

## **TESTS OF CHANGE IN PHOSPHATE MANAGEMENT ON A HAEMODIALYSIS UNIT: PARTICIPATION IN THE NATIONAL SERVICE IMPROVEMENT COLLABORATIVE**

**Haslam, A Stoves, J, Mohammed, I**  
**St Lukes Hospital, Bradford.**

### **PROBLEM:**

The proportion of prevalent patients achieving the Renal Association standard for serum phosphate (SP) is relatively low in our haemodialysis population.

### **PURPOSE:**

We participated in a national collaborative project supported by the UK Renal Registry, the British Renal Society, the Renal Association and the NHS Institute for Innovation & Improvement. The overall aim of the project was to reduce variation in performance of renal units across the UK. The four top performing units produced a 'change package' that summarised their structures and processes for managing serum phosphate (BRS 2007). Ideas were discussed and an implementation plan was formulated for our unit, based on the principle of small incremental tests of change, adapted to local culture & existing policies.

### **DESIGN:**

Morning and afternoon shifts of patients (S), n = 82 were chosen as our intervention group. The renal dietitian (RD) and renal physicians (RP) had previously attended monthly blood meetings together but then reviewed patients separately. It was agreed that the RD and RP should meet on a monthly basis to identify patients with SP levels consistently > 1.6 mmol/L, explore potential interventions (changing & reviewing adherence to dietetic advice, phosphate binders and vitamin D analogues, looking at dialysis adequacy, dialysate calcium etc) and then perform a joint patient review to confirm and communicate a final treatment plan. SP and calcium were recorded monthly. Some patients did not remain within S during the 6 months intervention period (8/07 – 2/08) and this was documented.

### **FINDINGS:**

There was no significant change in mean SP for patients attending S at the end of the intervention period (1.55 mmol/L) compared to those attending S at the beginning (1.56 mmol/L, unpaired t-test, p = NS). However, there was a reduction in the percentage of patients with serum phosphate > 1.8 mmol/L (23.7% vs 29.5%, p = NS). A similar reduction was seen in the subset of patients who remained in S throughout the study period (23.5% vs 29.4%, paired t-test, n = 33, p = NS). For patients in this subset with initial SP > 1.8 mmol/L, there was a significant improvement in mean SP after 6 months (1.72 mmol/L vs 2.06 mmol/L, n = 10, p <0.05). There was also a non-significant reduction in the serum calcium-phosphate product.

### **CONCLUSION AND RELEVANCE:**

This test of change in a proportion of our HD population has strengthened our multidisciplinary approach to SP management, and the sense of being accountable to a national collaborative has helped us to establish and maintain momentum. There has been a clinically significant improvement in performance in relation to the Renal Association standard. It may be possible to narrow the distribution of SP by combining our pre-existing systematic approach with a more detailed multidisciplinary review of individual patients with higher values. We plan to introduce the change in practice to all shifts on the HD unit. Our next test of change is the introduction of a patient information sheet about phosphate which includes a chronological graphical record of individual trends in SP.