


# **Improving diagnosis and care for people with chronic kidney disease:**

## **A how-to guide for practices**

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This guide is primarily intended to help those practices who are involved with CLAHRC improvement projects and as such we have indicated where the CLAHRC can offer specific assistance. We hope it will also be useful to other practices wishing to improve their care for CKD patients, though we regret we cannot offer additional support to these practices.

N.B. There are lots of resources available with this guide – everywhere you see the symbol “” this indicates that there is useful information in the appendices.

If you are viewing this online or as a PDF, you can click on this symbol to take you straight to the relevant place.

## Why care for patients with CKD needs improving

Chronic kidney disease (CKD) affects about 7-10% of adults in the UK and greatly increases a person’s risk of suffering a stroke, heart attack, renal failure or death<sup>1</sup>:

- One study looking at all patients newly diagnosed in a two year period found that a third had died after 5 years, and half of these deaths were from cardiovascular illness<sup>2</sup>.

However, by diagnosing the condition early and managing patients’ wellbeing you can significantly reduce the risk of them suffering harm:

- Identifying and treating 483 stage 4 and 5 CKD patients saved approximately 28 deaths<sup>3</sup>.

Thousands of people with CKD are not receiving the care that NICE guidelines recommend. There are about 41,000 people with undiagnosed CKD in Greater Manchester\* and about 30% of the patients who have been diagnosed do not have their blood pressure (BP) controlled to within the targets set in the Quality and Outcomes Framework (Figure 1)<sup>4</sup>.

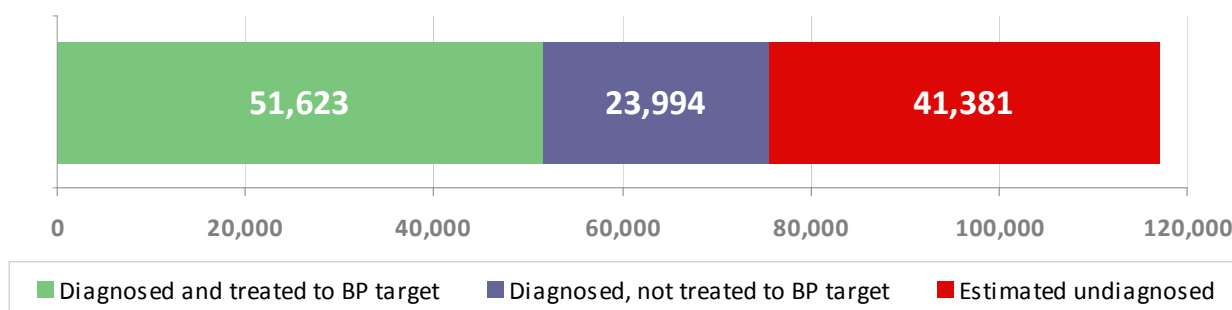


Figure 1: Graph showing the proportion of the estimated CKD population of Greater Manchester receiving good care i.e. having been diagnosed and achieving QOF BP targets (140/85) in April 2009


So there is a clear need to improve care for patients with CKD AND there are many tried, tested and proven ways to make this improvement. You too can ensure your practice is giving all CKD patients the best care available; just follow the instructions in this guide to get on the case!

## Improving CKD care – the benefits to your practice

Improving care for your CKD patients will benefit your whole practice by:

I feel a lot more confident about CKD now and find I’m worrying about it less – I feel more in control.

**Caroline Hull**, GP,  
Beech House Medical Practice

- Increasing staff confidence and knowledge in the management of CKD patients
- Developing more effective and efficient team-working across the practice
- Providing transferable skills in improving other areas of your work – clinical and administrative
- Demonstrating continuing professional development 

- Improving practice revenue. You’ll get more QOF points as your standard of care increases and more money per point as you find more patients – changes that could affect many domains since the skills you gain will improve management of other diseases too. Exactly how much more you could expect to get depends on the size of your practice, the national average prevalence and your original prevalence and standard of care; for example an average practice of 6,000 patients could get about £1,700 extra if they increased their prevalence by 1.2%<sup>†</sup>.

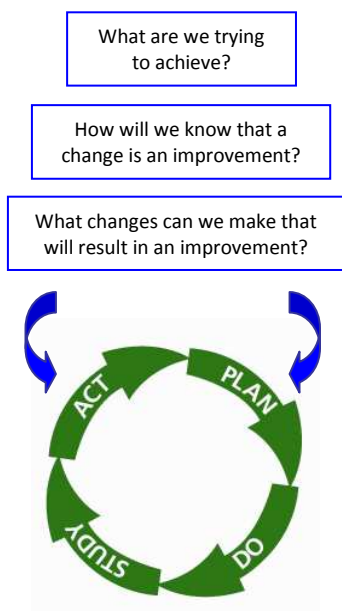


Figure 2: The Model for Improvement

## How to improve care for CKD patients

We recommend using the Model for Improvement method (Figure 2).

First of all you need to create an aim – to make a change that is worthwhile you need to know what you want to achieve. For example, we suggest this ambitious but very achievable target:

***Find half the ‘missing’ kidney patients in your practice and make sure that at least 75% of them have blood pressure managed to NICE targets (130/80 for patients with proteinuria and 140/90 for those without).***

The next question to ask is “How will we know that a change is an improvement?” This means thinking of a way to measure success.

The CLAHRC team can help you work out how many patients you need to find to reach your target and can help you monitor your progress too.

### How to measure the success of the changes you try

A key element of successful improvement work is being able to measure the effects of any changes that are tested. It is easy to make these measurements, but it is vital that when you are planning a change you also plan how you will check that the change was an improvement.

Need help? Get your local data support team involved – they can help you set up and check the searches.

There are tools available to help you run searches on your system to check your overall progress against the aim and help you track progress on three important aspects of identifying and managing CKD patients:

- How many patients you have found
- How many of your patients have had an ACR test
- How many of your patients have blood pressure that is within the NICE recommended range

### How to test if a change will bring about improvement

There is a simple tool – PDSA (Plan, Do, Study, Act) that will help you test a change on a small scale and assess whether it has been worthwhile before rolling it out across your whole practice:

- First **plan** a change that you think will improve your services
- Next **do** a small scale test of the change, in just one surgery that day for example
- Then **study** the results of that change to decide if it was a good change or not
- Finally, **act**. You can *adopt* the change as a new way of working, *adapt* it in order to try and refine it or *abandon* it altogether for something entirely different

The use of PDSA cycles has been really useful as it has given us the chance to reflect on how successful any changes have been for the practice and what we have learned.

**Helen Prendiville**, Practice Nurse,  
Mosslands Medical Practice

Details of previously successful changes are on the next few pages and example worksheets to help you work through the process and measure each change as you make it are in the appendix .

## What steps you can take to achieve change and improvement

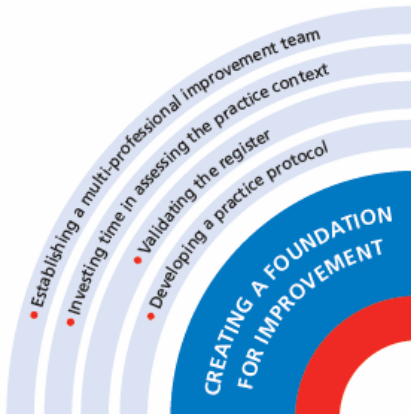
Improving care can be challenging but there are four key building blocks that will help get your practice using more evidence-based ways of finding and managing patients with CKD. These are:

- Creating a foundation for improvement
- Identifying patients with CKD
- Introducing optimal management of patients with CKD
- Ensuring that improvements are sustained



There are more details about each of these building blocks, plus links to various resources to help you in the next few pages. This guide draws on the experiences of several practices that have already improved patient care and tested changes, but feel free to try out your own ideas too!

## Creating a foundation for improvement



Doing the groundwork to create a solid foundation is time well spent. This will help you make changes smoothly and sustain the changes over the longer term.

### 1. Establishing a multi-professional improvement team

**Why:** A good, multi-professional improvement team reduces the reliance on one individual leading the project at a local level and also ensures that a range of different professional perspectives are represented when discussing possible improvements.


**How:** We recommend a team of three enthusiastic “can-do” people with different skills and professional backgrounds to lead the improvement; ideally include a GP, a nurse and a practice manager so there is someone involved from all angles of practice life. Practices with a lot of patients to find and review may want to consider having a fourth person on their team to help manage the workload.

Do you have a creative ideas person in your team? Or someone who makes sure that all the jobs get done? If your team lacks a particular skill, why not nominate someone to work on developing it?

### 2. Investing time in assessing the practice context

**Why:** The practice context – which sometimes gets called “the way things are done around here” – has been shown to be a major factor that influences the success of improvement projects. Context consists of a variety of factors, such as the leadership style of key people, the way in which work is organised and managed, the level of trust and responsibility and the commitment to reflecting on practice and learning about how to do things better.

The context assessment sheets highlight our strengths and weaknesses – they have really helped develop the teamwork within the practice.

**How:** Get each member of your staff to fill in our context questionnaire . It is all anonymous so everyone can be honest. Send your completed questionnaires back to the CLAHRC team and we will provide you with an analysis of your practice context and some ideas to improve your practice’s ability to implement sustainable improvements.

**Maria Crosbie**, Practice Nurse,  
Springfield Surgery

### 3. Validating the register

**Why:** You need an accurate register to have a true measure of the number of patients with CKD in your practice. Looking to see where people have been incorrectly diagnosed can also help show where staff lack knowledge, for example by highlighting where test results have been misinterpreted or where patients were not receiving the best available care.

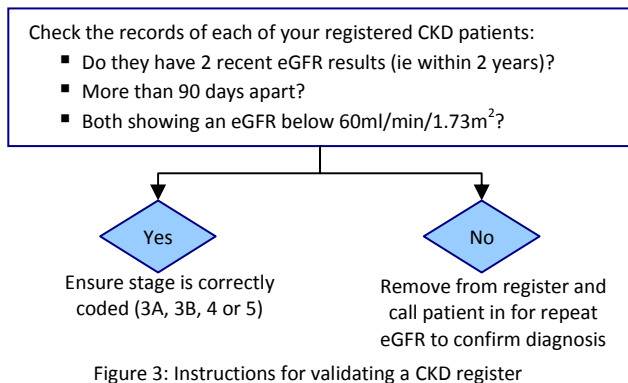



Figure 3: Instructions for validating a CKD register


#### How:

This diagram shows how to validate your register (Figure 3). This often requires a manual check of all records, which can take time but is very worthwhile – a patient with the wrong diagnosis could be receiving inappropriate care just as much as one of your missing patients. Plus, on page 11 you can see how to develop systems for ensuring you don't have to do such a big validation exercise again a few years down the line.

### 4. Developing a practice protocol

**Why:** Protocols are a good way of providing standardised care for all patients and ensuring everybody is getting the best available care. There are several protocols available for you to adopt – the one in the NICE guidelines for example – or you may like to adapt one of these for use in your own practice. A good localised protocol is one that matches your practice's priorities and ways of working and that has been developed with input from all your team.

**How:** You need a protocol that staff can follow to identify and treat patients with CKD. Protocols can range from simple posters that are stuck to surgery walls as reminders, flowcharts that give details of what to do at each stage in the process and where to go for advice if a patient has complications, to more in depth documents that provide an overview of all aspects of care for patients with CKD. We've provided several example protocols to get you started .

You may also find that there are particular aspects of your service that need their own mini protocol, such as helping receptionists know which colour urine bottle should be sent for which tests, e.g. for an ACR test or for an MSU test. A simple poster  in the reception area to remind them which is which could save a lot of time and money for practice and patients alike by avoiding unnecessary tests.

## Identifying patients with CKD

The first part of improved care for CKD patients is making sure you have all patients identified.



### 1. Identifying patients with significant eGFR results

**Why:** Some of the patients in your practice will have had an eGFR test in the last few years, but they may not have had the result correctly recorded or followed up.

**How:** The flowchart on the right will guide you through this process (Figure 4). There are PRIMIS+ prescribing queries that can help you run searches to find patients in the appendix and example letters you could use to invite patients in for testing.

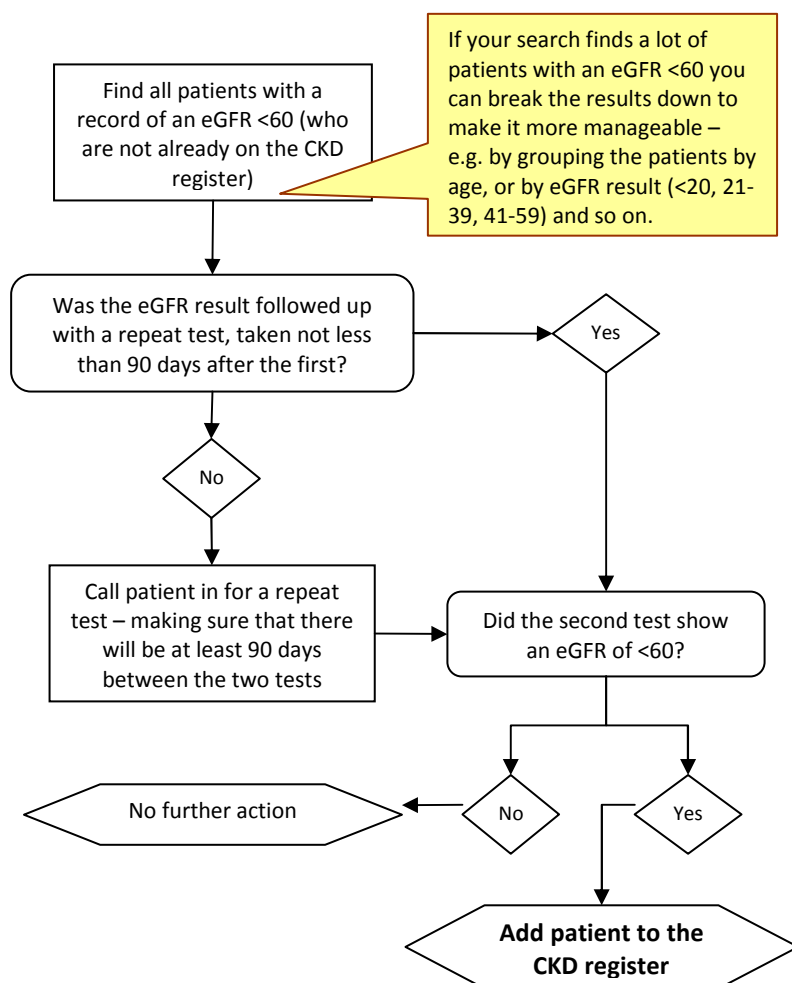


Figure 4: Instructions for finding 'missing' patients

### 2. Ensuring all high risk patients have had eGFR tests

**Why:** There are several patient groups who are at particular risk of CKD and it is important to make sure these patients have regular eGFR tests to monitor their kidney function.

**How:** Find all your at risk patients who have not been tested recently (e.g. in the last 2 years) and call them in for a test. Then follow up any significant results, just as you did in step 1 above. The NICE guidelines outline which patients you should screen. We recommend you **start** by looking at your hypertensive register as this has proved to be the most fruitful in other practices.



## Optimal management of CKD patients

Finding patients with CKD represents a golden opportunity to give holistic best care – simple interventions that can change the medium to long term outlook for your patient and their family. CKD is primarily a vascular disease so good care involves good vascular management, with a particular focus on well controlled blood pressures. The website [www.ckdonline.org](http://www.ckdonline.org) is a really useful resource for CKD management (and even has an e-learning module for your PDP!)



### 1. Ensuring all patients have had a recent ACR test

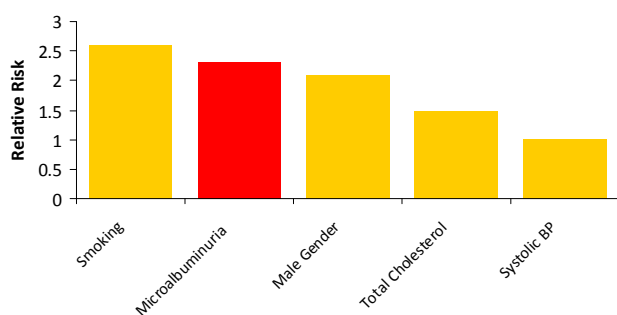


Figure 5: The relative risk of presence of microalbuminuria for vascular events<sup>5</sup>

**Why:** Significant proteinuria (including microalbuminuria in patients with diabetes) indicates a significantly increased risk of cardiovascular illness and CKD progression; bigger than several other well recognised risk factors like cholesterol (Figure 5). The care that patients should receive is affected by whether they have proteinuria or not, so it is important to make sure all patients on the CKD register are tested regularly.

**How:** You can get a list of patients needing an ACR test from your QOF monitoring system by looking at indicator CKD6 and adapt one of the example invite letters in the appendix to call patients in.

It is important to make sure all test results are coded too – a result that isn’t recorded on a patient’s notes is a wasted test and does not help that patient get good care. A good practice protocol could help to make sure that all staff are recording results appropriately.

The table below details how to interpret results correctly:


| Patient           |        | ACR result | Diagnosis                                          |
|-------------------|--------|------------|----------------------------------------------------|
| CKD with diabetes | Male   | >2.5       | Microalbuminuria                                   |
|                   | Female | >3.5       | Microalbuminuria                                   |
| CKD only          |        | 30-70      | Proteinuria (confirm with an early morning sample) |
|                   |        | >70        | Proteinuria (no need to confirm)                   |

The appendix has all the Read codes you might need for these tests and results.

