Future Directions in Spatial Demography

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I am a recent convert to spatial demography, coming from a background of the epidemiology of women’s and children’s health. Demography and epidemiology have long shared concern with the determinants and patterns of morbidity and mortality in populations, and continue to have much to offer each other. Just as “spatial” has long been a part of demographic research (1), the origin stories of modern epidemiology often begin with John Snow’s spatial analysis of cholera in London in the 19th century. Such stories often highlight the “shoe leather epidemiology” of Snow’s work and the systematic and comprehensive approach to identifying temporal and spatial patterns for those who contracted or did not contract the illness. In the pre-germ theory era inhabited by Snow social categories and spatial locations were tied to illness through miasma theory; the discovery of the etiology of infectious diseases led to a one agent-one disease causal pathway, but interest in the social and spatial connections persisted. It was in the 20th century (particularly post-World War II) when epidemiology (and perhaps demography to a lesser degree) shifted towards a focus on individual “risk factors.” This new focus on the behaviors and exposure of individuals aligned with the epidemiologic transition from infectious to chronic forces of mortality and was closely related to decades of epidemiologic ambivalence about social determinants and spatial patterns of health (2). Risk factor epidemiology started with the lowest of all hanging fruit in terms of population attributable burden of disease—tobacco—and some argue it has struggled since.

Out of this context public health scholars including epidemiologists, interventionists, and policy experts are returning to a more comprehensive ecologic perspectives on the etiology of disease in populations, embracing the built environment, political economy, and social capital as topics of renewed interest (3). A rapidly expanding social epidemiology literature on neighborhood effects and disease (often chronic or reproductive) provides some evidence that these efforts can prove useful for understanding population patterns and developing novel health promotion/disease prevention efforts (4). What is largely lacking in this body of epidemiologic (particularly non-infectious) literature is an adequate attention to the roles spatial dependence and heterogeneity, and residential mobility and migration in the place-health relationship. Fortunately these areas are already more richly developed in the sociology, geography, and demography literatures, and—as evidenced by the preliminary agenda of this Future of Spatial Demography meeting—will continue to receive substantial attention. That virtually all health outcomes vary dramatically along social, economic, and spatial patterns has been well described for some time. What we need is movement towards better understanding of pathways and mechanisms which can inform effective programs and policies to reduce health
disparities and improve health outcomes. The potential for increased synergy between spatial demographers and social epidemiologists is great, and I am honored to participate in this meeting.