The development of the CKD nurse led service across North Wales  BCUHB 2013
Background

In North Wales, four years ago, we had not seen the sudden increase in CKD referrals seen elsewhere in the country.

Was this because they were already under our care or because they had not been referred appropriately?

If they were not being referred, was an assessment of complications taking place?
North Wales Audit 2009

- Unreferred Stage 4 & 5 CKD
- Age distribution
- % eGFR decline
- % measured HB <10.5g/dl
- % No Ca & Po4
- % Po4 >1.8
- % No lipids

Results Summary

<table>
<thead>
<tr>
<th></th>
<th>Wrexham</th>
<th>Glan Clwyd</th>
<th>Bangor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>144</td>
<td>146</td>
<td>241</td>
</tr>
<tr>
<td>% &gt;80 years</td>
<td>72</td>
<td>67</td>
<td>71</td>
</tr>
<tr>
<td>% eGFR decline &gt;5 in 1 year</td>
<td>43</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>% No proteinuria assessment</td>
<td>49</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>% No Hb measured</td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>% Measured Hb &lt;10.5</td>
<td>22</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>% No Ca AND Po4</td>
<td>40</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>% Po4 &gt;1.8 (of those in whom Po4 was measured)</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>% No lipids</td>
<td>53</td>
<td>63</td>
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</table>
Next steps

- The audit identified the need to “bridge the gap” between primary and secondary care and as a result, the Welsh renal network was approached to provide funding for six CKD specialist nurse posts. Two to be based at each of the three acute hospital sites within BCUHB.
- These nurses were appointed in 2010.
Where to start?
Aims

- Increase the skills of non secondary care health professionals within the area of prevention and shared management of CKD Progression
- Develop a clinical model for the management of CKD patients through collaborative working. Focusing on creating a continuum of care
- Ensure care is standardised across North Wales and the outcomes of the Renal NSF are achieved.
- To provide opportunities to shape future service development via collaborative research, data collection and audit
Service goals and outcomes

- Appropriate referrals from primary care
- Earlier identification and management of CKD in Primary and Secondary care
- Support patients with CKD and streamline control of risk factors
- Education on treatment modalities
- Medicines Management
- End of life care
- Screening for blood borne viruses
- Patient classification and outcomes
- Audit
- Professional development
Appropriate referrals from primary care

- Audit of new referrals across the three sites*
- Visits to GP’s defining referral criteria
- Consultant led “e-mail help line” initiated

**Aspirational Outcome:**

- Appropriate use of consultant time
- Free up more appointments
- Greater understanding of CKD in primary care
Conclusion

CKD referrals to secondary are lacking in some significant information:

- **25%** of referrals did not contain information about the patients' eGFR result
- **14%** did not contain an up-to-date blood pressure result.

Despite this, the nephrology team deemed approximately **80%** of referrals to be relevant and were given out-patient appointments.

There seems to be some significant room for improvement.
Appropriate referrals from primary care

- Audit of new referrals across the three sites
- Visits to GP’s defining referral criteria*
- Consultant led “e-mail help line” initiated

**Aspirational Outcome:**

- Appropriate use of consultant time
- Free up more appointments
- Greater understanding of CKD in primary care
**CKD REFERRAL CRITERIA**

<table>
<thead>
<tr>
<th>EMERGENCY REFERRAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONTACT THE NEPHROLOGIST by phone or email or arrange hospital admission</strong></td>
</tr>
<tr>
<td>1. Newly diagnosed CKD stage 5 (eGFR &lt; 15 ml/min)</td>
</tr>
<tr>
<td>2. Accelerated (malignant) hypertension (SBP &gt; 180, DBP &gt; 110 mmHg + papilloedema or retinal haemorrhages)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>URGENT REFERRAL</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Newly diagnosed CKD stage 4 (eGFR 15-30 ml/min)</strong></td>
</tr>
<tr>
<td><strong>2. Rapidly declining eGFR (&gt;5ml/min in 1 year or &gt;10ml/min in 5 years)</strong></td>
</tr>
<tr>
<td><strong>3. Nephrotic range proteinuria</strong> (urine PCR &gt; 300mg/mmol)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROUTINE REFERRAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Newly diagnosed CKD Stage 3b (eGFR 30-44ml/min)</strong></td>
</tr>
<tr>
<td><strong>2. Hypertension that remains poorly controlled despite the use of at least 3 antihypertensive drugs at therapeutic doses</strong></td>
</tr>
<tr>
<td><strong>3. Significant proteinuria</strong> (PCR ≥ 100 mg/mmol, or ACR &gt; 20 mg/mmol)</td>
</tr>
<tr>
<td><strong>4. Any proteinuria</strong> (PCR &gt; 45mg/mmol) with haematuria</td>
</tr>
<tr>
<td><strong>5. Patients with hereditary nephritis or polycystic kidney disease</strong></td>
</tr>
</tbody>
</table>

