Chapter 9
Locating Politics in Social Epidemiology

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Abstract Recent social epidemiologic research has focused on the impact of politics, expressed as political traditions or parties and welfare state characteristics, on population health. Guided by a political economy of health and welfare regimes framework, this chapter synthesizes this growing body of evidence and locates 73 empirical and comparative studies on politics and health meeting our inclusion criteria. Two major research programs – welfare regimes and democracy – and two emerging programs – political tradition and globalization – are identified. Primary findings include: (1) left and egalitarian political traditions on population health are the most salutary, consistent and substantial; (2) the health impacts of advanced and liberal democracies are also positive and large; (3) welfare regime studies, primarily conducted amongst wealthy countries, find that Social Democratic regimes tend to fare best with absolute health outcomes yet inconsistently in terms of relative health inequalities; and (4) globalization defined as dependency indicators such as trade, foreign investment and national debt is negatively associated with population health.

Abbreviations

OECD Organization for Economic Cooperation and Development

9.1 Introduction

This chapter analyzes the emerging area of politically-oriented, empirical studies in the population health literature (Bambra et al. 2005; Beckfield and Krieger 2009; Navarro and Shi 2001). In doing so, we explore the intersection between political science, sociology and social epidemiology and we present a review on how politics

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shapes population health in a global context. This book chapter is adapted from a paper published in *Sociology of Health and Illness* (2011, 33(6):946–964. License Number: 2746021315671, John Wiley and Sons).

The status of epidemiology as a socio-natural science is still debated (Krieger 2001). Yet epidemiology is social by definition. The death of an organism is a biological fact, but dying from drinking contaminated water or from a gunshot wound are social facts as well, making the study of population health a biosocial (or socio-natural) science. The problem does not reside, then, in the adequacy of social (economic, cultural and *political*) explanations in epidemiology. Rather, it is the systematic shunning of politics (and economics and culture) that is surprising.

During the twentieth century, Milton Terris, an eminent epidemiologist, always considered epidemiology "social" and thus found the term "social epidemiology" redundant (M. Terris, personal communication 2000). However, growth in the substantive knowledge, including new methods, models and problems and the number of scholars devoted to the study of social determinants of health justifies today's separate term "social epidemiology" (Berkman and Kawachi 2000) and "political epidemiology" as one of its constituent areas of study.

9.2 Why Politics Matters to Social Epidemiology

The role of politics and policies in applied social epidemiology (i.e., a branch of public health) is hard to ignore. It is indeed central to implement and evaluate policies aimed at reducing health inequalities. In fact, the discipline of social epidemiology, by being overly descriptive and focused on methods, becomes almost irrelevant to policy efforts to reduce social inequalities in health (see Chap. 13). Its focus is mainly the description of inequalities and rarely (if ever) the study of the policies or programs that might reduce them. It has become a comfortable "apolitical" field of study (e.g., poor neighbourhoods are associated with poor diet or bad "health behaviours," "social capital" is associated with worse self-rated health, lack of autonomy at work and job insecurity leading to poor mental health and so on) (Muntaner et al. 1999, 2002, Muntaner 2004; Navarro et al. 2003). Its outlook is that of a basic science, although epidemiology is, by definition, an applied science driven by the fact that disease is harmful to populations.

Yet, even when our aim is just explanation, the role of politics in shaping population health cannot be ignored either. There is no *a priori* reason why the effects of politics on health should be confined to policies. Politics can affect population health via other social processes such as, for example, grassroots organizing, social movements, wars, riots, non-government organizations, unions, strikes and protests. Moreover, policies are not randomly distributed in societies; they follow political patterns. In that sense, the causes (i.e., political and economic arrangements) of the causes (i.e., single policies) are a necessary part of a deeper explanation of social epidemiology, such as when income inequality and poverty (or indicators of economic structure) might determine proximal social determinants, such as crime

