## HEALTH GEOGRAPHY IN THE IBERIAN PENINSULA: A VIEW SINCE THE JOHN SNOW MAP

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#### Resumo

À escala internacional, a evolução da Geografia da Saúde foi ocorrendo essencialmente à custa da investigação empírica, enquanto a abordagem conceitual emergiu apenas nos anos oitenta do século XX. De fato, só a partir daquela década assistimos ao desenvolvimento de uma investigação mais estruturada, alicerçada no enfoque epistemológico e realizada exclusivamente por geógrafos. Foi nessa década que também surgiu, em Portugal e na Espanha, uma investigação mais sustentada no seio da Geografia da Saúde.

O presente texto faz uma análise do *status quo* da Geografia da Saúde da Península Ibérica, dando especial relevo às origens deste domínio de investigação, ao contributo para a sua evolução à escala internacional e às perspectivas de futuro. Para tal, foi usado um enfoque qualitativo, alicerçado na análise dos artigos, obras e actas publicados pelos geógrafos portugueses e espanhóis, no seio de cada país, e também à escala internacional.

Concluímos que a Geografia da Península Ibérica se tem centrado mais na Geografia dos Cuidados de Saúde (um dos ramos tradicionais da Geografia da Saúde) do que na Ecologia da Doença (outro ramo tradicional) e que a Geografia da Saúde se desenvolveu primeiro pela mão dos geógrafos espanhóis. Também são de opinião que foram encetados, até ao momento, poucos esforços para a concretização de um tabalho em rede, que aproveite o trabalho realizado pelos poucos geógrafos que se preocupam com a saúde. Não obstante, tem aumentado o número de geógrafos que tem trabalhado em equipes multidisciplinares, ainda que estas sejam maioritariamente coordenadas por médicos e economistas. Por último, alertamos para a necessidade de desenvolverem esforços mais sustentados no sentido de mostrarem à sociedade a aplicabilidade da análise territorial em diferentes escalas.

**Palavras-chave:** Península Ibérica; Epistemologia; Geografia da Saúde; Investigação Empírica; Investigação Conceptual.

### Abstract

It is known worldwide that the evolution of Health Geography is due mainly to empirical works rather than conceptual ones. We had to wait for the 80's of the last century to witness a more structured investigation, centred on the epistemological questions and done most exclusively by geographers. It was at this time that in Portugal and Spain Health Geography emerged as a relevant discipline to the evolution of this field at an Iberian scale.

This paper tries to analyse the state of Heath Geography in the Iberian Peninsula, mainly its origins, evolution and contribution to the evolution of this field at an international level as well as making some predictions concerning the future of Health Geography in the Iberian Peninsula. The qualitative methods of bibliographic research used were papers and publications held at international level by the Portuguese and Spanish Geographers and their interventions in the most important Congresses held in each country as well as their personal publications.

We conclude that Iberian Geography was more centred on the Geography of Health Care (one of the traditional branches) than on Disease Ecology (another traditional branch) and that the Spanish works began earlier that the Portuguese ones. We are sure that until now few efforts have been made to work in teams, even if we noticed a rise in the number of geographers that work in multidisciplinary teams, albeit managed by physicians or economists. We also conclude that Iberian Health Geographers must try harder to show society the applicability of the territorial analysis of health issues at different scales. **Keywords:** Iberian Peninsula; Epistemology; Health Geography; Empirical Works; Conceptual Works.

### INTRODUCTION

For a long time research in the field of Health Geography was related to two traditional branches: Disease Ecology (also called Geography of Disease) and Geography of Health Care. The first one, exploring various dimensions of health and illness, is related to medical epidemiology while the second one, related to medical care (ROSENBERG, 2005, p. 20), is concerned with the consumption of care with respect to such matters as distribution and accessibility. There were also for a long time references in the Portuguese and Spanish works.

Disease Ecology is concerned with the relationship between the physical and social environment and disease, with spatial and social inequalities of morbidity and mortality and aetiology and diffusion of disease. It has been well supported by copious cartography, compiled in atlases at large and small scales dealing simultaneously with space and time. Disease Mapping is one of the main branches of Disease Ecology, and its first works were published at the end of the eighteenth century, even if its relevance persists in the last decades of the last century, especially in the United Kingdom with Andrew Cliff and Peter Haggett.

One of the first efforts to make a disease map was undertaken in the United States by some physicians concerning yellow fever (SEAMAN, 1798). From that time, firstly physicians and then geographers were aware of the potential of cartographic approaches in the identification of casual relationships of disease. In the beginning of the eighteenth century the dot maps as those presented by Seaman or the one by Pascalis were the most famous ones (also on the yellow fever in New York in 1798). Maps were nearly always

concerned with transmissible diseases as humanity was in its first period of Epidemiological Transition. According to some authors, the most important map related with Health Geography was done by John Snow in 1854 (CLIFF & HAGGETT, 1993, p. 51). John Snow, during a violent outbreak of a cholera epidemic (500 hundred deaths in only ten days) mapped the deaths in six blocks of houses in the city of London, a methodology which allowed the identification of a pump as the source of contamination and of the epidemic. Deemed nowadays as current procedure, this was a novelty at the time it.

This paper is the first effort to analyse the evolution of Health Geography at the Iberian level, exploring what happened in Portugal and Spain since the John Snow map, even if it was only in the last century that a more structured investigation in this field began. We focus on the main theme developed in recent years comparing with investigations undertaken at an international scale.

### **METHODS**

As it is an epistemological research, we used qualitative methods to characterize and understand the evolution of Health Geography at an Iberian Scale. We centred our analysis on bibliographic research such as the papers and publications held at an international level by the Portuguese and Spanish geographers, especially the ones presented in the meetings of the International Geographical Union (I.G.U.).

