How to work effectively in the primary care setting

Pat Yudkin

on to discuss how the field of primary care differs from other research settings. Finally I will combine these two themes to address the central question: how does the statistician work effectively in the primary care setting?

What skills do medical statisticians need in general?

various types of statistical software, be able to collaborate in multi-disciplinary teams, and have excellent verbal and written communication skills. Job advertisements don't often mention personal qualities, probably because they are too difficult to identify. My own list of qualities desirable in a statistician would include patience, integrity, objectivity, attention to detail, the ability to discern what is important and what is not, and above all, a good

What is distinctive about the primary care setting?

but I don’t think one could claim that it presents unique methodological problems; issues like clustering, the practitioner effect, poor compliance, and complexity of interventions exist in other contexts. So it’s more a matter of emphasis. If primary care does have a distinctive quality it arises from a whole set of factors taken together. These include a particular approach to patient care, a particular set of research

contact with the same group of GPs, nurses, and other clinicians. This situation contrasts with that in secondary care, where, in the main, each episode is complete in itself and distinct from the last one. The long-term and continuing nature of primary care has several consequences.

definitely outside the primary care domain. Randomised trials in primary care extend into areas that might be considered an individual's private space, and address issues such as giving up smoking, losing weight, taking more exercise, or adhering to prescribed medication. Such trials have a significant ethical dimension as well as a clinical one.

patient and doctor can have significant effects on the patient's well-being – both positive and negative. Hence, human communication is an important area of primary care research. This is another example of its lack of conventional boundaries and its interest in the more intangible areas of life.

of surgeries GPs are responsible for numerous services, including clinics for the assessment of pre-school children, immunisations, call and recall for breast and cervical screening, and special clinics for patients with chronic disease. There is great potential for change and improvement in organisation.

diagnosis and clinical management. Decisions have to be made about the seriousness of symptoms; about whether or not to give treatment or to refer for further investigations; about how to manage patients with established disease, and what to recommend to patients with anxieties about their health (for instance those with a family history of cancer).

So how can the statistician work effectively in the primary care setting?

Furthermore, there were very few experienced and well-trained researchers working in primary care with the result that it was ill-equipped to generate its own research. The report recommended a number of initiatives to remedy this problem. These included an increase in funding to support departments of primary care, and the creation of Primary Care

is still however a relatively new field, developing and defining its own identity. On a practical level, there is a shortage of experienced researchers of all kinds, and a particular need for the sharing of skills and information. It is against this background that I want to discuss the statistician's role.

consumption of fruit and vegetables? How can we ensure that GPs give appropriate surveillance and treatment to all their patients with established coronary heart disease? Can we improve the quality of GPs' prescribing by using computer support?

agree), by training and instinct we are well suited to the role of irritating sceptic, asking the uncomfortable questions, probing for definitions and trying to reconcile the clinicians' aspirations with the resources available. In some cases, either because of cost or subject availability, the original research question may be unanswerable, or only partially

names of patients identified as having coronary heart disease. The trial's nurse facilitator gave ongoing support to the practices in setting up a register and recall system for systematic review of patients with coronary heart disease in a nurse-led clinic. After discussion and agreement of guidelines for secondary

can its reliability be tested? Above all, is it strictly relevant and informative? The statistician must be able to influence the study design to achieve a high-quality data set, and should be available while the study is in progress to advise on dealing with data collection problems as they arise (which they inevitably will).

of life measurement specifically developed for cancer patients. However this measurement was barely relevant to holding one's own notes. In fact the one statistically significant result that emerged was that holding one's own notes decreased the occurrence of constipation! A questionnaire that was highly specific to the intervention was also designed and

in theory; to understand and explain the processes needed to make the interventions work in practice; and at the end of the study to investigate what actually happened. Research in primary care is thus very much a team effort in which each person contributes their own expertise. The effective statistician must be able to function

research as in any other field. For example, I’ve mentioned the issue of outcome measures, and there is much to be done in the field of cluster randomisation, as will be discussed in a later talk.

statistically preferable and what makes clinical sense (for instance, if there is a choice between a continuous outcome variable of little clinical value, and a more useful dichotomous outcome variable) the clinical needs should always override the statistical. Moreover, the statistician should ideally be able to explain the

care offers a rare combination of statistical and human interest. To be most effective in this setting, the statistician needs to engage fully with both these aspects.