CKD at the primary and secondary care interface

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Jain, Calvert, Cockwell, McManus – manuscript in preparation
The Health improvement Network (THIN): 6.7 million patients from 426 primary care centres in the UK. Age stratified prevalence of CKD 3-5 in 2009.

Jain, Calvert, Cockwell, McManus – manuscript in preparation
The CKD QOF

<table>
<thead>
<tr>
<th>Records</th>
<th>Points</th>
<th>Payment stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKD1. A register of patients age 18 and over with CKD Stage 3-5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CKD2. The % of patients on the CKD register who have a record of blood pressure in the preceding 15 months.</td>
<td>6</td>
<td>40-90%</td>
</tr>
<tr>
<td>CKD3. The percentage of people on the CKD register in whom the last BP measured in the preceding 15 months is 140/85 or less.</td>
<td>11</td>
<td>40-70%</td>
</tr>
<tr>
<td>CKD5. The percentage on the register with hypertension and proteinuria treated with an ACEi or ARB</td>
<td>9</td>
<td>40-80%</td>
</tr>
<tr>
<td>CKD6. The percentage of patients on the CKD register whose notes have a record of a urine albumin:creatinine ratio (or protein:creatinine ratio) test in the preceding 15 months</td>
<td>6</td>
<td>40-80%</td>
</tr>
</tbody>
</table>
THIN and QOF CKD1

Labelled CKD 139,176

Confirmed CKD 108,911

Miscoded 60705

Appropriately coded 78471

Uncoded 30,440

Jain, Calvert, Cockwell, McManus – manuscript in preparation
The new CKD classification system

<table>
<thead>
<tr>
<th>GFR stage</th>
<th>ml/min</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>≥ 90</td>
<td>Normal or high</td>
</tr>
<tr>
<td>G2</td>
<td>60-89</td>
<td>Normal or mildly decreased</td>
</tr>
<tr>
<td>G3a</td>
<td>45-59</td>
<td>Mild to moderately decreased</td>
</tr>
<tr>
<td>G3b</td>
<td>30-44</td>
<td>Moderately to severely decreased</td>
</tr>
<tr>
<td>G4</td>
<td>15-29</td>
<td>Severely decreased</td>
</tr>
<tr>
<td>G5</td>
<td>&lt;15</td>
<td>Kidney failure (add D if treated by dialysis)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Albuminuria stages by ACR</th>
<th>mg/mmol</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>&lt;3</td>
<td>Normal to high normal (may be subdivided for risk prediction)</td>
</tr>
<tr>
<td>A2</td>
<td>3-30</td>
<td>High</td>
</tr>
<tr>
<td>A3</td>
<td>&gt;30</td>
<td>Very high (Nephrotic range &gt;200)</td>
</tr>
</tbody>
</table>
eGFR threshold and risk of Death or ESKD

O’Hare et al, JASN 2007
Risk of ESKD in respect of eGFR and proteinuria

Adapted from Levey et al KI 2011
The last 5-years

- Standardisation of reporting
- QOF
- NICE CKD guideline
- Increased awareness
- More accurate referrals
- Quality improvements
- AKI begets CKD
The next 5-years

- QOF
- NICE CKD Guideline revision
- Evolution of IT systems
- Albuminuria
- Enhanced risk stratification
- Multimorbidity
- Enhanced relationships between primary and secondary care
Primary care CKD management remains focused on

- Risk stratification
- BP management
- Primary and secondary prevention of CVD
- Monitoring
- Referral into and communication with secondary care
Chronic kidney disease
Early identification and management of chronic kidney disease in adults in primary and secondary care

http://www.nice.org.uk/Guidance/CG73
Lordswood – QEHB referral patterns (NICE Guideline based for BP and proteinuria)

64 patients in primary care meet criteria for NICE CKD criteria to QEHB and have not yet been referred

8 patients fulfil NICE CKD criteria for primary care follow-up

41 Lordswood patients under current follow up at QEHB

1176 on CKD register
Central issues – personal perspective

• Equity of care – re QOF and classification

• BP, BP, BP............

• Ensuring that patients get accurate and supportive information – tailored for their needs

• Supporting education and development needs in primary care

• Local adjustments for local ‘markets’

• Tight working relationships

• Developing a sustainable R@D model
QEH Birmingham catchment area

- Change in primary care landscape

- The development of clinical commissioning groups has momentum

- 7 PCTs in our catchment area; the two Birmingham PCTs with which we have worked have been Heart of Birmingham and South Birmingham PCT
2010

Heart of Birmingham PCT
- Take on 3x national average
- Young; multi-ethnic; deprived
- Many single-handed practices
- Centralised model with directed chronic disease management
- Improved outputs

South Birmingham PCT
- Take on 1.5x national average
- Mixed inner city
- Strong primary care power base with high quality GPs – mainly large practices
- Traditional pathways
- LES model
2012

- United Birmingham Consortium CCG
- 520,000 catchment area
- South Birmingham PCT; HOB; Sandwell and growing
- Very focused on ‘new models of care’
What UBC CCG want from us

- Concise monitoring and management pathways (including local integration into map of medicine)
- Correspondence to patients with GPs copied in
- Virtual primary/secondary care
- Named nephrologists – and practice level support
- Professional development
Therefore QEHB and UBC CCG are working on
• Management pathways*

• Transit to e-based care pathways, initially through maximising use of advice and guidance portal*

• E-advice linked to education

• Primary care MDT service

• Tracked activity analysis*

• Audit cycles with agreed quality parameters

• Supported by patient focused information*

• R&D embedded within the service*
Pathway directed management of people with CKD