## 2. Managing blood pressure to recommended targets


**Why:** Controlling a patient’s blood pressure to within recommended targets can have a significant impact on their health – reducing systolic blood pressure by 10mmHg and diastolic blood pressure by 5mmHg can reduce the relative risk of coronary heart disease events by ¼ and of stroke by ⅓<sup>6</sup> and lower blood pressure is even more important for patients with proteinuria. NICE recommends two different targets for CKD patients, depending on their ACR results:

- Without proteinuria = systolic blood pressure 120-139 and diastolic <90
- With proteinuria = systolic blood pressure 120-129 and diastolic <80<sup>1</sup>.

**How:** The searches you set up to help you track overall progress (see page 4) will help you identify all the patients who need better blood pressure control. We know that you will already have a wealth of knowledge about the best way to treat patients with high blood pressure; plus there are guidelines on good blood pressure management available from NICE . There is advice below on best practice ways to involve patients and encourage them to manage their own health too.

## 3. Encouraging patients to get involved and self-manage

**Why:** Encouraging patients to get involved with their care is an important strategy for ensuring good management of both CKD and patients’ vascular health in general. Many of the risk factors are ones that the patient can help to control and the process of greater involvement will also give them a greater feeling of control and satisfaction.

**How:** There are two elements to patient involvement – education and behaviour change. You can work with your patients to tackle each of the major risk factors (Box 1), playing your part in providing checks (Box 2) and encouraging your patients to play their part in improving their health (Box 3). In order to promote behaviour change, you can ask your patients what their interests are, what will motivate them to take responsibility for their health and then tailor your advice to their individual needs. Get them to create a challenging but realistic target, like walking the dog for an extra five minutes each day and agree a plan for checking this is achieved. Local services for patients are listed on the [NHS Choices](#) webpage and CKD information leaflets are available in the appendix .

### Box 1: Know the risks

CKD increases the risk of:

- Atrial Fibrillation
- Ischaemic stroke
- Heart attacks
- Depression or mood problems – plus patients who are depressed and have vascular disease have worse outcomes

### Box 2: Monitor the risks

- If they have had a previous event (like a TIA, stroke, MI or ACS) then check they are receiving secondary prevention agents appropriately
- Do a manual pulse check for AF
- Ensure they have had information about the signs of stroke (e.g. the FAST campaign) or heart attack
- Check their
  - BMI and waist girth measurement
  - Cholesterol
  - Smoking status
  - Mood

### Box 3: Control the risks

Recommend these to your patients (and if they resist, ask them *why* - knowing this could be key in getting them to do something that will make a difference)

- Healthy diet (less salt, fat and sugar, more fruit and veg)
- Moderating alcohol intake
- Stopping smoking services
- More exercise eg Swimming, walking the dog, guided walking, fitness classes/local gym
- Weight reduction eg portion size, slimming world
- Self monitoring of blood pressure
- ‘Expert patient’ programmes
- Local support groups

## Ensuring improvements are sustained



Sustaining improvement can be a challenge. Once the initial flurry of excitement and activity relating to a new project has passed, it is easy for it to be forgotten as new priorities come onto the agenda or the day-to-day pressure of work takes over. Planning for longer-term sustainability is essential to avoid losing the knowledge gained and the improvements that have been made. There is a sustainability checklist to help you continue your improvements long term in the appendix [◇](#).

### 1. Involving and educating all staff

**Why:** Although your improvement team is responsible for leading the changes in your practice, it is important to make sure that the improvements are not confined to those three people. The new systems and changes have to be adopted by all staff in the practice to be successful.

**How:** Involve all your staff right from the start of your improvement work to get their support:

- Use practice meetings to introduce new ideas about identifying and managing CKD
- Check everyone understands and is happy to use the new protocol
- Put posters up in the staff room showing the progress you're making and encourage people to give their own input and help you improve further

### 2. Developing systems for regular patient reviews

**Why:** Having got all your records and reviews up to date you will want to make sure they stay organised. Individual patients may need reviewing at different intervals so this will need to be accounted for, ensuring that no-one goes for too long without an appointment.

**How:** The easiest way to achieve this is to use a 'monitoring' Read code – some systems have these already or you may need to create a localised one for your practice. Nominate a chosen individual to be responsible for checking for these codes every month and ensuring each patient gets a review.

### 3. Ensuring CKD protocols are used in practice

**Why:** If you have successfully involved all your staff in the improvement process you should be confident that everyone is working to follow the new protocol and sustain good practice. However, everyone makes mistakes so it is a good idea to have a failsafe in place.

**How:** Running the searches you set up for identifying patients and then monitoring their blood pressures will enable you to check that all protocols are being followed. This process will also help you assess where there are still problems to be resolved. Doing this regularly (e.g. every 3 months) will act as a means of validating your register and will make it easier to keep on top of your CKD register as other priorities start to take over.

## How do we know making these changes will improve care? The successes you can expect to achieve in your practice

The changes outlined in the above pages were all tested by 19 practices who took part in the CLAHRC for Greater Manchester CKD Collaborative – a quality improvement project that ran from September 2009 to September 2010. The report from the Collaborative provides more detail on the methodology and the results and can be viewed on the CLAHRC’s website: <http://clahrc-gm.nihr.ac.uk>. This page gives an outline of the success these 19 practices achieved – showing you what you will be able to achieve in your own practice.

The CKD registers of the 19 practices now have an impressive **1,324** additional patients. This is **92%** of our overall aim to halve the gap between baseline and expected prevalence and is an aggregate increase in 18+ prevalence across the nineteen practices of **1.2%**. The practices varied in size and so there was considerable variation in the number of patients found by practices, but 10 of the 19 achieved their goal of finding half their missing patients (Figure 7).

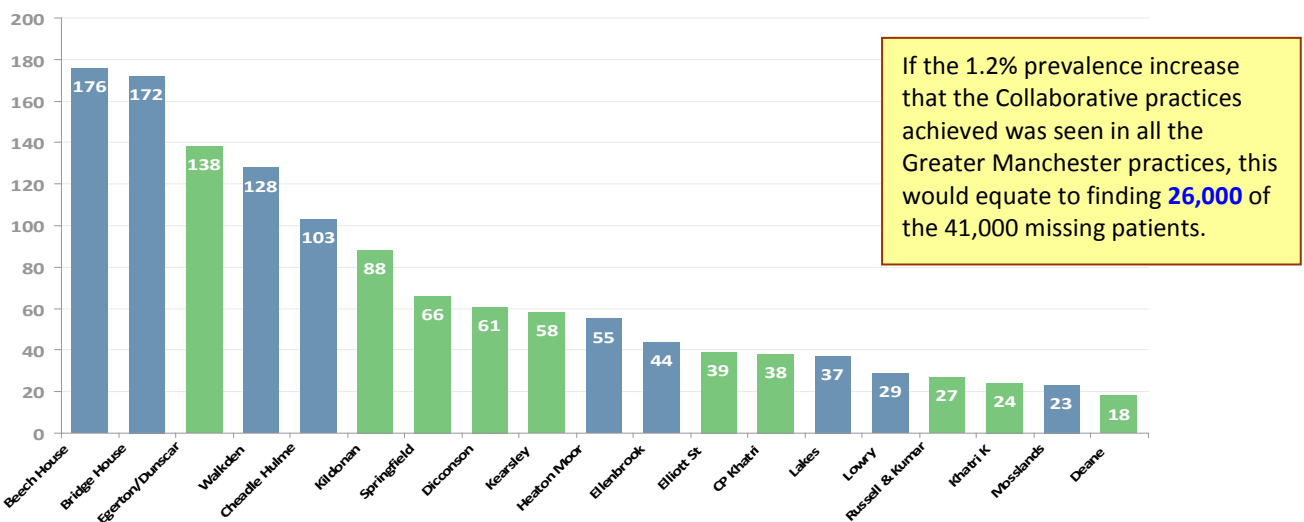


Figure 7: Patients found in each practice, those in green achieved their target

Accurate data on blood pressure was difficult to obtain, but recorded blood pressure management rose from only **34%** of patients recorded as treated to target in November 2009, to **74%** in August 2010 (Figure 8).

**Nine** practices managed to ensure over 75% of their CKD patients were treated to target<sup>‡</sup>. In actual patient numbers, this indicates that **1,816** patients now have their blood pressure more carefully managed.

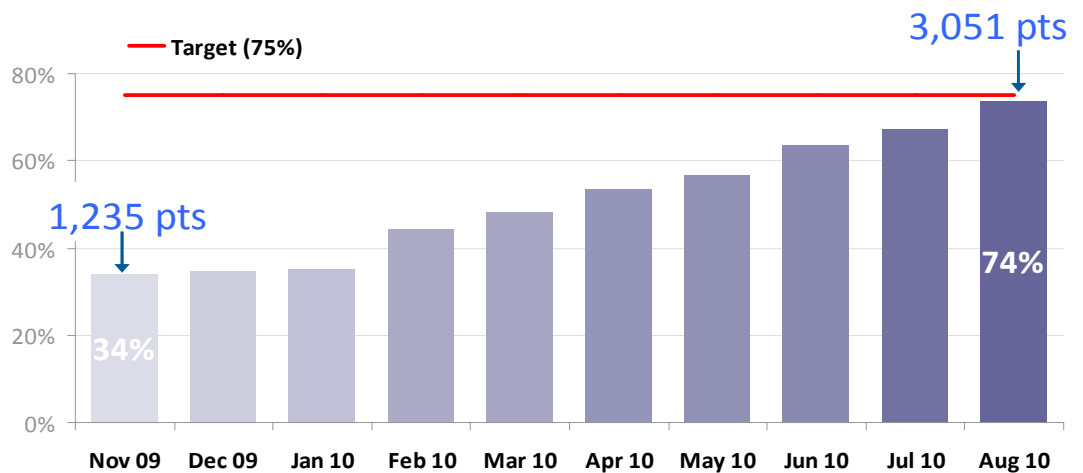


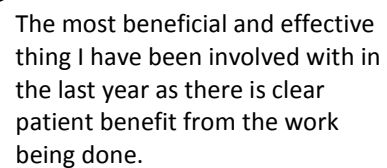
Figure 8: Improvement in recorded blood pressure management, November 2009 to August 2010

## Summary

The challenge of improving care for patients with CKD will take perseverance, motivation, ingenuity and an investment of time and support. However, the practices involved in the Collaborative have shown how much is possible. Now it is up to you to prove that this great improvement can be achieved in all practices, bringing benefit to hundreds more patients across Greater Manchester.

This guide gives you access to a wealth of information and should get you off to a great start in ensuring that your practice gives all of its CKD patients the best possible care. We know that with hard work and dedication, and with the support of the CLAHRC team, you will be able to achieve just as much if not more. And we know that you will feel a great sense of satisfaction and achievement in doing so.

Good luck!



The most beneficial and effective thing I have been involved with in the last year as there is clear patient benefit from the work being done.

**Carole Mason**, Practice Nurse,  
Dicconson Group Practice

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\* This figure is based on comparisons of estimated expected prevalences against QOF CKD register sizes 2008/2009. Estimated expected prevalences taken from De Lusignan, S., Tomson, C., Harris, K., et al. “Creatinine Fluctuation Has a Greater Effect than the Formula to Estimate Glomerular Filtration Rate on the Prevalence of Chronic Kidney Disease.” *Nephron Clinical Practice* 2011;117:213–224

† As a rough estimate based on the value of each QOF point in 2009/2010 and the national average CKD prevalence in August 2010, a practice of 5,891 patients with an average starting prevalence of 3.4% (210 patients on the register) could expect to get £4,817 if they reached the upper threshold in each CKD quality domain. If they improved their prevalence by 1.2% (an additional 71 patients on the register) they would get £6,507 (£1,690 more). For each patient receiving an ACR test they would get £9.93 and £24.28 for each patient achieving the BP target (assuming the upper threshold has not yet been reached).

‡ We use November 2009 as our baseline because data collected prior to November is of insufficient quality. We have data on only 15 of the 19 practices as 4 practices decided to focus on prevalence only, looking at improving blood pressure after the close of the Collaborative.

# Appendices

- A. Context Assessment
- B. Improvement Tools
- C. Data Collection Tools
- D. Information and Guidance on CKD
- E. Patient Letters and Leaflets
- F. Benefits Package

## Appendix A – Context Assessment

Knowing how your practice functions can be crucial to a successful improvement project. If you understand your team's strengths and weaknesses you can make sure you know where you need support and what tasks you might need to focus harder on.

In this section you will find a copy of a quick and simple questionnaire that will help you to understand your practice environment. This asks questions around three of the most important aspects of a team environment – what it is like to work in that team, how the team makes sure the quality of care they provide is always improving and how the team is organised and managed.

**Ask every member of your staff to fill one of these questionnaires in.**

If you are working with the CLAHRC, return your completed questionnaires to one of the CLAHRC team, who will then be able to provide you with a report on your practice's context. If you are not working with the CLAHRC you can still make use of the questionnaire by looking at any areas where people said they 'disagree' or 'strongly disagree'. Are there any trends? Are there any specific areas that appear to be a weakness to improve on or a strength to build on?

Once you have the results of this questionnaire you can work on making improvements. You could try doing some tests of change with the PDSA cycle around your practice context and new ways of working.

We recommend you put the results of your context assessment together so that you can refer back to them at a later date. You will probably be able to notice a difference amongst your staff after you've made improvements but we also recommend you repeat the questionnaire after a few months to see if the changes you have tested have been successful. Do people still have the same feelings about each statement as they did when you started?



## Understanding your practice

This questionnaire will help you and those working with you to understand what your practice is good at and where you could make improvements in the way you work. The questions will be reviewed anonymously so you can be honest about your experience as a member of staff.

Practice name:

Are you:

Clinical

Non-clinical

Strongly disagree    Disagree    Neither agree/disagree    Agree    Strongly agree

### 1. You and your work

- |                                                                                   |                          |                          |                          |                          |                          |
|-----------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. I receive recognition from others for my work                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I feel I have freedom over the way I do my work                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. I have a clear job description that reflects what I do                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. I am confident in my ability to fulfill my job description                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. I am confident using our clinical system to get information about patient care | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. I feel my development is a priority for the practice                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. I am supported to improve my skills and/or knowledge                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. I am offered regular performance reviews                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. I am encouraged to try out new ideas that could improve patient care           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### 2. Your practice

- |                                                                                                        |                          |                          |                          |                          |                          |
|--------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 10. There is a clear management structure                                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. We have good working relationships amongst the team                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. If we are going to make a change to the way we work, we usually get everyone's opinion on it first | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. There are rooms or spaces in the practice that allow people to meet and have discussions           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. There are opportunities to discuss practice issues openly                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                                                             |                          |                          |                          |                          |                          |
|---------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 15. We hold regular practice meetings                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. We routinely discuss audit data around performance                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. We have protected time to work on projects that will improve the practice in some way   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. There is a sense of shared responsibility for improving quality of care in the practice | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. We place high value on staff efforts to improve quality of care                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. We have protocols and/or guidelines available on best practice                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Patient involvement**

|                                                                                        |                          |                          |                          |                          |                          |
|----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 21. We encourage patients to comment on their experience of the service we provide     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. We have a patient participation group                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. There are patients actively involved in practice matters                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. Patient education is a priority for the practice                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. We encourage patients to share the responsibility for their health with clinicians | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Quality of care**

**Poor      Fair      Good      Very good      Excellent**

**a. Patient-centred**

The practice is responsive to individual patient preferences, needs and values

**b. Effective**

The care provided is based on sound evidence

**c. Timely**

We are focused on minimising waits and potentially harmful delays

**d. Efficient**

We ensure cost-effective care by avoiding waste, overuse and misuse of services

**e. Equitable**

We provide the same quality of care to all individuals regardless of gender, race, ethnicity, socioeconomic status, language etc.

