that because you can categorise people outside of QOF […] You want some action following some categorisation – it is not clear". [Practice Manager, Interview]

"Unless you are going to do something else with it, I don't see the point". [GP, Interview]

"…there is a lot of work for that because – it is not the case of just doing a blood test, this is a urine sample and urine samples are a bit more cumbersome to do in general practice […] it is a lot of work and […] I don't think there is that much to be gained from doing it.[…] [GP, Interview]

One GP also felt the specified 90-day timeframe was too restrictive (to note that the indicator states 90 days before or after the diagnosis) and that clinicians may find it challenging to classify the stage of CKD based on the eGFR and ACR results by using the table within the NICE guidelines. An electronic solution was suggested as being preferable:

"I think having it within a very narrow timeframe might be more difficult for us – if it has to all be done within 90 days of getting a diagnosis, I think we may struggle with that. And then I suppose the table from NICE diagnosing CKD, using their eGFR and the ACR, I think a lot of people will struggle with that as clinicians […] I think if there was an easier electronic way of it being calculated, it would probably be more acceptable, but I suspect you are going to have a lot of people having to look at the NICE guidelines every time they are getting a result and I am not sure how it is going to be for everyone – it is going to create quite a lot of workload." [GP, Interview]

The risk of the indicator being manipulated was a concern for one practice. It was suggested that practices may not diagnose a patient with CKD until the eGFR and ACR measurements are completed, which could lead to poorer quality care as patients may be missed due to not being followed up within the recall system:

"It's a relatively easy indicator to manipulate […] if you make a rule that you don't diagnose CKD until you've got an eGFR and an ACR done, boom, 100% attendance done. What you'll do by doing that is, the people who are dropping out, you may not catch them. So, actually, it could, perversely, damage care, because people will drop out of the system and may not be in a recall system, because you don't code until you've got both done." [GP, Interview]

There was agreement from a few practices that if the indicator was targeted at the most appropriate patient groups (in their view) its acceptability may be improved:

"The younger people who you are looking at referring, is where you need not only an ACR, but you should be thinking about an ultrasound as well. If you are going to do this indicator, do it properly and you target a small group." [GP, Interview]

One practice who was initially strongly against the use of indicator 3, when discussing the frailty aspect of indicator 4 suggested that if a frailty exclusion were to also be included in indicator 3 that the indicator would be 'really good.'

"I would probably say the same about the last indicator, if you put severe frailty excluded, then great; I think the two (Indicator 3 and 4] are really good!" [GP, Interview]

Difficulty obtaining urine samples

Three practices spoke about the potential challenge of getting patients to provide urine samples for the ACR measurement, which could negatively impact on the implementation of this indicator:

"So, firstly getting patients to do the ACRs, and historically, we really struggle with that. Getting the patients – bringing them in, in a timely manner doesn't tend to happen. They often don't bring in first thing in the morning and then we have had several issues historically with the lab – refusing to do them – so we end up sending them in and then the hospitals don't do them." [GP, Interview]

"I think so, generally speaking, patients don't like giving urine samples. They are the ones that we always struggle to get, for some reason […] on my recall system I could put "Need to repeat eGFR and needs ACR at the same time" but the chances of a patient actually doing both – I think you are going to struggle." [GP, Interview]

"CKD3: a lot work to do ask patients to supply urine samples." [GP, Survey]

In contrast, one practice felt urine tests are preferable to blood tests, as patients prefer them in their view and it is faster and easier to get urine samples tested:

"…easy enough for patients and practice to arrange, as it's non-invasive. Patients dread blood tests, a lot of them do, and may be annoyed at having to repeat the blood tests after 90 days. Whereas this would be more acceptable […] there's, like, a week-long wait [for blood test results to be processed]. So, if you just gave them [patients] a urine bottle instead […] it would be so much easier." *[Practice Manger, Interview]*

Communication with patients

Additionally, a couple of practices highlighted the challenges of communicating with patients about CKD, especially when a prognosis is not straightforward:

"The other big challenge we find also is […] explaining to patients, because what every patient wants […] is the prognosis of – where is this going and we want – and it is very emotive when you say kidney – they automatically think "Am I going to die" – so I think from this point of view unless there is a compelling need for that indicator I would suggest that it is not included." [GP, Interview]

"I personally, really struggle to get patients on board with CKD as it is and explain it to them without scaring them to death but also so that they understand. It is a really difficult topic and I still think we are not brilliant at it in terms of explaining. I am not sure it would be – I don't think we would find it easy is the answer." [GP, Interview]

Indicator 4 – Management of CKD – specific issues identified in interviews and survey

As mentioned previously, there was overall support for this indicator. At least two GPs noted their practice was largely fulfilling the work of this indicator already due to patients having other conditions that required regular blood pressure checks. One of these interviewees queried whether the proposed new indicator would therefore lead to duplication of payment:

"I think we are already doing this work […] so most CKDs – I am making a general sweeping statement here – are either hypertensive in the older group or diabetic - they are probably the two biggest groups, and they are already getting the blood pressure […] you are going to put it into the indicator as something that we are already doing, and I just worry about the duplication of payments really. This is additional money for something which we are already doing." [GP, Interview]

It was suggested by one of these practices that the indicator could focus on just patients with CKD and exclude those on other QOF registers who will be getting their blood pressure checked:

"…does that actually just need to be more an indicator where we check the blood pressure of people who aren't otherwise on another QOF register so maybe exclude hypertension, diabetes and then actually you want to be just checking the blood pressure of just the people who have got CKD on their own […] because that would probably be a better clinical care. Because I think the other groups are already being managed." (GP, Interview)

Another practice agreed with this suggestion.

