

**SPECIAL COLABORATION**Received: 2015 December 23  
Accepted: 2016 July 18  
ePublish: 2016 August 2**SOCIAL WELFARE POLICY AND INEQUALITIES IN HEALTH.  
PRECONCEIVED TRUTHS IN SCIENTIFIC RESEARCH****Enrique Regidor (1,2).**

(1) Department of Preventive Medicine, Public Health and History of Science. Universidad Complutense de Madrid. Madrid. Spain.

(2) CIBER Epidemiología y Salud Pública (CIBERESP). Madrid. Spain.

**ABSTRACT**

At the end of the first decade of the present century debates arose in social epidemiology. These debates set those who defend the existence of a relation between the political and/or welfare stage regime and the magnitude of socioeconomic inequalities in health against those who maintain the facts do not support such a relation. These debates are similar to other debates in epidemiology in the 1990s related with theories of how diseases are produced and the factors that determine their distribution in the population. Whereas some authors find it impossible to separate ethical and political aspects and professional values from scientific arguments, others consider that epidemiologists and other scientists should make an effort to distinguish between scientific and unscientific considerations. In this paper the author reflects about the harmony that keep science, politics and ethics in the scientific practice on health inequalities, although the empirical evidence is contrary to that harmonious effect.

**Key words:** Health and welfare planning, Socioeconomic Factors, Healthcare Disparities, Health Inequalities, Europe.

**RESUMEN****Políticas de bienestar social y desigualdades en salud. Verdades preconcebidas en la investigación científica**

Al final de la primera década de la presente centuria aparecieron algunos debates en epidemiología social que enfrentaron a quienes defendían la existencia de una relación entre las tradiciones políticas y/o modelos del Estado del Bienestar con la magnitud de las desigualdades socioeconómicas en el estado de salud con quienes defendían que los hechos no apoyaban tal relación. Dichos debates son similares a los que surgieron en los años noventa acerca de las teorías de producción de las enfermedades y los factores que determinan su distribución en la población. Mientras que algunos autores consideran imposible separar los aspectos éticos y políticos y los valores profesionales de los argumentos científicos, otros consideran que los epidemiólogos y demás científicos deben hacer un esfuerzo para distinguir entre las consideraciones científicas y las que no lo son.

En este trabajo se reflexiona acerca de la armonía que mantienen la ciencia, la política y la ética en la práctica científica sobre las desigualdades en salud, a pesar de que la experiencia empírica es contraria a ese conjunto armónico.

**Palabras clave:** Políticas de bienestar social. Factores socioeconómicos. Desigualdades socioeconómicas en la salud. Europa. Desigualdades en la Salud.

**Correspondencia**

Enrique Regidor  
Department of Preventive Medicine, Public Health and History of Science  
Faculty of Medicine  
Universidad Complutense de Madrid  
Avda Complutense, s/n  
28040 Madrid  
Spain  
enriqueregidor@hotmail.com

Cita sugerida: Regidor E. Social welfare policy and inequalities in health. Preconceived truths in scientific research. Rev Esp Salud Publica. 2016 Aug 2;90:e1-e6.

## INTRODUCTION

Two interesting debates in social epidemiology arose in the first decade of the present century between those who defended the idea that political traditions and/or welfare state models are related with the magnitude of socioeconomic inequalities in health status<sup>(1-5)</sup> and those who maintained that the facts do not support the existence of this relationship.<sup>(6-8)</sup>

Espelt et al.<sup>(1)</sup> compared the inequalities in self-perceived health in nine European countries grouped into three political traditions: Social Democrats (Sweden, Denmark and Austria), Christian Democrats (The Netherlands, Germany, France and Italy) and late democracies (Portugal and Spain). The authors found greater inequalities in self-perceived health in the group of countries with late democracies. In a comment on this work, Lundberg noted that these findings were contrary to those observed in previous investigations. He also pointed out that grouping countries according to political traditions may be of little help if what we want to know is what specific aspects of the welfare state are important for health.<sup>(6)</sup> In Lundberg's opinion, if countries with different forms of government are doing well in terms of population health outcomes despite implementation of different policies, we should consider whether there may be more than one path to achieving success in public health.<sup>(6-7)</sup> In responding to these criticisms, Espelt et al. defended the idea that governments affect health outcomes through specific policies, but that the type of government is the starting point.<sup>(2)</sup> In the opinion of these authors, public health activities include decisions about how to change society, and these decisions involve value judgments about what policies are most appropriate to improve population health.<sup>(3)</sup>