## Appendix B – Improvement Tools

In this section you will find tools to help you complete your improvement work:

1. Example PDSA worksheet – this worksheet has been filled in as an example, to show you how to use the worksheet to plan a test of change and then record the effects.
2. Blank PDSA worksheet – you can use a copy of this worksheet to plan and monitor the changes you try in your practice.
3. Checklists – there are four checklists in this section that will help you ensure you've completed all the key steps for improvement work:
  - a. Checklist 1 – preparing for improvement
  - b. Checklist 2 – identifying patients
  - c. Checklist 3 – optimal management of patients
  - d. Checklist 4 – ensuring improvements are sustained

## Example PDSA Worksheet

**Key building block:** Creating a Foundation  Identifying Patients  Optimal patient management  Ensuring Sustainability

**Objective of test:** *Ensuring all patients have had a recent ACR test*

|              |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                           |  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Plan</b>  | What will you do to achieve your objective?                                                                                                                                                                                                                                                                                                                        | Who will lead this test?                                                                                                                                                                                                                                                                              | How will you measure success?<br><br><i>We will look at how many of our CKD patients have had an ACR test after the 6 week period</i>                                                                                                                                                                                     |  |
|              | <ol style="list-style-type: none"> <li>1) <i>Data from monthly collection has shown that 130 out of our 203 patients have had an ACR test done in the last 15 months</i></li> <li>2) <i>Run search to identify remaining patients who have not yet been tested</i></li> <li>3) <i>Call those patients in for a test</i></li> <li>4) <i>Code results</i></li> </ol> | <ol style="list-style-type: none"> <li>2 – <i>Practice manager</i></li> <li>3 – <i>Admin</i></li> <li>4 – <i>Nurse</i></li> </ol>                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                           |  |
|              |                                                                                                                                                                                                                                                                                                                                                                    | What is your timescale?                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                           |  |
|              |                                                                                                                                                                                                                                                                                                                                                                    | 6 weeks from 20/6/11                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                           |  |
| <b>Do</b>    | What was the effect of running the test? E.g. How many patients have you diagnosed/coded as a result?                                                                                                                                                                                                                                                              | What were the challenges you faced and the benefits to your practice of the outcome?                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                           |  |
|              | <i>All of the 73 outstanding patients were telephoned to explain why the test was needed. They were then all sent a test pot in the post and asked to bring in an early morning urine sample and complete the attached form. We have had 47 responses and will give the remaining patients another call.</i>                                                       | <i>The challenge here was convincing all the patients to provide a sample as some were reluctant. The benefit of this test was that we posted out the forms and pots from reception so the clinical input and time spent was minimal. We now have accurate proteinuria results for more patients.</i> |                                                                                                                                                                                                                                                                                                                           |  |
| <b>Study</b> | What did the measures show against your expectations?                                                                                                                                                                                                                                                                                                              | <b>Act</b>                                                                                                                                                                                                                                                                                            | What will you do next? Adopt, adapt, abandon?                                                                                                                                                                                                                                                                             |  |
|              | <i>We have learned a little about the responsiveness of patients to some degree of self-management by bringing the tests themselves and may look to apply this in future.</i>                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                       | <i>We will make the ACR test part of the annual review for CKD patients. Therefore in the future we will not need to do a large-scale recall. It is important that all staff are aware of the importance of testing for proteinuria so it will be in the CKD protocol that newly diagnosed patients should be tested.</i> |  |

Any other comments: *We will need to look at the blood pressures for patients with proteinuria in the near future to identify the outliers following these tests.*

# PDSA Worksheet

Key building block: Creating a Foundation  Identifying Patients  Optimal patient management  Ensuring Sustainability

## Objective of test:

|              |                                                                                                       |                                                                                      |                                               |
|--------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>Plan</b>  | What will you do to achieve your objective?                                                           | Who will lead this test?                                                             | How will you measure success?                 |
|              |                                                                                                       | What is your timescale?                                                              |                                               |
|              |                                                                                                       |                                                                                      |                                               |
| <b>Do</b>    | What was the effect of running the test? E.g. How many patients have you diagnosed/coded as a result? | What were the challenges you faced and the benefits to your practice of the outcome? |                                               |
|              |                                                                                                       |                                                                                      |                                               |
| <b>Study</b> | What did the measures show against your expectations?                                                 | <b>Act</b>                                                                           | What will you do next? Adopt, adapt, abandon? |
|              |                                                                                                       |                                                                                      |                                               |

Any other comments:

## Checklist 1: Preparing for improvement

- We have established a multi-disciplinary improvement team to lead the work in our practice:

GP member: \_\_\_\_\_  
 Nurse member: \_\_\_\_\_  
 Practice manager/administrator member: \_\_\_\_\_

- We have considered our improvement team’s strengths and weaknesses

|                 |  |
|-----------------|--|
| Our strengths:  |  |
| Our weaknesses: |  |

- We have performed a context assessment to understand the whole practice’s dynamics

| Aspect of context                                  | Rating and comments – areas to improve upon |
|----------------------------------------------------|---------------------------------------------|
| What it is like to work in our team                |                                             |
| How we monitor and improve the quality of our care |                                             |
| How the team is organised and managed              |                                             |
| Overall thoughts                                   |                                             |

- We have validated the practice register
- All patients with a CKD code have 2 eGFR results confirming diagnosis
  - All CKD patients are coded as stage 3A, 3B, 4 or 5 as appropriate
  - Patients with recent ACR results coded as with or without proteinuria
  - List of patients requiring ACR or repeat eGFR tests created

## Checklist 2: Identifying patients

- We have searched for and acted upon every record of any patient with 2 eGFRs <60 [where computer systems allow this search] – and have added the appropriate code to each patient’s record
- We have searched for and acted upon every record of someone with 1 eGFR <60 – ensuring a repeat test is carried out and the appropriate code is added to the patient’s record if the second test returned a result <60
- We have searched for and tested everyone with the following risk factors
  - Hypertension
  - Diabetes (including pre-diabetes or IGT)
  - Heart failure
  - Atrial fibrillation
  - Coronary heart disease
  - Any other cardiovascular conditions
  - Prescribed NSAIDs
  - Prescribed other nephrotoxic drugs
  - Prostatic hypertrophy
  - History of UTIs
  - Family history of renal problems
  - History of structural renal problems

### Checklist 3: Optimal management of CKD patients

- We have ensured all patients have had a recent ACR test
- We have coded all ACR results properly on records as with/without proteinuria
- We have identified patients whose blood pressure is above the target range
- We have created and implemented a care plan for patients to treat hypertension
- We have involved patients with their care planning and self-management. We have:
  - Considered and provided appropriate sources of information for patients
  - Provided patients with details of local self-management courses
  - Discussed lifestyle choices and interventions with patients
  - Created a self-management plan with patients



## Checklist 4: Ensuring improvements are sustainable

You have probably achieved some great improvements doing your CKD Improvement work. Now you should consider whether you have all of the tools in place to ensure the work you have done will lead to sustainable practice.

Practice name:

### **Audit and management:**

| Area to sustain                                                                                                                                                                                                                                                                                                                                                           | How will you make improvements? | Person responsible |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------|
| Practice protocol – has a protocol been implemented for the practice on CKD that all clinicians agree on? If so, is it up to date?                                                                                                                                                                                                                                        |                                 |                    |
| <b>Handy hint: Set an annual review date for this in Outlook to check you are up to speed on the latest guidance</b>                                                                                                                                                                                                                                                      |                                 |                    |
| Team education – have you updated your peers since the Collaborative ended on the overall progress for your practice and lessons learnt?                                                                                                                                                                                                                                  |                                 |                    |
| <b>Handy hint: Why not create a presentation to share your good work at the next practice meeting (examples can be found at below address in 'Collaborative Library' <a href="https://portal.nihr.ac.uk/sites/clahrc/manchester/KidneyCollaborative/Pages/default.aspx">https://portal.nihr.ac.uk/sites/clahrc/manchester/KidneyCollaborative/Pages/default.aspx</a>)</b> |                                 |                    |
| Auditing CKD register – how do you plan to monitor that all patients are being diagnosed as per protocol?                                                                                                                                                                                                                                                                 |                                 |                    |
| <b>Handy hint: You can add this as a reminder via Outlook to do regularly so no backlog builds up for clinicians to check e.g. every 5, 10 or 15 weeks</b>                                                                                                                                                                                                                |                                 |                    |
| Proteinuria – we all now know that proteinuria is an increased risk factor for CKD patients. How will you screen any remaining patients that haven't had an ACR test done yet?                                                                                                                                                                                            |                                 |                    |
| <b>Handy hint: Your saved data searches will help you regularly audit those awaiting an ACR test. Putting a prompt on the record can allow you to opportunistically test CKD patients who do not frequently attend or don't respond to letters</b>                                                                                                                        |                                 |                    |
| Recalls – your protocol should define when reviews are necessary for CKD patients eg stage 4 every 6 months.                                                                                                                                                                                                                                                              |                                 |                    |
| <b>Handy hint: Put in diary for admin to check at the end of every month if patients due a review in the next month have been notified</b>                                                                                                                                                                                                                                |                                 |                    |

|                                                                                                                                                                                                                                                                                                                                            |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Blood pressure – out of range<br>BP presents an increased threat to CKD patients.<br>Medication, diet, fitness and weight all play a part                                                                                                                                                                                                  |  |  |
| <b>Handy hint: Explain the importance of good BP control so patients know why taking medication is important <a href="http://www.patient.co.uk/health/Chronic-Kidney-Disease.htm">http://www.patient.co.uk/health/Chronic-Kidney-Disease.htm</a> - ensure that any out of range patients have access to appropriate lifestyle services</b> |  |  |
| Diagnosis opportunity – are there any future opportunistic chances for targeted patient screening?                                                                                                                                                                                                                                         |  |  |
| <b>Handy hint: What about patients attending for flu jabs? Would any of those be suitable for screening for CKD?</b>                                                                                                                                                                                                                       |  |  |
| Make sure staff continue to understand the importance of kidney disease and keep motivated to keep improving your practice                                                                                                                                                                                                                 |  |  |
| <b>Handy hint: Your practice manager or QOF lead can help to drive improvements by identifying where you can still achieve more on your QOF score for CKD</b>                                                                                                                                                                              |  |  |

**Room for improvement:**

Having identified where your current practice strengths and weaknesses are in sustaining your CKD work – what would mark a realistic improvement for the practice in identifying and treating CKD patients over the next year?

By the end of the Collaborative your practice had discovered \_\_\_\_\_ additional CKD patients, taking your register size to \_\_\_\_\_. Using your methods to sustain the work how many patients do you envisage on your register in:

December 2010: \_\_\_\_\_  
 March 2011: \_\_\_\_\_  
 September 2011: \_\_\_\_\_

What are the three key CKD related things that you would like your practice to achieve in the next 12 months?

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

## Appendix C – Data Collection Tools

You will need to be able to check your progress as you make improvements and so you will need to collect data about your patients and your CKD register. This section contains information and guides on tools that will help you collect data so that you can monitor changes.

1. Read codes – a guide to all the Read codes related to CKD
2. PRIMIS+ prescribing safety queries – the PRIMIS+ team have created some searches that help identify potential CKD patients in order to prevent risk to these patients from prescription drugs. There is a guide in this section on accessing and using these searches to find missing CKD patients in your practice.

## Commonly used Read codes in the diagnosis and treatment of CKD

**1. Stage of CKD** – based on 2 eGFR results not less than 90 days apart:

| eGFR result | 30-59 | 45-59 | 30-44 | 15-29 | <15  |
|-------------|-------|-------|-------|-------|------|
| Stage       | 3*    | 3A    | 3B    | 4     | 5    |
| Read Code   | 1Z12  | 1Z15  | 1Z16  | 1Z13  | 1Z14 |

\*Stage as 3A or 3B in preference to just stage 3

### 2. Proteinuria

#### 2.1. Testing for proteinuria

| Test used | ACR* | PCR  |
|-----------|------|------|
| Read Code | 46TC | 44ID |

\* ACR is recommended in preference to PCR as it is more sensitive at the lower levels

**2.2. Diagnosis of proteinuria** – you can code proteinuria as a separate condition or combine the stage of CKD and proteinuria together under one code.

| Patient history  |        | ACR result | Diagnosis                                                 | Read code            |
|------------------|--------|------------|-----------------------------------------------------------|----------------------|
| Diabetes and CKD | Male   | >2.5       | Microalbuminuria                                          | R1103                |
|                  | Female | >3.5       |                                                           |                      |
| CKD only         |        | >30        | Proteinuria (confirm with an early morning sample if <70) | R110, R110z or R1100 |

#### 2.2.1. Coding proteinuria and stage of CKD together

| Stage               | 3    | 3A   | 3B   | 4    | 5    |
|---------------------|------|------|------|------|------|
| With proteinuria    | 1Z1B | 1Z1D | 1Z1F | 1Z1H | 1Z1K |
| Without proteinuria | 1Z1C | 1Z1E | 1Z1G | 1Z1J | 1Z1L |

## Using PRIMIS+ Prescribing Queries to find CKD patients

There are prescribing safety queries available that can help you identify CKD patients. These queries, along with instructions for how to run them, can be found on the PRIMIS+ website. However, first you will need to set up an account if you do not already have one:

### Setting up an account

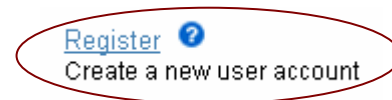
1. Go to <http://www.primis.nhs.uk> and click on the “Login to the Profile Centre” button on the right hand side



OR go direct to

<https://www.primis.nottingham.ac.uk/registration/>

2. Click on “Register” to create a new user account



3. Fill in the details on the registration screen that should pop up:

4. At the end of the registration screen click “Register me please” – you should then receive an email confirming your registration.

## Accessing the PRIMIS queries

The queries for each clinical system are available on the following page:

[https://www.primis.nottingham.ac.uk/Download/Profile\\_Centre/CHART\\_Prescribing\\_Safety.asp](https://www.primis.nottingham.ac.uk/Download/Profile_Centre/CHART_Prescribing_Safety.asp)

Click on the link for your practice's clinical system. This will take you to an automatic download for the relevant query files.

These queries are simple MIQUEST queries that are easy to run and see the results from. However, if you have not run MIQUEST queries before, PRIMIS+ have also provided instructions for users to help them run the queries on each of the different clinical systems. These are available here:

<http://www.primis.nhs.uk/index.php/services/information-services/chart-and-miquest-instructions>

## Getting extra help

If you need additional help in finding or running these queries, you can contact a PRIMIS+ facilitator. You can find your nearest facilitator using the map on this page:

<http://www.primis.nhs.uk/index.php/about-us/find-facilitator>

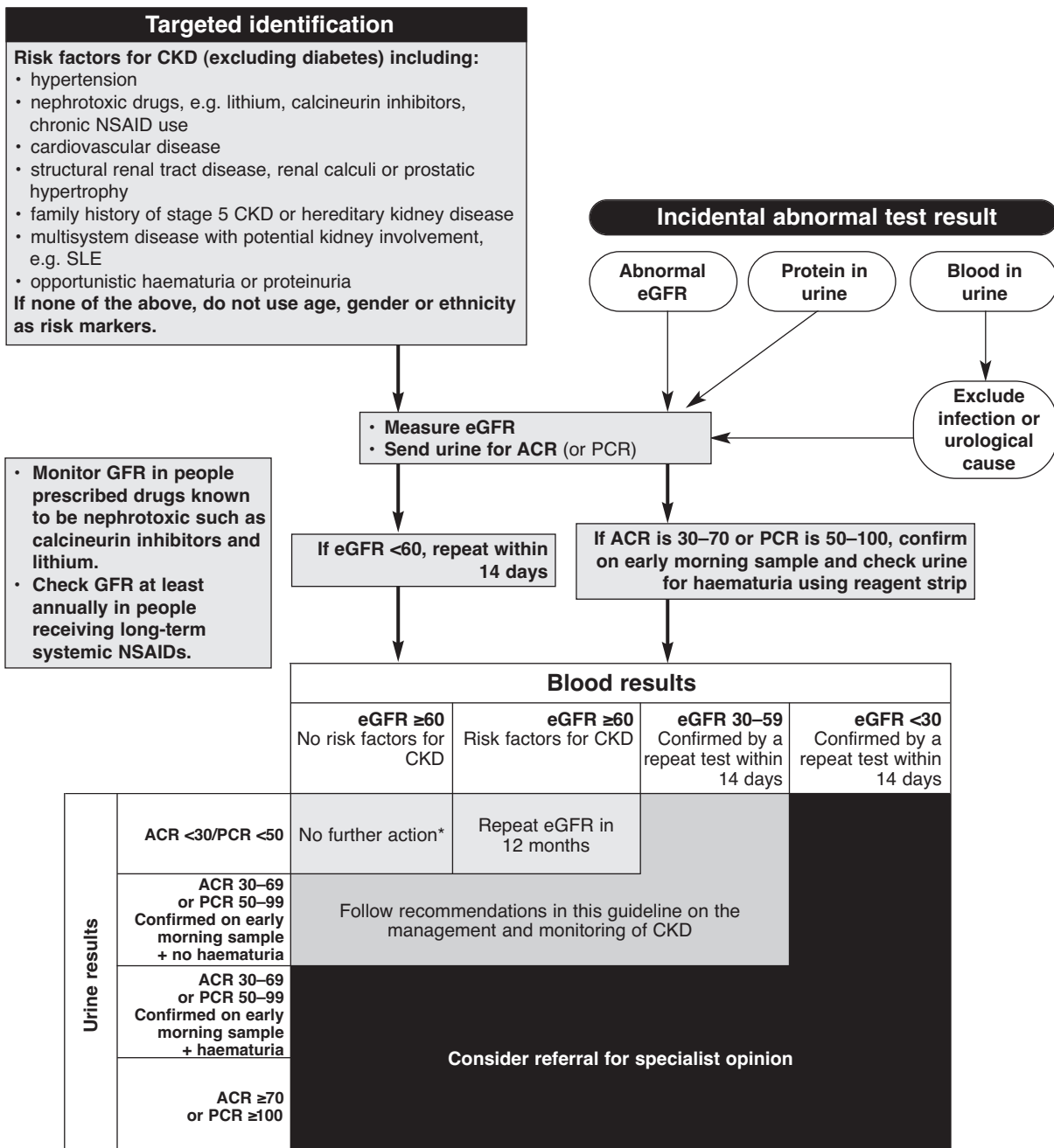
## Appendix D – Information and Guidance on CKD

There is now a wealth of information available to guide clinicians in identifying and managing patients with CKD – and many of them are collected together in this section.

