Primary care doctors and population health

Sirs,

Dr Gulliford is to be congratulated on reporting the first examination of the relationship between the availability of primary care doctors and population health in England.

His work follows the calculations in the USA by Starfield that each extra family physician is associated with a reduction of deaths of 34 US citizens per 100,000 population, a finding not replicated for specialists.

His findings, that in England, the availability of more general practitioners is associated with reduced hospital admissions and reduced teenage pregnancy are important. It will be worth while to undertake health economic analyses and calculate the average cost savings to society per practitioner from these two findings.

Dr Gulliford is correct, in his summary, to show the standardized ratio for all-cause mortality (15–64) with and without adjusting for limiting long-term illness. It is academically unwise to introduce this particular adjustment, as good general practitioner care will reduce limiting long-term illness. Limiting long-term illness, as a dependent variable, cannot be used to adjust the model. In a worthy attempt to reduce bias, he may inadvertently have introduced some. Once this is agreed, then his work will become even more important.

After adjusting for deprivation score, ethnic group and social class, he has shown that an increased number of general practitioners is significantly associated with a reduction in the standardized all-cause mortality (15–64) in the population in England. He has therefore succeeded, for the first time, in replicating Starfield’s work on this side of the Atlantic.

Finally, Gulliford does not cite important analysis, which also used data from England, which lends support to his work. Sir Brian Jarman and colleagues showed that death rates in hospitals also used data from England, which lends support to his work.

Reply

Sirs,

I thank Professor Pereira Gray for his thoughtful comments on this paper. Areas with fewer general practitioners (GPs) show higher mortality but, as Tudor Hart pointed out, populations in these areas are generally more socio-economically deprived and more exposed to environmental factors that are associated with greater needs for health care and with worse health outcomes. In the present analyses, an association between GP supply and mortality was independent of adjustment for deprivation, social class and ethnicity, but not independent of additional adjustment for health care need measured in terms of the proportion of the population with limiting long-standing illness. I agree with Professor Pereira Gray’s observation that long-standing illness may be viewed alternatively as an intermediate outcome, but possible under-adjustment for variations in need in the first model is also of concern. Some caution seems to be required in drawing firm conclusions with respect to mortality because interpretation differs between the two models, whereas interpretation with respect to hospital utilization did not. A clearer answer to this question will require studies that are designed so as to allow needs and outcomes to be distinguished, and that utilize more subtle measures of the structure and function of primary care services.

References


Yours faithfully
Professor Sir Denis Pereira Gray, OBE
St Leonard’s Research Practice, Marlborough Road,
Exeter EX2 4TJ
E-mail: D.PereiraGray@exeter.ac.uk

Yours faithfully
Martin Gulliford
Department of Public Health Sciences,
King’s College London,
Capital House, 42 Weston Street,
London SE1 3QD
E-mail: martin.gulliford@kcl.ac.uk