We also analysed 252 papers published between February and September 2008 in the Journal "Social Science & Medicine" trying to identify the main problems published and using them to understand what has been done at the Iberian scale. The most important

national meetings were also a support of our investigation as well as some personal publications that began to appear more frequently in the 1990's.

# THE EVOLUTION OF HEALTH GEOGRAPHY IN THE IBERIAN PENINSULA

### SOME HISTORICAL FACTS

Paul (1985), Phillips (1985), Barret (1986) Jones & Moon (1987), Verhasselt (1993), Olivera (1993), Earickson (2000a, 2000b), Picheral (2001), Gatrell (2002) and Rosenberg (2005), are some of the geographers that have been concerned since the eighties with the evolution of Health Geography at an international level. In 1985, Bimal Paul presented "The seven branches of Health Geography" (PAUL, 1985) and later David Phillips acknowledged that this paper was probably the first one that tried to shed light on some conceptual aspects of the evolution of Health Geography at an international level (PHILLIPS, 1985). Until that, Health Geography showed an important empirical development, but a clear delay in conceptual and theoretic works. In spite of the early empirical research on Health Geography in the Iberian Peninsula we witnessed the growth of the research in this area only in the 80's, at the same time of other fields, such as Geography of Gender and Geography of Tourism and Leisure. In Portugal, Simões (1989), Santana (1993, 2002, 2005), Nossa (1995, 2000, 2005), Nogueira (2001, 2007) and Remoaldo (1999, 2002, 2005) present the works done in the last decades. The main themes are related to access and use of health services, the HIV/AIDS epidemic, ageing, infant mortality and healthy

urban planning. In Spain, the contribution of geographic studies to health research has been progressive; among others, we can highlight the works developed by Olivera (1986, 1993, 1996), González (1998, 2000, 2005a, 2005b), Rodríguez et al. (1990, 1993, 1994, 2003) and Mota-Moya (2006), about the history of Health Geography, territorial planning, ageing, quality of life and migrations. Similarly to what occurred at an international level we witnessed in the Iberian Peninsula a relevant empirical development, but only in this new millennium did some geographers try to show, in a more consistent way, some epistemological reflections centred on the evolution of Health Geography (e.g., REMOALDO, 2005; SANTANA, 2005; NOGUEIRA, 2006).

But where were the Portuguese and Spanish Health Geographers in the meantime? Was the investigation in Health Geography relevant to the evolution of Geography at an Iberian scale?

The influence of French Geography in Portuguese and Spanish Geography is one of the explanations for the rare research done in the field of Health Geography and for the delay in empirical and conceptual investigation. Like French Geography, Spanish and Portuguese Geography adopted the terminology "Géographie de la Santé" (Health Geography), when analysing the complex relationship between space, society and health. Its evolution was quite irregular, characterized by short periods of scientific dynamism between decades of nonexistent production. As the Spanish geographer's community is larger than the Portuguese one (50 Departments or areas of Geography in Spain and only five in Portugal) it is easy to understand the earlier

publication in Spain of Medical Palaeography (*Paleografías Médicas*) in the hygienist period of the middle and final parts of the eighteenth century, similar to that of international research.

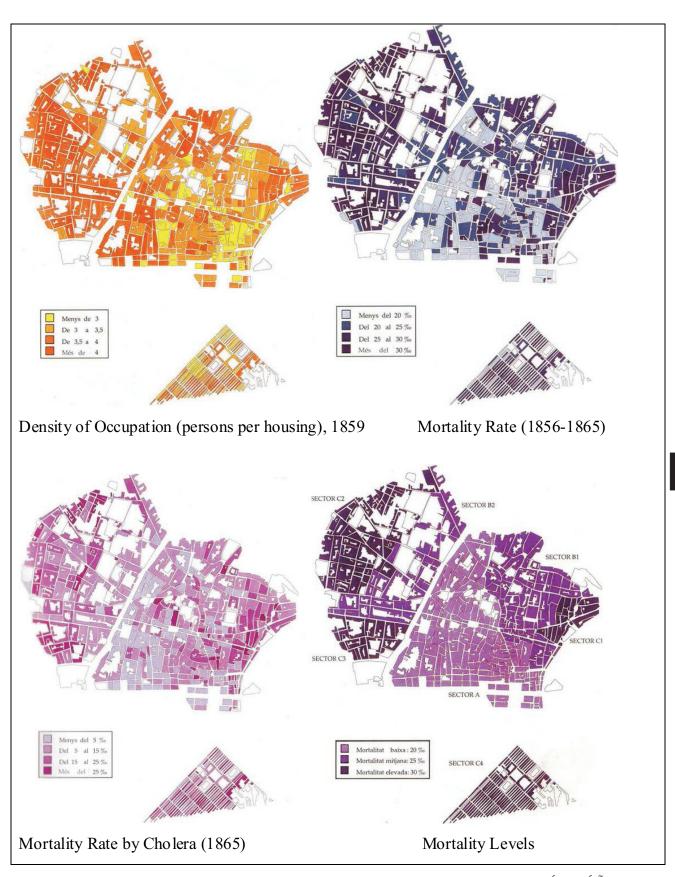
Spanish Medical Palaeography had a crucial role in the Spanish hygienic-sanitary movement, having contributed with 25% of all the published literature about hygiene between 1800 and 1936 (URTEAGA, 1980) (more than 300 works). Among them, Olivera (1986) highlighted the work developed by two physicians, Fernández Navarrete (1737) and Pérez de Escobar (1788), as the most relevant. The main theme was related to the paradigm of that time, which was the regional theme. Regional classic geographies began with the geographical localization and a detailed description of climate, relief, vegetation, economy, agriculture, followed by the analysis of industries and cities. Generally, research was focused on the relationship between urban/rural residence and consequences in health status. In the nineteenth century, a Catalan engineer and urbanist, Ildenfonso Cerdà, developed research based on a cartographic approach (CABRÉ & MÚÑOZ, 2002). Studying the city of Barcelona in the preindustrial period, he made several maps pointing out the degradation of intra-city space, using interesting disease mappings about all-cause mortality and cholera mortality (FIGURE 1).