A few practices suggested the ACR requirement of this indicator should be removed as some patients who need to be treated could be missed, therefore leading to poorer clinical care. One respondent to the survey also suggested removing the ACR requirement (see p32):

"What you're doing with this one is you're ignoring those with an ACR over 70 and a blood pressure of 160/100, which isn't good clinical care. So, why not just remove that line. There won't be many of them, but if there are any out there, who've got an ACR over 70, whose blood pressure is over 140 over whatever it is, we need to find them, we need to treat them." [GP, Interview]

Some practices were asked to consider the impact of needing to re-instate a retired indicator (related to patients having an ACR measurement[2]) for this indicator to be fulfilled. There were mixed views from those practices that discussed this issue. Three practices were not in favour of bringing back a retired indicator:

“We are in full agreement, don’t bring back any old [indicators]” [Practice Manager, Interview]

However, a few practices appeared to be accepting of the retired indicator being reinstated for the purposes of achieving this indicator on the management of CKD, with one suggesting the timeframe could be extended to make the requirement more manageable for practices:

“… they should be doing ACRs. You could try to reduce the workload by saying, 'Well, an ACR doesn't change that quickly, you could make it in 24 months and base it on that but actually, practically, it's easier to just do things every year. But if you make the indicator 24 months or 36 months, whatever, the people who haven't responded that year and haven't had their ACR done, well they've got a historic one or they've got a historic code, I'm sure there are ways of doing it.” [GP, Interview]

It was also noted by one GP that restoring this indicator may be more manageable now due to the additional healthcare professional roles that are involved in the management of patient care, such as pharmacists and pharmacist technicians.

“I would say that I know you are restoring it again; the difference is now that we do have more staff members, like health care – additional health care professionals such as the pharmacist, pharmacy technicians who are all involved in cardiovascular, CVD prevention and this work that we can potentially do.” [GP, Interview].

The same GP talked about how reinstating the indicator could support targeting of effort and potentially a reduction in workload:

"So, if you put the ACR denominator in, then it will reduce the number of patients that we have to do. The problem is […] a lot of patients with CKD are not having an ACR check, that is the problem […]. If you take away the ACR criteria, it will increase the number of patients but actually we already have a QOF target anyway of trying to achieve less than 140/90 – so we are really doing the work, but the difference is that

[2] CKD004 The percentage of patients on the CKD register whose notes have a record of a urine albumin:creatinine ratio (or protein:creatinine ratio) test in the previous 12 months.

you are focussing your work on a specific group of the population who will benefit from it."

Suggested amendments to indicator definitions and/or wording

One of the interviewees made a general comment about the wording of all four CKD indicators. It was felt they were too complicated and would not be understood well by staff implementing them:

"These four indicators frighten the life out of me from a practice management perspective. So first of all, it is the wordiness of them. The bulk of the staff who are doing a lot of the QOF work will really struggle as to what it is they are supposed to be doing […] That will be your biggest challenge, if these were to be made 'live' you might not get practices actually comprehending because the people who do the recalls might not grasp what it is they have to do." [Practice Manager, Interview]

Indicator 1 – Early identification of CKD

Most survey respondents (78.8%, 26/33) did not think the wording needed to be changed for this indicator, with a further 4 (12.1%) being 'unsure'. Of the 3 respondents (9.1%) who thought the wording should be changed, two included a comment which noted the need to clarify what was meant by 'chronic':

"CKD1 - CLARIFY HOW LONG IS 'CHRONIC'." [GP, Survey]

"CKD1 - this needs to be clearer re the length of treatment/what classes as chronic prescribing as you can have longer than 1/12 scripts given." [GP, Survey]

Similarly, one survey respondent wrote a comment in relation to the question on whether the supporting guidance could be improved around the definition of long term NSAIDs:

"CKD 1 It can be improved by defining long term oral non-steroid anti-inflammatory drugs by giving it a time frame." [GP, Survey]

<u>Definition of 'long term' use of NSAIDs</u>

The practices were asked to consider whether the proposed indicator provides an acceptable focus on patients who are most at risk of CKD with regard to the 'long-term' definition and the focus on all prescribed oral NSAIDs.

A couple of GPs considered the working definition of long term NSAID use as '12 prescriptions over 24 months' as acceptable, although they noted that the clinical decision to conduct a renal function blood test would also be based on the patient's age and health status:

"I tend to base it a little bit almost on the patient and their age. So, if I have got someone who is still young and fit then after six months I will start considering doing a blood test if they have been on a regular prescription for six months. If someone is older or they are on an ACE inhibitor or a diuretic I will consider doing a blood test after a month or two. I think it varies a little bit on the actual patient […] so, I think it is going to be a difficult thing to define but I would have said, yes, 12 prescriptions over 24 months seems […] sensible although I might be a little more cautious in my own clinical practice." *[GP, Interview]*

"I think we have to set a standard - whether it is 12 or 24 [prescriptions]. I think as long as we have a standard that we can adhere to, then we can take on top of that – because this is the baseline standard […] I would be much more aggressive in terms of renal function monitoring for people who have got polypharmacy, who are elderly and frail […] So, I agree, we are kind of looking at a minimum standard and I have no objections to 12 and 24." [GP, Interview]

The need for greater clarity of the working definition of 'long term' was raised by some interviewees. One practice queried whether the definition referred to 12 'acute' prescriptions and noted that a patient may be given a prescription for four-months' worth of medication. The same practice noted that they were being encouraged to not put NSAIDs on repeat:

"…twelve prescriptions seem a lot and maybe the threshold should be lower. Also, not clear if it's twelve acute, what if someone was given four months' worth of medication." [Practice Manager, Interview]

Similarly, as discussed, some practices also noted that if patients were given medication in a quantity of longer than two months they could be missed from the indicator. Another practice highlighted that they are more likely to leave prescriptions for two to three months due to workload issues:

"We have an ongoing battle with the amount of prescriptions that we are told to do, so we are really – massively pushed to just do four weeks supply of everything and the amount of work it's generating, is awful, just because the amount of prescriptions that I've got to sign. So, I would definitely be leaving to two months and three months where possible". [GP, Interview]

Another practice suggested the 'long term' definition of NSAID use could be amended to help differentiate between a prescription of 10 tablets, which could be short term use or where a patient orders a repeat prescription every 2 months.

