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Defining and conceptualising the 'social' in social epidemiology

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Introduction

Over the last two decades there has been a burgeoning interest in social epidemiology, which deals with the social determinants of health. This is evidenced by the number of academic articles^{1,2} and books³⁻⁷ on the subject, and most recently by the development of the Commission on Social Determinants of Health by the World Health Organization.⁸ The main aim of this paper is to provide an overview of social epidemiology and, in so doing, present a synthesis of definitions and conceptualisations of the 'social' and explore the links between the social and epidemiology. We also highlight the need for researchers and research teams to understand and engage with social theory, since it is this, rather than biological or genetic theory, that will aid the understanding and interpretation of the ways by which societal conditions affect health. It is also vitally important to understand and debate the use of the term 'social', since terms like 'social justice', 'social inclusion', 'social security' and 'social cohesion' feature in an increasing number of health and social policy documents, and are the intended outcomes of public health programs and interventions.

This paper questions whether it is only *formal* social theory that can help us understand and interpret social epidemiological analysis, or whether we can also integrate lay theories about the causes of disease and illness ('lay epidemiology').^{9,10} This is essentially an epistemological question regarding the relevance of certain kinds of knowledge, which is well rehearsed within the literature on the sociology of science but often not within epidemiology. It is important to understand where social epidemiology has come from and why it has emerged as a subdiscipline of

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epidemiology (if, indeed, it is a subdiscipline—see Zielhuis and Kiemeny¹¹ and Macdonald¹² for a debate on this issue). This may then be a useful parallel discussion for other subdisciplines of epidemiology.

Khoury states that epidemiology is often seen as the 'scientific core' of public health¹³, although a number of authors have noted a contemporary shift in understanding which required an accompanying shift in the dominance of 'pure' epidemiology.

For example, Schwartz and colleagues argue that, at the end of the last century, knowledge of health that was based on the view that risk for disease mainly lies within the individual and their personal behaviour became limited, if not dangerous, for public health action.¹⁴ This view sees the cause of disease being located within the individual. The solution would also be located within the individual, and would lead to interventions based purely on individual behaviour change rather than looking for causes and solutions within the environments, systems and organisations within which individuals and groups live, work and play. Schwartz and colleagues also recognised that there needed to be an acknowledgment of the influence of interactions between individuals, and the interchange between individuals and their environment.¹⁴ Thus, social epidemiology evolved as a branch of epidemiology, with its focus on the social determinants of health.

Definitions and conceptualisations of social epidemiology

Social epidemiology has been defined as the 'branch of epidemiology that studies the social distribution and social determinants of health'.¹⁵ This rather broad definition has been further developed by Krieger¹, who states that social epidemiology should focus on the 'specific features of, and pathways by which, societal conditions affect health.' Social epidemiology has a population-based perspective, and implements methods of surveillance and description to establish links between factors embedded in the social world and health effects.¹⁶ However, the ability to portray itself as a successful aetiologic science which can provide causal explanations has been challenged.¹⁶ The key conceptual distinction between 'epidemiology' and 'social epidemiology' that needs to be understood if we are to understand the related concepts of 'society' and the 'societal conditions' that affect health, therefore concerns the adjective 'social'.

As opposed to epidemiology, which is coupled with biomedical theory¹¹, it has been suggested that social epidemiology has a focus on the social determinants and distribution of states of health, and on how the social environment can profoundly affect health outcomes¹⁵ in relation to morbidity, mortality, disabilities and wellbeing. An example of a social epidemiological study is the work of one of the founding theorists of this field, Emile Durkheim, who demonstrated how social integration (or the lack thereof) is related to suicide.¹⁷

Berkman and Kawachi¹⁵ describe social epidemiology as 'similar to other sub-disciplines of epidemiology', where there is an emphasis on exposures rather than on particular types of disease or disease outcomes (traditionally the focus of epidemiologists who have been attached to the biomedical model). Typically, social epidemiologists focus on understanding the relationships between what Durkheim called 'social facts'¹⁸ and a variety of measures of health and illness. For example, Marmot's Whitehall studies show a strong negative relationship between social class (reflected by grade of employment) and mortality.¹⁹ However, Berkman and Kawachi⁴ make the case that, in addition to social theories, the importance of biological theories should not be ignored or discounted. They refer to Graham's seminal work²⁰, in which he argues that, in order to achieve a more comprehensive theory of disease causation, there needs to be collection of both biological and social data that are consistent with each other.