You will find:

1. A copy of the concise NICE CKD Guidelines [online viewers click [HERE](#)]
2. A copy of the Primary Care Cardiovascular Journal special edition on CKD [click [HERE](#)]
3. Examples of CKD protocols that you could adapt to suit your practice's needs:
  - a. NICE CKD algorithm
  - b. Algorithm from NHS North Lancs
  - c. Protocols from practices in the CKD Collaborative:
    - i. The Lowry Medical Practice, Salford
    - ii. The Dicconson Group Practice, Ashton, Leigh and Wigan
    - iii. Mosslands Medical Practice, Salford
    - iv. Walkden Medical Centre, Salford
  - d. Example poster used to help staff at The Dicconson Group Practice send urine samples for the correct test – saving time and money through efficiency

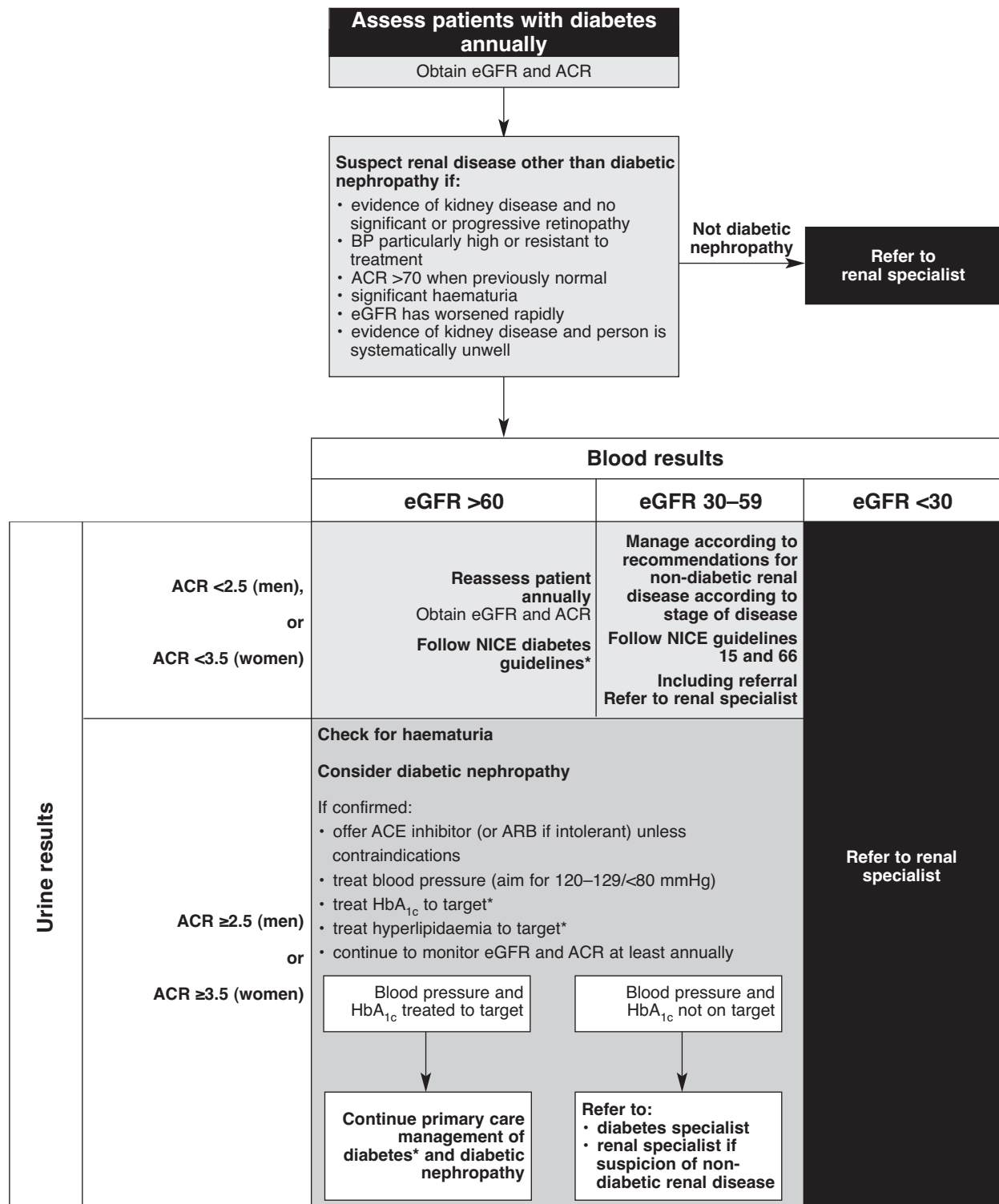
If you are viewing this guide online you can also access the NICE Quick Reference Hypertension Management guidelines by clicking [HERE](#) and the NICE Diabetes Management guidelines by clicking [HERE](#).



\*See pages 33 and 147 for management of isolated invisible haematuria.

**Figure 3.2 Identification, diagnosis and referral of patients with CKD but without diabetes.** eGFR is expressed as ml/min/1.73m<sup>2</sup>. Albumin:creatinine ratio (ACR) and protein:creatinine ratio (PCR) are expressed as mg/mmol.





\*See NICE clinical guidelines on type 1 diabetes (<http://www.nice.org.uk/CG15>) and type 2 diabetes (<http://www.nice.org.uk/CG66>).

**Figure 3.3 Diagnosis and referral of patients with CKD and diabetes.** eGFR is expressed as ml/min/1.73m<sup>2</sup>. Albumin:creatinine ratio (ACR) is expressed as mg/mmol.

# Chronic Kidney Disease (CKD) Algorithm

## People with the following risk factors should have their kidney function checked

- Diabetes (See local Diabetes pathway/algorithm)
- Hypertension
- Cardiovascular disease (ischaemic heart disease, chronic heart failure, peripheral vascular and cerebrovascular disease)
- Structural renal tract disease, renal calculi or prostatic hypertrophy
- Multisystem diseases with potential kidney involvement – for example, systemic lupus erythematosus
- Family history of stage 5 CKD or hereditary kidney disease
- Opportunistic detection of haematuria or proteinuria
- If none of the above, do not use age, gender or ethnicity as risk markers
- Monitor eGFR in people prescribed drugs known to be nephrotoxic such as calcineurin inhibitors (Cyclosporin, Tacrolimus) and Lithium
- Check eGFR at least annually in people receiving long-term systemic NSAIDs

Do not rely on reagent strips to identify proteinuria. To confirm proteinuria send urine for ACR (albumin:creatinine ratio)

## How to check kidney function Measure eGFR

- If eGFR in the first test <60ml/min/1.73m<sup>2</sup> repeat within 14 days
- To identify progression take at least 3 eGFRs over at least 90 days
- If blood sample taken fasting advise patient to drink water normally
- Advise patient not to eat meat for 12 hours prior to eGFR blood test

Send urine for albumin creatinine ratio (ACR). If first result is abnormal repeat on an early morning urine sample (in patients with diabetes 2 out of 3 abnormal results confirms microalbuminuria)

| eGFR > 60 and ACR < 30                                                                                                                       | eGFR > 30 and ACR 30 - 69 No haematuria   | eGFR > 30 and ACR 30 - 69 With haematuria                            | eGFR < 30                                      | ACR > 70 Irrespective of eGFR                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------|
| If no other risk factors for CKD, consider normal.<br><br>No further action required<br><br>If risk factors for CKD repeat eGFR in 12 months | See Management of CKD in Primary Care box | See Haematuria box<br>Consider referral for renal specialist opinion | Consider referral for renal specialist opinion | Consider referral for renal specialist opinion unless diabetic on appropriate treatment |

## Reduce cardiovascular disease risk

- Offer statins for the primary prevention of cardiovascular disease in the same way as in people without CKD
- Use statins for the secondary prevention of cardiovascular disease irrespective of baseline lipids. Use statins in people with diabetes (following NICE/local guidelines)
- Use antiplatelet drugs for the secondary prevention of cardiovascular disease

## Progressive CKD

- Define progressive as a decline in eGFR of >5ml/min per year, or >10ml/min in 5 years
  - For a new finding of reduced eGFR, repeat test within 2 weeks to exclude acute renal failure
  - To identify progression take at least 3 eGFRs over at least 90 days
  - Consider whether progression at the observed rate would lead to renal replacement therapy within the person's lifetime
- Chronic use of NSAIDs may be associated with progression; exercise caution and monitor GFR annually in those taking them long-term

In people aged > 70 years, an eGFR in the range 45–59 ml/min, if stable over time and without any other evidence of kidney damage, is unlikely to be associated with CKD-related complications.

| Anaemia                                                                                                                                                                                                                                                                                            | Manage bone conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Check haemoglobin in people with eGFR &lt; 45 ml/min</li> <li>• Exclude and treat other causes of anaemia before attributing to CKD</li> <li>• If the patient is likely to benefit in quality of life, consider referral when Hb &lt; 10.5g/dl</li> </ul> | <ul style="list-style-type: none"> <li>• Measure serum calcium and phosphate if eGFR &lt; 30ml/min</li> <li>• Offer bisphosphonates for the prevention and treatment of osteoporosis in people with eGFR &gt; 30 ml/min on the same indications as for all other patients</li> <li>• When vitamin D supplementation is indicated offer:                             <ul style="list-style-type: none"> <li>- colecalciferol to people with eGFR &gt; 30 ml/min</li> <li>- obtain specialist advice before using alfacalcidol or calcitriol in patients with GFR &lt; 30 ml/min</li> </ul> </li> </ul> |

## Management of CKD in Primary Care

- Optimum blood pressure control
- Use of ACEI/ARBs where indicated
- Reduce cardiovascular disease risk
- Identify progressive CKD
- Offer lifestyle advice – encourage the person to take exercise, achieve a healthy weight and stop smoking
- Refer to community renal dietitian if advice needed for salt, potassium, phosphate, protein and calorie intake
- Medication review – avoid NSAIDs and other nephrotoxic agents

| Blood pressure control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Use of ACEI/ARBs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------|----|----|-----|----|-----|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Aim to keep blood pressure below 140/90 mmHg in all patients with CKD (target systolic 120-139)</li> <li>• Aim to keep BP below 130/80 in people with CKD and diabetes or when the ACR is &gt; 70mg/mmol (target systolic 120-129)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Treat with ACEI first; move to ARBs if ACEIs are not tolerated</li> <li>• Titrate to maximum tolerated dose in all diabetic and non-diabetic patients with proteinuria</li> <li>• Test eGFR and serum potassium before treatment starts and repeat after 1- 2 weeks and each dose increase</li> <li>• If eGFR remains stable or shows a small decrease (up to 15%)* continue to titrate dose to maximum</li> <li>• If eGFR decreases 15 - 25%* following introduction or dose increase:                             <ul style="list-style-type: none"> <li>- do not modify dose</li> <li>- repeat the test after 1 – 2 weeks. Continue to titrate dose if eGFR stable</li> </ul> </li> <li>• If eGFR decreases by more than 25% or plasma creatinine increases more than 30% following ACEI/ARB introduction or dose increase:                             <ul style="list-style-type: none"> <li>- investigate for other causes of deterioration in renal function, for example volume depletion due to diuretics or NSAIDs</li> </ul> </li> <li>• If no other cause:                             <ul style="list-style-type: none"> <li>- stop ACEI/ARB therapy or reduce dose to a previously tolerated lower dose</li> <li>- add alternative antihypertensive medication if required</li> </ul> </li> </ul> |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| Treatment of Proteinuria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Haematuria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>• <b>No diabetes</b> <ul style="list-style-type: none"> <li>• ACR &lt; 30 mg/mmol and hypertension: offer a choice of antihypertensive treatment (in line with NICE or local guidelines)</li> <li>• ACR &gt; 30 mg/mmol and hypertension: offer ACEI</li> <li>• ACR &gt; 70 mg/mmol with or without hypertension: offer ACEI</li> </ul> </li> <li>• <b>Diabetes</b> <ul style="list-style-type: none"> <li>• ACR &gt; 2.5 (men) with or without hypertension: offer ACEI</li> <li>• ACR &gt; 3.5 (women) with or without hypertension: offer ACEI</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Use reagent strips</li> <li>• Evaluate further if there is a result of 1+ or more</li> <li>• Confirm persistent invisible haematuria by two out of three positive sticks</li> <li>• Check eGFR in all patients</li> <li>• Do not use urine microscopy to confirm a positive result</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| Urinary protein concentration and approximate equivalent values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Refer to Urology all Patients With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| <table border="1"> <thead> <tr> <th>ACR mg/mmol (albumin: creatinine ratio)</th> <th>PCR mg/mmol (protein: creatinine ratio)</th> <th>Urinary protein excretion (g/24hrs)</th> </tr> </thead> <tbody> <tr> <td>30</td> <td>50</td> <td>0.5</td> </tr> <tr> <td>70</td> <td>100</td> <td>1</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ACR mg/mmol (albumin: creatinine ratio)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | PCR mg/mmol (protein: creatinine ratio) | Urinary protein excretion (g/24hrs) | 30 | 50 | 0.5 | 70 | 100 | 1 | <ul style="list-style-type: none"> <li>• Visible haematuria (any age)</li> <li>• Invisible haematuria associated with lower urinary tract symptoms, if infection excluded (any age)</li> <li>• Asymptomatic invisible haematuria aged &gt; 40 years</li> </ul> |
| ACR mg/mmol (albumin: creatinine ratio)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PCR mg/mmol (protein: creatinine ratio)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Urinary protein excretion (g/24hrs)     |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.5                                     |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1                                       |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| In established proteinuria (ACR > 30mg/mmol) PCR can be used as an alternative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Refer to Nephrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>• <b>Potassium</b> <ul style="list-style-type: none"> <li>• If serum potassium is significantly increased above the normal reference range                             <ul style="list-style-type: none"> <li>- do not start ACEI/ARB</li> <li>- exclude and treat other factors that promote hyperkalaemia and recheck potassium</li> </ul> </li> <li>• If taking drugs that promote hyperkalaemia, more frequent monitoring of serum potassium may be required</li> <li>• If serum potassium rises to &gt; 6.0 mmol/l (repeat as soon as possible and exclude haemolysis)* and other drugs that promote hyperkalaemia have been discontinued, stop ACEI/ARBs</li> <li>• If serum potassium rises to &gt; 7.0 mmol/l refer urgently to the nearest Medical Assessment Unit (MAU) for repeat test and treatment*</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Patients with rapidly declining renal function (see progressive CKD box)</li> <li>• Patients with CKD who have had a urological cause excluded</li> <li>• Patients with ACR &gt; 30</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| Monitor in Primary Care                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Monitor in Primary Care                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>• Persistent invisible haematuria without proteinuria follow up annually, repeat testing for haematuria, ACR, eGFR and blood pressure as long as the haematuria persists</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Persistent invisible haematuria without proteinuria follow up annually, repeat testing for haematuria, ACR, eGFR and blood pressure as long as the haematuria persists</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                     |    |    |     |    |     |   |                                                                                                                                                                                                                                                                |

| Referral to a kidney specialist                                                                                                                                                                                                                                                                                                                        | Routine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                            |                                |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------|---------------------------------------------|---------------------------|---|-----|----------------------------------------------------------------|------------|---|-------|---------------------------------------------------------------|------------|----|-------|----------------------------------------------------------------------------|-----------|----|-------|----------------------------------------------------------------------------|-----------|---|-------|--------------------------------------------------------------------------|-----------|---|-----|---------------------------|----------|
| <ul style="list-style-type: none"> <li>• Take into account the individual's wishes and comorbidities when considering referral</li> </ul>                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Stage 4 (eGFR &lt; 30 ml/min) and stable stage 5 CKD (eGFR &lt; 15 ml/min) (with or without diabetes)</li> <li>• Proteinuria (ACR &gt; 70 mg/mmol) unless known to have diabetes and already appropriately treated</li> <li>• Proteinuria (ACR &gt; 30 mg/mmol) together with haematuria</li> <li>• Declining eGFR (&gt; 5 ml/min in 1 year, or &gt; 10 ml/min within 5 years)</li> <li>• Poorly controlled hypertension despite four antihypertensive drugs at therapeutic doses</li> <li>• Moderate decrease in GFR, with or without other evidence of kidney disease</li> <li>• Suspected rare or genetic causes of CKD</li> <li>• Suspected renal artery stenosis</li> <li>• Urologically unexplained visible haematuria</li> <li>• Anaemia Hb &lt; 10.5 g/dl after exclusion of other causes</li> </ul>                                                                                                                                                                   |                                                                            |                                |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| Urgent                                                                                                                                                                                                                                                                                                                                                 | Stages of CKD and frequency of eGFR testing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                            |                                |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| <ul style="list-style-type: none"> <li>- Suspected Acute Renal Failure</li> <li>- Newly detected eGFR &lt; 15 ml/min</li> <li>- Nephrotic Syndrome</li> <li>- Accelerated Hypertension</li> <li>- Severe hyperkalaemia (MAU)</li> </ul>                                                                                                                | <table border="1"> <thead> <tr> <th>Stage</th> <th>eGFR ml/min/1.73m<sup>2</sup></th> <th>Stages of CKD and frequency of eGFR testing</th> <th>Typical testing frequency</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>&gt;90</td> <td>Normal or increased GFR, with other evidence of kidney disease</td> <td>12 monthly</td> </tr> <tr> <td>2</td> <td>60-89</td> <td>Slight decrease in GFR, with other evidence of kidney disease</td> <td>12 monthly</td> </tr> <tr> <td>3A</td> <td>45-59</td> <td>Moderate decrease in GFR, with or without other evidence of kidney disease</td> <td>6 monthly</td> </tr> <tr> <td>3B</td> <td>30-44</td> <td>Moderate decrease in GFR, with or without other evidence of kidney disease</td> <td>6 monthly</td> </tr> <tr> <td>4</td> <td>15-29</td> <td>Severe decrease in GFR, with or without other evidence of kidney disease</td> <td>3 monthly</td> </tr> <tr> <td>5</td> <td>&lt;15</td> <td>Established renal failure</td> <td>6 weekly</td> </tr> </tbody> </table> | Stage                                                                      | eGFR ml/min/1.73m <sup>2</sup> | Stages of CKD and frequency of eGFR testing | Typical testing frequency | 1 | >90 | Normal or increased GFR, with other evidence of kidney disease | 12 monthly | 2 | 60-89 | Slight decrease in GFR, with other evidence of kidney disease | 12 monthly | 3A | 45-59 | Moderate decrease in GFR, with or without other evidence of kidney disease | 6 monthly | 3B | 30-44 | Moderate decrease in GFR, with or without other evidence of kidney disease | 6 monthly | 4 | 15-29 | Severe decrease in GFR, with or without other evidence of kidney disease | 3 monthly | 5 | <15 | Established renal failure | 6 weekly |
| Stage                                                                                                                                                                                                                                                                                                                                                  | eGFR ml/min/1.73m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stages of CKD and frequency of eGFR testing                                | Typical testing frequency      |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| 1                                                                                                                                                                                                                                                                                                                                                      | >90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Normal or increased GFR, with other evidence of kidney disease             | 12 monthly                     |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| 2                                                                                                                                                                                                                                                                                                                                                      | 60-89                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Slight decrease in GFR, with other evidence of kidney disease              | 12 monthly                     |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| 3A                                                                                                                                                                                                                                                                                                                                                     | 45-59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Moderate decrease in GFR, with or without other evidence of kidney disease | 6 monthly                      |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| 3B                                                                                                                                                                                                                                                                                                                                                     | 30-44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Moderate decrease in GFR, with or without other evidence of kidney disease | 6 monthly                      |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| 4                                                                                                                                                                                                                                                                                                                                                      | 15-29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Severe decrease in GFR, with or without other evidence of kidney disease   | 3 monthly                      |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| 5                                                                                                                                                                                                                                                                                                                                                      | <15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Established renal failure                                                  | 6 weekly                       |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |
| <ul style="list-style-type: none"> <li>• Test eGFR Annually in at risk groups. During intercurrent illness and perioperatively in all patients with CKD</li> <li>• Exact frequency should depend on clinical situation. Frequency of testing may be reduced were GFR remains stable but will need to be increased if there is rapid decline</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                            |                                |                                             |                           |   |     |                                                                |            |   |       |                                                               |            |    |       |                                                                            |           |    |       |                                                                            |           |   |       |                                                                          |           |   |     |                           |          |

| Immunisation                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Offer annual influenza vaccination to all patients with confirmed CKD stage 3 (eGFR &lt; 60 ml/min)</li> <li>• Pneumococcal vaccination and revaccinate according to DH Guidelines</li> <li>• Hepatitis B vaccination if there is a possibility of renal replacement</li> </ul> |