rates, lack of social networks, lack of exercise facilities, lack of healthy food stores, alcohol stores, open illicit drug markets, lack of public transportation or lack of access to health care. From an empiricist perspective, the fact remains that the associations between political variables (e.g., number of "left wing" cabinet members or type of political party in government) exist even after models are adjusted for health and social policies (Chung and Muntaner 2006; Espelt et al. 2008). Even if we accept that policies are the only means by which politics have an effect, one should be interested in why certain egalitarian policies cluster together in certain societies and not in others. There are other benefits to studying comparative politics as opposed to policies alone. When we compare groups of countries based on their political traditions, welfare state types or political economy, we may understand why some countries are better overall than others in reducing inequities. The study of specific national policies does not reveal these patterns. For example, the focus on national health policies that defines most American health services research leads to a narrow set of policy alternatives and to "a lack of understanding of their political origin" (Navarro 1989). A policy approach misses why the American government still ignores "single payer" options, ignorance that likely results from the liberal political trajectory and deep class divisions of the United States, which do not lead to egalitarian universal policies (Esping-Andersen 1990).

Another benefit of considering political issues, in addition to policy concerns, in social epidemiology is that it implicates the need for intersectoral action to reduce health inequalities. It is likely that egalitarian policies involve the "synergic" effect of egalitarian policies from different sectors (e.g., health, labour market, social services). Such intersectoral effects are more likely to arise in certain political traditions than others due to political-policy coherence. In addition, the evaluation of the effect of any single policies in such context might be inadequate (i.e., cannot deal with their interaction) or very difficult to conduct due to their complexity. With regard to the effect of social democracies on class inequalities in health, the evidence is mixed (Muntaner et al. 2006; Tapia Granados 2010), although health inequalities *per se* can be a policy effect of interest as they are inequitable.

The underlying discussion about "political epidemiology" is one of technocracy versus social justice, an issue that pits supposedly value-free public health policies against policies rooted in a set of political views (e.g., egalitarianism) (Gil-González et al. 2009). Public health approaches adopting technological orientations tend to focus on the potential of policy interventions alone to improve population health. These policy decisions are guided by established bodies of knowledge in addition to credentialed expertise and skills. These decisions are made by highly knowledgeable individuals and not by individuals possessing political power. However, applying technocratic methods to social epidemiology and health policy is limited on two fronts. First, remaining value free when conducting health research is inadequate because public health scientists are explicitly committed to improving population health and reducing health inequalities. Second, myopically focusing on health policy effectiveness ignores how politics is a major social institution by which most societies distribute power and organize decision making. To advance and move beyond "just policy" approaches, it is crucial to explicitly study politics as a "fundamental" determinant and to not treat it as an afterthought.

9.3 Politics in Social Epidemiology: Ubiquitous Yet Overlooked

The roots of such contemporary scholarship can be traced back to the mid-nineteenth century with Friedrich Engels' (1958) classic treatise *The Condition of the Working Class in England*. In that work Engels developed the notion of the social production of disease and demonstrated that the politics of industrial capitalism resulted in premature mortality and unnecessary morbidity amongst the working class. Echoing this idea, Rudolph Virchow's (1985) investigation of a typhus outbreak in Upper Silesia in 1848 led him to famously conclude "disease is not something personal and special, but only a manifestation of life under (pathological) conditions…Medicine is a social science and politics is nothing else but medicine on a large scale." Contemporary empirical research looks quite different methodologically. Researchers in this area are sharply divided along two theoretical streams, which find their roots in the work of classical sociologists and which influence how politics is defined and what hypotheses are tested in population health studies.

Research guided by political economy of health and welfare regime theories has gained momentum in the extant literature. Though their role and impact has been questioned in medical sociology (Cockerham 2001), researchers working within these conflict-based perspectives emphasize the political factors beyond the immediate control of individuals that adversely affect their health. These approaches have been instrumental in highlighting the political context of health inequalities (Navarro and Shi 2001; Navarro et al. 2003), re-engaging with neo-Marxist models of class division (Coburn 2000, 2004) and testing the health effects of working-class power (Muntaner and Lynch 1999). Rather than income inequality being the fundamental determinant of health inequalities (Wilkinson and Pickett 2010), these frameworks are broader, more contextualized and sensitive to historical changes and are more sociologically relevant through their explicit focus on inequality-generating mechanisms such as social class relations (i.e., relative power between capital and labour), neo-liberal ideology (i.e., private profits versus public goods) and varieties of welfare regimes (i.e., social democratic versus liberal versus conservative). Unlike "neo-Durkheimian" approaches, the political economy of health and welfare regime frameworks, which begin their analysis with politics and endogenous consequences such as income inequality, are treated as fully implicated in society rather than as a sub-system that can be understood in isolation. For instance, Navarro et al.'s (2006) political economy of health framework illustrates how politics (expressed in terms of voting behaviour and trade union characteristics) is related to the expansion of the welfare regimes and labour market policies, which in turn affect income inequalities and population health. Regarding welfare state regimes, Eikemo et al. (2008a) confirmed the importance of politics with their finding that welfare state characteristics explain approximately half of the national-level variation of health inequalities between Scandinavian (Denmark, Finland, Norway, Sweden) and Anglo-Saxon (United Kingdom, Ireland) regimes, which report better health in comparison to Bismarckian (Austria, Belgium, France,