"The controlled prescription could be 10 tablets and it could be short term use – very short-term use. Another possible way of looking at it would be if it is on their repeat prescription and if they ordered it in the last – if they are ordering it every two months, I suppose, something like that." [GP, Interview]

It was highlighted by one practice that a potential unintended consequence of the 'long term' definition for NSAID use could be to encourage GPs to prescribe a 3 months' supply of medication rather than a 2 months' supply (see p46).

Focus on all prescribed oral NSAIDs

Some practices were asked for their views on whether the group of NSAIDs should be limited to certain medications. Two practices agreed with the existing indicator definition that it should cover all NSAIDs, although one suggested that if there was a need to focus the indicator, then it could be restricted to those with a greater risk of kidney injury (i.e., those on long term NSAIDs and a diuretic or ACE inhibitor).

"…you can't discriminate individuals – it should be all of them." [GP, Interview]

"…it should be all NSAIDs I don't think it is easy to discriminate – you know – that one is better than the other. I would prefer if we were going to do this for it to be for – kind of – all patients on long term NSAIDs but if you had to put something in place to reduce the numbers down, I would say, NSAIDs with someone who is either on a diuretic or on an ACE inhibitor or an ARB. So, where there starts to get a little bit of polypharmacy where you are increasing the risk of giving them acute kidney injury." [GP, Interview]

The impact of different NSAIDs on the kidney was highlighted by a few practices. One GP suggested that patients who are prescribed low dose aspirin could be excluded from the indicator due to the low impact of this medication on the kidneys.

"I probably wouldn't say, include patients on low dose aspirin because those patients don't really impact on the kidneys; in fact you can see a lot of renal patients – patients under renal care – they are actually on aspirin anyway – on 75mg of aspirin - patients with quite pronounced renal problems – so it is obviously not having that much of an impact on the kidneys and therefore it shouldn't be part of the register." [GP, Interview]

Similarly, another practice suggested that the indicator could focus on those at a greater risk of toxicity due to the type and/or number of medications being taken.

"So, I think to be able to capture it better to make sure we are targeting the right person, making sure that we are quite clear what we are trying to target and that is why I go back to looking at patients who have quite a high risk of developing toxic conditions." [GP, Interview]

Some practices specifically discussed if they thought the indicator could be refined to focus on patients who are prescribed a group of three medications, sometimes referred to as the 'triple whammy' (i.e., patients on a NSAID, an ACE inhibitor, and a diuretic). GPs from two different practices noted that the more clinically vulnerable (i.e., those on the 'triple whammy') are already likely to be having an annual blood test done. Therefore, if this group is targeted it would not generate a lot of additional work for practices, but it would not lead to public health improvements.

"…they are getting their bloods done anyway, so there is literally no work there and I suppose that is great – I am kind of asking for more work which is odd but actually […] you are not going to find that much of a significant improvement in public health basically – if you just target those groups of patients – because they are already having their bloods done anyway." [GP, Interview]

"I know that I see those patients in different settings in different scenarios, so I know that they are having annual medication reviews […] So, they are very much, I feel, already catered for. […] I wonder whether it is the ones that we are not picking up anywhere else that are the ones that you could somehow try and target this towards because I do think that older patient cohort are the multiple medication ones." [GP, Interview]

Another GP also noted that patients on the hypertension and/or chronic disease registers would be invited to attend the practice for annual blood tests. However, in contrast, they suggested it may be appropriate to target the intervention at the 'triple whammy' group of patients by not allowing Personalised Care Adjustments, so the aim is specifically to follow up this difficult to reach cohort who have greater clinical need:

"Certainly, everybody on our hypertension register gets an annual U&E [urea and electrolytes blood test] done […] Or the chronic diseases that would mean they're on an ACE inhibitor and a diuretic, they'll be invited. Now, you could, I suppose, put a non-exception reported group on the triple whammy so, actually, we get paid for

chasing up and chasing down the difficult to reach triple whammy patients, because it is so important. That might be worthwhile doing." [GP, Interview]

Subgroup by patient age

Some practices were asked if the definition for indicator 1 should be refined to create a subgroup of patients by age, such as those aged 65 years and over. There were mixed views from those interviewed with a couple of interviewees suggesting that patients of all ages should be included in the indicator.

Three practices thought it would be inappropriate to focus on older age groups, like those aged over 65 years, due to the greater likelihood of this cohort being seen within primary care already due to other conditions. It was felt that it would be important to include younger patients who may otherwise be missed.

"We thought, maybe the over 65s was too old. Actually, a lot of those might already be in the system […] getting checks done. Actually, the younger ones, where things are going off early and there are no other chronic diseases there, might be more relevant, to try to pick up. We might actually make a bigger difference to that population." [GP, Interview]

"… most of our older patients are having this done on a regular basis because they usually are on registers for other things and the ones I tend to find are ones where I am signing prescriptions and they tend to be that younger 40 – 60 cohort which aren't necessarily being picked up anywhere else." [GP, Interview]

"I think it might be a good starting point to provide that for the general public because over 65's are being given a lot of monitoring but the ones who are not in that age group, sometimes it may be the ones we miss […] because what we are trying to prevent is people going on to have dialysis or kidney transplant, that is the main thing" [GP, Interview]

Similarly, a GP who responded to the survey commenting that *"This is a lot of patients. To keep the numbers lower[…] just target the younger cohort who don't normally have regular blood tests."*