Understanding the 'social' in social epidemiology

This is not the place to undertake a linguistic and philosophical investigation of the term 'social', but rather to outline its basic meaning in sociology and its implications for social epidemiology. The most basic definitions of 'social' suggest that it involves communication or interaction^{21,22}, and that it is not a 'natural' or 'given' state²³, which thus makes it amenable to change through policy and practice. The Collins English Dictionary defines social as 'having to do with human beings living together in groups'. This definition infers interaction and communication in order to be social, although not necessarily 'sociable'. However, we do not focus on the moral attributes of social when it is used as a verb (readers interested in this are advised to read the works of Norbert Elias²⁴, who explores notions of 'civility' and the civilising process).

Others have argued that the social is indirectly defined as an external entity outside people²⁵, and that society and community is more than just a conglomerate of individuals.²⁶ Elias²⁴ suggests that individuals and society are actually two different aspects of the same human being. One implication of such an argument for epidemiology concerns multilevel or hierarchical analysis, which aims to analyse the separate influences of 'individual' and 'non-individual' variables. This analysis is often at the level of areas, neighbourhoods or other ecological measures, assuming the measurement of something other than just an aggregate of the relevant individuals. Our aim here is not to critique multilevel analysis, but merely to suggest that some conceptualisations of 'social' pose interesting questions for social epidemiology.

Durkheim, in attempting to provide a scientific basis for sociology, defined what he called 'social facts'. Without this definition, he argued, there could be no academic basis for sociology. His definition is that 'a social fact is any way of acting, whether fixed or not, capable of exerting over the individual an external constraint... which is general over the whole of society whilst having an existence of its own, independent of its individual manifestations'.¹⁸

What all these different definitions do is highlight the need for what Wright Mills called a 'sociological imagination'²⁷, which refers to the need to think imaginatively beyond what we can actually observe and/or measure in order to fully understand the 'social'. Obviously, this may cause consternation for many epidemiologists, for whom reliability and validity of measurement are paramount. However, in the social world, we cannot 'measure' every dimension of social life (such as love, hate, quality of life, fear, pain, passion and grief) so we have to develop and measure conceptual proxies or indicators for these. This lies at the heart of the requirement for, and problems inherent within, social epidemiology. We need ways of 'measuring' these social phenomena so that better understanding and explanation can be developed of the pathways underpinning the social determinants of health. But there are philosophical and methodological issues in trying to do so from an epidemiological perspective. These issues are taken up in the next section, which explores debates around the potential for integrating the 'social' in social epidemiology.

Can there be a 'social' in social epidemiology?

When attempting to define social epidemiology at a cursory level, it is difficult to integrate the words 'social' and 'epidemiology' into an operational definition of a hybrid area. This was discussed in a 'point-counterpoint' debate in the *International Journal of Epidemiology*^{11,12}, with both sides of the debate ultimately deciding that the term 'social epidemiology' was difficult, although for quite different reasons. We are not aware of similar debates about or within other subdisciplines of epidemiology, such as genetic epidemiology. However, the theoretical base of both epidemiology and genetics may primarily be located within the biomedical sciences. This suggests that the problem with social epidemiology lies in the fact that the social relies on a very different theoretical basis, one located in social theory.

Zielhuis and Kiemeneij¹¹ argued that, since the base discipline of epidemiology sits within the biomedical sciences, then social epidemiology is a misnomer. First, they argue that associative or causal pathways can only be sought from biomedical theory. Second, they maintain that researchers who are not biomedically trained have no academic status in epidemiology since they have no training or expertise in the underlying theoretical framework. Their only way forward was to have medically trained individual researchers who are also trained in the relevant social sciences. However, their argument rested on a fairly traditional notion of lone researchers rather than the much more common practice of working in multidisciplinary research teams, in which individual researchers would bring different and complementary areas of expertise. Indeed, the three authors of this paper derive from epidemiology, psychology and sociology, and so could be said to combine the relevant areas of expertise needed for social epidemiology.

Macdonald¹² was also critical of the term 'social epidemiology', but his argument was based on what he saw as the inadequacies of current social theory for understanding and explaining 'social facts'. He cited the example of the ongoing debates about how to define, conceptualise and measure social class as the reason for his criticism. However, theories in the social world cannot be regarded as unrefutable truths—they are held up to intellectual scrutiny and are often revised, updated and refuted as a result of changing social, economic and political landscapes. For example, social

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class in 19th century Europe was defined by Marx and Engels in terms of relationship to production, and was therefore measured by proxies such as occupation. However, more recently, Bourdieu²⁸ has argued that European society is structured according to other forms of relational capital—cultural, symbolic and social—beyond the Marxist concept. In addition, post-modern theorists such as Bauman^{29,30} argue that, in times of neoliberalism, we are increasingly witnessing an ‘individualisation of society’, whereby traditional class structures are fragmented.