Cerdà's maps (FIGURE 1) showed that higher population density is associated to higher mortality rate by cholera. As stated above, cartography was an excellent tool to show causal relationships between phenomena, as John Snow showed, at the same time, also with the cholera epidemic in London.

These true medical cartographies inspired the elaboration of other studies carried out in several other Spanish cities between the late nineteen century and early twentieth century. At the same time, the publication of the first Spanish hygienist law of that period (*Ley de Mejora y Reforma Interior de las Grandes Poblaciones*, 1895 – Law of improvement and interior reform of the great populations, 1895) occurred.

After decades of little scientific production and distance from the European networks, at the end of the 1950's, a new increase in Health Geography investigation occurred. Oliveira (1986) highlighted the special contributions of García Fernández (1958), Corchón (1961) and Quirós (1967). In 1973 we registered the first PhD concerning Health Geography, at the University of Barcelona entitled "La Geografía Médica y su aplicación a algunos casos españoles" (Medical Geography and its application to some Spanish cases) by Á. Martínez Navas and directed by Professor J. Vilà Valentí. A year before, the first paper about cancer, more specifically about the relationship between tourism and melanoma was presented (and later published) at the XXII International Geographical Congress by Nájera (1978).

In Portugal, we had to wait until 1977, to see the publication of an article in the Portuguese Geographical Journal *Finisterra* (University of Lisbon), concerning the diffusion of infectious hepatitis. Emília Arroz tried to apply the Spatial Diffusion Theory of Torsten Hägerstrand to the spatial diffusion of that disease (ARROZ, 1977). Previously, in the 40's, Amorim Girão, a Professor from the University of Coimbra, had done some work on Population Geography that brings up, although superficially, the Health Geography



**FIGURE 1:** The city of Barcelona (Spain) in the middle of the nineteen century. Source: CABRÉ & MÚÑOZ (2002) p. 42-43 from *Teoría General de la Urbanización*.

theme. Analysing the distribution of mortality for all-cause and for TB mortality between 1936 and 1940, Girão concluded that areas with the highest all-cause mortality had, simultaneously, the lowest values of TB mortality. This dissonance was explained through geographical factors related to climate (humidity) and population (density). He concluded that "The mountain builds the man; the town consumes him" (GIRÃO, 1941, p. 288). But it was only during the 80's (1989) that we witnessed the first PhD about Health Geography, by José Simões from the University of Lisbon, entitled "Saúde: o Território e as desigualdades" (Health: the Territory and the Inequalities) (SIMÕES, 1989).

The 90's stressed a shift on the relative inactivity of Iberian Health Geographers; this decade was characterized by a more diverse investigation in Health Geography (more diverse themes) and a higher number of geographers concerned with this field. At the same time, the field began to attract an increasing number of people from other

scientific fields. In 1993 the first book entirely about Health Geography was published (this was also its title) by Ana Olivera Poll.

Analysing the number of Spanish PhD theses, as well as presentations at conferences and publications, we noticed a considerable growth in Spanish Health Geography. According to Lázaro and Torres (2002), five PhD theses on Health Geography were done in the 90's. Along with the emergence of increasing production and more diverse themes there was also the adoption of new, independent methodologies. However, considering the last five conferences of the International Geographic Union (UGI) (Washington D.C., 1992; The Hague, 1996; Seoul, 2000; Glasgow, 2004; and Tunis, 2008), only in 2008 did the presentation of a paper on this theme occur. Analysing the proceedings of the last eight Spanish geographical conferences (TABLE 1), results are also discouraging: to an average of 100 presentations per conference, only three were within the scope of Health Geography. Several

Meeting, university,	Papers	Papers on	Thematic	
year	(total)	Health		
		Geography		
XIII, Sevilla, 1993	95	2	Territorial sanitary planning	
XIV, Salamanca, 1995	117		None	
XV, Santiago, 1997	117		None	
XVI, Málaga, 1999	104		None	
XVII, Oviedo, 2001	117	1	Health and development:	
			urban/rural differences	
XVIII, Barcelona, 2003	57		None	
XIX, Santander, 2005	88		None	
XX, P. Olavide, 2007	113		None	

**TABLE 1:** Presentations on Health Geography at Spanish Meetings held by the Association of Spanish Geographers (A.G.E.) (1993-2007). Source: Analysis of Proceedings of Spanish Meetings.

factors can explain this low participation; the themed sessions, hardly ever concerned about health, were determining.

Conversely, analyzing themed scientific meetings, the increasing importance of Health Geography in the last two decades emerged, mainly with presentations about "Population and Health" and "Population, Health and Well-being". For example in 1995, in the Fifth Congress of the Spanish Population held in Barcelona by The Spanish Geographers' Association, seventeen papers about Health Geography were presented. Since 2000, a more positive tendency in geographic studies of health has emerged. The Sixth Congress of Urban Geography, held in León in 2002, and the Sixth Congress of the Spanish Population, held in Granada in 2004, organized themed sessions concerning several aspects of health (the former had a session related to "The city and public health" and the latter a session on "Population and Health").