However, in interview, one of the practices quoted above, in addition to a further practice, recommended that those aged over 50 years are targeted by the indicator initially, due to potential issues with older patients being prescribed multiple medications (polypharmacy):

"…in terms of age group […] our team focus on the over 50s to start off with, because of the frailty and the potential issues with non steroidals - the younger group

tend to have it, if it is long term, for much more sort of rheumatological conditions and it is unusual for them to suddenly – you know – to be worrying so much about polypharmacy – not that we ignore them – but we tend to focus on the group of over 50s and I think it should be all of them." [GP, Interview]

"We thought, over 50s would be the right group. We thought, also, people on ACE inhibitors, ARBs, should be included, whatever age, if they're on regular non-steroidals. You would've thought they would be getting their monitoring for their ACE inhibitor ARB anyway." [GP, Interview]

Indicator 2 – Diagnosis of CKD

Seven respondents to the survey (21.2%) thought the wording of this indicator should be changed. Of the four respondents who provided a comment to explain their response, one mentioned the need to lengthen the time limits (however, as discussed on p18, from the interviews there appeared to be confusion regarding the time limits, as the indicator states 'at least 90 days between tests'), one requested removal of the time limits, and two suggested the wording was too complicated:

"CKD2 the timings need to widened to 6 months". [GP, Survey]

"CKD2. remove time limits - no benefit of it being at least 90 days apart - what if it is 85 days? or what if eGFR very low? would we wait 90 days for another test?". [Senior Manager, Survey]

"CKD2 - sorry but unable to think of a better way, it's very complicated indicator". [GP, Survey]

"The others are too wordy and mean little to staff without detailed knowledge and so for patients they'll never understand. CKD ones especially poor as the business rules will be monstrous". [Practice Manager, Survey]

One GP suggested the following wording to simplify the indicator and make it clearer:

"I was just thinking – could you almost say something like, 'CKD is confirmed with two blood tests at least three months apart'." [GP, Interview].

Indicator 3 - Classification of CKD

Most survey respondents (60.6%, 20/33) did not think the wording of this indicator needed changing or were 'unsure' (24.2%, 8/33). Five respondents (15.2%) thought the wording should be amended, with two providing a written explanation:

"CKD3: ACR checks for just stage 3." [GP, Survey]

"CKD3. remove 90 days." [Senior Manager, Survey]

A respondent to the survey question on whether the supporting guidance could be improved commented that ACR checks should just be carried out for those patients with stage 3 CKD:

"CKD3: Most stage 4 and stage 5 patients with renal disease are under 2o care and well managed. ACR checks for just stage 3." [GP, Survey]

This view was reiterated in the same practices' feedback via interview:

"The other thing as well, asking us to do it for stage 4 and 5 – well to be fair, I suspect that those patients of stage 4 and 5 will have blood pressure targets, ranges of 120/129 already anyway, so there is no point in including both those groups of patients." [GP, Interview]

As previously discussed, one practice also suggested that including a frailty exclusion would improve the indicator.

Indicator 4 - Management of CKD

As with indicator 3, the same proportion of survey respondents (15.2%, 5/33) thought the wording of this indicator should be changed. There were three free text comments suggesting how the indicator wording could be amended, although one was actually a suggestion for Personalised Care Adjustment wording:

"CKD4: remove the ACR criteria." [GP, Survey]

"CKD4. with BP measured at least annually." [Senior Manager, Survey]

"CKD4 - this needs to have a provision for option of tolerated therapy/not indicated due to other co-morbidities etc as frailty coding doesn't always cover this too." [GP, Survey]

Three interviewees noted the importance of ensuring the blood pressure target required for the indicator is consistent with other existing indicators to avoid confusion for clinical staff:

"Can you make sure that if you are going to use blood pressure, that it is consistent with the other hypertension indicators. Because we have got a PCN indicator that isn't consistent, so that if someone has got a blood pressure reading of 140/90 exactly and let's face it, I am sure nurses will round it up because it is easier. You omit it out of the hypertension but the new PCN indicator, it is worded slightly differently, and you fall into that category. So, it is causing all sorts of confusion and

the nurses have been told, "Look, avoid 140/90 – do not record 140/90" – it is causing us problems." [Practice Manager, Interview]

Frailty exclusion

Practices were asked to consider the proposed exclusion of all patients with moderate or severe frailty from the indicator. Whilst two practices agreed with this exclusion (with one arguing that the recording of frailty could mirror the current practice for a QOF diabetes indicator[3]), there was agreement amongst other practices that were asked that targeting those aged under 80 would be more appropriate. At least half of the interviewed practices were concerned about the quality of coding for frailty within the clinical system. It was further argued that, from a clinical perspective, it can be difficult to manage the blood pressure of this patient group due to multimorbidity. Limiting the indicator to those aged under 80 would also be consistent with the existing hypertension indicator:

"Certainly the moderate, severe and the frailty and eFI is not uniformly done across the land, and it certainly causes certain problems for some practices." [Practice Manager, Interview]

"I would also put an age range in terms of who this targets as well. I think perhaps maybe anyone who is under the age of 80. The reason why is – because I know that you said without moderate or severe frailty, but a lot of our patients are not coded as moderate, severe frailty." [GP, Interview]

"I think some of us struggle with the frailty and I think if you could just make it the age group, it would be quite straightforward and less complex." [GP, Interview]

One GP argued that it would be important to exclude those over 80, as the blood pressure target may not be suitable and inadvertently cause more problems:

"I think that would be very sensible [to exclude those aged 80 and over]. Just because they are the ones that when we are targeting low blood pressures like this, they are the ones that we end up invariably causing more problems with, and falling, hip fractures and all the rest of it. So, they are often the ones where you would get a little bit of a higher blood pressure because you know that is in their best interest […] I think having an age limit in there would be very sensible." [GP, Interview]

[3] DM019 The percentage of patients with diabetes, on the register, without moderate or severe frailty in whom the last blood pressure reading (measured in the preceding 12 months) is 140/80 mmHg or less

A couple of the GPs agreed that the indicator should be limited to those aged under 80 but suggested that clinical judgement should be used for younger patients (assumed to be 65 onwards) who have severe frailty:

"I am happy with an age cut off saying – above 80, we exclude them – but I think there should also be an ability for a clinician to exclude someone who is younger but has also got severe frailty and you wouldn't be wanting to do this indicator on anyway." [GP, Interview]

However, conversely one practice who was in support of the use of frailty felt that the decision of frailty should be kept to clinical coding rather than clinical judgement.

