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Editorial

Social epidemiology

What is Social Epidemiology?

In hindsight, my confidence was premature. Ten years ago, I advised one of my doctoral students at the Harvard School of Public Health to declare "social epidemiology" as one of her fields of concentration on her prospectus. Within 24 h, the Chair of the school-wide Committee on Admissions and Degrees (who was an epidemiologist) shot back a curt note, demanding to know what was "social epidemiology", and whether such a thing existed. If the establishment of a new Senior Editor position in Social Epidemiology at *Social Science & Medicine* is any indication, we have come a long way since then. Not only do we now have a whole textbook on the subject (Berkman & Kawachi, 2000), all of a sudden it seems that practitioners of this discipline are everywhere in demand, judging by the number of new positions advertised on the back pages of public health and epidemiology journals. What then, is this thing called Social Epidemiology?

Epidemiology has been defined as the science of counting. Epidemiologists are trained to count the occurrence of disease in populations. And what is the purpose of this counting? Partly, it is to monitor trends in the occurrence of disease to inform planners and policy makers. Often it is a prelude to devising clever study designs and applying statistical techniques to uncover causal connections between exposures (risk factors) and disease. Where the social epidemiologist departs from other epidemiologists is at the level of causal thinking. Instead of posing the question "Why did this individual get sick?", the social epidemiologist is motivated by the question "Why is this society unhealthy?" This distinction stems from the crucial insight that we owe to the late Geoffrey Rose (1992)—that the determinants of individual health are often different from the determinants of population health.

Members of the general public have grown accustomed to learning about the latest epidemiologic discoveries on the nightly news. For example, that we should moderate our alcohol consumption to avoid hypertension, or that we should maintain lean body mass to avoid diabetes. Such advice informs individuals about lifestyle choices they can make to avoid disease and stay healthy. But as Rose pointed out, the choices that individuals make (or fail to make) are inadequate for the purposes of explaining why some *societies* have high rates of heavy drinking, hypertension, obesity, and diabetes. Answering *that* question is the task of social epidemiology. To paraphrase Durkehim (1895/1982), social phenomena—such as the race/ethnic disparities in the prevalence of hypertension, or the emerging epidemic of Type II diabetes in wealthy countries—can only be explained by social facts. These social facts are what social epidemiologists refer to as the social determinants of health.

A multidisciplinary approach

As befitting a journal devoted to input from a variety of disciplines (Macintyre, 2000), social epidemiology is itself a multidisciplinary endeavor. The reference to Durkheim, the father of sociology, in the previous paragraph was intentional. Besides sociology, social epidemiology incorporates theories and techniques from a wide variety of other social sciences, including economics, demography, geography, psychology, political science, and anthropology. The range of problems studied by social epidemiologists includes such questions as whether neighborhood contexts can affect health, or workplace organization, or income inequality and social cohesion, to name a few. In each of these instances, the goal of social epidemiology is to conceptualize, operationalize and test the associations between aspects of the social environment (families, workplaces, residential neighborhoods, the political economy) and population health. In contrast to other specialties within epidemiology that are defined by health outcomes (e.g., cancer epidemiology), we are a field defined by our concern for describing and intervening on social conditions that either promote or harm health. In this cross-disciplinary enterprise, sometimes we have borrowed and applied *theories* from other fields, e.g., theories of social capital, imported from sociology and political science (Coleman, 1990; Putnam, 1993). Sometimes we have borrowed *measurement tools*, e.g., measures of income distribution from welfare economics (Sen, 1973; Atkinson, 1983), or measures of control from social psychology (Pearlin, 1981; Lefcourt, 1991). Sometimes, we have borrowed *analytical techniques,* e.g., multi-level analysis from medical geography and educational statistics (Jones,

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1991; Goldstein, 1995; Subramanian et al., 2001, in press).