In 2005, two Spanish geographical journals published special issues on Health Geography: on the one hand, the journal Territoris compiled ten diverse papers (among them some were concerned with the evolution of Health Geography); on the other hand, the journal Serie Geográfica published a special issue on the use of Geographical Information Systems (GIS) on health. Spanish Health Geography has definitively entered a new phase, characterized by more diverse and numerous productions. Nowadays, the most important step is probably the development of Health Geography at the Universities, as a discipline of basic geographical studies. This is important both to the development of health geographic research and to the affirmation of this research at a social level. In the next years,

it is possible that Health Geography will rise as a strong discipline in Geographical Degrees, as a result of the actual restructuring established by the Bologna process.

In Portugal, in the 90's, only two PhD theses were presented in the field of Health Geography; one about "Access to Health Services" (SANTANA, 1993); the other about "Morbidity and Infant Mortality" (REMOALDO, 1999), highlighting the differences of population behaviour living in different (rural and urban) settings. In the new millennium, more and more PhD studies about Health Geography were carried out, related to health inequalities and inequalities in the access of H.I.V. infected persons to health care (NOSSA, 2005) and urban variations on health and healthy planning (NOGUEIRA, 2007). Health Geography appeared in the Portuguese Universities' curricula in 1995; later than in Spain (1993) and has, at the moment, only two optional disciplines in the Degree of Geography in the University of Coimbra (since 1995) and the degree of Geography and Planning in the University of Minho (since 1998).

The participation of Portuguese geographers in international conferences organized by UGI has shown an increasing trend; in 2003, in Moscow, a presentation about AIDS occurred; in 2004, two presentations took place in Munich (one about health and deprivation and other concerning regional variations in health); on 2007, in Bonn, four communications were presented (concerning local environment and obesity, social and physical neighbourhood environment and health status, healthy cities and traffic accidents involving children).

The presentations in the seven national

meetings done to the present, organized by the Association of Portuguese Geographers (A.P.G.) between 1991 and 2007 (TABLE 2), show that the presence of Portuguese Health Geographers is regular but only with an average of two papers presented at each

meeting. In the absence of a national research group dealing with Health Geography, the meetings organized by the Commission on Health and the Environment (from IGU) were the main events for geographers to meet other geographers working in the field.

Meeting,	Papers	Papers on	Thematic	
university, year	(total)	Health Geography		
I, Lisbon, 1991	53	2	Geographic research on health	
			Use of differentiated health services	
II, Coimbra, 1995	55	2	Access to health services	
			HIV/AIDS	
III, Oporto, 1997	75	1	Quality of health data	
IV, Lisbon, 2001	64	1	Physical, functional and economic accessibility to health care	
V, Guimarães, 2004	111	2	Prevention and infant traffic security	
			Infertility and familiar wellness	
VI, Lisbon, 2007	122	2	GIS and HIV/AIDS prevention  Urban planning and infant safety	

**TABLE 2:** Presentations on Health Geography at Portuguese Meetings held by the Association of Portuguese Geographers (A.P.G.) (1991-2007). Source: Analysis of Proceedings of Portuguese Meetings.

### INVESTIGATION HELD AT AN INTERNATIONAL AND NATIONAL LEVEL

- Some themed investigation at an international level

Undertaking an investigation of 252 papers published in Social Science and Medicine between February and September 2008 (TABLE 3) we conclude that Health Policies were the main issue (to this ranking

there has been the contribution of a number of publications of a themed number on Health Policies).

Inequalities in health is another important theme dealing with the fact, for example, that in modern cities individual or household deprivation (for example, low income or education) is amplified by levels of area deprivation (for example, lack of jobs or good schools), in ways which damage the

Thematic investigation	Nº
Health Policies	33
Health Inequalities	30
Mental Health	27
Chronic Diseases	14
Women Health	13
Bioethics	10
Reproductive Health	10
Children Health	10
Access and Use of Health Services	8
Social Determinants of Health	7
HIV/AIDS	7
Place, Identity and Health	6
Health Adolescent	6
Aging	5
Doctor-patient communication	4
Socioeconomic Status	4
Smoking	4
Drug Dependence	4

**TABLE 3:** Main themes' investigation done at an international level published in Social Science & Medicine between February and September 2008. Source: Analysis of abstracts and papers published in Social Science & Medicine

health of the poorest and increase health inequalities (MACINTYRE & MACDONALD & ELLAWAY, 2008). Racial and ethnic disparities in health care, access to services or the consequences of a decentralized healthcare governance model and access to health care services by disabled persons (CHOU & LEE & LIN & CHANG & HUANG, 2008) were also important themes.

Mental health is also an important issue focusing on mental health status among adolescents, the cultural construction of depression, post-traumatic stress disorder (e.g., Tsunamis or violent conflicts) or the association between poverty and mental health (e.g., BJELLAND & KROKSTAD & MYKLETUN & DAHL & TELL & TAMBS, 2008). HIV/AIDS is still an important field but the impacts of this disease and the bioethical questions must also be considered. Stigma,

discrimination and social inequality are also related to this disease and some studies deal with risk of sex workers.

In chronic issues the illness experience (e.g., in fibromyalgia syndrome or Parkinson's or Alzheimer's diseases) goes along with obesity, diabetes, cancer or even the reconsidering patient empowerment in chronic illness (AUJOULAT MARCOLONGO & BONADIMAN & DECCACHE, 2008). Women's health has been for a long time an important theme but in developed countries it is now related, for example, to osteoporosis among Norwegian women, obesity, nutrition, abortion or the association between maternal working conditions and birth outcomes. Access to maternal health services is still an important theme mainly in less developed countries and the meaning of the survivor identity for women with breast cancer has also been considered as it has increased worldwide (KAISER, 2008).