Practices' views on implementation issues and impact

This section covers practice views on: training requirements; workload, resource utilisation (including which healthcare professionals would be involved) and costs (including impact on appointment times); any changes required to practice organisation (e.g. setting up and use of clinical system protocols, recall systems, and templates); any barriers to implementation; assessment of overlap with and/or impact on existing QOF indicators or local schemes; and any other overall views on implementation of the indicators (including unintended consequences).

Training requirements

Practices were asked in the survey whether staff would need any additional training to implement the CKD-related indicators. Two thirds of survey respondents (66.7%, 20/30) thought administrative staff would require additional training, with just over half (53.3%, 16/30) believing this would be the case for clinical staff.

The issue of training was not raised in any of the interviews with practices.

Workload, resource utilisation and costs

Clinical workload

Both the survey and interviews with pilot practices revealed differences in opinions regarding the workload associated with the CKD-related indicators. More than half of survey respondents thought each of the four indicators would 'definitely' generate additional clinical workload, with at least one in five reporting this would be the case 'to some extent' (Table 5).

Table 5: Views on additional clinical workload generated by each indicator (survey)

Will the requirements relating to each indicator generate additional clinical workload?					
	Yes, definitely	Yes, to some extent	No	Unsure	Total
Indicator 1: Early identification of CKD	19 (61.3%)	7 (22.6%)	3 (9.7%)	2 (6.5%)	31
Indicator 2: Diagnosis of CKD	17 (54.8%)	11 (35.5%)	1 (3.2%)	2 (6.5%)	31
Indicator 3: Classification of CKD	18 (58.1%)	9 (29.0%)	2 (6.5%)	2 (6.5%)	31
Indicator 4: Management of CKD	18 (58.1%)	7 (22.6%)	3 (9.7%)	3 (9.7%)	31

Three practices interviewed expressed concern over the volume of patients associated with indicator 1 (Early identification of CKD) with one specifically stating that it could be 'unmanageable' from a workload perspective.

"*I think it is really good, but the numbers are the thing that scared me a little bit and when I was thinking about it, I thought whether doing everybody – it just felt unmanageable." [GP, Interview]*

"The bulk of the staff who are doing a lot of the QOF work will really struggle as to what it is they are supposed to be doing and then when they see the numbers involved they will absolutely freak out! […] the numbers will be vast." [Practice Manager, Interview]

It was suggested that the workload associated with this indicator could be lessened if the target for achievement could be set lower or if it focused on a certain age group initially, with the range increasing over time.

"One way of making it change but without burdening the system, is to set the bar quite low in terms of the percentage to achieve our points. And, as I said, maybe it might be just 20% of the register that you need to achieve to get the QOF points to start off." [GP, Interview]

"…it needs to be focused – if you come in […] with all of these numbers it will get missed in the first year – you maybe want to think - how can we start geeing this up? So, the first year, target a particular age group and then the next year increase the age group so that in two or three years' time, we might hit everybody but target the right age band. It won't create masses of work for us." [Practice Manager, Interview]

If indicator 1 was implemented, a couple of practices anticipated an increase in the volume of queries and requests from patients which would also create additional workload.

"We are already doing the work – but if some practices aren't, there is hidden work around it because if they aren't doing the work, patients want to know: How they can access the results? What do the results show? What does borderline mean? Because obviously they can see it on their patient summary […] we have processes that have set that up, but those practices who aren't doing it, it can cause that issue." [GP, Interview]

However, some practices were not concerned by the workload associated with indicator 1, as they reported that they are already carrying out this work:

"We would be running searches here in the background to identify patients so there wouldn't be a massive amount of extra workload and over the last few years, we have been trying to actively de-prescribe NSAIDs so, I think, yes the amount of work now for our practice would be kind of a lot less than it would have been, say, five or ten years ago. So, I think it would certainly be manageable." [GP, Interview]

"…we're, kind of, doing it already. So, it would probably slot in quite nicely, to be honest with you." [Practice Manager, Interview]

One GP explained in interview that although there was initial workload to set up the searches to identify all patients on NSAIDs, there is a reduction in workload in the longer term for identifying new cases. An additional benefit is that once the searches were set up this allowed the workload to be distributed amongst all clinical team members:

"When we first started it and we did the searches, […….]to identify all NSAIDs in different age groups. So, yes you get a bit of workload but actually it reduces your long-term work […] once you have done it, then you put that initial workload in, then it is really easy because every new patient that pops up on the search […] you then go and look at that patient […] So, from a clinical point of view, once the search is there, anyone from the medicine management team, whether that is the pharmacist, the pharmacy tech or a GP or clinician or someone who is medically trained, can take this workload on. It is not specific just to GPs." [GP, Interview]

Although workload implications were not, on the whole, specifically questioned in relation to indicators 2,3, and 4 in the interviews, a number of comments were mentioned in relation to workload as previously discussed.