For their part, Sekine et al. evaluated whether the pattern of inequalities in physical and mental health differed among civil servants in Great Britain, Finland and Japan.<sup>(4)</sup> These authors found lower inequalities

in physical health in Finland than in Great Britain or Japan, a finding they attributed to different political traditions and/or welfare state models. In his commentary on this study, Bosma warned that the results obtained were less clear than the authors stated in their article.<sup>(8)</sup> According to Bosma, the Social Democratic regime may reduce income inequality and poverty, but the findings of this and other studies suggest that, like other regimes, it may not be able to reduce socioeconomic inequalities in health. Bosma considers that the field of research on health inequalities is too politicized, since investigators attribute success to certain measures for the reduction of health inequalities when their effectiveness has not been demonstrated. In their reply, Sekine et al. agreed that political ideology should be avoided in social epidemiology research, but claimed that the types of government influence the distribution of the social determinants of health.<sup>(5)</sup>

## EXTRA-SCIENTIFIC VALUES IN INTERPRETATION OF THE FACTS

This debate is a reminder of others that have emerged in the field of epidemiology about how diseases are produced and the factors that determine their distribution in the population. Whereas for some authors it is impossible to separate ethical and political aspects and professional values in their scientific arguments,<sup>9-11</sup> others consider that epidemiologists and scientists should endeavor to distinguish between scientific and unscientific considerations.<sup>(12-14)</sup> For those in the first group, the importance of a scientific theory lies in its philosophical and ideological assumptions – such as social justice, human rights, etc. – about why some populations are sicker than others, whereas for the second group, the most important thing from the scientific perspective is whether a theory is valid, not the values it incorporates or the ethical uncertainties it generates.

Vandenbroucke notes that subjectivity is always present in the generation of scientific knowledge due to the different interpre-

tations of theory and facts. And that only the future will tell which side is right.<sup>(15)</sup> These comments are extraordinarily important for the understanding of scientific practice. Because the presence of subjectivity in science does not contradict scientists' attitude about seeking unequivocal evidence. This is a self-regulating mechanism that eventually corrects subjective judgments in scientific interpretation.<sup>(16)</sup> Scientists seek objectivity through a continuous process that involves constant testing of the relationships among values, assumptions, hypotheses and empirical work. And scientific practice shows that, faced with indisputable facts, there comes a time when scientists must abandon their values, desires, prejudices and vanities. It is the difficult moment at which they must accept the facts that reveal the deficiencies of their theoretical framework and recognize the contradictory findings that challenge their preconceptions.

For this reason, science remains the ideal procedure against dogma: science does not pretend to provide definitive results. The history of science shows how old theories that were once widely accepted are rejected as inadequate and replaced by new ones. However, these rectifications are not easy due to different interpretation biases on the part of scientists, such as confirmation bias: that is, the tendency to give more support to what confirms one's own convictions and to ignore or discredit what contradicts them. The rectifications will take even longer when empirical, political and ethical considerations live in harmony within the paradigm that, in any line of investigation, predominates in the scientific community at a given moment. One need only look at the theories on the production of socioeconomic inequalities in health<sup>(17)</sup> or the various reports on the way to address them, such as the report of the Commission on Social Determinants of Health of the World Health Organization,<sup>(18)</sup> to see the absence of any loud voices that break this harmonious whole.

## THE DIFFICULT ALLIANCE BETWEEN SCIENCE, POLITICS AND ETHICS

According to theories on the origin of health inequalities, the socioeconomic distribution of health outcomes is produced by unfair practices and policies that reward certain groups, economically and socially, at the expense of others; therefore, socioeconomic inequalities in health can be reduced by social and economic interventions.<sup>(19)</sup> For example, the fact that reduction of income inequality has not been a priority issue has been considered one of the possible causes of the failure of the strategy carried out in England to reduce socioeconomic inequalities in health.<sup>(20)</sup> However, to date no one has been able to show that reducing income inequality leads to lower socioeconomic inequalities in health. Several investigations that have analyzed mortality, one of the classic indicators of population health status, have observed increases in inequalities in mortality in both periods of increased<sup>(21)</sup> and decreased<sup>(22)</sup> income inequality, as well as in periods of stability.<sup>(23)</sup> An absence of changes in the magnitude of socioeconomic inequality in mortality has also been observed in periods of reduced income.<sup>(24)</sup> For these reasons, when prominent members of the scientific community in this field of knowledge claim that health inequalities are avoidable through interventions that reduce inequalities in income distribution, they are not referring to a consistent set of facts, but to consistency with a fictional argument that must be superimposed on the facts to avoid seeing them. According to the distinction that Aristotle made between history and literature, these fictional arguments do not represent what has actually happened but rather what might have happened. It is the way to maintain the balance of the narrative discourse between science, politics and ethics, the way to preserve the previously mentioned idea about the origin of the socioeconomic distribution of health.

