

3rd North American Congress of Epidemiology, June 22, 2011

Luncheon Roundtable session: “Not continuing along previous lines: Exploring how new directions emerge in epidemiological research”

Notes

Discussants: Robert McKeown, Nancy Kreiger, Sandy Sulsky

38 participants introduced themselves by name, home institution and area of research interest; an additional 10-15 entered after introductions were completed. The participants were relatively diverse with respect to career phase, work setting and country of origin.

Discussion opened with the observation that there is a fine line between being innovative and creative in science, and being viewed as a crackpot. It is important to find the right “soil” in which to sow creative ideas, and there is value in connecting the creative ideas with identified research needs.

The metaphor of “framing,” was added. Re-framing persistent or stubborn research questions may involve incorporating the histories and philosophies of other disciplines. Some discussion of the value of participating in trans-disciplinary discussion teams, if not research teams, followed (“being susceptible to infection by the theories of another discipline”). Changing one’s view may result in changing the questions that are posed, and, potentially, in the identification of new answers to persistent questions. For example: a participant noted that, in her institution, a lot of effort has been expended on understanding the reasons for health disparities, comparing indigenous peoples to the economically advantaged. The predictors of the negative health consequences associated with being a member of an indigenous population had been studied extensively, but no progress toward resolving the problem was made until the question was turned around to identify predictors of privilege and the associated health advantages that accompany privilege. Similarly, there are benefits to involving the representatives from the community or population that is the target of the research in the development of the research questions and design of the data collection methods.

Discussion turned to the real and perceived constraints and barriers to creativity and innovation, including granting agencies that don’t support innovative research; policies that require incremental movement along a defined pathway from basic to applied research to policy development; journal editors who won’t accept the risk of publishing work that is not within the expected framework; and, resistance to new ideas by those who are invested in “old” ideas. To be creative and innovative may engender loneliness, unless one also takes steps to develop a community. This can be accomplished by developing collaborative teams or discussion groups that may or may not be trans-disciplinary, identifying supportive mentors, and accepting

responsibility for “entrepreneurial” science, i.e., shopping ideas around to potential funding agencies until financial support is secured.

Strictures may also arise from current training practices: Students are provided with theoretical tools and encouraged to be innovative in their thinking, but these tools may be difficult to translate into a research practice. A solid foundation not only of epidemiology principles and methods is necessary, however, to support the development of innovative thinking – new ideas must still have a basis or rationale and must be defensible. As an analogy, professional photographers do not snap the shutter at random. They begin from definable principles of framing, composition, and lighting that allow them to increase the probability of obtaining a “good” image, and of recognizing one after it has been captured. These principles are analogous to the scientific training that allows innovation and creativity to be built upon a solid foundation. Furthermore, it is necessary to develop and test many ideas before “the good ones” emerge, much as a professional photographer must take many photos to obtain a few “good” ones.

This led to the concepts of humility and acceptance of perplexity – to do science (well) is to admit that there are unknowns, and to work within the realm of not knowing: not knowing answers, not knowing which questions are important, and not knowing which observations are foundational, until later. Michael Polanyi (?) was quoted: “We only understand the importance of something in retrospect.”