An understandable reaction to all this activity has been the occasional outburst of suspicion and resentment on the part of social scientists who wonder aloud whether social epidemiologist aren't plotting to take over the rest of the world. Does social epidemiology claim more of the social sciences turf as their own than they have legitimate grounds to do? Undoubtedly, social epidemiologists are guilty of over-reaching at times. Many questions tackled by social epidemiologists predate the discipline, sometimes by hundreds of years (as in the case of the study of health inequalities). Certainly, sociologists are not apt to react charitably to the suggestion that they had been practicing social epidemiology all along without knowing it. The edges of social epidemiology are bound to be fuzzy, as with any young discipline. Meantime, some of the most productive insights have occurred when disciplinary boundaries have collided. An illustration of such an instance is in the debates concerning whether neighborhood contexts can influence health.

When disciplinary boundaries collide: the case of neighborhoods and health

A very active field of research in recent years has focused on the question of whether neighborhood environments influence health independent of the characteristics of individuals who live in them. The question has been addressed by medical sociologists, geographers, demographers, ethnographers, and even a few social epidemiologists. Over two dozen multi-level studies have appeared on this topic, several of them in the pages of this journal (Hart, Ecob, & DaveySmith, 1997; Ecob & Jones, 1998; Duncan, Jones, & Moon, 1999). These studies appear to find a contextual influence of the residential environment on health outcomes, net of individual characteristics such as income, educational attainment, and employment status.

Do places matter over and above people? (Macintyre, Maciver, & Sooman, 1993). In answering affirmatively to this question, social epidemiologists side with many sociologists and medical geographers. Many economists, on the other hand, remain skeptical. The sources of disagreement between social epidemiologists and economists lie in differing theories of social causation, as well as what kinds of tests constitute convincing evidence for each discipline. I have deliberately picked on economists not just because practitioners of that discipline have a reputation for being argumentative, but because the contrast between the assumptions of social epidemiology and economics sharpens our thinking on causal mechanisms.

Economists complain that epidemiologists tend to be atheoretical and overly reliant on empirical evidence. Conversely, social epidemiologists accuse economists of being too enamored of their pristine theories that turn out to be based on assumptions, which seem untested at best, or even downright improbable. Economists counter-charge that epidemiology fails to incorporate individual choice in studies of neighborhood effects on health. People make choices about where to live, hence any apparent "contextual effect" of neighborhoods may simply reflect the outcome of individual sorting. Successful and healthy residents tend to move in next to each other, whilst the less fit end up being concentrated in impoverished and unhealthy neighborhoods. Social epidemiologists, on the other hand, emphasize the constraints on personal choice. Often these constraints constitute part of the "contextual effect" of neighborhoods that epidemiologists are trying to capture, e.g., as when poor people are denied mortgage loans to move out of their communities. It has been remarked that economics is all about how people make choices, while sociology (and for that matter, social epidemiology) is about how people often have no choices to make (a remark attributed to James Duesenberry, referring to Gary Becker's rational choice theories of fertility). I should note here that I am not just referring to the debate around "rational choice" theory. The heart of the disagreement between social epidemiologists and economists lies not in whether people make rational choices, but whether they are *free* to make choices.

Regrettably, it is not possible in a brief editorial to do full justice to the competing claims and disagreements between economists and social epidemiologists on the issue of whether places make a difference to people's health. Nevertheless, the point I am trying to make is that social epidemiology represents a fertile cross-roads where practitioners of diverse disciplines can meet and argue over their theories and assumptions. The resulting product of such dialogue has implications that reach beyond honing the aetiological questions that each disciplines poses. For example, coming to some consensus about the contribution of residential choice is crucially relevant to policy makers who need to know whether upgrading neighborhood environments (by pouring money into local amenities and services) is the best way of improving public health, or whether scarce resources are better spent on vouchers to allow residents to escape their neighborhoods.