Indeed, this belief ignores the strident cries that arise when observing the findings

of multiple investigations conducted over the last two decades, many of which have been referred to by Lundbert and Bosma.<sup>(6-8)</sup> The results of these investigations revealed that the Nordic countries, with a long history of applying universal welfare policies, were not among those with the lowest socioeconomic inequalities in mortality in the 1980s, whereas Finland, Norway and Denmark were among those with the highest such inequalities in the 1990s.<sup>(25-28)</sup> Another relevant finding was that southern European countries like Italy and Spain, with large socioeconomic inequalities, were among those countries with lowest inequalities in mortality in the 1980s, and had the lowest mortality inequalities in the 1990s. The results of studies with data on the first decade of the 21st century have reproduced the previous findings.<sup>(29-30)</sup> Likewise, in 1990 and 2000, the Nordic countries were among those with the highest socioeconomic inequalities in negative self-perceived health, with the exception of Sweden.<sup>(25,27, 31-32)</sup> Similarly, in both periods Italy and Spain, together with Germany, were among the countries with the smallest socioeconomic inequalities in negative self-perceived health.<sup>(31-32)</sup>

In most of the aforementioned studies, the objective was to determine the international pattern in the magnitude of socioeconomic inequalities in health in various European countries. And, in the first decade of the 21st century, other investigations were conducted specifically to test the hypothesis that health inequalities were probably lower in Welfare State countries that provided universal services to the population.<sup>(33-37)</sup> Most of these studies did not find a relationship between the size of the Welfare State and the magnitude of health inequalities.

In 2004 Bartley noted that the first results of the mentioned international comparative studies caused a considerable uproar in the scientific community and in public health professionals.<sup>(38)</sup> It was generally believed that health inequalities would be lower in the Nordic countries with small differences in

income between the rich and poor; surprisingly, it was found that health inequalities were lower in countries in southern Europe with high socioeconomic inequalities. Bartley also noted that it was very difficult to establish the policy implications of research on health inequalities based on the results of the investigations conducted. In fact, although different explanations have been proposed for this paradox, the reasons are unknown.<sup>(39)</sup> This does not mean that health inequalities cannot be avoided through welfare policies but that, for now, a good dose of modesty is needed to recognize that it has not been possible to show the relationship between welfare policies and the magnitude of health inequalities.

### FALSE SCIENTISTS

Many scientists act as advisors or as authors of reports and action proposals whose objective is to recommend concrete actions to reduce socioeconomic inequalities in health. Commitment to a preconceived truth is common when assuming the role of advisor or author in the proposal of specific actions; thus, when investigators take on such roles, they legitimately base their proposals for action on those facts, beliefs, values, ideologies and interests that they consider to be appropriate. But scientists who aim to advance scientific knowledge in this regard, the same as in any other field of science, should be characterized by just the opposite: by non commitment, by independence from political programs, ideologies or utopias.

There are many political and ethical reasons to recommend reduction of income inequalities and implementation of many other universal welfare policies. But scientists' commitment to ideological or political agendas in explaining socioeconomic inequalities in health should be verified or refuted by tests of the empirical evidence. And in this regard they must assume the possible existence of results contrary to their values. The challenge consists of finding explanations for these findings. Because the scientist who commits to serving a preconceived truth, rather than

seeking the explanation hidden behind the facts, renounces the very mission of scientific investigation, which is the search for truth, regardless of the result. This is the opposite of investigators who look for evidence to confirm what they believe is true.<sup>(40)</sup> And it matters little whether the preconceived truth is called democracy, welfare policies, human rights or social justice. The scientist who serves a truth other than the one to be discovered is a false scientist.