Access and use of services by older people (geriatric services), the relationship between race/ethnicity and access, and the emerging immigrants has been in focus in developed countries. In developing countries maternal and child health are still relevant as showed in July 2008 by Kimberley & and Sulzbach for Senegal, Mali and Ghana.

We also notice an increasing importance of papers done on the relationship between place – identity – health (TABLE 3), mainly in the last ten years. These investigations uses qualitative methods, centred on interviews and searching for the meaning of place affecting health and health care (CUMMINS, CURTIS, DIEZ-ROUX & MACINTYRE, 2007; BERNARD, CHARAFEDDINE, FROHLICH, DANIEL, KESTENS & POTVIN, 2007).

- Some thematic investigation at national level

Figure 2 shows the new diversity of the Spanish research on Health Geography, dealing with epidemiological analyses applied to new problems, such as climate change and urban heating; the figure points out the relationship between hot weather and the mortality rate during the heat wave of July and August 2003.

Some of the old Spanish medical topographies have been reprinted in the last years (HAUSER, 2005) and an increasing interest on the analysis of this previous work can be reported (MORALES, 1980; CASAS, 1996; UTANDA, 1997; FEO, 1997, 2004; FALP, 2000; FERNÁNDEZ, 2001-2002; CALVO, 2003). But we cannot forget other research concerned with Geography of Disease and

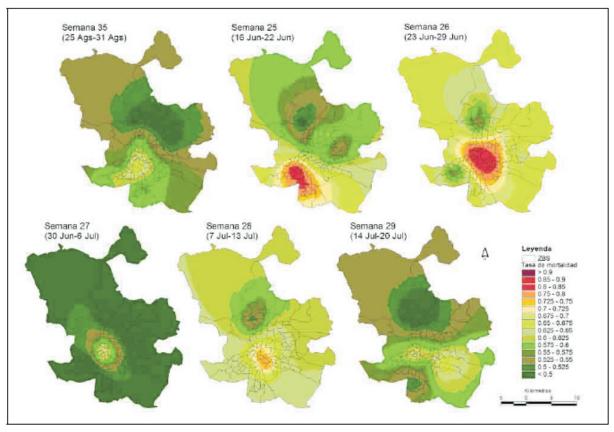
epidemiological studies (BUJ, 1999), especially the ones that treated disease of significant geographical components in its analysis and distribution. The most important examples are the HIV/AIDS disease (GONZÁLEZ, 2005a) and skin cancer (GONZÁLEZ, 2005b). Another interesting field has emerged, related to territorial sanitary planning (GONZÁLEZ, 1998, 2000, 2002). However, Health Geography remains mostly related with Population Geography and Geography of Services.

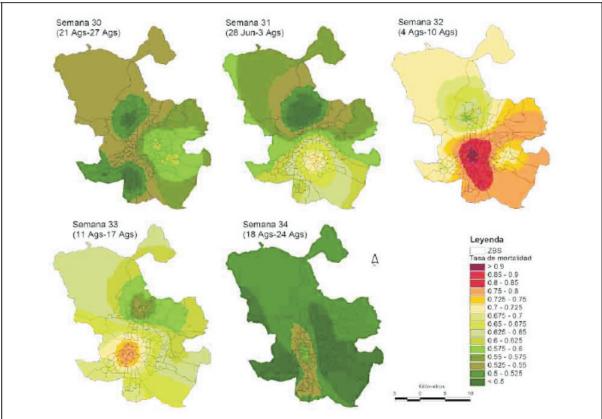
In Portugal and Spain the main themes developed in the last twenty years are presented in Table 4. Some attention was paid in the last fifteen years to HIV/AIDS because of its expression in these two countries, mainly in Portugal, which is at the top both in the number of persons infected with H.I.V. per one million of inhabitants and in the number of deaths by AIDS, considering more than fifty countries of the European Region of the World Health Organization. Some papers were published on this theme (SANTANA ET AL., 2001; SANTANA AND NOGUEIRA, 2003, 2005, 2006), as well as a Masters and a PhD on Geography of AIDS (NOSSA, 1995, 2005).

After dealing with more traditional issues of reproductive health (*e.g.*, access to maternal services) or child health (REMOALDO & CANTEIRO, 2006) since 2004 some works were done on medical procreation (REMOALDO & MACHADO & REIS, 2004, 2006; REMOALDO & MACHADO, 2007, 2008, 2009).

### THE FUTURE OF HEALTH GEOGRAPHY IN THE IBERIAN PENINSULA

After the above summary on the evolution of Health Geography in the Iberian Peninsula, questions about its future emerge.





**FIGURE 2:** Mortality Rate of old people (65 and more years) in the Madrid city during the heavy heat in Summer 2003. Source: GARCÍA & ALBERDI (2005): Mortality in the Madrid city during the heavy heat in Summer 2003: *GeoFocus*, 5: 19-39 (http://geofocus.rediris.es/2005/Articulo2\_2005.pdf).

- Clarification of the text in Spanish on the map: *semana=* week; *leyenda=* caption; *tasa de mortalidad=* mortality rate.

