

PRIORITY BRIEFING

The purpose of this briefing paper is to aid Stakeholders in prioritising topics to be taken further by PenCLAHRC as the basis for a specific evaluation or implementation research project. This paper was compiled in 2-3 days.

Is it cost-effective to transfer the chronic follow-up care of patients with stable chronic kidney disease (CKD) stage 3 (and/or CKD 4) from a Renal Physician's clinic to a community based service (GP or nurse led care)?

Question ID: 32

Question type: Intervention

Question: Is it cost-effective to transfer the chronic follow-up care of patients with stable chronic kidney disease (CKD) stage 3 (and/or CKD 4) from a Renal Physician's clinic to a community based service (GP or nurse led care)?

Population: Adults with stable CKD stage 3 (and/or 4) from a number of common aetiologies currently under follow-up by hospital physician.

Intervention: Transfer regular (say twice yearly) outpatient follow up appointments to a Renal Specialist Nurse (or GP/primary care nurse?) working to a protocol with quick access to advice from a Renal Consultant if required. Twice yearly clinical assessments to include eGFR, urine dip, blood pressure and clinical questionnaire (to be devised).

Control: Current standard care in hospital-based Renal Physician clinic.

Outcome: Progression of CKD as measured by eGFR, haemoglobin concentration, blood pressure, other relevant clinical/biochemical measurements and patient/GP/physician satisfaction.

It is envisaged that a randomised clinical trial comparing GP/primary care versus the traditional model of care would be required.

Chronic Kidney Disease

Chronic kidney disease (CKD) is a term used to describe abnormal kidney function and/or structure. It is thought to affect up to 1 in 8 people in England. The commonest causes of CKD are hypertension (high blood pressure) and diabetes. In most people the early stages of CKD do not cause any symptoms. Symptoms that can occur in later stages include feeling tired, difficulty concentrating, itchy skin, swollen ankles, breathlessness on exertion, poor appetite and weight loss and feeling sick.

Although often without symptoms, CKD is detectable; tests for detecting CKD are simple and widely available. Once diagnosed, treatment can prevent or delay the progression of CKD, reduce or prevent the development of a wide range of potential complications. Routine management of the disease includes regular checks of blood pressure and blood and urine tests. Estimated Glomerular Filtration Rate (eGFR) is used to assess how well the kidneys are working and is

expressed as a percentage of normal function. CKD is divided into five stages based mainly on estimated GFR. Kidney function is normal in Stage 1 and minimally reduced in Stage 2; Stage 5 is very severe or endstage kidney failure (sometimes called established renal failure). Regular checks and careful blood pressure control can help to prevent disease progression and development of complications. Ineffective long term management may lead to irreversible established renal failure requiring treatments such as dialysis and transplantation.

The Health Problem:

Recently there has been a significant shift in attitudes towards kidney disease. Publication of National CKD guidelines and the inclusion of eGFR reporting as part of the Quality and Outcomes Framework (QOF) has led to an increased recognition of CKD in the UK and a greater demand for specialist services.

CKD is now recognised and promoted as a modifiable risk and is included in the NHS Health Check programme, a major initiative aimed at managing and controlling the risk of vascular disease (heart disease, stroke, diabetes and kidney disease).

Guidelines:

A NICE guideline on CKD: early identification and management of chronic kidney disease in adults in primary and secondary care was published in 2008. This lists several key priorities for implementation relating to the most appropriate tests to use, which people should be offered testing, when people should be referred to specialist services, identification of progressive disease and management of hypertension. There are no specific recommendations on the preferred setting for long term management of CKD.

There is also a Department of Health document published in 2004 – the National Service Framework for Renal Services which deals with Chronic Kidney Disease, Acute Renal Failure and End of Life Care. This document describes a care pathway in which primary and secondary care have complementary roles in the long term management of CKD and highlight the considerable scope for integrating the care pathways for diabetes, coronary heart disease and CKD.

The Renal Association, National Kidney Care and the Royal College of Physicians of Edinburgh have also produced recommendations for the practical management of early CKD.

NHS Priority:

Specific sections on CKD are now included in Part 2 of the National Service Framework for Renal Services and the latest Quality and Outcomes Framework (QOF) of the General Medical Services (GMS) contract for GPs. This has

resulted in an increase in eGFR testing and a greater awareness of chronic kidney disease.

