Genetics and epidemiology

In the editorial of the 2004 February issue of the *Scandinavian Journal of Work Environment & Health*, Harri Vainio made thoughtful points about the need to have a balanced approach to the use of genetic biomarkers in epidemiology (1). This was also the focus of my paper (2), which he cited. However, he inadvertently assigned to me the position that I was merely characterizing. Specifically, I noted that the impact of genomics research can be viewed in different ways: "One perspective is that the sequencing of the human genome is the greatest opportunity for epidemiology since John Snow discovered the Broad Street Pump [p 76]." I referenced this statement to Shpilberg et al (3). The comment was then contrasted with the statement and discussion that "Others are more disparaging of the effort . . . . so far it is lifestyle changes that have made the most impact on the incidence of chronic disease [p 76–7]," which I referenced to Weiss & Terwilliger (4). In contradistinction to both of these statements, I concluded that genetic biomarkers are useful in occupational epidemiology and practice, but that epidemiologists need to find relevant opportuniites to use genetic markers to improve public health rather than adopt them wholly and inappropriately.

References

1. Vainio H. Genetic biomarkers and occupational epidemiology—recollection, reflections and reconsiderations. Scand J Work Environ Health 2004;30(1):1–3.
2. Schulte PA. Some implications of genetic biomarkers in occupational epidemiology and practice. Scand J Work Environ Health 2004;30(1):71–9.
3. Shpilberg O, Dorman JS, Ferrell RE, Trucco M, Shahar A, Kuller LH. The next stage: molecular epidemiology. J Clin Epidemiol 1997;50:633–8.
4. Weiss KM, Terwilliger JD. How many diseases does it take to map a gene with SNPs? Nat Genet 2000;26:151–7.

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