In addition, a GP responding to the survey commented on the increased workload associated with indicator 2 due to the necessity of discussing the diagnosis of CKD with patients:

"CKD2: GPs may find this difficult to [do] logistically and adds more work to discuss the diagnosis of CKD with the patient." [GP, Survey]

Similarly to indicator 1, a GP in the interviews suggested that to manage the workload associated with indicator 2 it would be worth initially setting a lower achievement for target:

"The main drawback is being the number of people that will come up with this and that is the reason why it may make more sense to have a set percentage of how many are required to have a – it might be – it might be worth just setting the bar lower – much like the NSAID one – just set the bar low to start off with." [GP, Interview]

When asked whether they were concerned of the workload impact involved with patients whose second eGFR was normal but as such were not included in the indicator, the two practices that were asked were not concerned about the workload or payment associated with it:

'We get paid for our phlebotomy activity already so that doesn't really concern me about the workload or the payment for the blood test itself (…)." [GP, Interview]

"We would normally repeat the blood test anyway just regardless of the guideline, to make sure that, actually, whatever we have done to cause the acute kidney injury, has resolved. So, I don't think it is going – should add much more extra workload compared to what would be good practice anyway. (…) I think yes it probably would be work that people should be doing anyway and there are other ways you get funded for it." [GP, Interview]

Due to the need to manually classify results based on eGFR and ACR measurements for indicator 3, as mentioned previously it was noted that this would generate additional work:

"…the table from NICE diagnosing CKD, using their eGFR and the ACR, I think a lot of people will struggle with that as clinicians […] it is going to create quite a lot of workload." [GP, Interview]

A larger proportion of respondents to the survey believed GPs would be most affected by the clinical requirements of the indicators when compared with the other staff groups, particularly for indicators 1 and 2 (Table 6). However, relatively large proportions of respondents also thought that nursing staff and pharmacists would be affected by the indicator requirements.

Table 6: Views on staff groups affected by the clinical requirements (survey)

Which staff group(s) would be most affected by the clinical requirements of the chronic kidney disease indicators?						
	GP	Nursing	Pharmacist	Other Clinical	Unsure	Total Respondents* (n)
Indicator 1: Early identification of CKD	23 (74.2%)	13 (41.9%)	13 (41.9%)	7 (22.6%)	2 (6.5%)	31
Indicator 2: Diagnosis of CKD	23 (74.2%)	17 (54.8%)	6 (19.4%)	6 (19.4%)	2 (6.5%)	31
Indicator 3: Classification of CKD	21 (67.7%)	17 (54.8%)	7 (22.6%)	5 (16.1%)	2 (6.5%)	31
Indicator 4: Management of CKD	22 (71.0%)	19 (61.3%)	9 (29.0%)	6 (19.4%)	2 (6.5%)	31

* This is a multiple response question, so the number of responses per indicator/row totals more than 31, as respondents could select more than one response

Administrative workload

As with clinical workload, most survey respondents thought the four CKD-related indicators would 'definitely' generate additional administrative workload particularly for indicators 2 and 3 where 68.8% (22/32) and 71.9% (23/32) reported this, respectively (Table 7). As previously mentioned, the additional workload involved in recalling patients for a repeat blood test to fulfil the requirement of indicator 2 was highlighted as an issue by some. Similarly, some practices were concerned about the increase in administrative work associated with obtaining patient urine samples for the ACR measurement required for indicator 3:

"…there is a lot of work for that because – it is not the case of just doing a blood test, this is a urine sample and urine samples are a bit more cumbersome to do in general practice." [GP, Interview]

"I have got quite a lot of elderly people in a nursing home who have got an eGFR of 30 and 40 – I am not going to be asking the nursing home to pop down with a urinary ACR which adds a massive amount of work to my reception team, my admin team." [GP, Interview]

Table 7: Views on additional administrative workload generated by each indicator (survey)

Will the requirements relating to each indicator generate additional administrative workload?					
	Yes, definitely	Yes, to some extent	No	Unsure	Total
Indicator 1: Early identification of CKD	20 (62.5%)	7 (21.9%)	4 (12.5%)	1 (3.1%)	32
Indicator 2: Diagnosis of CKD	22 (68.8%)	8 (25.0%)	1 (3.1%)	1 (3.1%)	32
Indicator 3: Classification of CKD	23 (71.9%)	6 (18.8%)	2 (6.3%)	1 (3.1%)	32
Indicator 4: Management of CKD	20 (62.5%)	9 (28.1%)	2 (6.3%)	1 (3.1%)	32

Time pressure, appointment capacity and appointment type/length

Most respondents to the survey thought there would be time pressure issues in the practice if the indicators were introduced, particularly for indicator 2 where 76.7% (23/30) said they could foresee this (Table 8). As noted earlier, some practices expressed concerns over the difficulty in recalling patients within the timeframes.

Table 8: Views on time pressure issues in the practice relating to the indicators (survey)

Can you foresee any other time pressure issues in the practice relating to the indicators				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	18 (60.0%)	10 (33.3%)	2 (6.7%)	30
Indicator 2: Diagnosis of CKD	23 (76.7%)	4 (13.3%)	3 (10.0%)	30
Indicator 3: Classification of CKD	21 (70.0%)	5 (16.7%)	4 (13.3%)	30
Indicator 4: Management of CKD	19 (63.3%)	8 (26.7%)	3 (10.0%)	30

Although over half of respondents thought the introduction of the four CKD-related indicators would be associated with appointment capacity issues, between one quarter and one third of respondents across the indicators did not foresee that there would be an issue (Table 9).

Table 9: Views on potential capacity issues in the practice relating to the indicators (survey)

Can you foresee any appointment capacity issues in the practice relating to the indicators?				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	20 (64.5%)	9 (29.0%)	2 (6.5%)	31
Indicator 2: Diagnosis of CKD	19 (61.3%)	8 (25.8%)	4 (12.9%)	31
Indicator 3: Classification of CKD	19 (61.3%)	9 (29.0%)	3 (9.7%)	31
Indicator 4: Management of CKD	20 (64.5%)	10 (32.3%)	1 (3.2%)	31

The survey revealed mixed views in response to the questions on whether any changes would be required to the appointment type and/or length if the indicators were implemented. A similar proportion of respondents thought a change to appointment type was needed when compared to those that did not think this was

necessary (Table 10). A slightly higher proportion of respondents did not believe the appointment length would need to be changed if the indicators were introduced when compared to those that thought this change was needed (Table 10).

