

## VARIATIONS IN HEALTHCARE

# Atlas helps map a course to quality improvements

Donal O'Donoghue and colleagues discuss a publication that could help deliver better healthcare for all people with kidney disease

The NHS was founded on the principal of equality, and variation in healthcare within the NHS has long been a source of controversy. However, measuring and understanding the reasons for variations can be a powerful tool for quality improvement.

In June this year the *NHS Atlas of Variation in Healthcare for People with Kidney Disease* was published, for the first time bringing together data from a range of sources to describe variation in care across the kidney care pathway – from primary care managed chronic

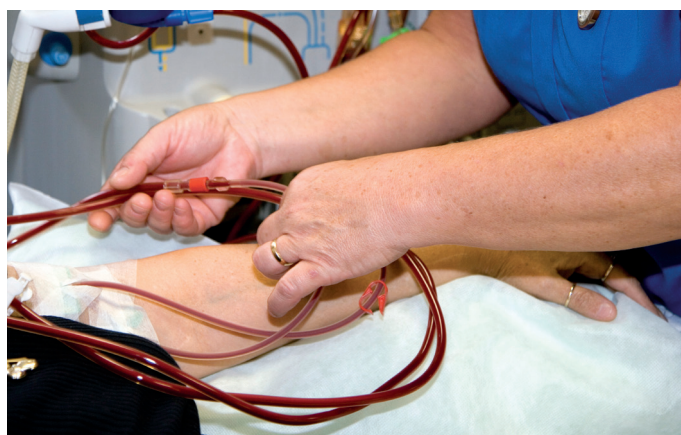
kidney disease, to dialysis and transplantation, patient transport services and hospital-managed acute kidney injury.

The atlas has been designed as a resource for all, with the aim of not just being a repository of data but a tool to help providers and commissioners understand the opportunities and challenges for quality improvement in their local populations.

The study of variation in healthcare has a long history, but it was really the publication of the first *Dartmouth Atlas of Variation* in the US more than 20 years ago that identified the study of variation as a powerful driver for quality improvement.

Of course, some variation in healthcare is to be expected. However, sometimes the variation cannot be adequately explained by such factors, and is in fact unwarranted. There are many causes of unwarranted variation but, broadly, they can be categorised into three main types.

**Effective care** This is care that is founded on good-quality evidence of effectiveness, and variation reflects missed opportunities to deliver the best quality care for the population at need. Unwarranted variation in the proportion of patients being treated to NICE guidelines would be an example of this type of variation. Commissioners and providers can tackle this type of variation by increasing



The atlas describes variations in care across the kidney care pathway

compliance with evidence-based guidelines and standards.

**Supply sensitive care** This is care whose use is dependent on its availability and supply in the local healthcare economy. Sometimes variation is a lack of access or provision of a service to a community or population: age, ethnicity or wealth-related inequalities are important causes of this. However, sometimes variation is caused by oversupply of a particular healthcare resource or by payment systems that incentivise activity.

**Preference sensitive care** This is care that should reflect the healthcare choices of individual patients – for example, to choose one type of treatment over another. Variation in this type of care may reflect the degree to which patients are supported to make healthcare decisions, and commissioners and providers

can reduce this variation by facilitating choice and shared decision making.

The *Atlas of Variation in Healthcare for People with Kidney Disease* contains 18 maps describing variation in the healthcare that people with kidney disease receive. Some of this variation is to be expected: for example, chronic kidney disease and acute kidney injury are more common in older people and ethnicity is a strong influence on the pattern and prevalence of kidney disease in communities.

However, some of the variation is unwarranted, and the magnitude of variation in some of the maps is very large. In order to illustrate some of the important examples of variation in the atlas, we will focus on two of the maps, concerning chronic kidney disease and acute kidney injury.

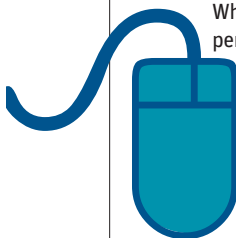
## Online now

### NEW WORLD OF GP COMMISSIONING

The Commissioning Channel is a dedicated hub of insight, analysis and comment. Visit [hsj.co.uk/commissioning](http://hsj.co.uk/commissioning) where Jon Glasby and Chris Skelcher discuss the complexities of role and accountability for CCGs.