Further advice is available via the renal extranet site - <http://www.lancashireteachinghospitals.nhs.uk/renal> or from the Renal Unit, North Cumbria University Hospitals

**References:**  
 Joint Consensus Statement on the Initial Assessment of Haematuria (2008) Renal Association and British Association of Urological Surgeons.  
 Chronic Kidney Disease NICE clinical guideline 73 (2008) Early identification and management of chronic kidney disease in adults in primary and secondary care.  
 Anaemia management in people with chronic kidney disease NICE clinical guideline 39 (2006)  
 Immunisation against infectious disease "The Green Book" Department of Health (2006)

\* local consensus as opposed to NICE

Date Produced: June 09

Review Date: June 2010

**SCREENING FOR AND CODING  
CKD3-5 PATIENTS** – Dr Z Ahmed, Lowry Medical Centre

**Is your patient at risk?**  
 History of CVD, Hypertension?  
 On NSAIDs long-term?  
 Renal calculi, BPH?  
 Proteinuria, Haematuria +ve  
 Multisystem Disease (eg SLE)?  
 Family history of CKD5?  
 Hereditary Kidney Disease?

**Check eGFR +  
send Urine for  
PCR/ACR testing**

**BLOODS**

eGFR less than 60?  
 If NEW finding, then repeat  
 in 7-14 days to rule out ARF  
 else REPEAT TEST IN 3  
 MONTHS

**URINE**

Check urine for  
 ACR > 30  
 PCR > 50

2x eGFR below 60 ?  
 -----  
**CODE AS CKD3/4/5**

**POSITIVE**

(Send MSSU) +  
 Repeat ACR/PCR  
 in 4 weeks +ve?  
**CODE AS CKD3 WITH  
 PROTEINURIA**

**NEGATIVE**

If ACR below 30  
 Or PCR below 50  
 -----  
**CODE AS CKD3 WITHOUT  
 PROTEINURIA**

**Diabetic Patients**  
 ACR >= 2.5 (men)  
 ACR >= 3.5 (women)  
  
**REFER to Practice  
 Diabetes Clinic**  
  
 BP threshold target 130/80

ACR >=70  
 PCR >=100

ACR 30-69  
 PCR 50-99  
 + haematuria

ACR 30-69  
 PCR 50-99  
 + NO haematuria

**Consider Renal  
 Referral**

**Manage as per CKD  
 guidelines**  
 (BP threshold target 140/90)

## Chronic Kidney Disease (CKD) PROTOCOL

All patients having routine blood tests should have U/E included unless already on IHD/ Hypertension/ Stroke/ Diabetic / CKD Register.

If estimated Glomerular Filtration Rate (eGFR) < 60 - will need repeat in 1 month.

If 2<sup>nd</sup> egfr < 60 – patient will need to be booked in with Practice Nurse and asked to bring early morning sample of urine in white top container and msu in red top.

When seen by Practice Nurse – explanation to patient re monitoring of kidney function. 6monthly u/e, bone profile and fbc. Good Blood Pressure control to improve kidney function. Discuss other lifestyle issues such as smoking/ alcohol/ weight/ exercise.

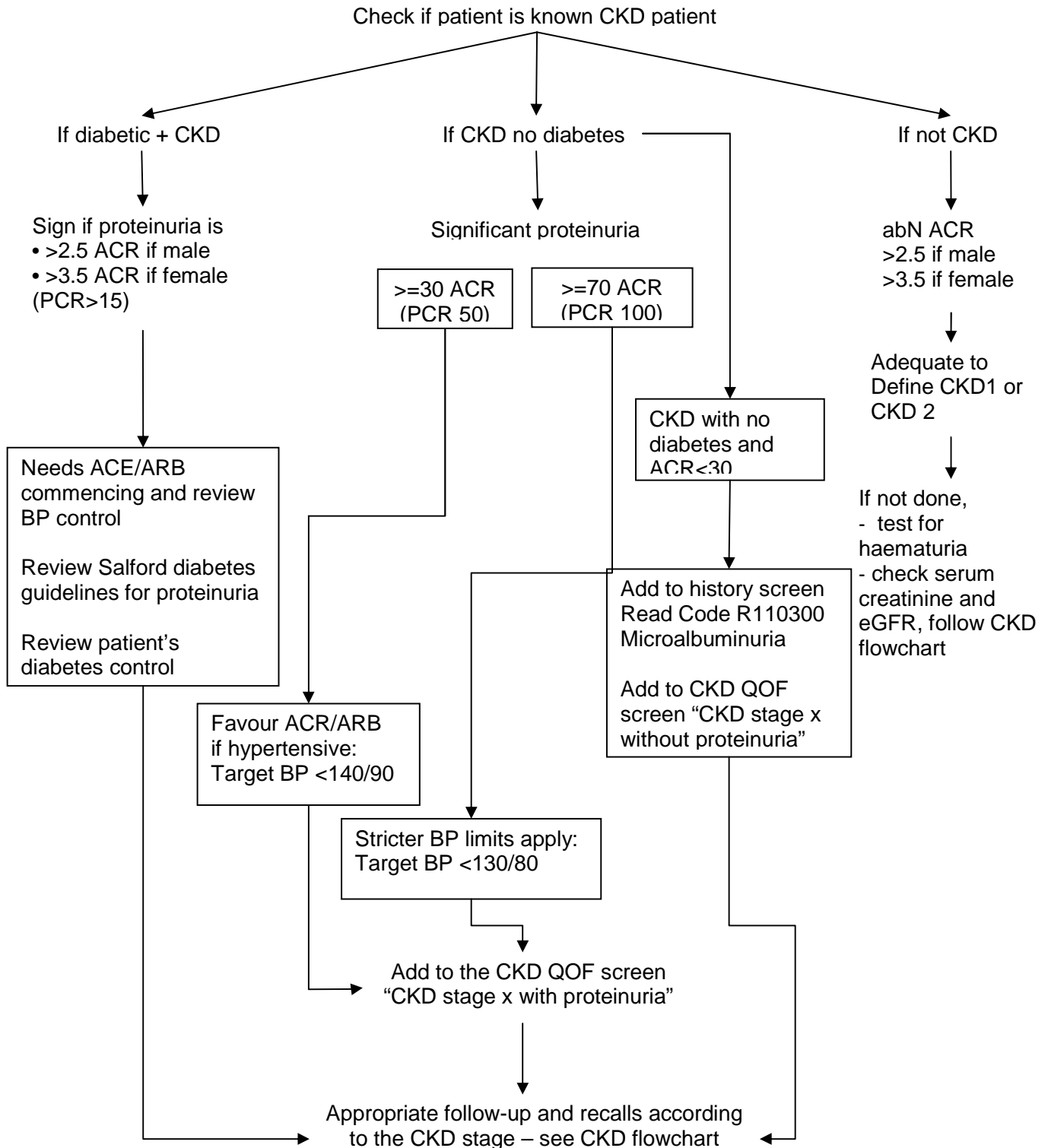
All patients on CKD register need to be on ace, statin and aspirin unless contraindicated.

| <b>Albumin Creatinine Ratio (ACR)</b> | <b>Target Blood Pressure (BP)</b> |
|---------------------------------------|-----------------------------------|
| < 30                                  | ≤ 140/80                          |
| ≥ 30                                  | ≤130/80                           |

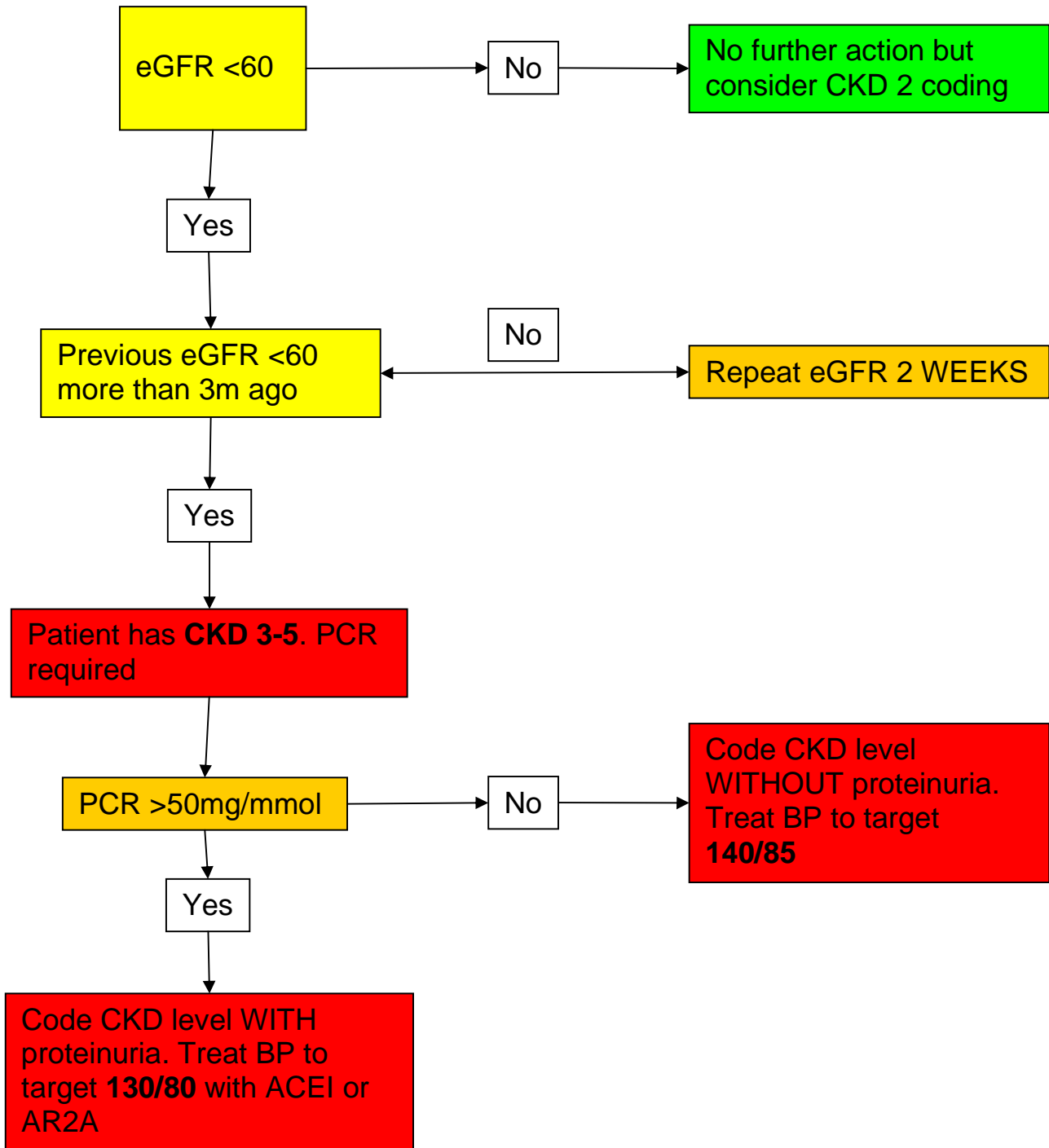
**Code appropriately, levels 3 to 5**

| <b>Stage of kidney function</b>                                                                                      | <b>eGFR</b>  |
|----------------------------------------------------------------------------------------------------------------------|--------------|
| Stage 1 - Normal kidney function. This does not rule out kidney disease, but the kidney is functioning well.         | 90 or more   |
| Stage 2 - Mildly reduced kidney function.                                                                            | 60 to 89     |
| Stage 3 - Moderately reduced kidney function.                                                                        | 30 to 59     |
| Stage 3a – With Proteinuria                                                                                          | 45 to 59     |
| Stage 3a – Without Proteinuria                                                                                       | 45 to 59     |
| Stage 3b – With Proteinuria                                                                                          | 30 to 44     |
| Stage 3b – Without Proteinuria                                                                                       | 30 to 44     |
| Stage 4 - Severely reduced kidney function                                                                           | 15 to 29     |
| Stage 5 - Severely reduced function. This is sometimes called end-stage kidney failure or established renal failure. | Less than 15 |

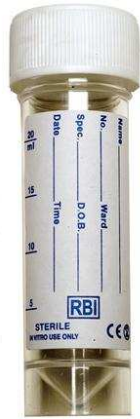
**CKD: Urine albumin:creatinine ratio (ACR) flowchart**



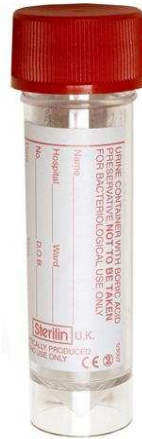
## Very simple flowchart for CKD



# ACR/MSU Testing Protocol



**ACR**



**MSU**

## 2 Separate samples.

White top must be first sample of the day.

Red top – any time of day.

Ensure name & dob is completed on both containers.

2 forms are sent in same lab envelope with both samples.

## **Form:**

- 1. **Common Biochemistry** ✓ **Microalbumin**
- 2. **Microbiology** ✓ **MSU**

Print and 2 separate forms will be printed out.

## Appendix E – Patient Letters And Leaflets

In this section you will find example patient letters to help you contact patients and invite them in for testing. The CLAHRC CKD team have developed some examples, drawing on knowledge and experience from the practices working with us in the Collaborative and there are a couple of example letters developed by practices.

1. CLAHRC Examples:
  - a. Inviting patients for an initial eGFR test
  - b. Inviting patients for a repeat eGFR test and an ACR test
  - c. Inviting patients for an ACR test only
2. Letter from Ellenbrook Surgery, Salford:
  - a. Inviting patients for a repeat eGFR and ACR test
3. Letters from Springfield Surgery, Stockport:
  - a. Inviting patients for an eGFR and ACR test
  - b. Inviting patients for an ACR test

You can develop these into your own letters to send out to patients.

You will also find example leaflets for patients with CKD\* – details of how to order more copies of these are available from the CLAHRC.

\*Reproduced with permission from the National Kidney Federation (NKF) and the Association of Renal Industries (ARI).



[CLAHRC example, inviting patients for an initial eGFR test]

<Date>

<Patients Address 1>

<Patients Address 2>

<Patients Address 3>

<Patients Address 4>

Dear <Patient>

As part of the practice's aim to provide you with the best possible care we are always looking for ways to improve our service. We are currently checking patients who may be at risk of a lower than average kidney function and would like to invite you to the surgery for a simple blood test. Please do not be concerned – we have no immediate concerns for your health. We are identifying at-risk patients early so we can monitor your health better to reduce any long-term chances of health problems.

To help us with this we request that you book an appointment with the nurse on <phone number> for a blood test. This will only take a few minutes of your time but will help us keep you healthier for longer. We will then contact you shortly after to discuss your result, and invite you back in if your result suggests that your kidney function is reduced.

If you would like more information please contact the surgery on <phone number>.

