Remaking Medical Geography

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ABSTRACT: Medical geography has a long tradition of examining the spatial distribution of diseases and medical care resources. With the shifts in theory, methodology, and changing health issues, medical geography is remaking itself in three complementary modalities. First, in taking into account new theories it is remaking itself as the geography of health and health care. Secondly, in taking into account new methodologies, it is contributing to the global interest in seeking new ways of understanding the spatial distribution of diseases and medical resources. Thirdly, in focusing on issues such as HIV/AIDS, health and the environment and vulnerable populations such as the elderly and immigrant women, it is increasingly contributing to public policy at various geographic scales.
KEYWORDS: Medical geography, health geography, geography of diseases, geography of medical care.

RESUM: La geografia mèdica té una llarga tradició en l'examen de la distribució espacial de les malalties i dels recursos mèdics. Aquesta ciència s'ha subdividit en tres modalitats complementàries, a causa dels canvis en la teoria, la metodologia i els problemes de salut. En primer lloc, es manté com a ciència, prenent en consideració noves teories, amb la denominació de geografia de la salut i de l'assistència mèdica. En segon lloc, adopta noves metodologies, per contribuir així a l'interès global per trobar noves formes d'explicar la distribució espacial de les malalties i dels recursos mèdics. En tercer lloc, amb l'atenció als problemes com la sida, la salut i el medi ambient i les poblacions més vulnerables, com la tercera edat i les dones immigrants, contribueix de manera creixent a la política pública en diferents escales geogràfiques.
PARAULES CLAU: geografia mèdica, geografia de la salut, geografia de la malaltia, geografia de l'assistència mèdica.

1. Introduction

This discussion of medical geography is predicated on making a distinction between Medical Geography as it has been conventionally approached through the division between studies of the geography of disease and the geography of medical care and more current approaches based on a Geography of Health and Health Care. Within the conventional approach, not only are distinctions drawn between research on disease and medical care delivery, but also highlighted are new methodologies and the growing interest among medical geographers in policy relevant research. Within the section on the Geography of Health and Health Care, particular emphasis is given to a more diverse health geography which focuses on groups such as women, visible minorities, the disabled and gays and lesbians who have been under-researched in Medical Geography.

Research conducted within Medical Geography and within the Geography of Health and Health Care can be distinguished

by their distinct approaches to space, place and health. Medical geographic research is characterized by the spatial patterning/locational analyses of disease, illness and medical care, while research within the Geography of Health and Health Care embraces approaches which can be linked to the «new cultural geography» and critical theories of the state in linking health and place.

2. Medical Geography

The research conducted within Medical Geography is usually characterized as belonging to two, sometimes overlapping, strands. The first strand explores various dimensions of health and illness, while the second examines aspects related to medical care (see Jones and Moon, 1987). The conventional approaches to space and place within Medical Geography are characterized by spatial and locational analyses and disease and cultural ecology. Generally, space has been viewed in two ways: i) as a container of things; and ii) as an attribute of characteristics (Eyles, 1993). In viewing space as a container of things, Eyles (1993) argues that space represents the stage upon which social relations are carried out. In this sense, space is independent from the social phenomena that it contains (Curtis and Jones, 1998). This view of space dominates spatial analytic approaches.

Within Medical Geography, place and health have also historically been explored through a lens of location. That is, much of the research that has explored the link between place and health, has defined place through: i) the social and/or physical characteristics of different geographical scales (e.g., cities, regions); and ii) coordinates on a map. In this context, health has usually been defined narrowly in terms of specific medical conditions abstracted from the social, economic and political context in which individuals and groups live their lives (see below).

How dominant conventional Medical Geography has been and continues to be can be gauged by books and articles which continue to employ the theories and methods of disease and cultural ecology and spatial analytic approaches. Learmonth (1978, 1987), Mayer (1986) and Meade et al. (1988) were among the best known proponents of the use of disease and cultural ecology in Medical Geography through the 1970s and 1980s. In the case of Mayer and Meade, they have continued to argue for its importance (see Mayer, 1996; Mayer and Meade, 1994; Meade and Earickson, 2000) albeit re-interpreted in light of both theoretical and methodological challenges from those seeking a Geography of Health and Health Care (see below).

In contrast, the importance of spatial analytic approaches in Medical Geography continues, and some might argue remains the dominant paradigm in understanding the geography of disease and the geography of medical care. Major works exemplifying this tradition include Cliff and Haggett (1988), Cliff et al. (2000), Gould, (1993), Joseph and Phillips (1984), Shannon and Dever (1974) and Thomas (1992).