Analysed points	Portugal	Spain
Main themes investigated in the last decades	HIV/AIDS; Cancer; Access, use and satisfaction with health care; Reproductive health and children's health; Promotion of healthy cities; Physical activity and health promotion; Infertility.	Health and Spatial Planning; Morbidity and mortality; Quality of life; Ageing; GIS and health; Immigration and health
Beginning of a structured investigation held mainly in universities	80's of twentieth century	80's of twentieth century
First PhD presented in universities	1989	1973
Universities that contribute the most to investigation	Lisbon, Coimbra and Minho	CSIC, Autónoma de Madrid, Complutense de Madrid, Autónoma de Barcelona, Balearic Islands and Alcalá
Presence of Health Geography in University Curricula	As optional discipline since 1995	As optional discipline since 1993

**TABLE 4:** Some divergences and convergences of Health Geography in Portugal and Spain.

We could have an optimistic discourse, but it would not be a wise one, because even if we have good and dynamic investigators trying to work on Health Geography in these two countries, the results are unpredictable.

Firstly, Iberian geographers have done little effort to work in teams, because each University has, at most, one or two investigators working on Health Geography, and some Universities do not have any. So, health geographers' work, most of the time, is done alone; furthermore, when working in teams, the central theme is not Health Geography. This reflects itself in a scarce number of PhD theses, few investigation projects dealing with Health Geography and a deficient importance of this field in the university curricula, mainly in degree studies of Geography. Secondly, even if the last years, and mostly in Spain, saw a rise in the number of geographers that worked in multidisciplinary

teams, those teams were managed by physicians or economists, not by geographers. Thirdly, it seems that geographers compete and do not collaborate with the physicians for instance. Recently, physicians have discovered the powerful ability of geographers to deal with space and GIS, when mapping at a large scale. Physicians began to value geographical studies and, mainly in Spain, many geographers participated in degrees of health professionals teaching sanitary demography. Nonetheless, most geographers are ignored by many private and public institutions (including the Ministry of Health and most regional institutions dealing with health planning).

All these considerations make us think that the future of this field is uncertain. But we want to be optimistic and be certain that we must try harder to show society the applicability of territorial analyses at different scales in what concerns health, where it is easy to analyse geographical attributes like spatial segregation, social inequalities or territorial imbalance. Perhaps the main task posed to Iberian Health Geographers is a didactic one, showing other professionals, both in private and public institutions and even to other geographers the ability and valuable contribution that health geographers can bring to health and to geographical research.

### CONCLUSION

We conclude stressing the importance of making some efforts to change the established scenario. The first one is to work more in teams as Portuguese and Spanish health geographer's work, most of the time, is carried out alone and when working in teams the central theme is not health. We must also try harder to be on equal terms with physicians or economists that managed till present the multidisciplinary teams where geographers also work. Finally, we ought to try harder to show communities, policy makers and overall society the applicability of territorial analyses at different scales, highlighting the increasing importance of place in a global world and the role of place in achieving better health and in health promotion (CUMMINS, ET AL., 2007; BERNARD, ET AL., 2007). In 2002, Gatrell (2002) reminded us that where we live affects our risk of disease or ill-health. Where we live affects how accessible or available are our many resources such as good and affordable food, clean water, and decent housing. Consequently, it is nowadays known that health and health promotion goes beyond health care, being a shared goal of different political sectors. Place and health are interrelated; Health Geographers can help

explain this dynamic relation between place and health, improving people's health through the knowledge and the capability of improving their daily spaces.

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### **REFERENCES**

ARROZ, M.E. Difusão espacial da hepatite infecciosa. Finisterra, Lisboa, 14, 27, p. 36-69, 1979.

AUJOULAT, I. et al. Reconsidering patient empowerment in chronic illness: A critique of

models of self-efficacy and bodily control. *Social Science & Medicine*, 66, p. 1228-1239, 2008. BERNARD, P. et al. Health inequalities and place: A theoretical conception of neighbourhood. *Social Science & Medicine*, Amsterdam, 65, p. 1839-1852, 2007.

BJELLAND, I. et al. Does a higher educational level protect against anxiety and depression? The HUNT study. *Social Science & Medicine*, Amsterdam, 66, p. 1334-1345, 2008.

BUJ, A. Los riesgos epidémicos actuales desde una perspectiva geográfica. *Scripta Nova: Revista electrónica de geografía y ciencias sociales,* B a r c e l o n a , 3 , p . 3 2 - 5 4 , 1 9 9 9 (http://www.ub.es/geocrit/sn-39.htm).

CABRÉ, A.M. & MÚÑOZ, F.M. Ildefons Cerdà i la insoportable densitat urbana: algunes consideracions a partir de la cartografia i anàlisi de les estadístiques contingudes en la *Teoría General*. In: *Cerdà, urbs i territori*. Barcelona: Generalitat de Catalunya, 2002, p. 37-46.

CALVO, J. Geografía Médica de Carmona. *Carel: Carmona: Revista de estudios locales*, Carmona (Sevilla), 1, p. 27-70, 2003.

CASCO, J. Las Topografías Médicas: revisión y cronología. *Asclepio*, Madrid, 53, p. 213-244, 2001.

CASAS, Á. La geografía médica de la hondonada de Campos de Angel Casas Díez, *Publicaciones de la Institución Tello Téllez de Meneses*, Palencia, 67, p. 433-530, 1996.

CHOU, Y.-C. et al. Social services utilization by adults with intellectual disabilities and their families. *Social Science & Medicine*, Amsterdam, 66, p. 2474-2485, 2008.

CLIFF, A.D. & HAGGETT, P. Atlas of disease distributions: analytic approaches to epidemiological data. Oxford: Blackwell Publishers, 1993. 400 p.

CUMMINS, S. et al. Understanding and representing 'place' in health research: A relational approach. *Social Science & Medicine*, Amsterdam, 65, p. 1825-1838, 2007.