Germany, Luxembourg, Netherlands, Switzerland), Eastern European (Czech Republic, Hungary, Poland, Slovenia) and Southern European (Greece Italy, Portugal, Spain) countries.

This leads to the question of how researchers should approach and conceptualize politics in population health research: from a cohesion/Durkheimian perspective or from a conflict/political economy/welfare regimes perspective? Thus, sociological theory plays the crucial role in helping us determine the theoretical location and empirical focus of this chapter. We adopt a political economy of health and welfare regimes approach and contend that contemporary scholarship needs more theoretically informed research and conflict-based perspectives that examine not only the health effects of social cohesion and income inequality but the political causes of these factors as well.

To advance our understanding of the political determinants of population health, we review the extant literature devoted to identifying the political origins of population health and health inequalities amongst nations and explicitly focus on issues relevant to the sociology of health and illness: politics, welfare regimes and democracy. Before reviewing the literature, we first conceptualize politics as a key substantive theme and second make a case for comparative designs as the preferred analytical method for understanding cross-national health differences.

We understand politics at a national level as the "practice of the art or science of directing and administrating states" (McLean and McMillan 2003). Politics has been variously defined as concerned with: (1) civil government, the state and public affairs; (2) human conflict and its resolution; or (3) the sources and exercise of power. Thus, political economy of health and welfare regime approaches attempt to uncover the political forces that shape the development of welfare states and the implementation of social and health policies that, in turn, lead to social and health inequalities within and between nations. An important impetus for this research stream has been the justification for studying politics in addition to policies, which are the province of health policy (Espelt et al. 2008; 2010 Lundberg et al. 2008; Lundberg 2009; Muntaner et al. 2009). The basic argument is that there is no *a priori* reason why the effects of politics on health should be confined to policies that are, themselves, exogenous to politics (Navarro 1993). Politics may have an impact on population health by means of social movements, grassroots organizing and non-government organizations, such as not-for-profits, unions, professional and business associations (Aronson et al. 2004), blockades, embargoes, occupations and wars (Burnham et al. 2006), strikes, protests, coups or revolutions (Muntaner et al. 1999) and lobbying and may also take the form of influence peddling, insider trading, bribery and blackmail (Idrovo et al. 2010).

The link between health and political indicators such as "number of left cabinet members" or "type of political party in government" is robust adjustment for health policies, indicating that political processes other than health policies might determine population health (Chung and Muntaner 2006). Even if we accept that social and health policies are the only mediators between politics and population health, the question remains why egalitarian policies cluster together in certain societies but

not in others. Policies are not conceived and implemented randomly in social systems; instead they follow predictable political patterns (Navarro and Muntaner 2004). Following the terminology of the World Health Organization's Commission on Social Determinants of Health (2008), the causes (i.e., political systems) of the causes (i.e., specific health and social policies) should be an essential part of societal mechanisms and explanations in medical sociology and social epidemiology. As determinants they should be perceived similarly to how we accept income inequality and poverty (or indicators of economic systems) as determinants of more proximal social determinants of health, such as social cohesion, green spaces, stores stacked with vegetables, functioning public transportation, good public schools or access to quality health care.

The Macro-level comparative design, which is common to political sociology, has been adopted by population health researchers as it provides an efficient way to uncover political determinants that are typically homogeneous within nations and, therefore, unassailable with national samples (Rose 2001). The strengths of the comparative method in other disciplines such as historical sociology and political sociology lend further impetus to the inclusion of politics within political economy and population health research (Esping-Andersen 1990). When we compare clusters of nations with common political backgrounds, democratic systems or welfare regimes, we gain insights into why some countries are more successful than others at improving their countries' population health or reducing health inequities (Esping-Andersen 1990; Huber and Stephens 2001).