### ENERGY PERFORMANCE CONTRACT SAVINGS

What can energy performance contracts do for trusts looking to cut consumption and costs? Visit [hsj.co.uk/energy-efficiency](http://hsj.co.uk/energy-efficiency) where Randall Bowen explains how they work.



**Map 1: Ratio of reported to expected chronic kidney disease prevalence by PCT**

This map shows variations in the recognition and diagnosis of chronic kidney disease (CKD) in primary care. Chronic kidney disease is one of the most common long-term conditions: 6 per cent of adults have reduced kidney function (CKD stages 3-5) and 9 per cent have evidence of kidney damage (albuminuria). It is a strong risk factor for cardiovascular disease, and recognising CKD early is important to help prevent myocardial infarctions and stroke, and prevent worsening of CKD to more severe stages that may require treatment with dialysis or transplantation.

Since CKD does not cause symptoms until it is very advanced, primary care services need to screen patients at high risk (such as those with diabetes or hypertension). The 2012 National Audit Office report found that many people with diabetes are not being monitored sufficiently for CKD and rates of severe CKD caused by diabetes are rising. NICE Guideline 73 describes how to screen, diagnose and manage CKD.

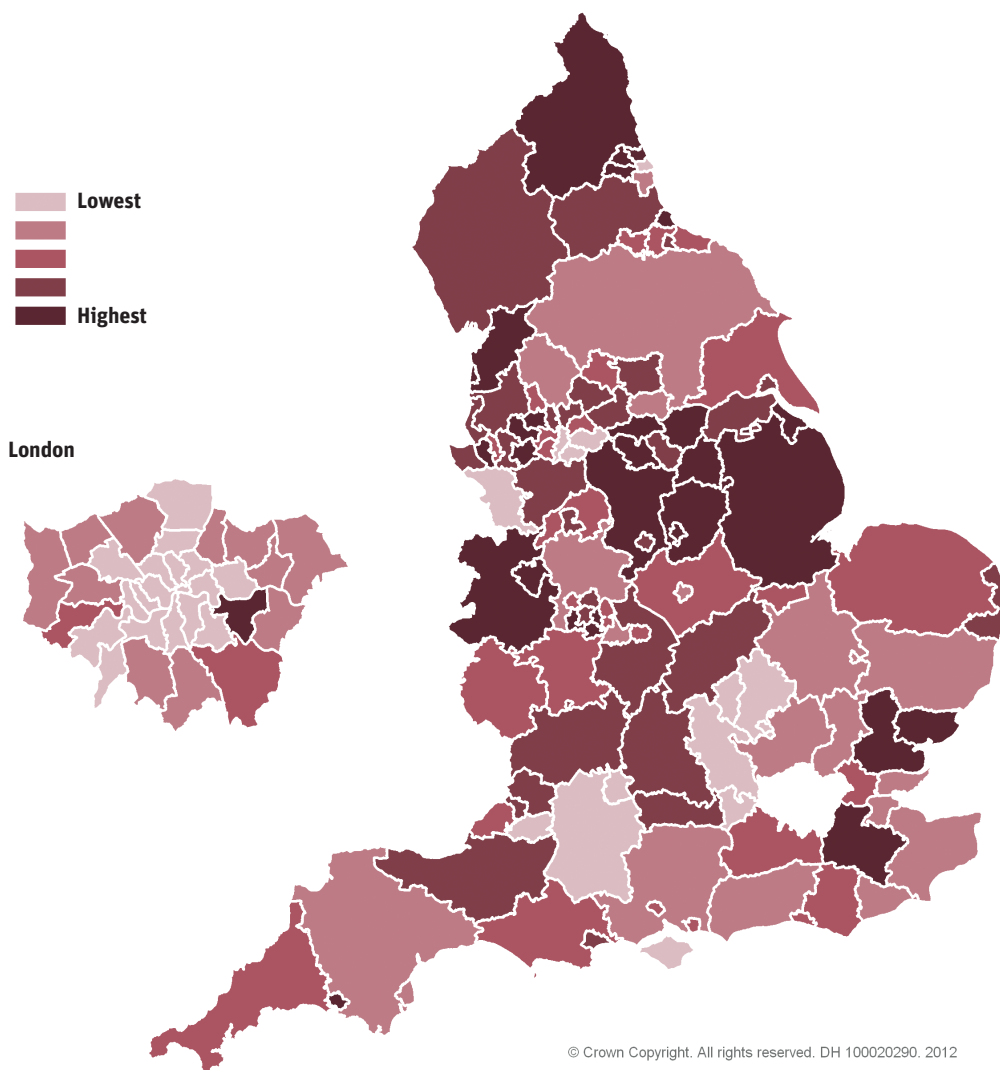
The map shows that there is a four- to five-fold variation between PCTs in the diagnosis of CKD, even after adjusting for population factors. To reduce this variation, commissioners should support primary care services to follow the NICE guidelines and screen all patients at high risk. A variety of toolkits and resources to help primary care services diagnose and manage CKD are available on the NHS Kidney Care website.