Regional

SW SHA Priorities framework 2008-11

One of the SW SHA priorities for improving health in the South West is to improve the speed and convenience of access to diagnosis and treatment.

One of the QIPP priorities is to reduce follow-up outpatient attendances and shift to the community setting where appropriate (Improving Health and Healthcare in NHS South West in the future: Briefing for Primary Care Trusts 11 May 2010).

Local

No local priorities specific to this health issue were identified.

Existing Research:

Published research

We found no systematic reviews on this topic.

We identified several papers in which new approaches to the management of CKD have been evaluated. Three different approaches are described; a shared primary and secondary care nephrology service ¹, a primary care pathway^{3; 2} and electronic consultation as an alternative to hospital referral. ⁴ The evaluations suggest that all three methods are effective in reducing secondary care referrals for a subset of patients without compromising patient care. The approach that is most similar to that suggested in this briefing paper is described as a primary care pathway and has been studied by two groups^{3; 2}, both of whom concluded that selected CKD patients can be appropriately discharged from secondary care and adequately monitored in primary care with no adverse impact on patient safety.

Ongoing research

We were unable to locate any ongoing research on this topic.

Feasibility:

At Plymouth Hospitals NHS Trust there are 1345 patients with CKD 3 and 689 with CKD 4, although previous data suggests that 50% of those with CKD 3 & 4 are not known to secondary care services.

References:

1. Jones, C., P. Roderick, et al. (2006). "An evaluation of a shared primary and secondary care nephrology service for managing patients with moderate to advanced CKD." Am J Kidney Dis **47**(1): 103-14.

BACKGROUND: Chronic kidney disease (CKD) is common, and nephrology services may not cope with the comprehensive referral of patients with CKD. We evaluated a shared primary and secondary care nephrology scheme, hypothesizing that some patients with less progressive moderate to advanced CKD can be identified and safely managed without attending the renal unit. **METHODS:** A retrospective review of 949 new referrals with stages 3 to 5 CKD managed in either the hospital nephrology clinic (HC) or the shared care scheme (SCS), in which nephrologists review patients remotely by using regular biochemical tests and clinical data recorded in primary care. **RESULTS:** Two hundred sixty-six patients (28%) were enrolled in the SCS and 683 patients (72%) were managed solely in the HC. Median time to entering the SCS was 111 days (interquartile range, 0 to 328 days). Baseline factors independently predictive of enrollment in the SCS were increasing age, greater glomerular filtration rate (GFR) and serum albumin levels, and no diabetic nephropathy. Few SCS patients did not attend reviews. Forty-one patients (15%) required recall to the HC, mostly because of a decline in GFR. Beneficial changes were seen in blood pressure levels and prescribing of angiotensin-system inhibitors from first referral to 3 years in all patients. Those enrolled in the SCS had good prognosis, with a lower risk for death or renal replacement therapy than the HC group after adjustment for age, sex, GFR, diabetic nephropathy, and vascular disease (hazard ratio, 0.64; 95% confidence interval, 0.38 to 0.89; $P = 0.003$). **CONCLUSION:** In this setting, it was possible to select nearly 30% of patients with stages 3 to 5 CKD for management in the SCS. More than half enrolled within 4 months of nephrology referral. Systematic surveillance was effective, and most patients remained stable, with few progressing to renal replacement therapy or death.

2. Stevens, K. K., Y. M. Woo, et al. (2009). "Discharging patients from the nephrology clinic to primary care--will they get appropriate monitoring of renal function?" *QJM* **102**(6).

BACKGROUND: Chronic kidney disease (CKD) guidelines have been produced to allow affected individuals to be identified early and managed more effectively, thereby reducing cardiovascular risk and slowing the progression of CKD. The guidelines allow patients with stable early CKD, who were previously followed in nephrology clinics, to be discharged back to primary care for monitoring of their CKD.

AIM: To determine if patients discharged from the nephrology clinic have appropriate monitoring of renal function in primary care according to the UK CKD guidelines, and if patients are being referred back to the clinic appropriately.