EARICKSON, R. Health Geography: style and paradigms. *Social Science & Medicine*, Amsterdam, 50, p. 457-458, 2000a.

EARICKSON, R. Geographic research at the end of the century: papers from the Eighth International Symposium on Medical Geography. *Social Science & Medicine*, Amsterdam, 50(7/8), p. 911-913, 2000b.

FALP, J. Topografía médica de Solsona y distritos adyacentes: (Clariana, Llobera, Riner, Navés, Pinell, Lladurs, Castellar, Olius): subseguida por vía de apéndice de un estudio original clínico y etiológico de la apoplejía en Solsona y una suscinta [sic] reseña de las principales epidemias de cólera y paludismo, Solsona (Barcelona): Ajuntament de Solsona, 2000. 202 p.

FEO, F. Geografía médica del concejo asturiano de Carreño (1919). *Polígonos: Revista de geografía*, León, 7, p. 9-28, 1997.

FEO, F. Geografía médica de Santa Cruz de Tenerife (1909). *Vegueta: Anuario de la Facultad de Geografía e Historia*, Las Palmas de Gran Canaria, 8, p. 51-168, 2000.

FERNÁNDEZ, F. Efemérides barometricomedicas matritenses, para el más puntual y exacto cálculo de las observaciones que han de ilustrar la historia natural y médica de España. Madrid, 1737.

FERNÁNDEZ, F. Geografía médica de Navalcarnero (1943). *Boletín de la Real Sociedad Geográfica*, Madrid, 137-138, p. 161-168, 2001-2002.

GARCÍA, J.C. & ALBERDI, J.C. Mortality in the Madrid City During the Heavy Heat in Summer 2003. *GeoFocus*, Madrid, 5, p. 19-39, 2005. (http://geofocus.rediris.es/2005/Articulo2\_2005.pdf)

GATRELL, A.C. Geographies of Health: an introduction. Massachusetts: Blackwell Publishers, 2002. 314 p.

GIRÃO, A. *Geografia de Portugal*. Porto: Portucalense Editora, 1941. 479 p.

GONZÁLEZ, J.M. Sanidad y territorio en la provincia de Pontevedra. Vigo: Servicio de Publicacións da Diputación Provincial de Pontevedra, 1998. 353 p.

GONZÁLEZ, J.M. (2002). Mercado sanitario privado y territorio en Galicia. Neoliberalismo y nuevas pautas de comportamiento social. *Investigaciones Geográficas*, Alicante, 27, p. 205-226, 2002.

GONZÁLEZ, J.M. La demanda de una verdadera ordenación territorial sanitaria en Galicia: desarrollo actual del mapa de Saúde: ¿cuándo y para qué? *Boletín de la Asociación de Geógrafos Españoles*, Madrid, 29, p. 29-51, 2001.

GONZÁLEZ, J.M. Aproximación a unha xeografía da SIDA en Galicia. *Semata: Ciencias sociais e humanidades*, Santiago de Compsotela, 16, p. 115-148, 2005a.

GONZÁLEZ, J.M. Melanoma maligno de piel en España: el riesgo en los territorios atlánticos y mediterráneos. Una aproximación desde la geografía de la salud. *Revista de Geografía*, Barcelona, 4, p. 49-74, 2005b.

GONZÁLEZ, J.M. Presentació - Geografía de la Salud. *Territoris*, Palma de Mallorca, 5, p. 7-15, 2005c.

HAUSER, P. Estudios medico-topográficos de Sevilla. Sevilla: Ayuntamiento de Sevilla (reprint), 2005.

JONES, K. & MOON, G. Health, Disease and Society: an introduction to Medical Geography. New York: Routledge & Kegan Paul, 1987.

KISER, K. The meaning of the survivor identity for women with breast cancer. *Social Science & Medicine*, 67, p. 68-78, 2008.

LÁZARO Y TORRES, M.L. La Geografía a las puertas del tercer milenio a partir de las tesis doctorales leídas en los noventa. *Anales de Geografía de la Universidad Complutense*, Madrid, vol. 22, p. 49-66, 2002.

NÁJERA, L.E. El turismo en los países mediterráneos y el melanoma maligno. In: *Aportación Española al XXIII Congreso Geográfico Internacional*. Madrid: Real Sociedad Geográfica, 1978. P. 441-443.

MACINTYRE, S. & MACDONALD, L. & ELLAWAY, A. Do poorer people have poorer access to local resources and facilities? The distribution of local resources by area deprivation in Glasgow, Scotland. *Social Science & Medicine*, Amsterdam, 67, p. 900-914, 2008.

MORALES, A. Geografía médica del término municipal de "La Guancha" Tenerife (Islas Canarias). Afra: Santa Cruz de Tenerife, 1980.

MOTA-MOYA, P. De les topografies mèdiques a la geografia de la salut: la relació institucionalizada entre la geografía i la medicina. *Documents d'anàlisi geogràfica*, Barcelona, 47, p. 117-128, 2006.

NOGUEIRA, H. Mortalidade e Morbilidade Hospitalar por tumor maligno em Portugal Continental. Contributo da Geografia da Saúde. Master Dissertation, University of Coimbra, Coimbra, 2001.

NOGUEIRA, H. *Os lugares e a saúde.* PhD dissertation, University of Coimbra, Coimbra, 2007.

NOSSA, P.N. (2005). Abordagem geográfica da oferta e consumo de cuidados de saúde, PhD dissertation, University of Minho, Guimarães, 2005.

OLIVERA, A. Nuevos planteamientos de la Geografía Médica. In BALLESTEROS, A.G. (ed.) *Teoria y prática de la Geografía*. Madrid: Ed.

