

## **THE IMPLEMENTATION OF A SYSTEM FOR THE EARLY IDENTIFICATION OF KIDNEY DISEASE (SEIK)**

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**PROBLEM:** How can data stored in Primary care computer systems be used to optimise the care of patients with Chronic Kidney Disease (CKD), some of whom will be undiagnosed and symptom free?

**PURPOSE:** We have previously shown that existing data in primary care systems can be used to identify stage 3-5 CKD and have described the associated co-morbidity and management. Since 2006 a number of initiatives have been introduced to promote identification of CKD and these have both improved data recording and the quality of data recorded. Despite this CKD remains under-recognised and the burden of potential disease is such that it threatens to overwhelm existing resource yet identification and management of the majority of people with CKD stage 3-5 is simple and straightforward. SEIK was designed to address this problem by analysing primary care data, highlighting CKD and making recommendations for the patient's management.

**DESIGN:** The main component of SEIK is a decision tree matrix designed to mimic a Nephrologist's thought process when confronted with patient data pertinent to CKD. This has been refined over 3 years of examining live data to include further observations prompted by the results produced by the system. In recent months further modifications have been made to align recommendations with NICE CKD guidelines.

**FINDINGS:** We extracted anonymous data at regular intervals from primary care, gradually increasing the number of practices for whom we provided the service. The data was analysed by the system and a report produced on every patient with an eGFR of  $<60$  ml/min/1.73m<sup>2</sup>. These reports were checked by the nephrology research team. From July 2008 to December 2009 we screened 19082 patients, 3906 of these had an eGFR  $< 60$  ml/min/1.73m<sup>2</sup>. Of the 3906 for whom recommendations were made by SEIK only 16 were changed by the research team. Of the 16 changes 6 were to increase the emphasis on the suggested referral, 3 were to decrease the emphasis and 7 were to change a recommendation from refer to referral not being necessary at that time.

**CONCLUSION:** A decision support tool to highlight and make management recommendations for people with CKD is a useful addition to the general practitioner's armoury and can make initial decisions with over 99% accuracy.