### BIBLIOGRAFÍA

1. Espelt A, Borrell C, Rodríguez-Sanz M, Muntaner C, Pasarin MI, Benach J, Shaap M, Kunst AE, Navarro V. Inequalities in health by social class dimensions in European countries of different political traditions. *Int J Epidemiol*. 2008; 37: 1095-1105.
2. Espelt A, Borrell C, Rodríguez-Sanz M, Muntaner C, Pasarin MI, Benach J, Shaap M, Kunst AE, Navarro V. Answer to the commentary: Politics and public health — some conceptual considerations concerning welfare state characteristics and public health outcomes. *Int J Epidemiol*. 2010; 39: 630-632.
3. Muntaner C, Borrell C, Espelt A, Rodríguez-Sanz M, Pasarin MI, Benach J, Navarro V. Politics or policies vs politics and policies: a comment on Lundberg. *Int J Epidemiol*. 2010; 39: 1396-7.
4. Sekine M, Chandola T, Martikainen P, Marmot M, Kagamimori S. Socioeconomic inequalities in physical and mental functioning of British, Finnish and Japanese civil servants: role of job demand, control, and work hours. *Soc Sci Med*. 2009; 69: 1417-1425.
5. Sekine M, Chandola T, Martikainen P, Marmot M, Kagamimori S. What we learn from British, Finnish, and Japanese civil servants study and the role of social democracy in reducing socioeconomic inequalities in health: a response to Bosma. *Soc Sci Med*. 2009; 69: 1429-31.
6. Lundberg O. Commentary. Politics and public health - some conceptual considerations concerning welfare state characteristics and public health outcomes. *Int J Epidemiol*. 2008; 37: 1095-1105.
7. Lundberg O. Politics and public health - some conceptual considerations concerning welfare state characteristics and public health outcomes. *Int J Epidemiol*. 2010; 39: 632-634.
8. Bosma H. A critical reflection on the role of social democracy in reducing socioeconomic inequalities in health: a commentary on Sekine, Chandola, Martikainen, Marmot and Kagamimori. *Soc Sci Med*. 2009; 69: 1426-1428.
9. Krieger N, Zierler S. The need for epidemiology theory. *Epidemiology*. 1997; 8: 212-4.
10. Pearce N, McKinlay JB. Back to the future in Epidemiology and Public Health: Response to Dr Gory. *J Clin Epidemiol*. 1998; 51: 643-6.
11. Muntaner C. Invited commentary: social mechanisms, race, and social epidemiology. *Am J Epidemiol*. 1999; 150: 121-6.
12. Gori GB. Epidemiology and Public Health: is a new paradigm need or a new ethic. *J Clin Epidemiol*. 1998; 51: 637-41.
13. Rothman KJ, Adami H-O, Trichopoulos D. Should the misión of epidemiology include the eradication of poverty? *Lancet*. 1998; 352: 810-813.
14. Cooper RS, Kaufman JS. Is there an absence of theory in social epidemiology? The authors respond to Muntaner. *Am J Epidemiol*. 1999; 150: 127-8.
15. Vandenbroucke J. Medical journals and the shaping of medical knowledge. *Lancet*. 1998; 352: 2001-2006.
16. Kaptchuk TJ. Effect of interpretive bias on research evidence. *BMJ*. 2003; 326: 1453-5.
17. Krieger N. Ladders, pyramids and champagne: the iconography of health inequities. *J Epidemiol Community Health*. 2008; 62: 1098-1104.
18. Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva: World Health Organization; 2008.
19. Krieger N. Why epidemiologists cannot afford to ignore poverty. *Epidemiology*. 2007; 18: 658-663.
20. Marmot M, Atkinson T, Bell J, Black C, Broadfoot P, Cumberlege J, et al. Fair Society, healthy lives. The Marmot review. London: The Marmot review; 2010.
21. Shaw M, Davey Smith G, Dorling D. Health inequalities and new labour: how the promises compare with real progress. *BMJ*. 2005;330:1016-21.
22. Regidor E, Ronda E, Pascual C, Martínez D, Calle ME, Domínguez V. Decreasing socioeconomic inequalities and increasing health inequalities in Spain: a case study. *Am J Public Health*. 2006; 96: 102-08.
23. Martikainen P, Valkonen T. Policies to reduce income inequalities are unlikely to eradicate inequalities in mortality. *BMJ*. 1999;319:319.