Alambra, 1986. P. 348-360.

OLIVERA, A. *Geografía de la Salud*. Madrid: Ed. Síntesis, 1993. 160 p.

OLIVERA, A. Población, salud y bienestar. *Treballs de la SCdG*, Barcelona, 41, p. 135-172, 1996.

PAUL, B.K. Approches to Medical Geography: an historical perspective. *Social Science & Medicine*, Amsterdam, 20, p. 399-409, 1985.

PÉREZ DE ESCOBAR, A. Medicina Patria o Elementos de Medicina práctica de Madrid. Madrid, 1788.

PHILLIPS, D.R. Directions for Medical Geography in the 1980s: some observations from the UK. Social Science & Medicine, Amsterdam, 20, p. 404-407, 1985.

PRIETO, M.E. et al. Factores sociodemográficos y de salud en el bienestar emocional como dominio de calidad de vida de las personas mayores en la Comunidad de Madrid, 2005. *Revista Española de Salud Pública*, Madrid, 82 (3), p. 301-313, 2008.

REMOALDO, P.C. A Geografia da Saúde portuguesa – sonhos e realidades. *Territoris*, Palma de Mallorca, 5, p. 33-48, 2005

REMOALDO, P.C. & MACHADO, H. & REIS, I. A infertilidade no concelho de Guimarães – contributos para o bem-estar familiar. In: CD-ROM of *Actas do V Congresso da Geografia Portuguesa*. Lisboa: Associação Portuguesa de Geógrafos, 2004. 13 p.

REMOALDO, P.C. & MACHADO, H. & REIS, I. (2006). O contributo das ciências sociais na compreensão da infertilidade. In: *Actas do VIII Seminário Internacional Participação, Saúde e Solidariedade: Riscos e Desafios*. Braga: Universidade do Minho, 2006. P. 785-796.

REMOALDO, P.C. & CANTEIRO, E. Beliefs and traditions related to a child's first year of life: a study on the Northwest of Portugal.

Anthropology and Medicine, London, 13(3), p. 253-264, 2006.

REMOALDO, P.C. & MACHADO, H. Quando uma pessoa se casa tem que engravidar, não é? – expectativas face à família e casamento em contexto de infertilidade. Braga: Universidade do Minho, in press-2007. 14 p.

REMOALDO, P.C. & MACHADO, H. *O* sofrimento oculto – causas, cenários e vivências da infertilidade. Porto: Edições Afrontamento, Colecção Biblioteca das Ciências Sociais, 9, 2008. 201 p.

REMOALDO, P.C. & MACHADO, H. Incomplete women and strong men – accounts of infertility as a gendered construction of well-being. London: Ashgate Publishing, in press-2009. 30 p.

RODRÍGUEZ, V. et al. El envejecimiento de la población española y sus características sociosanitarias. *Estudios Geográficos*, Madrid, 51 (199-200), p. 241-258, 1990.

RODRÍGUEZ, V. et al. Desigualdades en salud y envejecimiento demográfico. *Anales de Geografía de la Universidad Complutense*, Madrid, 13, p. 139-154, 1993.

RODRÍGUEZ, V. et al. Envejecimiento y estilos de vida saludables en España. *Estudios Geográficos*, Madrid, 55 (216), p. 455-479, 1994.

RODRÍGUEZ, V. et al. Envejecimiento y salud: diez años de investigación en el CSIC. *Revista multidisciplinar de Gerontología*, Madrid, 13 (1), p. 43-46, 2003.

ROSENBERG, M.W. & WILSON, K. Remaking Medical Geography. *Territoris*, Palma de Mallorca, 5, p. 17-32, 2005.

SANTANA, P. Geografias da Saúde e do Desenvolvimento: evolução e tendências em Portugal. Coimbra: Livraria Almedina, 2005. 342 p.

SANTANA, P. & NOGUEIRA, H. & RIBEIRO,

23

O. A Geografia do SIDA em Portugal. *Cadernos de Geografia*, Coimbra, 20, p. 15-28, 2001.

SANTANA, P. & NOGUEIRA, H. (2003). AIDS Geography in Portugal in the Beginning of the XXI Century". In: *REGIONAL CONFERENCE SOCIETY AND ENVIRONMENT INTERACTIONS UNDER CONDITIONS OF GLOBAL AND REGIONAL CHANGES*, Moscow, 2003. P. 245-246 (resumes book).

*SANTANA, P. & NOGUEIRA, H.* AIDS/HIV Mortality in Portugal in 90's. *Revista Portuguesa de Saúde Pública*, Lisboa, 23(1), p. 57-68, 2005.

SANTANA, P. & NOGUEIRA, H. Velhos e Novos Problemas de Saúde. HIV/SIDA e Tuberculose Pulmonar em Territórios de Descontinuidade. *Cadernos de Geografia, Coimbra, 21/23, p. 295-306, 2006.* 

URTEAGA, L. Miseria, Miasmas y Microbios. Las Topografías Médicas y el estudio del medio ambiente en el siglo XIX. *Geo Crítica Cuadernos Críticos de Geografía Humana*, Barcelona, 1980.

UTANDA, L. Geografía médica de Aranjuez: (1940). *Anales de Geografía de la Universidad Complutense*, Madrid, 17, p. 239-255, 1997.

VERHASSELT, Y. Geography of Health: some trends and perspectives. *Social Science & Medicine*, Amsterdam, 36, p. 119-123, 1993.

ZOIDO, F. et al. *Diccionario de geografia urbana, urbanismo y ordenacion del territorio*. Madrid: Ariel, 2000. 406 p.