Table 10: Views on any changes needed to appointment type/length relating to the indicators (survey)

Do you think there would need to be any changes to appointment TYPE for the following indicators?				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	12 (40.0%)	12 (40.0%)	6 (20.0%)	30
Indicator 2: Diagnosis of CKD	13 (43.3%)	12 (40.0%)	5 (16.7%)	30
Indicator 3: Classification of CKD	12 (40.0%)	13 (43.3%)	5 (16.7%)	30
Indicator 4: Management of CKD	10 (33.3%)	15 (50.0%)	5 (16.7%)	30
Do you think there would need to be any changes to appointment LENGTH for the following indicators?				
	Yes	No	Unsure	Total
Indicator 1: Early identification of CKD	8 (26.7%)	17 (56.7%)	5 (16.7%)	30
Indicator 2: Diagnosis of CKD	11 (36.7%)	14 (46.7%)	5 (16.7%)	30
Indicator 3: Classification of CKD	12 (40.0%)	13 (43.3%)	5 (16.7%)	30
Indicator 4: Management of CKD	11 (36.7%)	14 (46.7%)	5 (16.7%)	30

Changes in practice organisation

Where regular blood tests are not routinely conducted for patients on NSAIDs (who are not already on a chronic disease register), the implementation of indicator 1 would require a change in practice organisation according to interviewees.

To fulfil the requirements of indicator 2, practices would need to establish a system to recall patients for repeat blood tests, if not already set up.

Barriers to implementation

The report has previously highlighted potential barriers at a practice level to implementing the indicators, such as patient attendance for recall blood tests, patient compliance with providing urine samples, and workload issues. This section outlines two potential barriers to implementation that would need to be addressed at a CCG or national level.

Lab capacity to process blood and/or urine samples

A few practices/respondents in both the interviews and survey mentioned hospital laboratory (lab) capacity as a potential barrier to implementation, reporting that these labs may refuse to process blood or urine samples if they reach capacity:

"… the labs have been struggling quite a bit over the last year or so and intermittently they will stop doing tests and they don't give us any notice. So, you will just sort of get an email – "[name] Hospital has decided that the lab is not currently processing urine samples […] So, it could be a bit hit and miss throughout the year, depending on how pressurised the hospitals are". [GP, Interview]

"Timely access to phlebotomy." [GP, Survey]

"It is a bit like with the urinary ACRs – if the labs in [town] turn around and say "We are not processing them anymore" – great, thanks!" [GP, Interview].

"Availability of blood clinics locally." [Practice Manager, Survey]

One GP, when discussing indicator 4, highlighted the potential duplication of conducting urine samples for patients on both the CKD and diabetes registers which could lead to doubling the volume of tests required. (However, to note that the indicator does not require additional tests if they have already been done within the expected timescales). It was questioned whether a solution may be to change to 'near patient testing' for ACRs rather than going via the labs. It was explained that 'near patient testing' is a digital solution whereby an outside provider sends patients home testing kits for urine samples which would be processed in a private lab on behalf of the CCG.

"…we are already doing lots of urinary ACRs for the diabetics, just for our practice we have got about 1200 on the Chronic Kidney Disease register and we have got about 1100 diabetics […] there will be duplication because some of them are on both registers – you're suddenly, potentially, worst case scenario, doubling the number of urine samples coming through Reception which has infection control issues, which

has storage issues in the fridge. We are fortunate enough to have a twice daily pick up to the lab – and then there is lab capacity – so if every single practice suddenly starts – well doubling, potentially, its number of urine samples.[…] So, I am not sure if there have been any conversations with the labs […] and also just thinking laterally is there any way we can look at our near patient testing for ACRs - would that be an option going forward?" [GP, Interview]

Shortage of blood sample bottles

One GP mentioned the recent national shortage of blood sample bottles, an issue outside the control of the practice which should be taken into consideration as it would be a barrier to implementing the indicators:

"Obviously not long ago, there was the shortage of blood bottles […] cut us a bit of slack – so we don't get penalised if it is a national issue!" [GP, Interview]

Assessment of Personalised Care Adjustment reporting rates

Within the interviews, at least one practice raised concerns regarding expected high 'did not attend' rates for the repeat blood test relating to the diagnosis of CKD (indicator 2).

"We did think that there would be some people who just didn't go, that we would request the test and they would have to make allowances for that in the indicator, working in exception reporting and so on." [GP, Interview]

A respondent to the survey commented that indicator 4 (Management of CKD) should include an exception for 'tolerated therapy/not indicated':

"CKD4 - this needs to have a provision for option of tolerated therapy/not indicated due to other co-morbidities etc as frailty coding doesn't always cover this too." [GP, Survey]

Assessment of overlap with and/or impact on existing QOF indicators or local schemes

A few practices noted overlaps between existing indicators and indicator 4, with practices arguing that groups such as those with diabetes and/or hypertension are already having blood pressure measurements. It was noted that if indicator 4 was to be implemented it needed to be consistent with the requirements of other QOF indicators that look at blood pressure targets:

"It should probably be consistent with the hypertension indicator as well. […] It's difficult because trying to holistically work out what someone's target blood pressure should be when they've got multi morbidity and proteinuria, diabetes, ischemic heart disease and they're 85 and falling over, it's quite a difficult task, actually, and what you need to look for is consistency across all of them, so that you don't end up with one indicator fighting with another." [GP, Interview]

"Can you make sure that if you are going to use blood pressure, that it is consistent with the other hypertension indicators." [Practice Manager, Interview]

One practice also noted concern that there may be an overlap with indicator 1 and an indicator in the 2020/21 PCN DES Investment and Impact Fund[4,5]:

"I often worry about whether there could be duplication because when you look at the impact investment QOF fund this year – I think last year there was also talk about I think non steroidals in there – in the indicator – so I think I just worry about possibly duplication." [GP, Interview]

Other overall views on implementation of the indicators (including unintended consequences)

Most survey respondents were either unsure or did not think there would be any unintended (positive or negative) consequences if the CKD-related indicators were introduced (Table 11). Of those who did predict some unintended consequences (which was less than 50% for each of the four indicators), a higher proportion thought they would be positive than negative for all four indicators (Table 11).