Please send serial readings of BP/ eGFR / FBC / PCR or ACR and urine dipstick analysis and a list of current and previously intolerant medications

**SAFER USE OF ACEi / ARB**

- In people with hypertension and PCR > 45 mg/mmol or diabetes with microalbuminuria use ACEi/ARB as the first choice of antihypertensive agents unless reno-vascular disease is strongly suspected, referral to the Nephrologist should be considered
- Check eGFR before and within 2 weeks of initiating ACEi / ARB and after each dose increment
- Check U&E during intercurrent illnesses causing fluid depletion due to high risk of AKI
- Stop ACEi /ARB if creatinine rises > 30% or e GFR drops > 30% from baseline and consider referral to the Nephrologist
- Check U&E at least every six months or more frequently if results are abnormal
Appropriate referrals from primary care

- Audit of new referrals across the three sites
- Visits to GP’s defining referral criteria and information needed
- Consultant led “e-mail help line” initiated

Aspirational Outcome:

- Appropriate use of consultant time
- Free up more appointments
- Greater understanding of CKD in primary care
Early identification and management of CKD in primary and secondary care

- Education seminars for health care professionals*
- Control of risk factors such as BP and Proteinuria

Aspirational Outcomes:

- Patients being appropriately managed in primary care
- Reduction in ‘crash landers’
- Improve patient health outcomes by earlier intervention
**PRIMARY CARE NURSE EDUCATION SESSIONS**

6 Sessions arranged over a period of 7 months.

60 District and Practice Nurses attended out of 80 registered. This equates to 75%.

**Evaluation Results:**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Very Useful</th>
<th>Useful</th>
<th>Average</th>
<th>Not Useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to CKD</td>
<td>72%</td>
<td>26%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Newly Diagnosed CKD</td>
<td>72%</td>
<td>26%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>How to get the most out of your QOF registers</td>
<td>45%</td>
<td>53%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Blood Pressure Management</td>
<td>69%</td>
<td>29%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Proteinuria</td>
<td>78%</td>
<td>20%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Renal Anaemia Management</td>
<td>61%</td>
<td>37%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Referral Pathway into Secondary Care</td>
<td>72%</td>
<td>26%</td>
<td></td>
<td>2%</td>
</tr>
</tbody>
</table>
Feedback:

“Very Informative”
“Its made me think about changing my practice”
“Programme ran well. Interchangeable speakers good”
“Excellent, very informative”
“Excellent information package given to reinforce what learnt today”
“Look forward to working together”
“Aware of where to go for advice now”
“Beneficial to nursing practice”
“Longer sessions”

Interested in further updates:

100% said they would like further updates
Early identification and management of CKD in primary and secondary care

- Education seminars for health care professionals
- Control of risk factors such as BP and Proteinuria

**Aspirational Outcomes:**

- Patients being appropriately managed in primary care
- Reduction in ‘crash landers’
- Improve patient health outcomes by earlier intervention
Support patients with CKD and streamline control of risk factors

- Set up nurse led clinics
- Agree a defined referral criteria into nurse led clinics
- Treatment of risk factors – BP, proteinuria, anaemia, cholesterol, bone management
- Advice on self care

Aspirational Outcomes:
- Improve concordance
- Reduce hospital admissions
- Patient empowerment
- Stabilise / slow decline in renal function
Education on treatment modalities

- Patient education sessions
- Refer on to specialist teams i.e. transplant, home therapies

Aspirational Outcomes:

- Reduction in ‘crash landers’
- Patients making an informed choice
- Patients commence treatment of choice in an organised, timely fashion
Medicines management

- Educate patients about their medication
- Review of medication
- Liase with GP

**Aspirational Outcomes:**

- Reduction in medicines waste
- Improve concordance
- Improvement of symptoms
- Reduce costs
- Reduction in medication inaccuracies
- Accurate records
End of life care

- Cause for concern register
- Specialist nurse on each site to lead
- Improve links with palliative care
- All Wales “Preferred priorities of care” document
- Follow up bereavement care to family

**Aspirational Outcomes:**

- Patients given the opportunity to express wishes concerning end of life
- Smooth transition from active treatment to palliative/supportive services
- A ‘good death’
Screening for blood borne viruses

- Ensure screening protocols adhered to
- Nurse managed vaccination programme
- Patient information and support

Aspirational Outcomes:

- Improved patient outcomes
- Guidelines adhered too
- Reduction of risk of patient contracting a blood borne virus
- Reduction in the need for re-vaccination
Audit

- Maintain data for audit
- Current audits include new referrals, Blood pressure, Anaemia, Hep B vaccination
- Involvement in research projects – Enable and IMPAKT.