24. Lecler A, Chastang J-F, Menvielle G, Luce D. Socioeconomic inequalities in premature mortality in France: have they widened in recent decades? *Soc Sci Med.* 2006; 62: 2035-45.
25. Mackenbach JP, Kunst AE, Cavelaars AEJM, Gronhof F, Geurts JJ, and EU Working Group on Socioeconomic Inequalities in Health. Socioeconomic inequalities in morbidity and mortality in Western Europe. *Lancet.* 1997; 349: 1655-9.
26. Kunst AE, Groenhof F, Mackenbach JP, Andersen O, Borgan JK, Costa G, et al. Occupational class and cause specific mortality in 11 European countries. *BMJ.* 1998; 316: 1636-42.
27. Mackenbach JP, Stirbu I, Roskam A-JR, Schaap MM, Menvielle G, Leinsalu M, Kunst AE. Socioeconomic inequalities in health in 22 European countries. *N Engl J Med.* 2008;358:2468-81.
28. Huisman M, Kunst AE, Andersen O, Bopp M, Borgan J-K, Borrell C, et al. Socioeconomic inequalities in mortality among the elderly in eleven European populations. *J Epidemiol Community Health.* 2004; 58: 468-75.
29. Toch-Marquardt M, Menvielle G, Eikemo TA, Kulhánová I, Kulik MC, Bopp M, Esnaola S, Jasilionis D, Mäki N, Martikainen P, Regidor E, Lundberg O, Mackenbach JP; Euro-GBD-SE consortium. Occupational class inequalities in all-cause and cause-specific mortality among middle-aged men in 14 European populations during the early 2000s. *PLoS One.* 2014 30;9:e108072.
30. Mackenbach JP, Kulhánová I, Menvielle G, Bopp M, Borrell C, Costa G, Deboosere P, Esnaola S, Kalediene R, Kovacs K, Leinsalu M, Martikainen P, Regidor E, Rodriguez-Sanz M, Strand BH, Hoffmann R, Eikemo TA, Östergren O, Lundberg O; Eurothine and EURO-GBD-SE consortiums. Trends in inequalities in premature mortality: a study of 3.2 million deaths in 13 European countries. *J Epidemiol Community Health.* 2015;69:207-17;
31. Cavelaars AEJM, Kunst AE, Geurts JJM, Crialesi R, Grötvedt L, Helmert U, et al.. Differences in self reported morbidity by educational level: a comparison of 11 Western European countries. *J Epidemiol Community Health.* 1998; 52: 219-227.
32. Kunst AE, Roskam AJ. Comparison of educational inequalities in general health in 12 European countries: application of an integral measure of self-assessed health. Rotterdam: Department of Public Health; 2007
33. Veenhoen R. Well-Being in the Welfare State: level not higher, distribution no more equitable. *J Com Pol Anal.* 2000; 2: 91-125.
34. Eikemo TA, Huisman M, Bamba C, Kunst AE. Health inequalities according to educational level in different welfare regimes: a comparison of 23 European countries. *Sociol Health Illn.* 2008; 30: 565-82.
35. Eikemo TA, Bamba C, Joyce K, Dahl E. Welfare state regimes and income-related health inequalities: a comparison of 23 European countries. *Eur J Public Health.* 2008; 18: 593-9.
36. Espelt A, Borrell C, Rodríguez-Sanz M, Muntaner C, Pasarin MI, Benach J, et al. Inequalities in health by social class dimensions in European countries of different political traditions. *Int J Epidemiol.* 2008; 37: 1095-1105.
37. Borrell C, Espelt A, Rodríguez-Sanz M, Burstrom B, Muntaner C, Pasarin MI, et al. Analyzing differences in the magnitude of socioeconomic inequalities in self-perceived health by countries of different political tradition in Europe. *Int J Health Services.* 2009; 39: 321-41.
38. Bartley M. Health inequality. An introduction to theories, concepts and methods. Cambridge: Policy Press; 2004.
39. Mackenbach JP. The persistence of health inequalities in modern welfare states: the explanation of a paradox. *Soc Sci Med.* 2012;75:761-9.
40. Oakes JM. Invited commentary: paths and pathologies of social epidemiology. *Am J Epidemiol* 2013; 178: 850.951.