Research that has explored spatial patterns of illness and disease is extensive and wide-ranging. Some of the research focuses on morbidity and mortality in general while other studies are disease specific. For example, Pampalon (1991) examines the variation in morbidity rates across three rural areas in Québec. In a similar vein, Langford and Bentham (1996) examine regional variations of mortality rates in England and Wales. Studies, which are disease specific, generally examine variation in incidence rates over small (urban/rural divides) or large (county/political levels) geographic areas. Particular

illnesses have received more attention than others, such as cancer (see e.g., Brody et al., 1996; Drapeau et al., 1995; Gbary et al., 1995; Glick, 1982; Schneider et al., 1993; and Thouez et al., 1994), and in more recent years, AIDS and HIV (see e.g., Cliff and Smallman-Raynor, 1992; Dutt et al., 1987; Gardner et al., 1989; Loytonen, 1991; Shannon and Pyle, 1989; Shannon et al., 1991; Thomas, 1996; Wallace et al., 1995; Wood, 1988).

Research conducted within Medical Geography has also focused on spatial analyses and place-specific examinations of the geographic distribution of medical care facilities/professionals and access/utilization to medical care services. Research focusing on the spatial variation of medical facilities and medical professionals is important for exploring inequalities and identifying under or over-serviced areas (see e.g., Anderson and Rosenberg, 1990; Cromley and Craumer, 1990). In addition, studies have examined the characteristics of medical care in certain locations and across larger geographic units, paying particular attention to health policy, medical insurance, and medical coverage over time and across space (see e.g., Finkler, 1995; Rip and Hunter, 1990). Since the beginning of the 1990s, the use of geographic information systems (GIS) have increasingly been employed to plan for future medical care service provision and allocation in different localities (see e.g., Bullen et al., 1996; Cromley and McLafferty, 2002; Twigg, 1990). Research has also shed light on the importance of examining health-related behaviours. A few studies have done so by exploring inoculation and immunization in various contexts. Two examples are Pyle (1984), who examined uptake of immunization against influenza, and Gatrell (1986), who focused on whooping cough.

Accessibility to and utilization of medical care services and facilities have been dominant issues among medical geographers using statistical and mathematical frameworks. Research has explored the factors associated with the use of physician and nursing services (see e.g., Birch et al., 1993; Eyles et al., 1993; Newbold et al., 1995), specialized care (see e.g., Kirby, 1995; Ross et al., 1994), hospitals and medical clinics (see e.g., Barnett and Kearns, 1996; Kloos, 1990) as well as the factors which impede accessibility (see e.g., Haynes, 1991; Oppong and Hodgson, 1994).

Within the traditions of Medical Geography, two demographic groups in particular have received more attention than most others; the elderly population and the mentally ill. While early research focused on the concentration of the elderly population and the facilities they require (see e.g., Phillips et al., 1987; Phillips and Vincent, 1988), other research has examined a wider range of services and the implications of restructuring of health care services in various national contexts (see e.g., Cloutier-Fisher and Jospeh, 2000; Joseph and Chalmers, 1995, 1996; Joseph and Cloutier, 1990; Evans and Welge, 1991; Rosenberg and Hanlon, 1996).

Research on the mentally ill can be grouped around four themes: the concentration of the mentally in particular parts of the city (see e.g., Giggs 1988; Nutter and Thomas, 1990; Saunderson and Langford, 1996, Wolch, 1980); coping in the community (see e.g., Dear and Taylor, 1982; Elliott et al., 1990; Laws and Dear, 1988; Kearns et al., 1991); locating mental health facilities and community reaction to them (see e.g., Hall, 1988; Moon 1988; Sixsmith, 1988; Taylor, 1988; Milligan, 1996); and the links between restructuring of mental health services and deinstitutionalisation (see e.g., Eyles, 1988; Joseph and Kearns, 1996).

While the spatial analytic approach remains dominant within Medical Geography, Medical Geography appears to be

