**Epidemiology Theory**

Framework for the discussion, various authors’ positions:

Epidemiology theory as described by Krieger and Zierler (1996) explores the “connectedness of ideas dealing with population health” (pg 108.) Thomas (n.d.) outlines the public health code of ethics, the 12 principles developed to define the goals and aspirations of public health. Weed (2000), in evaluating which themes (scientific or ethical) best fit the future epidemiology tool kit, suggests the need for a balance between scientific study and ethical application. Gardenier (n.d.) discusses the ethical ramifications of statistical analysis driving the research findings and as some would suggest, study design (a new adaptation of the tail wagging the dog.)

**Discussion**

One could propose the argument that there is a struggle between the applicability (or need) for epidemiologic theory as a guide for public health given the general principles of the code of public health ethics as outlined by Thomas and the evolving role of public health research past and future.

Why this position? Could external factors influence the development and application or evolution of epidemiological investigation? McKinlay (2000) suggests that modern day public health and epidemiology have become distinct disciplines rather than collaborators with public health moving toward advocacy while epidemiology serves as the “Bayesian” sheriff of clinical researchers (adapted from McKinlay, pg 26.) and now resides with clinical medicine thus supporting Gardenier’s p value position. But as McKinlay suggests, can there be a value-free public health function where researchers discover the cause of some biohazard but instead of taking a proactive stance (applying the code of ethics outlined by Thomas) they publish their findings (keeping an eye on p values) and conclude the need for additional research to further refine some aspect of the analysis. John Snow during the miasmas era of vapor causality speculated on the role of the pump, while obvious, was not the true cause of cholera.

Savitz and Poole (1995) suggest that epidemiology is not a basic science but part of a set of guiding principles. This makes epidemiology a public health core principle rather than an ethically demarcated theory as Krieger demands. Pearce (1996) and Wing (1994) argue for this alternative view of epidemiology. Pearce suggests the need for economic causality in addition to biologic while Wing accuses epidemiologic theory driving unnecessary and off-point studies supporting Weed’s position of a need for balance. These positions are juxtaposed with Krieger (1996) who warns that without epidemiologic theory, public health can not be expanded to meet the growing needs of the population.

In conclusion, it appears, at least during the late 1990s when this debate ensued, that epidemiology has arrived at a cross roads with public health policy evolution. Does epidemiology retain its scientific theory approach, or become populist as public health
becomes more of an advocate risking loss of scientific discipline and academic prestige? Public health core principles remain the common thread in this clutter and because of their ambiguity, may be the genesis of this debate. This author is reminded of a scene from “And the Band Played On” where a young investigator recognizes the link between a cluster of pneumonia cases in summer residents at Fire Island NY and a similar outbreak among gay bath house patrons in San Francisco. He suggests closing the bath houses while the department director stresses the need to let epidemiology conduct more studies. Where should the line be drawn between the need for better evidence and the desire for Snow style advocacy?

Gardenier, J.S. Integrity: Best statistical practices to promote research. Accessed on 3/10/08 at: http://www.aaas.org/spp/sfrl/per/per32.htm#cover


