

## **The EVEREST Study: Explaining variation in RRT through expert opinion secondary data sources and trend analysis**

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The incidence of Renal Replacement Therapy (RRT) shows huge variation across the world (Figure 1). (1) Even amongst economically developed countries there are large differences: around 100 cases per million of the population (pmp) in the UK, Australia, New Zealand and the Netherlands; around 200 pmp in Germany and Greece; over 350 pmp in the US and more than 400 pmp in Taiwan. (1)

To date, investigators have set out to examine this striking variation in a number of ways. Where data are available on rates of chronic kidney disease (CKD) for a population, some studies have compared prevalence of CKD, rates of progression and incidence of RRT. (2) Alternatively, indicators of CKD risk such as rates of diabetes mellitus and hypertension in the general population can be examined alongside information on cause of end-stage renal disease (ESRD). (3, 4) Finally, as renal registries explore the possibility of collecting CKD as well as RRT data, this also improve our understanding of the interface between stage 5 CKD, treated ESRD and competing cardiovascular risk.

The patient's pathway onto RRT is influenced not only by medical factors, however, and organisational and financial factors determining the availability of dialysis facilities and societal factors such as physician and patient attitudes to conservative or palliative care appeared also to play a part in a comparison of RRT incidence rates in the UK and Germany. (3) According to a study from the United States, such factors also appear to have influenced changes in RRT incidence over time (5) and there is therefore an increasing need to understand how such factors are working and what effect they will have on countries at different stages in the development of their RRT service.

Other aspects of renal service provision also vary markedly between countries. Big differences in the rates of home dialysis – peritoneal dialysis and home haemodialysis – are unlikely to be explained solely by medical differences in the patient population. (6) And while treatment factors clearly play a major role in determining patient survival on RRT, the association between non-medical factors and variation in survival on RRT around the world (7, 8) has never been examined.

The EVEREST study is an international collaborative project involving nephrologists, epidemiologists and health economists in different countries aiming to determine how much of the variation in RRT incidence, dialysis modality mix and patient survival are due to economic and organisational factors rather than medical factors. It sets out to collect detailed information from around the world on the development, organisation, and financing of renal services and interpret this alongside national level general population case-mix data and renal registry data.

Data will be collected from the following sources:

- ♦ Secondary data sources: The WHO Health For All and OECD databases will provide information on macroeconomic factors (national wealth and health care spending), health care resources, and population health (life expectancy, ischaemic heart disease rates, diabetes rates etc)
- ♦ Renal registries: These will be asked to provide data on trends in RRT incidence (including rates of diabetic nephropathy), modality mix and survival on RRT
- ♦ Expert opinion: National experts on renal service provision will provide information on the organisation of health care systems and renal services, reimbursement of dialysis facilities and physicians, referral to a nephrologist and non-dialysis therapy.

The breadth and diversity of the more than 50 countries included in the EVEREST Study mean the results will have global relevance. At the same time, however, this heterogeneity also poses the greatest challenge in terms of the identification of national experts and the collection of high quality renal registry and “Expert opinion” data. For these reasons, the support of the International Society of Nephrology and European Renal Association – European Dialysis and Transplantation Association who have taken the unusual step of officially endorsing the study has been vital. Their support, and the cooperation of renal registries and national experts in renal services around the world, should enable us to gain a better understanding of the organisational and financial factors that have influenced and will influence the development of services for patients with ESRD around the world.

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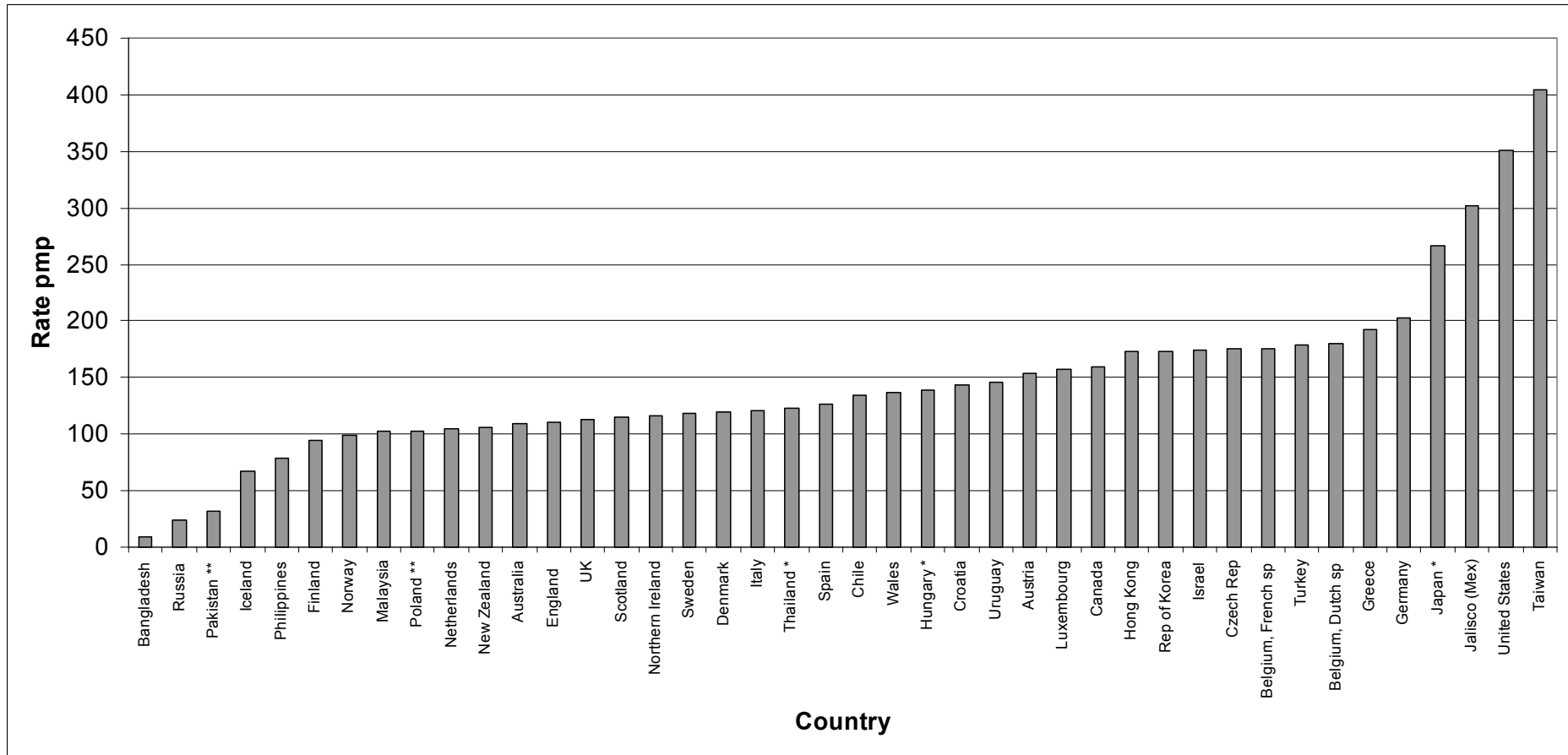


Figure 1. Variation in RRT incidence in 2006 around the world. (1)