Letter to the Editor

Community Genetics

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What Role for Public Health in Genetics and Vice Versa?

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Dear Sir,

In his 2006 article on genetics and public health in *Community Genetics* [1], Holtzman makes the unfortunate assertion that public health has a very limited role to play, if any, in human genetics. His conclusion is based on three faulty assumptions: (1) that the definition of public health is limited to 'activities implemented by government agencies and supported by tax payer revenues' [1, p. 9], (2) that 'assuring the health of populations is different from assuring the health of individuals' [1, p. 18], and (3) that with rare exceptions (e.g., newborn screening), genetic services should not be delivered 'under public health auspices' [1, p. 18].

Several recent reports from the Institute of Medicine (IOM) in the USA [2–4] have effectively dispelled the notion that the work of public health is limited to the efforts of public health agencies. In 'The Future of the Public's Health in the 21st Century', the IOM concluded that the public health system includes not only governmental public health agencies but the health care delivery system, academia and many other actors from the community and the private sector, who have a stake in assuring the conditions for health [2, pp. 28–33]. The report further recommended adopting a population approach to health that encompasses multiple determinants, from genetic susceptibility to social and ecologic factors [2, pp. 46–95]. Finally, the report decried the polarization that keeps medicine and public health from functioning as complementary and collaborating systems [2, p. 24].

A recent international meeting sponsored by the Rockefeller Foundation also stressed the importance of taking a population approach to the translation of genetic discoveries [5]. This discipline of 'public health genomics' has emerged in many parts of the world to examine through science, policy and practice the implications of genetic information for population health [4, 5].

We agree with Dr. Holtzman that 'genohype' is common in reports of scientific discoveries, often fueled by commercial genetic test developers; however, the public health perspective – presented by government, academic or independent organizations – tends to reflect a more measured and skeptical approach. Much of the research necessary to assess the role of genetic factors in population health is being conducted under 'public health auspices' [6]. Public health and health care organizations are working together to develop a strong scientific framework for evidence-based evaluations of genetic and genomic technologies [7]. Finally, governmental and other public and private organizations are using this information to inform public policy, to develop appropriate health service guidelines for individuals and populations, to engage stakeholders, and to educate health care providers and the public [8]. A 'public health' perspective is truly the only impartial basis for evaluating the utility of genomic information and guiding its appropriate integration into preventive and curative health services.

We should get away from Holtzman's opinion [1, p. 18] that public health has only a rare role to play in human genetics, limited to population screening (particularly, newborn screening). Public health genomics is not about mass screening programs delivered by government public health agencies. It is about developing a sound scientific strategy to assess the role of genetic information in population health and assuring that such information can be used appropriately and equitably to benefit the health of all members of the population.

References

1 Holtzman NA: What role for public health in genetics and vice versa? Community Genet 2006;9:8–20.
2 Institute of Medicine: The Future of the Public's Health in the 21st Century. Washington, National Academies Press, 2002.
3 Institute of Medicine: Who Will Keep the Public Healthy? Washington, National Academies Press, 2003.
4 Institute of Medicine: Implications of Genomics for Public Health. Washington, National Academies Press, 2005.
5 Burke W, Khoury MJ, Stewart A, Zimmern R; the Bellagio group: The path from genome-based research to population health: Development of an international public health genomics network. Genet Med 2006;8:451–458.
6 Khoury MJ, Davis RL, Gwinn M, Lindegren ML, Yoon PW: Do we need genomic research for the prevention of common diseases with environmental causes? Am J Epidemiol 2005;161:799–805.
7 Centers for Disease Control and Prevention: The evaluation of genomic applications in practice and prevention initiative. Accessed online February 23, 2006 at http://www.cdc.gov/genomics/gTesting.htm
8 Centers for Disease Control and Prevention: Genomics and population health 2005 report. Accessed online February 23, 2006 at http://www.cdc.gov/genomics/activities/ogdp/2005.htm

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