Yours sincerely,

<Signature>

[CLAHRC example, inviting patients for a repeat eGFR test and an ACR test]

<Date>

<Patients Address 1>

<Patients Address 2>

<Patients Address 3>

<Patients Address 4>

Dear <Patient>

As part of the practice's aim to provide you with the best possible care we are always looking for ways to improve our service. We are currently checking our records to identify patients with a reduced kidney function and we have noticed that one of your blood tests shows your kidneys may not be working as well as they could. Please do not be concerned – we have no immediate concerns for your health. We are identifying at-risk patients early so that we can monitor your health better to reduce any long-term chances of health problems.

There could be many reasons for this. Often it is just a temporary blip due to illness, like a cold, so we are inviting you to the surgery to provide a blood sample, and a urine sample in order to understand the results further. This should only take a few minutes of your time but will mean that we can look after your health better.

Please ring the surgery on <phone number> to book an appointment with the nurse to have a blood sample taken, and provide us with a urine sample (preferably from when you first pass water in the morning) on the day of your appointment in the pot provided. We will then contact you shortly after to discuss the results with you further.

If you would like more information please contact the surgery on <phone number>.

Yours sincerely,

<Signature>

[CLAHRC example, inviting patients for an ACR test]

<Date>

<Patients Address 1>

<Patients Address 2>

<Patients Address 3>

<Patients Address 4>

Dear <Patient>

As part of the practice's aim to provide you with the best possible care we are always looking for ways to improve our service. We are currently auditing our records of patients who have been identified as having slightly impaired kidney function, clinically defined as chronic kidney disease (CKD). You have previously been diagnosed with CKD and this should have been discussed with you by someone at the practice.

To get a more complete picture of your kidney function we request that you provide us with a urine sample which monitors another aspect of your kidney function and will improve the health advice that we are able to provide you with – reducing long-term risk of the disease.

Please provide a urine sample (preferably from when you first pass water in the morning) in the enclosed bottle and return it to the surgery before 12 noon the same day. We will then contact you shortly after to discuss the results with you.

If you would like more information please contact the surgery on <phone number>.

Yours sincerely,

<Signature>

[Example letter from Ellenbrook Surgery, Salford]

Dear [Patient],

We have been looking into how we manage patients with kidney problems in our practice to ensure we are providing the best treatment possible. As part of this we have searched through all our patients' blood results that monitor kidney function. This has shown that your kidney function was slightly impaired on your last blood test. This is nothing to be concerned about but we do need you to come in for a repeat kidney function test and to bring a urine sample with you. This is just to check that your kidneys are still working well.

Please do not panic about this, your health and kidneys are not in any danger. Once we have rechecked your kidney function we can see if it has either returned to normal and then no further action is necessary, or if it is still slightly impaired we will ask you to come in and see one of the doctors to discuss this.

Please book in for a kidney function test and bring a urine sample with you.

Best wishes,

[Example letter from Springfield Surgery, Stockport, inviting patients for an eGFR and ACR test]

«Pat.Title» «Pat.Forenames» «Pat.Surname»  
«Pat.CurrAdd.Full»

Date:

Dear «Pat.Forenames»

The practice is currently doing some work along side The University of Manchester into patients who have some abnormalities in their kidney function blood tests. These abnormalities may be quite minor and are often due to age though other factors can cause these as well, including blood pressure. The practice has been monitoring these tests for some time though as part of this research with the university and would like to do it more formally.

Your name has been flagged up as someone with these minor kidney function abnormalities – formally known as Chronic Kidney Disease or CKD.

We would be grateful if you could make an appointment at the practice to have your blood pressure taken along with a blood test to test your kidney function. We would also appreciate it if you could bring a urine sample (early morning) as this is part of the assessment also. Specimen pots will be available for collection from reception. Please ensure your full name and date of birth is on the bottle before returning it. This appointment can be with the practice nurse or any of the doctors.

If you have any queries please discuss these with the doctor or nurse at the time of your blood pressure and blood test.

The practice is dedicated to providing patients with optimum health care and so are one of the few practices in the North West of England to have been chosen to be part of this research and feel it will benefit its patients greatly long term.

Yours sincerely

[Example letter from Springfield Surgery, Stockport, inviting patients for an ACR test]

«Pat.Title» «Pat.Forenames» «Pat.Surname»  
«Pat.CurrAdd.Full»

Date;

Dear «Pat.Forenames»

The practice is currently doing some work along side The University of Manchester into patients who have some abnormalities in their kidney function blood tests. These abnormalities may be quite minor and are often due to age though other factors can cause these as well, including blood pressure. The practice has been monitoring these tests for some time though as part of this research with the university and would like to do it more formally.

Your name has been flagged up as someone with these kidney function abnormalities – formally known as Chronic Kidney Disease or CKD.

To complete our work we require a urine sample (early morning) to test for protein. Specimen pots will be available for collection from reception. Please ensure your full name and date of birth is on the bottle before returning it.

If you have any queries please discuss these with the doctor or nurse on your next routine blood pressure appointment.

The practice is dedicated to providing patients with optimum health care and so are one of the few practices in the North West of England to have been chosen to be part of this research and feel it will benefit its patients greatly long term.

Yours sincerely

function is declining over time, the case will be discussed with a kidney specialist, or a referral may be made to a kidney specialist.

### Treatment for CKD stage 3

Treatment as in CKD stages 1 and 2, but with more careful monitoring for declining kidney function.

### Treatment for CKD stages 4 and 5

Treatment as for CKD stages 1-3. Additionally, any medications should be reviewed, as the dose may need to be altered and some drugs may need to be avoided as they could damage the kidneys further. This should include prescribed drugs and any drugs bought at the chemist and complementary therapies. In CKD stages 4 and 5 it is usually necessary to get advice from a kidney specialist, especially in stage 5 because kidney failure may become life threatening.

### CKD and Diabetes

If someone with CKD also has diabetes, extra care to control the blood pressure, blood sugar levels and cholesterol levels is required. More intensive monitoring will be performed, including extra urine tests to look for protein in the urine. This is because CKD can be a complication of diabetes. However, CKD does not cause diabetes.

For a leaflet on 'Diabetes and Kidney Disease' contact the Helpline on 0845 601 02 09

### What if the kidney function keeps on getting worse and worse?

In people with declining kidney function, a treatment plan should be made with a kidney specialist team well before CKD stage 5 is reached. There are also several books and other aids that give information and help make a decision about the best treatment, some of which are available from the National Kidney Federation (for a FREE copy of 'Help I've got Kidney Failure' by Dr Rob Higgins, phone the NKF Helpline on 0845 601 02 09 (Local charge within the UK).

Written July 2006  
Last reviewed November 2010

To find out more about Kidney related books check our website [www.kidney.org.uk](http://www.kidney.org.uk)

### Leading a normal life with CKD

Most people with CKD should be able to lead normal lives. CKD does not normally run in families and routine family screening is not necessary if one person is affected. However, some specific types of kidney disease do run in families, and people should check with their health care team to see if testing of family members is needed.

For leaflets on sex and pregnancy or keeping fit contact the Helpline on 0845 601 02 09

*The National Kidney Federation cannot accept responsibility for information provided. The above is for guidance only. Patients are advised to seek further information from their own doctor.*

*To order any leaflets from the Kidney Matters series ring the Helpline on 0845 601 02 09*

### A 'Friend' at the end of the phone.

The National Kidney Federation operates the:

### NATIONAL KIDNEY PATIENTS' HELPLINE

The patient's helpline is run by patients-for patients

**0845 601 02 09**

This essential service enables the NKF to provide immediate telephone support at local rates.

### 'Friends' on the Internet.

As a friend of the NKF you will be given (via 'our quarterly magazine') the necessary passwords to enable you to access pages on the NKF website [www.kidney.org.uk](http://www.kidney.org.uk) that are hidden from public view. The site itself contains a mass of renal information, medical reference, and news.

*For information on how to become a friend please either telephone our Helpline or join on line on our website.*

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KIDNEY *Matters*  
from the National  
Kidney Federation



# Chronic Kidney Disease (CKD)

What is chronic kidney disease (CKD)?  
How common is CKD?  
How does someone know if they have CKD?  
What causes CKD?  
Measuring kidney function - eGFR  
What are the stages of CKD?  
What is the treatment for CKD?  
CKD and Diabetes?  
What if the kidney function keeps on getting worse and worse?

Leading a normal life with CKD



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Registrations: Charity No: 1106735 • Company No: 5272349  
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## Key Points

- CKD is very common, but less than 1 in 10 people with CKD ever require dialysis (artificial kidney treatment) or a kidney transplant
- Someone with CKD is at increased risk of heart attack or stroke, especially if they smoke or are overweight
- People with CKD should have regular checks of their kidney function, and have treatment if their blood pressure is 140/85 or more

## What is chronic kidney disease (CKD)?

Kidney disease is a term used by doctors to include any abnormality of the kidneys, even if there is only very slight damage. 'Chronic' means a condition that does not get completely better. Some people think that 'chronic' means severe. This is not the case, and often CKD is only a very slight abnormality in the kidneys.

## How common is CKD?

Recent research suggests that 1 in 10 of the population may have CKD, but it is less common in young adults, being present in 1 in 50 people. In those aged over 75 years, CKD is present in 1 out of 2 people. However, many of the elderly people with CKD may not have 'diseased' kidneys, but have normal ageing of their kidneys. Although severe kidney failure will not occur with normal ageing of the kidneys, there is an increased chance of high blood pressure and heart disease or stroke, so that medical checks will be helpful.

## How does someone know if they have CKD?

In most cases CKD does not cause any symptoms, and is detected because tests are abnormal. These may be urine tests for blood or protein; an X-ray or scan of the kidneys; or a blood test to measure kidney function.

For leaflets on blood in the urine or protein in the urine contact the Helpline on 0845 601 02 09

## What causes CKD?

There are many causes of CKD, and two of the commonest causes are high blood pressure and ageing of

the kidneys. Very few of the causes of CKD are completely curable, so it is often not necessary to do extensive tests to find a cause, so long as blood tests show the kidney function is stable. If someone has markedly reduced kidney function, declining kidney function, or associated problems such as kidney pain, a scan of the kidneys will be performed. Some people will also have tests such as a cystoscopy (flexible tube to look inside the bladder), or a kidney biopsy (a small piece of kidney is removed with a needle and looked at under the microscope).

## Measuring kidney function - eGFR

A test called the eGFR (estimated glomerular filtration rate) is used to measure kidney function. The eGFR is calculated by the laboratory from the level of a chemical called creatinine in the blood.

A normal eGFR is about 100 ml/min in young adults, so the eGFR is sometimes referred to as the percentage of normal kidney function, as the number is the same.

Some young adults with normal kidneys will have an eGFR as low as 75 ml/min, and this falls by about 1 ml/min per year as people get older, so many healthy people aged 75 will have an eGFR of 50-60 ml/min.

Most laboratories now report eGFR alongside their measurements of blood creatinine levels and this is the most reliable way to obtain an eGFR result. It is possible to use on-line calculator (e.g. at the Renal Association's website - [www.renal.org/eGFRcalc/GFR.pl](http://www.renal.org/eGFRcalc/GFR.pl)) by putting in age, sex, blood level of creatinine and racial origin. However, different laboratories use different methods to measure serum creatinine, and each of these methods gives slightly different answers. The eGFR that the laboratory reports takes account of these differences, but the on-line calculators do not; so the results that they give are not quite as accurate.

## What are the stages of CKD?

CKD is divided into 5 stages:-

- **CKD stage 1** is eGFR greater than 90 ml/min, with some sign of kidney damage on other tests (if all the other kidney tests are normal, there is no CKD).

- **CKD stage 2** is eGFR 60-90 with some sign of kidney damage (if all the kidney tests are normal, there is no CKD).
- **CKD stage 3** is eGFR 30-59 ml/min, a moderate reduction in kidney function
- **CKD stage 4** is eGFR 15-29 ml/min, a severe reduction in kidney function
- **CKD stage 5** is eGFR less than 15 ml/min, established kidney failure, when dialysis or a kidney transplant may be needed.

## What is the treatment for CKD?

There are some things that everyone with CKD should try to do. These are:-

- Lose weight (if overweight), and take regular exercise
- Stop smoking
- Reduce the amount of salt in the diet in order to help control the blood pressure
- Eat a healthy balanced diet
- Drink about 2 litres of fluid a day (2 litres is about 10 cups or 6 mugs). There is no benefit in drinking large amounts of fluid, except in people who get lots of urine infections, or in a few other special cases
- Consider buying an automatic blood pressure monitor to check the blood pressure at home
- Have an annual 'flu jab (influenza vaccination), and have the pneumonia (pneumococcal) vaccine once (talk to your GP about this)

## Treatment for CKD stages 1 and 2

The blood pressure should be treated carefully. If it is above 140/85, tablets are usually needed, and the aim is to get the blood pressure down to 130/80 or lower. The cholesterol should be checked, and some people will be advised to take a daily aspirin tablet. A blood test to check eGFR should be performed once a year. If the urine tests show a lot of protein in the urine, or the kidney



## What can be done about Chronic Kidney Disease (CKD)?

### First steps

When tests first show signs of CKD your doctor may need you to attend for further checks to confirm the findings and to look for the cause. Sometimes an ultrasound scan of the kidneys is needed. A few patients will need to see a hospital specialist depending on the results of all the tests and if there are particular problems such as difficulty in controlling blood pressure or if the kidney tests are getting worse.

### Routine checks

It will be important for you to have regular checks of blood pressure, blood and urine tests with your doctor or nurse. How often will depend on the CKD stage, whether the GFR test is changing and if there are problems with blood pressure or diabetes. Really careful blood pressure control is very important in CKD. Generally speaking blood pressure should be no more than 130/80 (even lower - 125/75 - in some kidney conditions).

**NB** For many people tablets known as ACE Inhibitors or Angiotensin Receptor Blockers are the best treatment for blood pressure but very occasionally they can affect the kidney and have to be stopped. If you do need them, your doctor should check your GFR first and repeat the test after 2 weeks and after any increase in dose to be on the safe side.

### What can I do to help myself?

- take regular exercise
- keep weight down
- don't smoke
- avoid excess salt and alcohol

### And with your doctor's help

- careful blood pressure control
- careful diabetes control
- check cholesterol

Remember – all this is designed to protect the heart and circulation as well as the kidneys.

## When is dialysis or a transplant needed?

This only happens to a small minority of people with CKD. Part of the routine steps in stage 4 or 5 is for your doctor to discuss your tests with your local kidney specialist. If it seems likely that you will need dialysis the different types of treatment will be explained in detail – but even at this stage the kidneys don't always carry on getting worse.

### What are the symptoms of CKD?

In most people the early stages of CKD do not cause any symptoms. Sometimes there are none at all until a few weeks before dialysis. Symptoms that can occur in later stages are:

- feeling tired • difficulty concentrating • itchy skin
- swollen ankles • breathlessness on exertion
- poor appetite and weight loss • feeling sick

Of course these can be caused by something else but they may mean that an extra check-up is needed.

## Other sources of information

Renal Association: [www.renal.org.uk](http://www.renal.org.uk)  
 British Heart Foundation: [www.bhf.org.uk](http://www.bhf.org.uk)  
 Diabetes UK: [www.diabetes.org.uk](http://www.diabetes.org.uk)

### National Kidney Federation:

<http://www.kidney.org.uk/Medical-Info/ckd-info/index.html>

This leaflet has been prepared by: Natasha McIntyre (consultant nurse), Dr Richard Burden and Dr Donal O'Donoghue (consultant physicians) and Dr Steve Blades (general practitioner) on behalf of the Royal College of General Practitioners.

If you would like further copies of this leaflet please contact the ARI Secretariat at Email: [info@ari-uk.net](mailto:info@ari-uk.net) Web: [www.ari-uk.net](http://www.ari-uk.net)

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## Chronic Kidney Disease:

## What it is - what it means

This leaflet is for people who have chronic kidney disease. It is also intended for people with high blood pressure or diabetes as these conditions sometimes affect kidneys.

It explains the tests which show how well your kidneys are working and what can be done to help to prevent further problems.

## Chronic Kidney Disease (CKD) rarely means dialysis

When people think of kidney disease they usually think of dialysis or kidney transplants but there is much more to it than that. Chronic Kidney Disease (CKD) is really quite common and affects as many as 1 in 10 of the general population. Remember that the words 'chronic disease' as a medical term mean any long-lasting condition and not an illness that it is bound to be very serious or immediately life-threatening. Only a very small minority of people with CKD end up needing dialysis or a transplant.

### What are the tests for Kidney Disease?

Both blood and urine tests are used to diagnose kidney disease. A blood test called GFR (Glomerular Filtration Rate) tells us roughly how well the kidneys are working as a % of normal. Simple urine tests sometimes show protein or blood cells. This often means an infection but it can be a sign of early kidney disease.

These are routine every-day tests which are done for various reasons such as

- if someone is ill to check if a kidney problem could be the cause.
- part of routine checks in people with high blood pressure or diabetes.
- because there has been pain or difficulty passing urine.
- routine tests when starting a new job.

### Who is more likely to get Chronic Kidney Disease?

Anyone can develop CKD but it is more common with increasing age and in people of South Asian and African/Caribbean origin (largely because they are more likely to get diabetes and high blood pressure).

## What do the tests mean?

*There are 5 categories of CKD, called stages.*

### Stage 1

This covers people with problems such as protein in the urine whose **GFR is normal**.

**Action: see 'What can be done about CKD?' in this leaflet.**

### Stage 2

This covers people with problems such as protein in the urine whose **GFR is 60-89%**.

**Action: see 'What can be done about CKD?' in this leaflet.**

Otherwise GFR 60-89% does not mean CKD.