In sum, while politics appears to be a major social determinant of population health, there have been relatively few studies in this area. For example, a recent systematic review of politics and health studies focused on four processes: (1) the transition to a capitalist economy; (2) neo-liberal restructuring; (3) development or evolution of the welfare state; and (4) political incorporation of subordinated racial/ethnic, indigenous and gender groups (Beckfield and Krieger 2009). The authors did not examine the role of major political tradition (e.g., political ideology of party in government) in explaining cross-country levels of health nor did they probe for political tradition when examining cross-country differences in health inequalities. To address this knowledge gap, our literature review pays more attention to political traditions, including welfare regimes types and their effects on both population health and socioeconomic inequalities in health. We contend that comparing average levels of population health between countries with different political backgrounds is also of interest (Lundberg 2009) in addition to the effects of politics on socioeconomic inequalities. To this end, we synthesize the scientific evidence on the link between politics and health by means of a systematic literature review and ask three interrelated questions: (1) Does politics influence population health? (2) To what extent has empirical research been guided by political economy and welfare regimes theories? and (3) Which political-sociologic factors, processes and mechanisms are predictive of better population health outcomes? We end by discussing epistemological, theoretical and methodological issues for consideration in future studies of politics and population health.

9.4 Politics as a Social Determinant of Health: Epidemiologic Evidence

Using guidelines outlined by Pope et al. (2007), we used a two-step approach to locate articles that investigated the link between politics and population health: (1) review of electronic databases; and (2) hand search of reference lists.

First, the following three databases were searched for English language studies: *CSA Sociological Abstracts* (1953–), *PubMed* (1948–) and *ISI Web of Science* (1900–) for references until April 23, 2010. The key word search combined two groups of terms using a Boolean strategy: *democracy*, *welfare regime*, *welfare state*, *welfare capitalism AND health*, *health services*, *population health*. Preliminary key word searches yielded a total of 2,790 records. Two reviewers reviewed the abstracts of these records and independently identified 188 potentially relevant (not mutually exclusive) studies using our inclusion criteria: (1) presented empirical findings related with health or health services outcomes; (2) investigated cross-national political differences in health (e.g., democracy versus dictatorship, social democratic versus liberal welfare regimes); and (3) included a direct measure of one political or welfare state variable. To minimize reviewer bias, we assessed interrater reliability between the two reviewers using the Kappa coefficient. Agreement results ranged from substantial to outstanding (ISI Web of Science: $k=0.727, p<0.001$; Sociological Abstracts: $k=0.839$, $p<0.001$; PubMed: $k=0.838$, $p<0.001$). The full-text of these 188 studies were then reviewed by the authors and re-evaluated against our inclusion criteria to determine final eligibility. A total of 59 studies met our full inclusion criteria.

Second, the reference lists of these 59 manuscripts were hand searched for additional studies, book chapters and conference papers to capture the full range of politically-oriented, comparative health studies in the extant literature. This process identified an additional 122 potentially relevant studies in which 12 articles and two book chapters met our full inclusion criteria for a final sample of 73 core publications. Of the 310 studies retrieved for full-text review, reasons for exclusion included being non-empirical (31.0%), non-political (20.6%), non-health outcome (18.4%) and non-comparative (4.8%); other reasons included being editorials or duplicates (1.6%). Figure 9.1 presents a flow chart on our literature review selection and exclusion and inclusion process. Disagreements amongst reviewers during this process were resolved by consensus.