While these, and many more, arguments about the structure of society and the (re)production of social stratification have been empirically tested, they cannot account for and explain social class over time, space and place. They are all historically, geographically and politically contingent. That is one of the central tenets of social theory—it may not be applicable to groups beyond those for which it was developed. To engage with social theory is to engage with complexity. Therefore, the assertion by Macdonald that social epidemiology is problematic because social theory may not explain social facts (in all places, at all times)¹² seems like a case of throwing the baby out with the bath water. Our view is that the judicious choice of applicable and relevant social theories can aid in the interpretation of social epidemiological research, and ultimately allow us to understand the reasons for some of the contemporary social inequities in health and the pathways which underpin the social determinants of health.

The utility of integrating lay epidemiology for a more complex understanding of social epidemiology

So far in this paper, we have responded to and further developed the debate over the function and status of social epidemiology. However, in considering theories of the social, we have only considered the possibility of formal social theory—as developed by and for social scientists. This ignores the possibility of other forms of knowledge that are generated in and tested by the lay populace³¹, and makes us susceptible to claims of ‘sociological imperialism’.³² The final section in this paper is devoted to the concept of integration of ‘social epidemiology’ and ‘lay epidemiology’.³³

Research in lay epidemiology has been instrumental in highlighting both the complex and the rational

theories of lay people and groups about the creation/maintenance of health and the causation of illness^{34–37}, and the socially constructed nature of health and illness. This is an important part of determining how people understand and take actions towards maintaining or achieving health and dealing with illness and healing. Perceptual differences in the cause, treatment and ongoing management of health problems are often related to factors such as social class, ethnicity, cultural heritage and gender. All these factors are ‘social’ and may impact on the perceptions and experiences of, for example, chronic illness or engagement in ‘risky’ or health-damaging behaviours. Lay knowledge orientates an individual’s behaviour and provides a means of understanding that behaviour in the context of their place in their world.³⁷

Individuals and/or groups attach meanings to health and illness and, in some cases, this can be sufficient to create ‘expertise’ in an area, to an extent where lay experts are recognised on the basis of their experience.³⁸ Popay and Williams³⁸ suggest that there are three dimensions to lay expert knowledge which are relevant for public health research. These are: a lay understanding of the relationship between an individual’s behaviour and their life circumstances, theories about disease aetiology, and the predictive power of that lay knowledge.³⁸

Health risks and illness causation are understood and theorised by individuals and groups through processes of living with an illness, living in an environment of health risks or engaging in particular behaviours, observing others within their social networks, and having discussions across these networks and within the public sphere. Other forms of evidence, such as the media, are also used in the genesis of lay epidemiology.³⁹ A complex weighing-up of evidence then occurs, which relates to a variety of lifestyle, heredity, environmental, political, economic and social factors.⁴⁰ Different explanations are put forward to explain the causes of ill health, with laypersons not only gathering and using expert information and scientific data but also emphasising social factors as part of the causal chain of disease.⁴¹ Overall, the complex forms of evidence, and the interactions which form the basis of development of lay epidemiology, are an important consideration in understanding people’s perceptions of chronic disease and responses to treatment and management.

Summary

This paper has emphasised the debate on social epidemiology in terms of its function and utility as a subdiscipline of epidemiology. In doing so, it has opened up to critical scrutiny the central issue in, and theoretical foundation of, social epidemiology, which distinguishes it from other subdisciplines. Discussion has included the possibility of integrating lay knowledge and theory (i.e. lay epidemiology), which can help to further understand the social pathways to health and illness, and respond in socially, culturally and clinically significant ways. While the theoretical underpinnings of social epidemiology may be in the formal theories contained in sociology textbooks, we argue for the integration of lay theories in what might be called a 'bricolage'⁴² or 'multi-knowledge conglomerate'. In this concept, researchers engage with and integrate a range of theories and evidence that shed light on their particular research problem, rather than purely adhering to the predominant 'hierarchies of evidence' approach expounded in some academic quarters. Social epidemiology may then be able to have an even more meaningful role in providing evidence to respond to the social determinants of health and creating a more equitable distribution of health and illness.

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