### Stage 3

#### **GFR 30-59%**

This means the kidneys are not working so well

**Action: see 'What can be done about CKD?' in this leaflet.**

### Stage 4

#### **GFR 15-29%**

This means more marked kidney changes

**Action: More frequent checks needed. Explain dialysis and transplant options.**

### Stage 5

#### **GFR less than 15%**

Approaching need for dialysis

**Action: More frequent checks needed. May need to start dialysis or have a transplant.**

Someone who has given a kidney to a relative on dialysis could have a GFR test of half the normal amount (GFR 50%). This is the same as stage 3 which shows that people can be very well with low GFR tests...

*... So why does it matter?*

## Why does GFR matter?

Because a lot can be done to prevent future health problems. People with CKD tend to have high blood pressure which can cause narrowing of the arteries and lead to heart and circulation problems. High blood pressure can also make kidney conditions worse. Regular checks, and in particular careful blood pressure control, can be a big help in preventing these problems and in stopping the kidneys getting worse. Other steps that can be taken are described over the page.

## What do kidneys do?

Most people have two kidneys, one on each side of the spine, at the back of the waist. Each kidney is about the size of a clenched fist.

Healthy kidneys do a number of important things. They remove wastes and toxins from the body by filtering the blood, and by varying the amount of urine passed (depending on how much we drink) the kidneys make sure the body retains the right amount of water.

## What causes Chronic Kidney Disease?

The commonest causes are high blood pressure (also called hypertension) and diabetes. In both of these it usually takes many years before the kidneys become affected. It is more common if the blood pressure or the diabetes hasn't been as well controlled as it should be. Other less common conditions are caused by inflammation (glomerulonephritis) or infections (pyelonephritis). Sometimes CKD is inherited (polycystic disease) or the result of longstanding blockage (such as enlarged prostate or kidney stones). Some drugs can cause CKD, especially some pain-killing drugs (analgesics) if taken over a long time. Often it isn't possible to say what has caused the problem.

## Appendix F – Benefits Package

The CLAHRC chronic kidney disease quality improvement project represents the perfect opportunity for your team to engage in work that will bring distinct benefits to your practice and embed long-term successful improvements in the way you provide kidney care to patients. Furthermore, by practicing project management skills and utilising teamwork to make the improvements your team will develop their ability to manage and implement future projects in your practice. The advantages of working with the CLAHRC will be felt by both practice and personnel.

In electing to work with the CLAHRC you and your team have already demonstrated a willingness to drive improvements in your own environment. You can apply the work from during the project as evidence of your own professional development, and we will use our experience of facilitating the CKD Collaborative (Sep 2009 – Sep 2010) to provide examples of where we think the opportunities to demonstrate your development may arise from. Improvement teams were typically made up of a lead GP, a practice nurse and the practice manager. In this document we have developed templates specific to each role that reflects the evidence and learning that you may want to demonstrate from the project, of course you should consider anything else that you can add to the template from your own experience.

### Suggested documents as supporting evidence:

Below are examples of evidence that could be applied from the Collaborative that team members could include in an appraisal folder. It is worth considering throughout the project what documents might provide good evidence and adding them to your folder so that they don't get lost. However, the CLAHRC may have just what you require saved away so contact us if you can't find what you need!

*Certificate for participation in the CKD project (awarded at the end of the Phase One Collaborative)*

*Dashboard print out of PCT progress (updated monthly)*

*Feedback reports of your practice progress (updated monthly)*

*CKD protocol that has been implemented in your practice*

*Any other guidance you have developed*

*Any presentations that you have written to update and educate your colleagues*

*Results from audits that you have run*

*Examples of successful PDSA cycles that you ran (KTA will have copies of these)*

*Monthly data collection sheets that you completed (KTA will have copies of these)*

*Patient leaflets/literature that you gave out to CKD patients*

*Invite letters that you have developed for your patients*

*Photo of the plaque that your practice was issued (awarded at the of end of the Collaborative)*

*Local press release material that was used after the summit (available from KTA)*

The role-specific templates can be accessed by clicking on the appropriate link below

[GP](#)

[Nurse](#)

[Practice Manager/Administrator](#)

## GP

This section should help provide you with evidence of development from the CKD project to apply either prospectively or retrospectively. It is a good idea in either case to read through this section early in the project in order to consider whilst you and your team are making improvements how you might be able to use it to demonstrate your ongoing development. The revalidation cycle is likely to begin in 2012, when an online portfolio launch is planned to encompass all aspects of the process (see Figure 1) This text will guide you through the section in the red box in Figure 1 – covering some of the mandatory development fields.

Although it is unclear exactly how revalidation will evolve long-term GPs have been expected since 2009 to record evidence of their Continuing Professional Development (CPD) activity and the impact that it has in practice to prepare for the new system. The CLAHRC CKD project represents an excellent opportunity for you to get a head start in this process and use evidence from the work in your annual appraisal and to build up your CPD points towards earning revalidation of your practising licence, all whilst doing what all GPs started the job to do – improving patient care. The below templates include examples as to how your work in the project can help support various areas used to count towards your revalidation. These are;

- Annual Appraisal Form
- Personal Development Plan (PDP) (prospective)
- Continuing Professional Development (CPD) credits (retrospective)



Figure 1: The template dashboard developed by the Royal College of General Practitioners (RCGP) as part of the online 'RCGP Revalidation ePortfolio' which will combine appraisal, PDP and CPD evidence<sup>1</sup>.

<sup>1</sup> Royal College of General Practitioners, [http://www.rcgp.org.uk/revalidation/revalidation\\_eportfolio\\_home.aspx](http://www.rcgp.org.uk/revalidation/revalidation_eportfolio_home.aspx)

As part of your Appraisal Form 4 you can specifically plan chronic kidney disease and wider project management as an area in which you want to increase your understanding when creating your Personal Development Plan and identify how you want to develop this – or retrospectively identify that you became involved in the project after you had developed your PDP but that it represented a great opportunity for you to improve your professional competence and increase your CPD score.

Before completing your PDP plan for the CKD project, you might find it helpful to consider the frameworks introduced by the General Medical Practice (GMC) for ‘Appraisal and Assessment’ and on ‘Good Medical Practice’ to help you define the benefits of the evidence you are providing. These are listed at the end of this appendix on page F14.

### **Prospective template for GPs – developing a PDP based on CKD for the forthcoming year**

As part of the appraisal process a Personal Development Plan (PDP) is drawn up annually to identify areas of practice or knowledge to improve upon. In this section we have produced a template that could be used to develop a PDP based on the improvements that you should gain as part of the CKD project.

This template is adapted from an example of a different PDP given by the Salford Online GP Learning Hub (<http://www.salfordgp-learninghub.org>) which lists eight points to consider when producing your PDP during your appraisal.<sup>2</sup> When completing each point the guide advises the reader to consider SMART objectives<sup>3</sup> so that your objectives can be fulfilled. The SMART objectives are Specific, Measurable, Achievable, Relevant and Time bound. Click on the above link or the footnotes to the site if you require further guidance on to the PDP or to better understand the SMART objectives.

1. What do I need to learn?
  - To improve personal knowledge and the practice process of identifying and managing patients with chronic kidney disease
2. How did I identify this need?
  - I have identified a knowledge gap at the practice. CKD treatment is not as effective as it potentially could be, as demonstrated by our recorded vs estimated prevalence. Also - our QOF points for CKD were not maximised and we were not treating patients with proteinuria to the lower blood pressure target recommended by NICE
3. Why do I need to learn it?
  - CKD is frequently accompanied by other linked vascular concerns. Patients are at a higher risk of a vascular event without intervention and their vascular risk management should be optimised. Patients with CKD may require specialist input in small numbers but identifying those patients is critical. CKD is an area where there are frequent knowledge gaps in primary care and by addressing this personally I can gain more confidence in treating it and better judgement of when a referral to secondary care is necessary or not
4. What are my objectives for this learning need?
  - To apply SMART objectives. Ensure that learning/study is realistic and possible within time constraints. Focus the objectives that I want to achieve as a result. By doing this I aim to:
    - Improve our CKD prevalence
    - Implement a standardised CKD protocol for the practice based on NICE guidance

<sup>2</sup> Salford GP Learning Hub; <http://www.salfordgp-learninghub.org/index.php?id=34>

<sup>3</sup> Salford GP Learning Hub; <http://www.salfordgp-learninghub.org/index.php?id=37>

- Ensure that all CKD patients have a test for proteinuria and that all clinicians understand the distinction of a proteinuric CKD patient from a non-proteinuric patient
  - Ensure that all CKD patients have controlled blood pressure, and tighter targets for those with proteinuria, and that all have access to appropriate lifestyle services
  - Have accurate recall systems and audits set up to sustain improvements that are made
  - Ensure referral patterns are appropriate ie cut overall referral, ensure those who need specialist input receive it in a timely way
5. What methods will I use to achieve these objectives?
    - o Read guidelines and literature, form an in-practice improvement team, hold improvement team meetings, develop practice protocol, attend Collaborative shared learning events, keep regular contact with the CLAHRC project team
  6. How do I know if my learning has been successful?
    - o Monthly progress reports supplied by the CLAHRC, practice staff following guidelines implemented in the protocol, embedded learning amongst all staff, more confidence in ability to treat the disease and refer appropriately. On a personal level I will have met the specific objectives set out in my PDP that I wanted to fulfill by undertaking the project around improved identification and management of patients
  7. What has changed as a result of my learning?
    - o An increased comprehension of the disease and potential consequences of sub-optimal treatment, more confidence in referrals, better management of patients, increased confidence around the disease area
  8. What is my timescale?
    - o The improvement project is facilitated by the CLAHRC for approximately 12 months, but it is essential that the improvements we make include sustainability in practice for the long-term and that we continue to develop our understanding after the project has concluded

*Note: Consider for your PDP what other evidence you can provide to demonstrate your improvements. For example, certificate evidence of your participation in the CKD work, or the results of a clinical audit that you carried out in order to identify potential CKD patients that had not been picked up despite a protocol being implemented. Refer to the list on page F1.*

### **Retrospective evidence for GPs – material for demonstrating Continuing Professional Development (CPD) through the CKD project**

Another mandatory part of a GPs portfolio for annual appraisal is to demonstrate 50 CPD credits every year – or for the total five year cumulative credits to total at least 250. In this section we show what the provisional format of the CPD section of the online portfolio looks like (Figure 2) and provide examples based on the Phase One Collaborative of where the CLAHRC thinks you can gain CPD credits during the project (Figure 3). Our list is fairly comprehensive and it is not anticipated that a GP would take on so much responsibility within in the team as to complete all of the available points – it is just to demonstrate the scope of points we think are available.

You can self-assess each part of the project as to how many credits you think it represents but attending project events such as the Learning Sessions can count towards them. The guidelines for

credits suggest a ratio of 1 credit per hour spent conducting the learning – however these count for double if you can then demonstrate a direct beneficial impact for your practice. Learning through practice is for most people a highly effective way of retaining information – think what examples from the CKD project have triggered you to undertake independent research around the disease. The RCGP has specified some upper limits for the amount of hours a GP should claim for any given CPD activity in a single year, with no more than 20 credits for educational meetings/conferences, 10 credits for personal unstructured reading, 10 for targeted reading and 10 each for unstructured and structured online reading.<sup>4</sup>

The screenshot displays the 'Learning credits distribution' interface. It includes a sidebar with navigation options for 'Appraisee' (CPD Log, CPD Item, Dashboard, Dashboard Items) and 'Appraiser' (Reviewing CPD, Reviewing PDP, Appraisal Outcome, Scoring Checklist). The main area features a search bar with 'Date Start' and 'To' fields set to 06/10/2010, and a 'SEARCH' button. Below the search bar is an 'Add New CPD Item' button and a table of recorded items.

| Date       | Type               | Area         | Dimension | Title                                    | Credits | Shared | Reviewed |  |
|------------|--------------------|--------------|-----------|------------------------------------------|---------|--------|----------|--|
| 05/10/2010 | Meetings           | Professional | Local     | Writing guidance for ePortfolio for PCOs | 4       | Yes    | No       |  |
| 26/05/2010 | Colleague feedback | Clinical     | Local     | MSF                                      | 4       | Yes    | No       |  |
| 26/05/2010 | Complaints         | Managerial   | Local     | Communication Issue                      | 10      | Yes    | No       |  |
| 20/05/2010 | Meetings           | Clinical     | Local     | Course on Diabetes                       | 2       | Yes    | Yes      |  |
| 09/12/2009 | Audits             | Clinical     | Local     | Clopidogeral Audit                       | 4       | Yes    | No       |  |
| 05/10/2009 | Conferences        | Clinical     | External  | Annual RCGP Conference                   | 6       | Yes    | No       |  |

Figure 2: Generic examples provided by the RCGP of CPD credits recorded

<sup>4</sup> Pulse GP Notebook, *Revalidation: Are you on track to collect the 50 CPD credits you need?* 13 May 2010

| Type       | Area         | Dimension                                                                                                                                                                                                                | Title                                                                               | Credits                                   | Doubled |
|------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|---------|
| Meetings   | Clinical     | External                                                                                                                                                                                                                 | CKD Project Learning Session 1                                                      | 4                                         |         |
|            |              |                                                                                                                                                                                                                          | CKD Project Learning Session 2                                                      | 4                                         |         |
|            |              | Local                                                                                                                                                                                                                    | Webex teleconference on CKD with local secondary care expert                        | 1                                         | 2       |
|            |              |                                                                                                                                                                                                                          | 'Pulse' online module on running effective clinical audits <sup>5</sup>             | 1                                         | 2       |
|            |              |                                                                                                                                                                                                                          | 'Pulse' online module on CKD <sup>6</sup>                                           | 1.5                                       | 3       |
|            | Professional | Independent research done on NICE CKD guidelines and local lifestyle services for patients                                                                                                                               | 2                                                                                   | 4                                         |         |
|            |              | <a href="http://www.ckdonline.org/online-learning-resource-%20-%20Advanced-certificate%20for%208%20hours%20learning">http://www.ckdonline.org/online learning resource – 'Advanced certificate' for 8 hours learning</a> | 8                                                                                   |                                           |         |
|            |              | Developed and implemented CKD protocol for practice                                                                                                                                                                      | 3                                                                                   | 6                                         |         |
|            | Professional | Presentation written to feed back to colleagues on improvements made during the CKD project                                                                                                                              | 1                                                                                   | 2                                         |         |
|            |              | Recall process set up on in-practice system in line with CKD protocol to ensure reviews                                                                                                                                  | 2                                                                                   | 4                                         |         |
| Conference |              | Clinical                                                                                                                                                                                                                 | External                                                                            | Attended British Renal Society conference | 6       |
| Audits     | Clinical     | Local                                                                                                                                                                                                                    | Audit and validation of CKD register                                                | 2                                         |         |
|            |              |                                                                                                                                                                                                                          | Audit to check if CKD identification protocol is being followed                     | 2                                         |         |
|            |              |                                                                                                                                                                                                                          | Audit run to improve blood pressure for CKD patients outside of NICE guidance range | 1                                         | 2       |
|            |              |                                                                                                                                                                                                                          | Audit run for CKD patients who require test for proteinuria                         | 1                                         | 2       |

Figure 3: CLAHRC examples of credit sources from the CKD project

The above table provides examples that total 53 CPD points. Obviously the experience for each GP participating in the CKD project is different and certain portions of the work will be delegated to other team members, but this is just an example to demonstrate the range of areas that offer scope to provide CPD evidence during the improvement work.

<sup>5</sup> <http://www.pulsetoday.co.uk/story.asp?storycode=4127510>

<sup>6</sup> <http://www.pulsetoday.co.uk/story.asp?storycode=4127203>



## **Appraisal**

**Free text with examples:** *The following text can be used to complete many other sections of your appraisal form where the CKD project can demonstrate relevant experience (cut and paste relevant areas into your appraisal text where applicable and edit the text in blue to reflect your context)*

Having received notification of the Greater Manchester Collaboration for Leadership in Applied Health Research and Care (CLAHRC) running an improvement project for practices within our Primary Care Trust area I realised that my practice would benefit and create a really positive change in our care for patients with chronic kidney disease by being involved.

I discussed this opportunity internally with peers at a staff practice meeting and the potential improvements that it represented. We concluded that by participating in the project we could improve a number of things in practice – most importantly patient outcomes. I wanted to take the lead GP role in the project. The practice formed a team of [three](#) to undertake the project. With this in mind I discussed the venture with the [practice manager / member of our admin team](#), and a nurse [\(who holds the portfolio for chronic diseases\)](#) at the practice. We decided that the opportunity to improve kidney care for patients, with personal clinical and academic support aligned with financial rewards for achievement was one that was too good to turn down. I took the role of lead GP.

The aim that the CLAHRC gave the practice was to halve the prevalence gap for CKD between the known and expected prevalence levels, which they calculated for us on the QICKD study model<sup>7</sup> which used the age/sex profiles of our practice register to estimate the numbers that we should look to identify. Our second objective was to get 75% of our patients on the CKD register to achieve NICE recommended blood pressure targets which were adjusted according to whether or not the patient had been diagnosed with proteinuria or not.

As chronic kidney disease has only recently been defined and staged to its current level of detail I identified that there were some [knowledge gaps around the disease both personally and as a practice](#). With this in mind I undertook targeted reading around the disease, studying the [NICE guidelines, local protocols including the \(...\) the following patient leaflets \(...\) as well as best practice information posted on the CLAHRC website](#). This helped improve my comprehension of the disease area, [particularly the diagnosis pathway and different actions according to disease stages](#). To help put this into practice I demonstrated my understanding by [feeding information on the subject back to my colleagues at staff meetings, and developing a CKD protocol which I implemented by once again discussing at internal meetings, explaining and giving everyone a copy of the protocol to refer to in their consulting room](#). I also made it clear to my colleagues that if they had any queries around managing CKD I would be the dedicated point of contact to answer them.