Each of these 73 publications was classified along one of four political themes: (1) *Democracy*, if the hypothesis tested democracy as defined and measured by the authors (see below); (2) *Globalization*, if the article examined how high-, middle- and low-income countries are integrated through global networks of trade, foreign investment and multinational corporations; (3) *Political tradition*, if the study included variables referring to the left-right political dimension (e.g., social democratic versus conservative parties in government); and (4) *Welfare state*, if the analysis included welfare state indicators (e.g., universal health coverage) but not indicators of political ideology (e.g., along the left-right dimension). These groupings were mutually exclusive. Given the emerging nature of political economy/

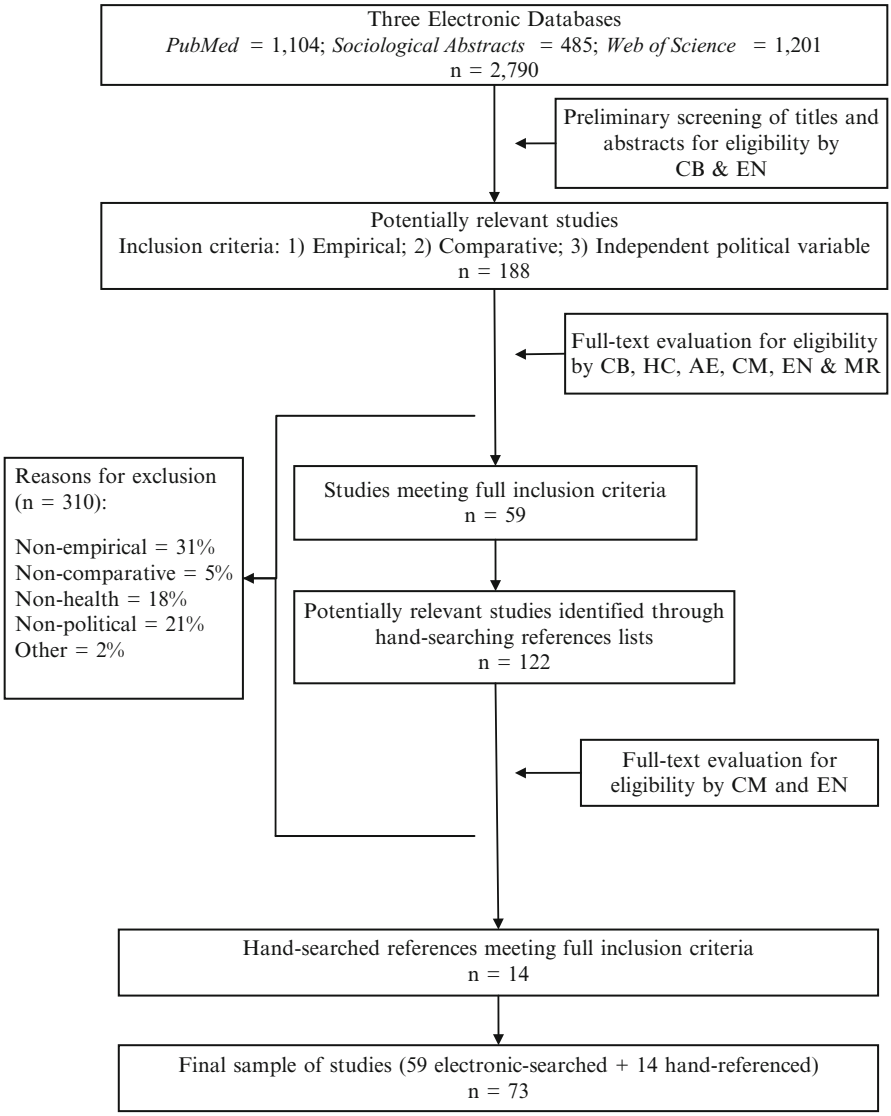

Fig. 9.1 Literature review and data abstraction flow chart

welfare regime and population health research, we provide a descriptive analysis of whether findings are supportive of political effects rather than a detailed appraisal of study quality and/or synthesis of findings across studies. A *pro forma* was developed to ensure the consistent coding and classification of the following information: year of publication (coded into 5-year intervals beginning in 1985); study objectives and hypotheses; study design (cross-sectional or longitudinal/panel/time series/trend); unit of analysis (individual or ecological); number of countries compared

(coded into 25 country increments); political variables (e.g., democracy measures, political traditions, welfare regime classifications); confounding factors; health outcomes; and main findings. To summarize the empirical findings between politics and health, studies grouped by political theme are also coded to the extent to which statistically significant associations are positive (i.e., political variable is associated with improved health) or negative (i.e., political variable is inversely associated with population health) or mixed (i.e., political variable is either unrelated or inconsistently related to health outcome).