moving in several new directions. First, there are those who are taking advantage of new statistical techniques (e.g., multi-level modeling and spatial autocorrelation) and GIS to investigate everything from the spatial distribution of diseases to the importance of various geographic scales in health behavior (see e.g., Duncan et al., 1993, 1996; Gatrell and Löytönen, 1998; Jones and Duncan, 1995; Langford, 1991; Thomas, 1986, 1988, 1990, 1992; Tiefelsdorf, 2000). Secondly, there is growing interest in linking medical geographic research with public policy (see e.g., Asthana, et al. 1999; Hanlon and Rosenberg, 1998; Mohan, 1988, 1990; Moon, 1990, 2000, 2001; Newbold, et al. 1998; Poland, 2000; Smith et al. 1997; Wilson et al. 2001). Other examples are those seeking to illuminate the policy relevant factors underlying access to health care in specific urban and rural settings (see e.g., Guagliardo et al., 2004; James, 1999; Ricketts et al., 2001), relationships among poverty and health (see e.g., Rosenberg and Wilson, 2000; Ross et al., 2001) and the outbreak of new emergent diseases and their impacts on health care delivery (Affonso et al., 2004). Thirdly, there is renewed interest in health and the environment where much of the research is also closely linked to a critical analysis of public policy (see e.g., Eyles, 1997; Eyles, 2002; Greenberg and Schneider, 1999; Iannantuono and Eyles, 1999; Jerrett et al., 1997, 1998; Wakefield et al., 2001).

Within Medical Geography, there is also a long tradition of carrying out research on the geography of disease and the geography of medical care in developing countries, which reflects the approaches discussed above. What mainly distinguishes this literature is the attention paid to ethnomedical practices, how colonialism and current international financial institutions are skewing medical care and the explicit links between the tension for development, environmental degradation and health (see e.g., Akhtar, 1991; Good, 1987; Iyun, et al., 1995; Phillips, 1990; Phillips and Verhasselt, 1994). More recently and as a result of the HIV/AIDS epidemic particularly as it has swept sub-Saharan Africa, medical geographers have sought to contribute to the remaking of medical geography (see e.g., Kalipeni et al., 2004). In reflecting on research by medical geographers in the developed and developing world and new ways of thinking about a geography of health and health care (see next section), Phillips and Rosenberg (2000) have warned against creating new divisions among medical and health geographers from the developed and developing world.

3. Geography of Health and Health Care

Even as Medical Geography began to move in new directions, in the late 1980s there were signals that some medical geographers were searching for a break with tradition. Precursors of this shift can be found in the publication of Jones and Moon's (1987) textbook, *Health Disease and Society: A Critical Medical Geography* and selected chapters in Wolch and Dear (1989).

While one cannot deny the important emphasis placed upon spatial and locational analyses within Medical Geography, these types of analyses tend to limit conceptualizations of space and place to stages upon which human activities occur. As Jones and Moon (1993, 15) argue, place is «merely the canvas on which events happen (while) the nature of the locality and its role in structuring health status and health-related behavior is neglected». From a spatial analytic viewpoint, place is viewed merely

as a location while the deeply entrenched meanings of places and how they shape health are overlooked.

A small but influential group of medical geographers have argued that research requires more meaningful examinations of place and a more holistic view of health. This has resulted in the development of a «post-medical geography». A post-medical geography goes beyond spatial and locational perspectives on health and health care by recognizing the dynamic and reciprocal relationship between place and health (see Kearns, 1993, 144). In particular, Gesler (1991) and Kearns (1993) have argued that places represent much more than geographic locations related by distance within space. They suggest that medical geographers incorporate a socio-spatial conceptualization of space and place that acknowledges the close interconnections of social processes and territory. Further, they assert that the health-related characteristics of places need to be examined. Critiquing spatial analytic viewpoints of health and place, Gesler (1991, 167) argues that, «[G]eographic studies rarely pay attention to the meaning of places in health care delivery… In fact, most geographic studies of health care delivery are based on an abstract analysis of space as opposed to an analysis of place. Where a hospital lies within a spatial distribution of hospitals is given more importance than what goes on within that particular hospital (original emphasis).»

Following this lead, researchers within the Geography of Health and Health Care have demonstrated that the meanings ascribed to places as well as individual experiences of places contribute to health and healing (see e.g., Abel and Kearns, 1991; Dyck, 1995; Gesler, 1996; Kearns and Barnett, 1999). Kearns (1991, 529-530) argues that facilities contribute «to the broader health of [the] communities by acting as gathering places and arenas of information exchange» and «what goes on within [those] facilities potentially contributes to the strengthening of people's belonging to, and perception of place».

While experiences of place contribute to health, the inverse also holds true. In other words, individual experiences of health contribute to the meanings people ascribe to places. In particular, Dyck (1995) has explored the links between space, place and the health experiences of women suffering from Multiple Sclerosis. Her research focused on women who had left the workplace due to their illness and the strategies they employed to make places within the home more accessible. In a similar vein, Laws and Radford (1998) examined the place experiences of developmentally and physically disabled adults living in Toronto. Their research showed that disabilities pose space-time constraints on individuals, which restrict where and how they experience place. Further, their study demonstrates that meaning is attributed to illness within the constraints and opportunities experienced in home, neighbourhood and workspaces.