Moving further along the kidney care pathway, the atlas also shows the percentage of prevalent dialysis patients receiving dialysis (haemodialysis and peritoneal dialysis) at home by renal centre.

Patients with the most severe types of chronic kidney disease may end up with insufficient kidney function to sustain life (established renal failure) and therefore need dialysis or kidney

**MAP 1: REGIONAL VARIATION IN RECOGNITION AND DIAGNOSIS**

Ratio of reported to expected chronic kidney disease prevalence by PCT, 2010-11



© Crown Copyright. All rights reserved. DH 100020290, 2012

transplantation. There are two main types of dialysis:

- haemodialysis, which uses a machine to pump the patient's blood through a filter to remove toxins and excess fluid
- peritoneal dialysis, which uses a small tube implanted in the abdomen through which bags of dialysis fluid are circulated for a similar effect.

Although both treatments can be carried out by patients in

their own homes, the majority of patients treated with haemodialysis do so by attending a local dialysis clinic three times a week. Since each session of haemodialysis lasts four to five hours, this means that dialysis can have a major impact on the life of patients and their families. Although not all patients are able, or choose, to have dialysis at home, the choice of where to have dialysis

treatment should be offered to everyone who is suitable.

The relevant map on the *Atlas of Variation* shows the wide variation in the proportion of patients being treated with dialysis at home, which varies from 0 per cent to 30 per cent between renal centres. Providers can address variation in the proportion of patients being treated with dialysis at home by ensuring that home therapy