Aspirational Outcomes:

- Improved evidence based care for patients
- Collaborative working
Professional development

- The majority of CKD nurses are Non-medical Independent prescribers

- Attendance at national conferences to promote service and keep up to date with professional development.
CKD Group Education: An effective method of delivering information to patients and carers.

Glover, R; Jolleyman, L; Logan, H; Kumwenda, M; Lewis, A; Nair, H. Renal Department, Glan Clwyd Hospital.

Introduction
Patients with a diagnosis of CKD require information about their condition in order to better understand the disease process and make informed decisions about their care. This formed an essential part of our practice and identified the need for a more structured method of education delivery. Drawing on the success of group programmes in other chronic conditions (e.g., diabetes), it was agreed that group education sessions should be initiated.

Implementation
The aim of the sessions was to provide patients and carers with improved knowledge and understanding of renal multi-disciplinary care. We initiated a series of 10 sessions for patients and carers to be held over 4 weeks. The sessions provided an opportunity for jointly reviewing future care plans and exploring other treatment options. Information was delivered using a variety of methods: DVDs, power-point presentations, all of which were accompanied by supporting information packs (refer to Figure 1). Renal medication and treatments were also discussed and explored. Refer to Figure 2 for a sample of the session agenda.

Evaluation
The first session was held in November 2005, over the period of a year 7 sessions were held in total. 34 people attended, 31 male and 3 females, average age 65 years (range 31 to 85 years). All patients were informed that the session was a new initiative and at the close of the afternoon were asked to complete an evaluation sheet rating components of the session from 1 (poor) to 10 (excellent). Refer to Figure 1 for results.

Conclusion
To begin with only those patients with stage 5 and lower levels of stage 4 CKD were invited to the sessions. Following initial success, sessions have now been opened out to those patients with stage 4 CKD. There is potential to work with the primary care sector and develop primary care based sessions for those with CKD stages 3.

These have been well-timed with the end of 21-hour group education and aimed to fit into the patients' regular appointments. Sessions continue to be rated highly and should continue to run for the foreseeable future with plans to modify and update.

Figure 1: Supporting Information Pack

Figure 2: Sample of Session Agenda

Figure 3: Number of Patients Rating 1 to 10
Nurse-led Chronic Kidney Disease clinics achieve rapid blood pressure control with a patient centred approach (2 year data comparison)

Claire Guitton, Jacqui Jones, Sally Griffiths, CKD Specialist Nurses, Wrexham Maelor Hospital, North Wales

Background

• Historically blood pressure control was managed in primary care with advice from consultant led renal clinics
• Blood pressure targets were not always met or took months, even years to achieve
• Establishing a nurse led service has helped ease pressures in both primary care and in congested secondary care clinics

Methods

An ongoing audit, comparing the first two years data to establish:
• How many patients were treated
• How long it took to achieve target BP
• How many anti-hypertensive medications were needed to achieve target BP (including diuretics)
• Comparison of blood pressure readings from first to final visit

Aim and Objectives

• There is good evidence that tight control of blood pressure reduces the risk of CKD progressing as well as reducing the risk of cardiovascular complications

Local target BP ≤130/80mmHg
• Our aim has been to target the whole CKD population to minimise further deterioration in renal function by achieving rapid blood pressure control

Shaping the Future

• Utilising the unique skill set of specialist nurses who can work intensively with patients, combining medical intervention with patient education and home monitoring, can result in rapid achievement of the clinical goal, in this case BP control. This has improved patient concordance and satisfaction and according to evidence ¹, should slow down the progression of their kidney disease, whilst reducing their risk of cardiovascular disease, hospitalisation and death.
• CKD clinics have now been expanded to community hospitals. All nurse led clinics are now generic CKD clinics covering all aspects of CKD management, including anaemia management, creating a “one stop” holistic clinic which has improved the patient experience and improved costs.

Service expansion

- The further appointment of a nurse responsible for North Powys.

- Peripheral clinics covering North Wales bringing care closer to the patients home.
Difficulties faced along the way...

- Engaging with Primary Care
- Historical ways of working.
- Conflicting ideas about how the service should be run.
We’re getting there.....