In addition, an expanding body of research within the Geography of Health and Health Care has begun to explore the healing benefits associated with particular places and/or landscapes. Situating himself between the new cultural geography and health geography, Gesler first introduced geographers to the term 'therapeutic landscapes' in his 1991 book *The Cultural Geography of Health Care*. Gesler (1993, 171) defined therapeutic landscapes as places with «an enduring reputation for achieving physical, mental, and spiritual healing» and argued that by incorporating theory from cultural geography such as sense of place and symbolic landscapes, health geographers could begin to examine 'locations of healing' as symbolic systems. Also, out of the new cultural geography

«have come suggestions for an 'asylum geography'» (see e.g., Parr and Philo, 1996).

This moves health geography beyond mere locational analyses of health care delivery to more in-depth examinations that explore places as sites of meaning. Gesler argues this is necessary for recognizing that societies, through ideologies and the use of symbols, create therapeutic landscapes of healing. For example, in *The Cultural Geography of Health Care*, Gesler explores the development of therapeutic landscapes in the treatment of the mentally ill in Europe; the protection of British Colonial soldiers from malaria in Sierra Leone; and the use of spas in the United States.

Since Gesler first introduced the concept of therapeutic landscapes in 1991, some health geographers have taken on the task of applying this new body of theory to our understandings of the interconnections between place, identity and health (see Williams, 1999). Using this body of theory, researchers have successfully demonstrated the healing benefits associated with the symbolic and material aspects of particular places such as spas, baths, places of pilgrimage, and hospitals (see e.g., Bell, 1999; Geores, 1998; Gesler, 1993; Gesler, 1996; Gesler, 1998; Palka, 1999).

Within the Geography of Health and Health Care it is becoming increasingly recognized that the voices and experiences of 'others' have historically been overlooked and/or marginalized within Medical Geography. As such, there have been movements towards creating a more inclusive Geography of Health and Health Care. Feminist writers, in particular, have drawn our attention to the role of gender in shaping health (Dyck et al., 2001), access to health care (see e.g., Kobetz et al., 2003; Wiles, 2002) and have highlighted the important intersections between the embodiment of health/illness and daily geographies (see e.g., Moss, 1997). In addition, research on dis-Ability has uncovered the ableist epistemologies underlying much of the research in Medical Geography and demonstrates the importance of framing the body as socially constructed. Recent research has also highlighted the significance of addressing sexuality in health research (see e.g., Wilton, 1996) and groups marginalized by race and racism (see e.g., Wilson, 2003; Wilson and Rosenberg, 2002).

Health geographers such as Gesler (1991) have also acknowledged the existence of 'other' ways of perceiving the link between health and place and have expressed the need for research to focus on ethnicity, alternative medicine and ethno-medical systems (see e.g., Andrews, 2003; Wiles and Rosenberg, 2001). In a similar vein, Kearns and Dyck (1995, 137) argue that «geographical studies of health and place need to be centred on 'culturally safe' research practice». That is, it is not enough to include others within research, but researchers must acknowledge diversity, difference and the existence of multiple identities and their role in shaping health.

The Geography of Health and Health Care has also opened the door to a more activist approach to the examination of medical and mental health services. Although suggested in the late 1980s by Dear and Wolch (1987), Rosenberg (1988) and Greenberg et al. (1990), there is a new generation of health geographers who are forging connections among health and activism in areas ranging from HIV and AIDS to women's health to health and development (see e.g., Brown, 1997; Craddock, 2001; Dyck et al. 2000).

Methodologically, much of the research cited above also reflects a shift in ways of collecting data and analysis from quantitative research to qualitative research (see Baxter and Eyles, 1997). Qualitative methods including in-depth interviews,

focus groups, participant observation and textual analysis, are being used to provide a more detailed and nuanced understanding of how the *meaning* of place affects health and health care.

4. Concluding Comments

In many respects, the divisions between Medical Geography and the Geography of Health and Health Care and between those studying the geography of disease and the geography of medical care in contrast to the geography of health and health care are artifices used to make sense of how Medical Geography developed in the latter part of the twentieth century and is moving forward in the twenty-first century. Researchers in Medical Geography and the Geography of Health and Health Care share the same interests in understanding how and why diseases spread over time and space, the links between the users and the deliverers of medical care and the mediating role of space and place in the linkages and connections among human activity, health and the environment. What is changing in Medical Geography and the Geography of Health and Health Care are the theoretical frameworks and analytical techniques chosen, a growing emphasis on linking research to policy and activism and the creation of a more inclusive Medical Geography.

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