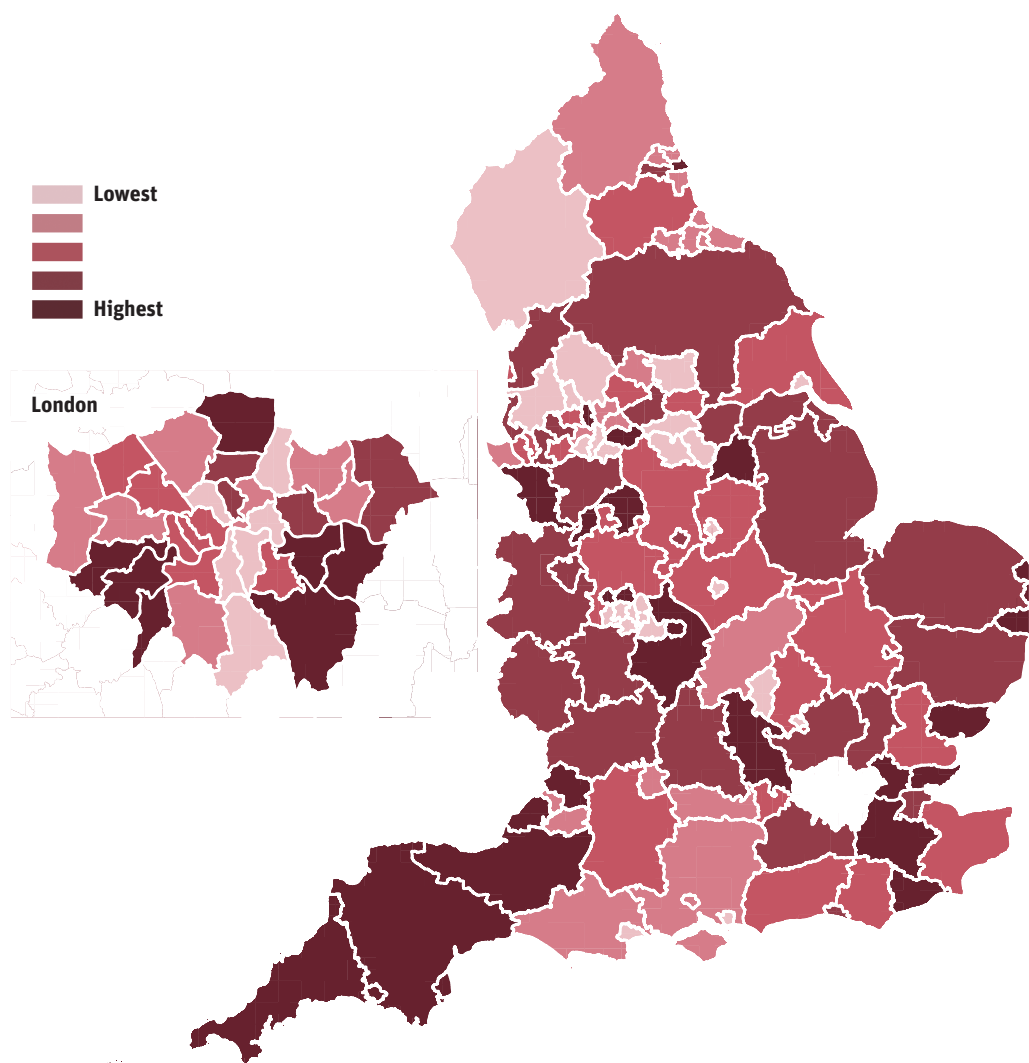


## PUBLICISE YOUR ORGANISATION'S IDEAS

Get involved in Resource Centre by helping us shape the content of the section, contributing your examples of best practice and sending in your questions to be answered by our expert columnists. Find out how by visiting [hsj.co.uk/resource-centre](http://hsj.co.uk/resource-centre)

## MAP 2: REGIONAL VARIATION IN EMERGENCY ADMISSIONS

Rate of admissions for acute kidney injury per all emergency admissions to hospital by PCT, 2010-11



programmes are developed and resourced, and that tools such as patient decision aids are used for shared decision making.

### Map 2: Rate of admissions for acute kidney injury per all emergency admissions to hospital by PCT

Acute kidney injury (AKI) describes the rapid reduction in kidney function that can occur as a result of a vast

range of illnesses, from dehydration and infection to cardiac disease and autoimmune conditions. It is very common, affecting up to one in five emergency admissions, and is associated with worse outcomes for patients, including a higher risk of death and development of chronic kidney disease later in life.

Preventing and managing AKI is a key patient safety issue

for acute care providers and it largely involves getting the “basics” right: early warning systems for recognising deteriorating or unwell patients, safe prescribing, prevention and treatment of infection and ensuring appropriate hydration. Simply encouraging all patients to drink enough and supporting those most vulnerable to dehydration can make all the difference.

Unfortunately, there is evidence that AKI is often managed poorly, and the National Confidential Enquiry into Patient Outcome and Death report *Adding Insult to Injury* documents many failings in the care of people with AKI.

This map shows variation in emergency admissions with a primary diagnosis of AKI. The true scale and high prevalence of AKI has only recently been recognised and it is likely that variation in AKI admissions relates to the recognition and coding of this condition.

Providers can tackle AKI by implementing AKI alert systems. A case study of such a system is included in the atlas.

Providers should also ensure that all clinical staff are trained to manage AKI correctly to the standards described in the Academy of Royal Medical Colleges' *AKI Competencies*. Commissioners can tackle AKI by supporting the development of AKI care pathways.

The atlas has been designed to support quality improvement but can only do so through the actions of commissioners, providers and healthcare professionals. Download the atlas or browse the interactive version, see the variation in your area, and use the commentaries, case studies and resources in the atlas to help deliver better healthcare for all people with kidney disease. ●

*Dr Donal O'Donoghue is national clinical director for kidney care at the Department of Health.*

*Beverley Matthews is director of NHS Kidney Care and NHS Liver Care. Dr Ben Bray and Partha Das are NHS Kidney Care clinical fellows.*

### FIND OUT MORE

*Atlas of Variation in Healthcare for People with Kidney Disease*

→ [www.rightcare.nhs.uk/index.php/atlas/kidneycare](http://www.rightcare.nhs.uk/index.php/atlas/kidneycare)

Chronic kidney disease resources

→ [www.kidneycare.nhs.uk/our\\_work\\_programmes/preventing\\_ill\\_health/tools\\_to\\_help\\_you/](http://www.kidneycare.nhs.uk/our_work_programmes/preventing_ill_health/tools_to_help_you/)

→ *Adding Insult to Injury*  
[www.ncepod.org.uk/2009aki.htm](http://www.ncepod.org.uk/2009aki.htm)