ESKD requiring dialysis treatment or with a functioning kidney transplant

Secondary care nephrology management and follow-up through specialist clinics

Simple and supported pathways for CKD for non ESKD patients

Secondary care advice and guidance by E-portal

6 monthly practice primary care based MDT (+/- clinics) supported by a named nephrologist
1st known eGFR of <60 ml/min & confirmed on repeat within 2 weeks

1. Check ACR
2. Diptest urine
3. If diabetic follow diabetic CKD pathway
4. Target BP <140/85 if ACR <30 mg/mmol
5. Target BP <130/80 if ACR 30+ mg/mmol
6. Use ACEi or ARB first line for BP >130/80 and an ACR of 30-69 mg/mmol
7. Optimise secondary prevention where indicated

ACR ≥ 70 or ACR 30-69 and haematuria

eGFR <30 ml/min

eGFR 30-59 ml/min & ACR < 70 mg/mmol

Repeat eGFR at 3/12
Check eGFR and ACR 12 monthly

If decline by 25% from previous eGFR or eGFR <45 ml/min and <60 years old or eGFR <45 ml/min and ACR 30-69

E-referral to community renal service and establish care plan where indicated
Overall supporting information for the management of CKD

Minimising the risk for people with CKD of progression of CKD and Cardiovascular disease (CVD)

1. The BP target for non-proteinuric CKD without diabetes is <140/85

2. The BP target for diabetes and CKD is <130/80

3. The BP target for proteinuric CKD (ACR>30) without diabetes is <130/80

4. ACE inhibitors or ARBs should be used in all people with diabetes and with microalbuminuria (ACR>3.5 mg/mmol in men and 2.5 mg/mmol in women) and all people without diabetes with an ACR>30 even if BP<130/80.

1. The dose of ACEi/ARB should be used at the maximum tolerated. ACEi and ARBs should not be used in combination.

1. If there is an eGFR decline of >25% on introduction of an ACEi/ARB or dose increase of an ACEi/ARB then the drug should be stopped and advice should be obtained from secondary care nephrology

1. Primary and secondary prevention of CVD should be optimised; statins, anti-platelet drugs, and warfarin are not contraindicated in CKD.

2. NSAIDs should not be used

Management of complications of CKD

1. People with CKD and a Hb < 10g/dl, who have had other causes of anaemia excluded should be considered for treatment of anaemia associated with CKD. Advice should be obtained from secondary care nephrology.

2. Please refer any uncertainties about bone chemistry through the advice and guidance portal
All about my kidneys

Introduction

The purpose of this leaflet is to provide information about how the kidneys work, how we measure the function of the kidneys and what can happen when things go wrong with the kidneys.

What do my kidneys do?

Most people have two kidneys and they have the crucial role of removing waste from the blood and controlling overall fluid balance in the body either by removing or retaining excess fluid.
Advice and guidance portal

Sent: Tuesday, March 06, 2012 7:37 PM
To: Vanessa Miller
Cc: Barbara Joyce; Ruth Darling

Dear Dr Russell

Thanks for the query. I would be inclined to stop the Losartan as she has minimal proteinuria and there is a concern that ACEi or ARBs can contribute to decline in kidney function in some elderly patients. If the eGFR is stable and her Hb is between 10-12g/dl and Calcium ok then I would just keep her on a monitoring strategy of an eGFR once every 3 months and if she has two levels of <20 or one level of <15 then let us know and we should get involved at that stage.

Targeting the BP in her case to <150/85 is fine and would titrate up the calcium antagonist for BP control in the first. Regarding protecting her kidney function overall - if she has no oedema and a venous bicarbonate of <24 mmol/l then you could also add in sodium bicarbonate at 500 mgs tds.

Regards

Paul Cockwell

From: Vanessa Miller
Sent: Tuesday, March 06, 2012 2:31 PM
To: Paul Cockwell
Cc: Barbara Joyce; Ruth Darling
Subject: Advice and Guidance Urgent request

Paul,

Please see the following request for urgent advice and guidance:

Thanks Vanessa

* Gender: Female
* Date of Birth: /03/1929
* Age: 82 years
* NHS No:

Thank you for your advice about this 82 year old lady who already suffers with hypertension, Paget's disease and has had a Duke's B adenocarcinoma of the splenic flexure resected February 2009. On monitoring her post-operatively we have noted slight persistent elevation of blood pressure 160/90, persistent depression in her eGFR varying between 21 and 25 over the past year, slight increase in her urine albumin creatine ration 7.9 at present. Normal U's & E's. She remains very well in herself complaining of slight tiredness. I wonder whether you feel any further advice regarding what I could do to improve her CKD. She remains on Losartan, having been intolerant of an ACE and I have started her on a calcium channel blocker to try and control her blood pressure.

Yours sincerely

Dr....
Multi-disciplinary CKD

- A nephrologist linked to a group of practices
- 60,000-100,000 catchment area
- ~6 larger practices
- Strong informatics link
- Most referrals to and through the linked nephrologist
- Linked nephrologist visits to practices for CME and MDT meetings (a visit a month)
Care plan for patients at highest risk – to include

- Baseline eGFR
- Baseline ACR
- Risk stratification (low, moderate or high)
- BP target
- ACEi/ARB strategy
- Monitoring strategy
- Triggers for secondary care referral
- Patient awareness and shared decision status
Conclusion

- CKD management and monitoring has been transformed over the past decade
- It will remain high on the agenda but there will be a shift in focus over the next 5 years
- CCGs are setting the agenda
- Local models of care are under development across the UK