All data was entered into SPSS version 18.0 (IBM Corporation, Somers, NY) and analyzed using basic descriptive and cross-tabulated statistics. A formal meta-analysis was not conducted owing to the heterogeneity of studies in terms of design, study populations and political and outcome measures, which limits options to aggregate findings into combined estimates.[1]

Table 9.1 presents the key characteristics of the 73 studies selected for this review. The most frequent comparative question addressed was the link between welfare states and population health or social inequalities in health (31 studies, 42.5%), followed by an interest in the beneficial health effects of democracy (26 studies, 35.6%). Less interest has been devoted to understanding how political traditions function as a determinant of population health (10 studies, 13.7%) and only six studies (8.2%) investigated the health effects of globalization.

Most reviewed studies used a cross-sectional study design (49 studies, 53.4%) with an ecological focus on countries as the unit of analysis (56 studies, 76.7%). The number of countries compared ranged from 2 to 208 with a primary focus on Organization for Economic Cooperation and Development (OECD) nations. Such a focus on wealthy countries often limited the number of countries compared to less than 24. Our review found 36 studies (49.3%) falling into this category, while 22 studies (30.1%) broadened their focus to include non-wealthy countries with country sample sizes over 100. Health outcomes tend to gravitate toward child health indicators such as infant mortality, low birth weight and under-five mortality (35 studies, 47.9%); life expectancy (24 studies, 32.9%); longstanding illness (8 studies, 11.0%); and self-perceived health (7 studies, 9.6%). The vast majority of the 73 studies were published since the turn of the century (2000–2010: 61 studies, 83.6%) with almost half of these contributions involving welfare state analyses (2000–2010: 28 studies, 45.9%), suggesting that politically oriented approaches to medical sociology and social epidemiology are heuristic research programs. Almost half (15 studies, 48.4%) of the 31 welfare state studies relied on individual-level survey data from nationally representative surveys with self-perceived health as the preferred dependent variable (25 studies, 81.0%). Conceptualizing and measuring the health effects of welfare states clustered around three dominant indicators: (1) welfare regimes (Avendano et al. 2009; Bambra et al. 2009; Bambra and Eikemo 2009; Bambra 2005, 2006; Chung and Muntaner 2007; Conley and Springer 2001; Dahl et al. 2006; Eikemo

[1] Summary characteristics of 73 studies on politics and health grouped by political theme are available from the authors upon request.

Table 9.1 Descriptive characteristics of 73 empirical studies on politics and health

	Number of studies	Percentage of total studies
Political themes		
Democracy	26	35.6
Globalization	6	8.2
Political tradition	10	13.7
Welfare state	31	42.5
Year of publication		
1985–1989	2	2.7
1990–1994	5	6.8
1995–1999	5	6.8
2000–2004	21	28.8
2005–2010	40	54.8
Study design		
Cross-sectional	49	53.4
Longitudinal/panel/time-series/trend	34	46.6
Unit of analysis		
Individual	17	20.0
Ecological	56	80.0
Number of countries compared		
2–24	36	49.3
25–49	6	8.2
50–74	4	5.5
75–99	5	6.8
100+	22	30.1
Health outcomes[a]		
Infant and child mortality	35	47.9
Life expectancy	24	32.9
Longstanding illness	8	11.0
Public health/health care needs/spending	4	5.5
Self-reported health	7	9.6
Other[b]	25	34.2

Notes

[a]Many articles examined multiple outcomes and, hence, the number of health outcomes (103) is greater than the number of studies. For this reason, percentages do add up to 100% and represent the proportion of health outcomes in relation to our final of 73 studies

[b]Other health outcomes included: absolute and relative health inequalities (Dahl et al. 2006; Muntaner et al. 2006); HIV/AIDS (Gizelis 2009; Menon-Johansson 2005); health care index (Bambra 2005); health conditions index (Correa and Namkoong 1992); immunization programs (Gauri and Khaleghian 2002); maternal mortality (Alvarez-Dardet and Franco-Giraldo 2006; Franco et al. 2004); mental health (Nordenmark et al. 2006; Zambon et al. 2006); mortality rate (Correa and Namkoong 1992; Lundberg et al. 2008; Safaei 2006); national health indicators (Klomp and de Haan 2008, 2009); oral health (Sanders et al. 2009); Physical Quality of Life Index (Cereseto and Waitzkin 1986; Moon and Dixon 1985); probability of dying between 15 and 65 (Adeyi et al. 1997); The Short-Form 36 (Sekine et al. 2009); women's reproductive health (Pillai and Gupta 2006; Wejnert 2008); and years of potential lost life (Elola et al. 1995)