Because the causes of kidney disease can be complicated and patients have multiple co-morbidities there were occasions during the project which required me to do targeted reading to help me understand the specific needs of the patient and in order to treat the disease most effectively. An example of this was ...

I did further targeted reading around this to better understand the most suitable solution for my patient and used the opportunity to help educate my colleagues and peers first at a staff meeting

<sup>7</sup> de Lusignan S, Tomson C, Harris K, van Vlymen J, Gallagher H. Creatinine Fluctuation Has a Greater Effect than the Formula to Estimate Glomerular Filtration Rate on the Prevalence of Chronic Kidney Disease. *Nephron Clin Pract.* 2010;117(3):c213-c224.

and later by using it to provide a case study for the CLAHRC at one of the Learning Sessions that they facilitated.

I experienced learning via didactic teaching from secondary care experts as well as facilitated action learning between practices involved in the project at three half day sessions over 1 year. Some of these practices were in the same PCT as us which provided some great local context; others were from elsewhere in Greater Manchester. I found the [case studies particularly useful as they identified specific cases as well as problems and solutions experienced by practices](#). In addition to these sessions, the CLAHRC ran Webex sessions which were each approximately one hour in length. I participated in [two](#) of these. These were again used as an opportunity to share ideas and examples with other practices within our PCT area. Because of the shorter time span these were more focused than the Learning Sessions and members from the CLAHRC team were on hand to answer queries and resolve problems. In these sessions I also had the opportunity for some reflective learning of the work I had done by considering the changes I had achieved and what else I could strive for – aided by sharing these thoughts with other clinicians. Learning and development was focused not only on clinical knowledge but also improving systems, teamwork, project management, use of IT, communications, behaviour change with patients and staff and leadership.

Our learning time with the CLAHRC was supplemented by visits from a project facilitator known as a Knowledge Transfer Associate (KTA). During these informal meetings our ‘CKD improvement team’ would get together with the KTA and we would discuss progress and problems in achieving our objectives and we would all work together to find a solution to any problems. The facilitator brought examples of solutions from other practices to help us work through problems. I found this protected time with my colleagues particularly useful in helping me to achieve the aims of the project and meet the objectives that I had set out to improve upon. It was during these meetings that I got a real feel for project managing the CKD project. [The long-term impact of this has been an increased understanding about the team dynamics of the practice and the confidence to consider what changes I could implement in other disease areas](#).

[I led the development of appropriate audits for the practice throughout the project](#). We discussed data during improvement meetings and used it to recognise areas in which we could improve and in order that we ‘close the loop’. For example – if the data demonstrated that we had a large number of diagnosed CKD patients awaiting a test for proteinuria then we would prioritise the completion of these. There were other regular audits put in place throughout the project that emerged from the improvement meetings. [For example I suggested that we establish six-monthly audits of some of our PDSA cycles that found us big gains near the start of the project to pick up patients where the protocol had not been followed – such as repeating searches for patients with two eGFRs <60 who are not coded with CKD](#). Our data show the clinical improvements achieved via these audit cycles – see the practice level graphs which I have included as part of my portfolio of evidence.

As well as diagnosing many more patients with CKD we have also addressed the disease and with it tried to reduce health inequalities by helping patients to better understand it and take more control and responsibility for the condition. We have done this by holding a post-diagnosis consultation with each patient to explain the disease and its contributory factors. The patient is offered the chance to reduce the risks posed by the disease by receiving some lifestyle education and signposted towards supporting services to help achieve this.

As a result of the work that I have done on the CKD project I feel much more confident in treating the disease, and therefore that the patient is receiving a better standard of care because of this. I have become a source of CKD expertise within the practice for colleagues. One of the outcomes is a better understanding of when a secondary care referral is appropriate as in fact I have learned that many patients even with advanced disease can be safely managed in primary care; when it is necessary, I am more confident liaising with secondary care teams for advice rather than referring in.

The CKD work has led to a dual increase on our QOF points – firstly by improving the management of our patients so that more of them attain proteinuria testing and BP targets, and secondly by simply increasing the numbers of patients on the CKD register.

Looking forward, even though we have now completed our year of formal engagement with the CLAHRC in the CKD improvement work I would like to continue improvements in this area for the practice. I think that I can do this by leading the regular audits that we have set up to manage CKD patients and continuing to assist my colleagues in increasing their understanding by being a contact point in-practice for the disease. That way we can continue to improve overall practice treatment of CKD.

## Nurse

The renewal of registration for nurses is required every three years. As part of the process, there are two Prep standards to satisfy – practice and continuing professional development (CPD). The work from the CKD project can help provide a good example for CPD. The process for nurses is less standardised than that for GPs and whilst nurses must demonstrate evidence this can be done in a reflective manner rather than through recording credits for each area. Below is a form that has been adapted from one that is used in the NHS Ashton, Leigh and Wigan area to suit the learning elements from the CKD project. It is worth looking over the prospective Personal Development Plan in the GPs section of this guide on Page F3 if creating a PDP also forms part of your appraisal process.

### Continuing Professional Development

#### Self-reflection

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>What was the aim of the improvement work in chronic kidney disease?</b></p> <p>The practice were invited into a project within our PCT to improve our CKD register by halving our prevalence gap and treating our CKD patients to NICE recommended blood pressure targets in order to reduce their risk of vascular events and improve general health outcomes. The project ran for 12 months and was facilitated by the CLAHRC for Greater Manchester who provided support for the practice in order to help us drive the improvements that we identified as necessary to achieve our goals. I was the lead nurse in the work, and our team was completed by a GP and the practice manager.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>What have I learned from being part of the chronic kidney disease improvement project?</b></p> <p>As a result of my role as lead nurse in the project I have been involved consistently in team meetings both internally and with a facilitator to drive improvements in detection and management of the disease. My understanding of coding CKD patients has improved as early on in the work we looked for patients who met the criteria already but had not been coded. Following this a CKD protocol was developed for the practice so that all clinicians had a standardised guide to follow. I then helped develop searches to identify potential CKD patients by finding out what the main risk factors were and which patients should be identified to screen for the disease. I have since invited and screened all of the selected patients and learned more about the optimal management of patients with CKD in regard of the correct referral criteria, management depending on stage and comorbidities, and appropriate review periods. This has helped me set up an accurate recall system with the practice manager so that CKD patients are called back in for review when their review date is flagged up by the system – and reviews have been streamlined with any other review dates if the patient is, for example, already on the hypertension register. I understand better why proteinuria is an added risk factor and that it is particularly important with these patients to control their blood pressure. We have monitored patients to ensure that this is the case. I have also set up an audit system so that every three months we run a search at the practice for any potential CKD patients that have not been picked up as per the protocol and call them in for a second test. The key things that I have gained from the project are an increased level of confidence when treating CKD, better diagnosis and management of CKD, when a case should be referred to secondary care and a better notion of the what it takes to project manage a piece of improvement work like this.</p> |
| <p><b>Have I learned anything that may change the way I practice?</b></p> <p>I have learned the value of teamwork from the structure of the improvement team which drew on the different skill sets present in my practice and have learned to appreciate some of the skills that my colleagues have that I can draw on to help make my work more successful in future. My greater knowledge around the disease has improved the way in which I treat my patients and means I feel well informed and more confident in providing optimal care for them. My knowledge covering all aspects of CKD has improved from the coding to the general management and I am certain that patients now have the correct coding and follow the right treatment pathway. All patients have an accurate and guideline-led review process and more potential patients are picked up because the follow-up protocol is used and I run a quarterly audit to identify any patients that are not being appropriately followed-up.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>In which areas will this information enable me to develop further?</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>The information will enable me to take more control in looking after the long-term conditions portfolio of patients at the practice and continue to give excellent care for them by monitoring chronic diseases regularly so that they are well managed. I also have a greater understanding of the long-term effects of CKD which has allowed me to develop further my understanding of other vascular diseases due to the inter-relation that they have. Working on the project has given me some idea of where I can look for advice on CKD if I need it, such as the guidelines that are provided by NICE and other learning resources. The teamwork and testing improvements elements that I have used on this project can also be applied to other areas of the practice in the future to help improve other areas of practice, particularly other QOF registers which are measured annually.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Will this information enable me to develop or maintain a 'Best Practice' standard?</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>Yes, the knowledge that I have gained will mean that I can provide improved care for every patient that gives them suitable options and directly meets their individual needs. Because my understanding of the disease is more thorough I can listen to patient demands and accommodate these by helping them to access services that might help them in their lifestyle and also help the patient achieve more self-management of CKD by explaining more about the disease to them. One of the key aspects of the CKD project was the emphasis that the CLAHRC put on sharing information with colleagues on any improvements that we were putting into practice so that all staff at the practice were aware of developments in protocols and would help us make improvements to our practice. This also gave the opportunity for my colleagues to suggest any improvements to the changes we were making and be involved in the improvement process. The work was a team project and we were required to work effectively as a team in order to make optimal use of each others' skill sets so that the care of patients could reach the optimal standard. The information and target-setting for the project was drawn-up by an expert faculty and supported by secondary care clinicians so the improvements that were made to our practice were all evidence-based according to the latest available evidence. We are therefore confident that they will all be of benefit to our patients. A CKD practice protocol has been established for all staff to follow and there is an annual review date set on the protocol so we can verify that the practice is keeping up to date on any recommendations.</p> |
| <p><b>My Comments</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>I have enjoyed participating in the CKD project for the last 12 months. The main reason for this is that it has been really beneficial to me in my professional development to have the opportunity to take part in a project that drives improvement in our practice. I have also liked that dedicated time was made available for me to concentrate on the project, make these improvements and it was a piece of work with an entirely different focus to my day-to-day work. I enjoyed having the support at the practice to help me learn more about a specific disease area and really get my teeth into an opportunity to develop myself and the practice. I feel like I have stronger working relationships with the other two members of the practice that made up our project improvement team and appreciate how our skills all complement one another and work in practice. In particular, I feel that the learning sessions that formed part of the collaborative project were of real benefit as I got the chance to share ideas with other practices and study what they had done to drive improvements on the same project.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## **Practice Manager/Administrator**

*With no standard framework for practice managers to fulfil what is given below is a free text template of the benefits of the project for a practice manager at both a practice and personal level. This template can be edited to suit your experience of the work with the CLAHRC. Remember the documents list that is on page F1 can be used to support your appraisal package.*

Having received notification of the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester running an improvement project for practices within our Primary Care Trust area I realised that our practice would benefit and create a really positive change in our care for patients with chronic kidney disease by being involved.

I discussed the invitation with my colleagues at a staff meeting and was keen to emphasise the benefits that I saw in joining the project. We recognised that a knowledge gap existed in practice in the treatment of CKD and felt that we had plenty of room for improvement in this disease area. The CLAHRC helped us in our improvement by providing advice and suggesting PDSA (Plan, Do, Study, Act) Cycles as a tool to test changes and drive improvement. These cycles enabled us to test changes and judge their effect before deciding whether, or how, to implement them long-term.

Having completed the project in September 2010 I feel that the practice has benefited in many ways through the work and that I too have demonstrated development in my knowledge and performance as a result of being one of the three members in our improvement team. All the knowledge gained and changes implemented have been evidence-based so we can be confident that they are in the best interests of the patients.

I will explain some of the practice benefits first. One of which, and the most important in my eyes, is the improvement in patient outcomes that the project represents for patients on our CKD register. At the outset of the project the aforementioned knowledge gap that was identified had led to patients being coded incorrectly in regards to CKD. This could mean either that patients were coded with the disease when they should not be, or vice versa, or in other cases had rightfully been coded with the disease but the stage entered incorrectly. The first thing we did in the project was an improvement test to help us validate this and ensure that we had an accurate register as a starting point.

We then tested multiple ways to identify patients that were already registered at the practice but were 'hidden' cases of CKD. This involved searching for patients that were identified by the in-practice system as potential CKD cases by a previous test showing low kidney function which was not followed-up, and then searching through a number of other high-risk patient categories. This gave the practice the basis to develop a protocol for the identification and treatment of CKD. The protocol was implemented at a practice meeting and now all staff are expected to follow the pathway on it. If this doesn't happen for whatever reason, I have established a number of audits that will search for patients who have had a recent eGFR that has not been followed-up, and also to keep track of CKD patients that have not yet had a test for proteinuria, or those that are flagging as out of blood pressure range.

It is measures like the above that make me feel confident that the practice is now treating our CKD patients in line with evidence-based standards and helping them to follow the optimal pathway in treatment. An improved knowledge about CKD means that our referral procedures are

now better managed and we are referring cases more appropriately now and less often. This represents cost savings to the area. The staff at the practice are more confident that they are offering a more complete service to the patients and that they can offer choices in their best interests.

The long-term effect of the work that we have done means that we have better processes for the identification and management of CKD and that will mean that we should be referring less inappropriate cases into secondary care and more importantly we can pick up patients earlier in their decline which with careful monitoring means that we can delay or even prevent progression of their kidney disease into end-stage renal failure.

A key point of view from my perspective as the practice manager is that being part of the improvement team has given me chance to see how one of the practice nurses and a GP work in action. I can better appreciate the working relationships between them and understand to a greater extent what their full range of skills are. It has helped me understand that strong project management is required to achieve these improved clinical outcomes and often clinicians do not innately have these skills. I have been considering how we can use these to the advantage of the practice in the future. The project was also an excellent demonstration of teamwork within the practice and proved that this approach could be used to tackle other areas for continued improvement going forward. Seeing such strong positive characteristics from staff at the practice makes me positive that I can manage the practice better still by looking at the skill mix we need as a team.

The project has also had benefits to the practice as a business too. We have been able to drive cost-neutral improvement in the practice as the CLAHRC have provided backfill funding over the course of the project for the team to attend the Learning Sessions. There are predicted long-term financial gains from the work. Our income from QOF has increased because of two reasons. Firstly, by the improvements that we made on our practice registers in testing patients for proteinuria and accurately recording their blood pressure we were able to maximise our QOF scores for CKD for all existing recorded patients at the practice. Then by increasing the prevalence of patients recorded with CKD at the practice our QOF revenue increased again as we had more recorded patients than before being treated to the QOF standard.

The CLAHRC have calculated that for an average sized practice of c.6,000 patients, an increase in prevalence of 1.2% (identifying roughly 70 more patients) will result in a QOF payment increase in the region of £1,690. With the increase in numbers on our register we will be receiving extra QOF income.

Having seen the effect on the practice in skills gained and improvement in our income from the QOF I have been considering what other areas of practice we can target for improvement – particularly in relation to other QOF areas which will again improve the business side of the practice. The use of the PDSA Cycle was a really effective tool for us in measuring success and I am keen to apply the same principles to any future learning or improvement work.

The involvement of the practice in the CKD project has, I feel, also improved our reputation within the PCT area as an early adopter of evidence-based medicine and a leader amongst our peers. The recognition that has been awarded to the practice from the CLAHRC and the PCT make me feel

proud of what we have achieved during the project. The [footnoted link](#)<sup>8</sup> demonstrates the positive feeling that the summit of the project brought to all those who participated and the good reception practices got for our work

### **GMC Appraisal framework and principles of Good Medical Practice**

#### **'Good Medical Practice Framework for Appraisal and Assessment'**

*The General Medical Council (GMC) has developed a framework which lists four key competence themes to demonstrate for revalidation and several sub-themes in each area. These are listed below and marked where the CKD project can help supply the supporting evidence:*

- 1) **Knowledge, Skills and Performance**
  - Maintain your professional performance\*^
  - Apply knowledge and experience to practice\*^
  - Keep clear, accurate and legible records
- 2) **Safety and Quality**
  - Put into effect systems to protect patients and improve care\*^
  - Respond to risks to safety^
  - Protect patients and colleagues from any risk posed by your health
- 3) **Communication, Partnership and Teamwork**
  - Communicate effectively
  - Work constructively with colleagues and delegate effectively^
  - Establish and maintain partnerships with patients^
- 4) **Maintaining Trust**
  - Show respect for patients
  - Treat patients and colleagues fairly without discrimination\*
  - Act with honesty and integrity

\* Areas that the framework suggests can be directly demonstrated by CPD evidence

^ Areas that the framework suggests can be demonstrated by other materials that can be produced during the project e.g. audits, evidence from training or other information collected for your folder

#### **'Good Medical Practice'**

*The framework is underpinned by seven broad principles defined by the GMC which a GP should demonstrate during appraisal and described as pre-requisites to provide competent medical practice<sup>9</sup>. These are as follows:*

- 1) Good clinical care
- 2) Maintaining good medical practice
- 3) Teaching and training, appraising and assessing
- 4) Relationships with patients
- 5) Working with colleagues
- 6) Probity
- 7) Health

<sup>8</sup> <http://clahrc-gm.nihr.ac.uk/2010/09/24/clahrc-chronic-kidney-disease-collaborative-comes-to-a-successful-close-at-summit-meeting>

<sup>9</sup> GMC: Gateways Guidance: 3.1 Good Medical Practice and fitness to practise; [http://www.gmc-uk.org/education/undergraduate/3\\_1\\_gmp\\_and ftp.asp](http://www.gmc-uk.org/education/undergraduate/3_1_gmp_and ftp.asp)