[4] https://www.england.nhs.uk/wp-content/uploads/2020/09/IIF-Implementation-Guidance-2020-21-Final.pdf

[5] Indicators MS01, MS02 and MS03 (Indicator MS01 complements the 2019/20 QOF quality improvement module on prescribing safety, which included a focus on safe prescribing of NSAIDs

Table 11: Views on potential unintended consequences relating to the indicators (survey)

Are there any unintended positive or negative consequences that you can think of that could be experienced locally if these indicators were introduced nationally?					
	Yes, positive	Yes, negative	No	Unsure	Total
Indicator 1: Early identification of CKD	8 (26.7%)	1 (3.3%)	10 (33.3%)	11 (36.7%)	30
Indicator 2: Diagnosis of CKD	8 (26.7%)	3 (10.0%)	8 (26.7%)	11 (36.7%)	30
Indicator 3: Classification of CKD	9 (30.0%)	4 (13.3%)	7 (23.3%)	10 (33.3%)	30
Indicator 4: Management of CKD	7 (23.3%)	3 (10.0%)	8 (26.7%)	12 (40.0%)	30

Respondents who predicted positive unintended consequences if the indicators were introduced noted improvement to patient experience, providing clarity for clinicians on the diagnosis of CKD, and better awareness of CKD and the risks of long term NSAID use.

"All indicators are reasonable and would improve patient experience with a more structured approach." [Practice Manager, Survey]

"CKD1-4 +ve benefit in focussing minds and clarifying diagnosis of CKD which I think has never been clear to clinicians." [GP, Survey]

"Better understanding of potential risks of long term NSAID use. Raised awareness of chronic kidney disease and contributing factors." [GP, Survey]

One GP highlighted a further potential positive unintended consequence of indicator 1: running the search to identify eligible patients for the indicator by checking prescriptions and de-prescribing NSAIDs for those who no longer need them would represent a patient safety benefit.

"It is better for the patient because you suddenly start de-prescribing things that shouldn't be there and from a patient safety point of view it is really good." [GP, Interview]

Comments in the survey relating to perceived negative unintended consequences largely noted issues relating to workload/resources and one questioned the impact as perceived by patients of labelling them with a diagnosis:

"Diversion of fixed amount of resource away from other care to focus on incentives. Unless there is a cunning plan to fix the primary care workforce crisis that we haven't been told about yet..." [GP, Survey]

"CKD2: GPs may find this difficult to logistically and adds more work to discuss the diagnosis of CKD with the patient." [GP, Survey]

[To note that the following two survey comments on CKD3 and CKD4 are from the same GP respondent]

"CKD3: a lot work to do ask patients to supply urine samples." [GP, Survey]

"CKD4: as it requires patients to have done an ACR." [GP, Survey]

"Side effects. Labelling patients with a diagnosis, the significance of which is still debated within medical profession." [GP, Survey]

"all those indicators are fantastic in theory but might simply be another layer of paperwork - same as people returning from hospitals comment how nurses do a lot of paperwork and very little nursing." [GP, Survey]

The interviews highlighted a few potential unintended negative consequences of the indicators' introduction. When discussing the early identification of CKD (indicator 1), one GP thought a possible unintended consequence could be that clinicians may be reluctant to prescribe NSAIDs, thereby resulting in opioids being prescribed instead:

"…the drawback, I suppose, is that it might put doctors off prescribing NSAIDs […] we don't have many alternatives – the alternatives are opioids which are also a big problem as well. So that is the only real drawback and I think – I would prefer to prescribe patients on NSAIDs over opioids because […] I don't find the evidence is strong for their use whereas NSAIDs there is more evidence for their use." [GP, Interview]

Another potential unintended negative consequence of indicator 1, noted by one practice, was that the definition of 'long term' use of NSAIDs (based on '12 in 24 months' prescriptions) could encourage GPs to prescribe a 3 months' supply of medication to avoid needing to fulfil the indicator requirements:

Practice Manager: "Would that encourage us to give three months' supply in a prescription, therefore, avoid ……..." [Interview]

As discussed previously, one GP commented that it would be relatively easy to achieve indicator 3 (Classification of CKD) if clinicians did not diagnose CKD until the eGFR and ACR measurements are conducted, which could unintentionally lead to poorer quality of care as some patients would not be in the system to be recalled.

"It's a really easy indicator to achieve. You don't add the diagnosis code until you've achieved it. So, it's a system change within the practice, to achieve this indicator. You make sure people don't add a diagnosis of CKD, until their ACR is done. You could perfectly well justify that because, actually, you want it to be accurate, so we'll just not diagnose it, but that will mean that the non-attenders, the people who you really want to chase, won't necessarily be chased because they'll not be in the recall system yet." [GP, Interview].

Furthermore, one practice questioned whether indicator 4 would encourage practices to do frailty assessments allowing for more exclusions:

"I think because this is quite a bizarre indicator in terms of performance in terms of frailty so this would encourage practices to do frailty assessments and get more on the moderate and severe scale." [Practice Manager, Interview]