et al. 2008a, b; Farfan-Portet et al. 2010; Grosse et al. 2010; Karim et al. 2010; Lahelma and Arber 1994; Muntaner et al. 2006; Nordenmark et al. 2006; Rostila 2007; Sanders et al. 2009; Sekine et al. 2009; Zambon et al. 2006); (2) welfare state efforts, policies and spending (Burstrom et al. 2010; Elola et al. 1995; Fayissa 2001; Lundberg et al. 2008; Ouweneel 2002; Raphael and Bryant 2004; Veenhoven and Ouweneel 1995; Veenhoven 2000; Whitehead et al. 2000); and (3) welfare governance (Klomp and de Haan 2008; Menon-Johansson 2005).

All 26 studies on democracy are ecological in focus and 16 (61.5%) are longitudinal in design. To measure the presence, depth and breadth of democracy, these studies tend to use "Polity Scores" (e.g., concomitant qualities of democratic and autocratic authorities) (Baum and Lake 2003; Besley and Kudamatsu 2006; Gauri and Khaleghian 2002; Ghobarah et al. 2004; Gizelis 2009; Houweling et al. 2005; Lake and Baum 2001; Ross 2006; Safaei 2006; Shandra et al. 2010; Tsai 2006; Wejnert 2008); "Freedom House Ratings" (e.g., degree of democracy and political freedom in nations) (Alvarez-Dardet and Franco-Giraldo 2006; Franco et al. 2004; Klomp and de Haan 2009; Pillai and Gupta 2006; Stroup 2007); democracy indexes (e.g., freedom of group opposition, political rights and legislative effectiveness) (Frey and Al-Roumi 1999; Kick et al. 1990; Lena and London 1993; London and Williams 1990; Moon and Dixon 1985); and discrete classifications (e.g., country has system in which parties lose elections) (Adeyi et al. 1997; Huber et al. 2008; Navia and Zweifel 2003; Zweifel and Navia 2000). Nevertheless, single indicators predominate and do not allow for drawing important empirical distinctions between different notions of democracy (e.g., constitutional, substantive, procedural, process-oriented).

Regarding the six studies classified under globalization, all were ecological and most investigated infant mortality (5 studies, 83.3%) over time (5 studies, 83.3%) amongst less-developed countries (5 studies, 83.3%). Though small in number, globalization studies tested for a relatively wide range of political variables: exposure and openness to international markets (Kaufman and Segura-Ubiergo 2001); capital-intensive exchange and world-system role (Moore et al. 2006); private capital flows (Rudra and Haggard 2005); commodity concentration, multinational corporate penetration and International Monetary Fund conditionality (Shandra et al. 2004); and dependency indicators such as foreign investment and debt increase (Shen and Williamson 1997, 2001). Given the small sample size it is difficult to make useful generalizations. A literature review explicitly dedicated to "globalization and health" might have retrieved a larger number of empirical studies with political variables.

The ten studies testing political tradition primarily use cross-sectional designs (8 studies, 80.0%) and used countries (8 studies, 80.0%) as units of analysis. The remaining two individual-level studies used national representative surveys (Borrell et al. 2009; Espelt et al. 2008). Ecological studies favoured child health (6 studies, 60.0%) and life expectancy (4 studies, 40.0%) as health outcomes, while the health surveys concentrated on self-perceived health and long-term illness. Political variables ranged from political-economic conditions and systems (Cereseto and Waitzkin 1986; Correa and Namkoong 1992) to left-right political dimensions (Chung and Muntaner 2006; Moene and Wallerstein 2003; Navarro et al. 2006) to

Table 9.2 Findings of 73 empirical studies on politics and health grouped by political theme

Political theme	Positive association[a] n (%)	Negative association[b] n (%)	Mixed results[c] n (%)	Total n
Democracy	21 (80.8)	3 (11.5)	2 (7.7)	26
Globalization	1 (16.7)	4 (66.7)	1 (16.7)	6
Political tradition	9 (90.0)	1 (10.0)	0	10
Welfare state	19 (61.3)	1 (3.2)	11 (35.5)	31
Total: n (%)[d]	50 (68.5)	9 (13.7)	14 (19.2)	73 (100)

