EDITOR’S CHOICE

The end of the beginning for chronic disease epidemiology

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We start 2010 with the sad task of publishing the last paper by Jerry Morris,1 who died in October 2009 in his 100th year (Figures 1 and 2). As has previously been highlighted in the IJE, Jerry was a major figure in establishing the methodology of chronic disease epidemiology2–9 and bringing socio-economic inequalities in health to centre stage of post-World War II public health policy.10–13 Jerry played a considerable role in the lives of the editors of the IJE. He was an examiner when Shah Ebrahim qualified in community medicine in 1973, offering his own wrist as a diagnostic short case (the stigmata of rickets, rarely seen in Britain in the latter part of the 20th century) and continued providing his inimitable to-the-point advice until his death.14 He was a continuous source of advice when I was carrying out doctoral research on physical fitness in the mid-1980s and when—reflecting my typical indolence—this was finally written up for submission in the early 1990s. He provided references for each job application that I made, in typical fashion reporting that he had of course provided a favourable reference, but that in reality a general pulling-up of socks was required. His final paper—on the need to recognize, scientifically evaluate and meet the costs of a healthy life for all—builds on his pioneering work in this area, which was appropriately recognized by the WHO Commission on the Social Determinants of Health.15 Ann Oakley’s tribute16 which follows the paper provides a picture of Jerry that will be recognizable to all who knew him.

Jerry’s most widely recognized contribution is his foundational research on the beneficial effects of physical activity—indeed, he has been called ‘the man who invented exercise’.17 We publish a paper by Mariane Héroux and colleagues,18 which argues that the strong association of physical fitness with all-cause and cardiovascular disease mortality, generates a confounded relationship between dietary patterns and mortality. Perhaps we over-emphasize the importance of dietary patterns? Our commentators are not entirely in agreement with this,19,20 but in a letter the authors trenchantly defend their conclusions.21

Héroux et al.18 demonstrate that adjustment for reported physical activity—known to be a poor indicator of actual patterns—led to considerably less attenuation of the association between dietary patterns—mortality association than did adjustment for assessed physical fitness, reflecting measurement issues that were of concern to Jerry.22 Such measurement issues could also apply to the demonstration that resting heart rate predicts diabetes risk independently of reported exercise patterns in Teruo Nagaya and colleagues’ interesting paper.23,24 One approach to the problems of misclassification, of both exposures of interest and confounders, is sensitivity analysis, demonstrated by Rolf Groenwold and others,25 in relation to a controversial issue initially aired in the IJE, whether the association of influenza vaccination and mortality in the elderly is confounded by functional status.26

Problems of inferring causality from observational data are illustrated by several of the papers and commentaries in this issue. Breast feeding is generally related to better health outcomes, but is this due to confounding with other salubrious aspects of life in families in which breast feeding occurs?27,28 Low body mass index (BMI) is related to increased risk of TB, but is this a causal effect or due to other factors associated with low BMI?29–31 Daytime napping is associated with increased risk of death from various causes,30 but are the nappers already simply less healthy and health conscious? As Sandro Galea and colleagues31 advocate, perhaps we need complex systems approaches to causal thinking in epidemiology, though readers may want to see concrete examples of how these approaches have helped before changing their practices.

Our reprint appears to be distanced from epidemiological methodology, being the seminal report of Richard La Piere’s investigation, demonstrating that what people say they do in response to direct questions is a long way from what they actually do in practice.32 Our commentators raise many issues regarding this classic,33–36 including issues of whether such research would be considered ethical today. The hotel managers—racist by self-report but less so by practice—did not know that they were part of a research project, an enterprise that appears to have been opportunistically added to La Piere’s travel
schedule. In the medical field ethics committees, institutional review boards and related state apparatuses would doubtless block such work today. However, commercial concerns can happily carry out ‘secret shopper’ investigations (and our credit and other personal data are freely traded) with little restriction. In my view, we should seriously consider whether in the commercial health services sector—where practitioners are not always doing what they say they are doing—research similar to that of La Piere’s should be carried out as a routine monitoring activity.37

The methodological concerns reflected by the disparate papers in this issue of the IJE, including the integration of insights from other disciplines, were anticipated in Jerry Morris’s Uses of Epidemiology over 50 years ago.38 With typical modesty in the preface, he mused that the title he chose was too expansive and should have been the less catchy ‘some uses of epidemiology in the study of non-communicable disease’, but in reality the book anticipated many of the methodological developments that were to follow it, while retaining a practical focus on the need to improve population health.3–6 Indeed Jerry was concerned that the almost exclusively methodological focus of some strands of contemporary epidemiology could obscure this need.39 Thinking how and why things happened requires a broad approach to what counts as evidence in his view, as illustrated by the references to non-epidemiological—indeed, non-scientific—texts throughout his work. In my last meeting with Jerry, we discussed how genetic epidemiology could inform interrogation of the causal nature of modifiable risk factors—related to exercise and fitness, of course—and disease. I received a letter that arrived after he died (the IJE currently being run from India), in which he said that thinking about such possibilities made his head buzz—but, with the typical disclaimer, ‘in the limited time I can spare from Larsson’, referring to the novels of Steig Larsson that he had become an enthusiastic advocate for. As always I will follow his advice, and stop here to search out ‘Girl with the dragon tattoo’ in the local market.

References