Assuming that such fundamental differences in causal thinking can be ironed out, much work still remains to be carried out in reconciling and translating into each other's language the various steps that economists and epidemiologists typically take to convince themselves that their studies are methodologically sound. Thus economists tend to

talk about omitted variable bias, endogeneity, simultaneity bias, and unobserved heterogeneity, as threats to drawing valid causal inferences from their data. Epidemiologists are trained to think about information bias, selection bias, confounding, and generalizability. As more and more epidemiologists turn upstream to economic variables (e.g., poverty, the distribution of income, or the effects of social policies) to seek explanations for health variations, and vice versa, the need for inter-disciplinary dialogue and *rapprochement* grows ever more urgent.

What the Social Epidemiology section is looking for?

I hope to have clarified in the foregoing discussion the kinds of papers, and the range of ideas and questions, that we are looking for in this newly established section in Social Epidemiology. Another decade from now, Social Epidemiology may go the way of other specialized disciplines and become hardened in its boundaries as to what kinds of topics and studies shall be considered "admissible" within its domain. Until then—and one hopes the time will never come—fuzziness about its borders will be a splendid thing. In order to thrive, social epidemiology needs to maintain the equivalent of an economic free zone (no pun intended) where enterprising investigators can shed their disciplinary baggage at the border, set up shop, and fruitfully exchange their ideas to enrich the field of the social determinants of health.

In line with this vision of Social Epidemiology, I promise to operate under the following principles during my tenure as senior editor of this section:

(a) To consider submissions from investigators anywhere in the world, no matter what their training or declared discipline, and no matter how remote their subject matter from the traditional concerns of their field.
(b) To ask all authors the question how does their study add to, or extend, the confines of their disciplines in terms of theories, questions, or methodology.

At the same time, the success of Social Epidemiology will depend on good science. Accordingly, submissions will be judged by the universal canons of good science, namely, a well articulated theory, innovative and clearly conceived hypotheses, sound methodology (whether quantitative or qualitative), and above all, logic.

References

Atkinson, A. B. (1983). *The economics of inequality* ((2nd ed.)). Oxford: Oxford University Press.

Berkman, L. F., & Kawachi, I. (2000). *Social epidemiology*. New York: Oxford University Press.

Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.

Duncan, C., Jones, K., & Moon, G. (1999). Smoking and deprivation: Are there neighbourhood effects? *Social Science & Medicine*, *48*, 497–505.

Durkheim, E. (1895/1982). In S. Lukes (Ed.), *The rules of sociological method* (tr. W. D. Halls, 1938). New York: Free Press.

Ecob, R., & Jones, K. (1998). Mortality variations in England and Wales between types of place: an analysis of the ONS longitudinal study. *Social Science & Medicine*, *47*, 2055–2066.

Goldstein, H. (1995). *Multilevel statistical models* (2nd ed.). London: Arnold.

Hart, C., Ecob, R., & Davey Smith, G. (1997). People, places and coronary heart disease risk factors: A multilevel analysis of the Scottish heart health study archive. *Social Science & Medicine*, *45*, 893–902.

Jones, K. (1991). Specifying and estimating multi-level models for geographical research. *Transactions of the Institute of British Geographers*, *16*, 148–160.

Lefcourt, H. M. (1991). Locus of control. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman, *Measures of personality and social psychological attitudes*., Vol. 1 (pp. 413–499). San Diego, CA: Academic Press, Inc..

Macintyre, S., Maciver, S., & Sooman, A. (1993). Area class and health: Should we be focusing on places or people. *Journal of Social Policy*, *22*, 213–234.

Macintyre, S. (2000). Publishing in Social Science and Medicine (editorial). *Social Science & Medicine*, *50*, 1–2.

Pearlin, L. I. (1981). The stress process. *Journal of Health and Social Behaviour*, *22*, 337–356.

Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.

Rose, G. (1992). *The Strategy of preventive medicine*. Oxford: Oxford University Press.

Sen, A. (1973). *On economic inequality*. Oxford: Clarendon Press.

Subramanian, S. V., Jones, K., Duncan, C. (2001). Towards a multilevel geography of health. In I. Kawachi, L. F. Berkman (Eds.), *Neighborhoods and health*. New York: Oxford University Press, in press.

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