METHODS: All patients discharged from a weekly satellite unit general nephrology clinic over a 2-year period were identified ($n = 160$). Clinic letters, the local laboratory system and direct contact with the general practice were used to determine if the timing of tests of renal function were consistent with the UK CKD guidelines.

RESULTS: Most subjects (88%) had CKD Stages 1-3 at the time of discharge (i.e. eGFR > 30 ml/min). After exclusion of patients with an incomplete

management plan or insufficient time since discharge (n = 50), 85% of eligible patients (n = 110) had at least one measure of eGFR after discharge. In 65% (n = 84) of these patients, measurement occurred within 1 month of the correct timing according to the guidelines. Four patients were re-referred appropriately. There were no other patients who should have been re-referred due to deteriorating renal function.

CONCLUSION: Patients with stable early CKD get appropriate monitoring of renal function after discharge from the nephrology clinic to primary care and are also referred back to the renal clinic appropriately.

3. Meran, S., K. Don, et al. (2010). "Impact of chronic kidney disease management in primary care." QJM.

BACKGROUND: The introduction of eGFR reporting and publication of national CKD guidelines has led to major challenges in primary and secondary care, leading to an increase in the number of referrals to nephrology clinics. We have shown that introduction of a renal patient care pathway reduces nephrology referrals and enables managed discharges of CKD patients to primary care. The aim of this article is to examine the outcome of patients discharged to primary care to find out if there is an associated risk with increased discharge supported by the patient pathway. **METHODS:** The study was carried out within a single NHS Trust covering a population of 560 000. All patients discharged from the trust's renal outpatient clinic between June 2007 and July 2008 were identified. Patient notes and the local laboratory database systems were used to determine the source and timing of tests. **RESULTS:** A total of 31 new referrals and 57 regular follow-ups were discharged during this period. The median age of discharge was 67.5 years. Most subjects (60%) had CKD stage 3 at the time of discharge. A total of 23% of discharges were categorized as CKD stages 1, 2 or normal and 17% of patients had CKD stage 4. Overall, 93% had stable eGFRs prior to discharge, 77.5% of patients had blood pressure within threshold (140/90 according to UK CKD guidelines) and 97.7% of patients had haemoglobins >10 g/dl. Post-discharge 83% of patients had eGFRs recorded by their general practitioner and 92.6% of these were measured within appropriate time frames as per CKD guidelines. The majority of patients (82%) had either improved or stable eGFR post-discharge and only three patients had a significant decline in their eGFR. **CONCLUSION:** These data indicate that selected CKD patients can be appropriately discharged from secondary care and adequately monitored in primary care. Furthermore, we have shown that this was a safe practice for patients.

4. Stoves, J., J. Connolly, et al. (2010). "Electronic consultation as an alternative to hospital referral for patients with chronic kidney disease: a novel application for networked electronic health records to improve the accessibility and efficiency of healthcare." Qual Saf Health Care **19**(5): e54.

PROBLEM: Chronic kidney disease is increasingly recognised in the UK, leading to a greater demand for specialist services. Traditional means of meeting this demand rely on GP referral of patients to see a nephrologist. Hospital assessment may be inconvenient for patients and inefficient for health services.

SETTING: 17 general practices and a secondary care nephrology service in Bradford, UK.

DESIGN: A before and after evaluation comparing nephrology referrals from implementation and non-implementation practices following the introduction of electronic consultations (e-consultations) for chronic kidney disease.

KEY MEASURES FOR IMPROVEMENT: The number, appropriateness and quality of new referrals (paper and electronic) from primary care, the timeliness of responses and the satisfaction of patients and health professionals with the new service. Strategies for change Electronic sharing of primary care electronic health records with the nephrology service was introduced to implementation practices. Participating GPs attended education workshops and received paper and e-guidance about the new service.

EFFECTS OF CHANGE: There was a significant reduction in paper referrals from implementation practices. E-consultation provided nephrologists with access to more clinical information. GPs reported that the service was convenient, provided timely and helpful advice, and avoided outpatient referrals. Specialist recommendations were well followed, and GPs felt more confident about managing chronic kidney disease in the community.

LESSONS LEARNT: E-consultation promotes effective management of patients with mild-to-moderate chronic kidney disease in primary care, allowing specialist resources to be directed towards supporting patients with more complex needs. There is a potential role for e-consultation in other chronic disease specialties.