

Green Nephrology

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 HEALTH CARE

Primary care teams have recently assumed greater responsibility for the management of chronic kidney disease (CKD).

Primary care records are generally not accessible to secondary care staff, and consequently telephone calls and referral letters are the principal means of communication between community and hospital teams.<sup>1,2</sup>

Some patients who are referred to the hospital renal clinic can be managed more appropriately in primary care, with ready access to expertise in secondary care.

Over 90% of the primary care practices in the Bradford and Airedale PCT use a centralised IT system (SystemOne®), allowing detailed electronic health records to be shared by groups of healthcare professionals in various care settings.<sup>3</sup>

The rising prevalence of recognised CKD prompted a multidisciplinary review of local renal service provision and a programme of work to strengthen communication at the interface between primary and secondary care.



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CONTEXT



STRATEGY FOR CHANGE

- Development of a CKD e-consultation service in SystmOne®, allowing GPs to send electronic referrals and share patient electronic health records with a renal specialist after first obtaining verbal patient consent.
- GPs use criteria agreed in local guidelines to 'request advice' or 'question the need for hospital clinic review'.<sup>4</sup>
- The renal specialist is able to open the electronic health record and view important clinical details such as patient comorbidities, medication history, lifestyle factors, previous communications from other specialists, reports of previous imaging and a chronological display of selected numerical data (BP, estimated glomerular filtration rate, blood biochemistry and urinalysis).
- A decision is then made as to whether a patient should be referred to clinic, undergo tests or interventions in the primary care setting, or continue to be monitored and treated by the primary care team.
- Responses are saved in the patient's electronic health record and also sent as tasks to alert the referring primary care team.

A single practice pilot of e-consultation indicated potential benefits, with better coordination of patient management and avoidance of clinic referrals. We therefore introduced e-consultation to 17 volunteer implementation practices in July 2007, supported by two nephrologists.

Participating GPs attended education events and received paper and electronic guidance about the new service. It was explained that the service should be used to obtain advice for specific queries and to request virtual review of patients with an indication for hospital clinic referral that was 'borderline' according to local criteria.<sup>4</sup>

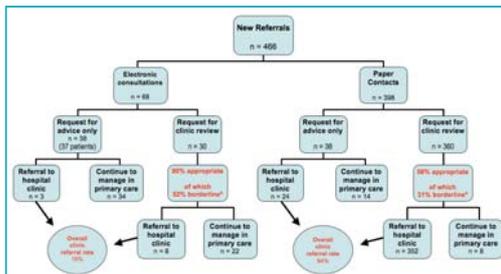


Figure 1 A flow chart for patients with CKD who were referred by GPs to Bradford renal services between September 2007 and September 2008. 11 out of 68 (16%) e-consultations were finally referred to clinic, compared to 376 out of the 398 (94%) paper referrals.



EFFECTS OF CHANGE

- E-consultation was regarded by GPs and patients alike as a convenient service that provided timely and helpful advice and avoided unnecessary referral to the hospital clinic. GPs recognised that e-consultation presented an educational opportunity that increased their confidence in managing CKD in the community. Patients were generally willing to consent to the viewing of their electronic health record by a renal specialist.
- For the nephrologist, e-consultation permitted a detailed and efficient review of a patient's primary care electronic health record, facilitating prompt and informed decision-making. Patients in need of renal outpatient clinic assessment were readily identified, and others benefited from the provision of timely advice. Avoidance of unnecessary hospital clinic visits was seen as an effective way of releasing resources in the specialist unit for those patients who need them most, as well as saving on transport and other environmental costs. The NHS Sustainable Development Unit estimates that an outpatient visit generates a carbon footprint of approximately 40 kgCO<sub>2</sub>e (Carbon Dioxide Equivalent).<sup>5</sup>
- Paper and electronic referral activity for implementation and non-implementation practices is summarised in Figure 2. GPs from the implementation practices were briefed about the e-consultation service during the quarter preceding its introduction and so the fall in paper referrals for this quarter may be explained by anticipation of the new service. The ratio of paper referrals made post vs pre-introduction of the service was 0.54 (95% CI 0.42 - 0.71) for the implementation practices compared to 0.98 (95% CI 0.86 - 1.12) for the non-implementation practices.



Figure 2 Quarterly rates of GP referral to renal services of patients with chronic kidney disease.

NEXT STEPS....

Quality and Outcomes Framework, our data indicate that paper referral rates in Bradford are likely to diminish when the e-consultation service is made available to all practices. Uptake of the service may of course be different in practices that were not part of the initial evaluation and in healthcare settings outside the Bradford region. The summative effect of e-consultation activity on the workload of renal specialists is therefore not likely to be excessive, although in some centres the prevailing opportunity cost of seeing unnecessary referrals may be such that any new clinic capacity that arises from a reduction in such referrals will prompt more frequent review of patients with advanced CKD. Total activity will need to be monitored to ensure that the introduction of an e-consultation service does not create financial disincentives for commissioners or service providers.

We have also created additional 'spokes' for our electronic renal hub to support medicines reconciliation and care pathways that are shared with GPs (such as anaemia management, pre-dialysis care, palliative care and renal transplant care). This may reduce administration time and improve patient safety through more efficient communication.



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