Notes
[a]Political variable exerts a positive, direct or indirect effect on the population health-related outcome
[b]Political variable exerts a negative, direct or indirect effect on the population health-related outcome
[c]Political variable is either unrelated or inconsistently related to population health-related outcome
[d]Number of studies and row percentages are organized by direction of association

power resources (Muntaner et al. 2002; Navarro et al. 2003) and to political regimes and traditions (Borrell et al. 2009; Espelt et al. 2008; Navarro and Shi 2001).

Table 9.2 shows the associations found between politics and population health outcomes in the 73 studies included in this review. These outcomes, grouped by political theme, are coded along whether politics has a positive, negative or mixed association with population health and health inequalities. Overall, 68.5% of the studies reviewed were positively associated with democracy, globalization, political tradition and welfare state. Positive associations were observed most often for the effects of political tradition (9 studies, 90.0%). The strength of power resources (Navarro et al. 2003) and working class power (Muntaner et al. 2002), expressed in terms of union density, left vote and egalitarian political parties, appear to lead to strong welfare states that implement redistributive policies, reduce social inequalities and improve population health. The lone negative association involved public health expenditures being reduced by strong conservative parties in government and high levels of voter turnout (Moene and Wallerstein 2003).

Democracy was the second most consistent finding with 21 studies (80.8%) reporting a positive association, all in the expected direction (i.e., advanced levels of democracy improves population well-being), even after adjustment for national income, education and income inequality. The health effects of democracy are direct through individual income (Klomp and de Haan 2009) and the provision of basic needs (London and Williams 1990) as well as indirect through economic growth (Baum and Lake 2003) and strong political institutions (Besley and Kudamatsu 2006). Negative health outcomes were reported amongst formerly socialist countries transitioning toward democracy (Adeyi et al. 1997), middle-income countries implementing immunization programs (Gauri and Khaleghian 2002) as well as low-income groups in democratic countries with respect to infant and child mortality rates (Ross 2006). Studies reporting on the non-health effect of democracy found stronger empirical support for higher national incomes (Houweling et al. 2005) and expanding economic freedoms (Stroup 2007).

Population health differences across welfare state regimes were for the most part positive (19 studies, 61.3%) and primarily used Esping-Andersen's (1990)

original country classification of Liberal/Residual, Conservative/Corporatist/Bismarckian and Social Democratic in addition to Ferrera's (1996) addition of Southern regimes. Social Democratic regimes appear to have a salutary effect on population health and tend to narrow absolute health inequalities through the generous provision of universal welfare policies and labour market decommodification (Avendano et al. 2009; Bambra 2005, 2006; Burstrom et al. 2010; Chung and Muntaner 2007; Eikemo et al. 2008b; Lundberg et al. 2008; Nordenmark et al. 2006; Raphael and Bryant 2004; Zambon et al. 2006). However, more than any other political theme, approximately a third of welfare state studies (11 studies, 35.5%) reported inconclusive and contradictory associations regarding its effect on reducing social class inequalities in health (Dahl et al. 2006; Eikemo et al. 2008b; Muntaner et al. 2006), gender and socioeconomic differences in health (Bambra et al. 2009) and government effort and health spending (Ouweneel 2002; Veenhoven 2000; Veenhoven and Ouweneel 1995). Amongst the limited number of globalization studies, the most common finding was that international capitalism appears to be structurally detrimental to the health of less developed countries (Moore et al. 2006; Shandra et al. 2004; Shen and Williamson 1997, 2001).

According to these findings, the literature on political determinants of population health has so far been concerned with four major research problems. The first problem concerns the relation between varieties of welfare states and population health, which is earning the most attention. A standard textbook definition of welfare state is that "it involves state responsibility of securing some basic modicum of welfare for its citizens" (Esping-Andersen 1990). This idea of collective responsibility, together with social citizenship (i.e., who should be endowed of the welfare service of the government and what is the boundary) constitutes the core notion of a welfare state (Esping-Andersen 1990). These studies typically compare the population health averages or socioeconomic inequalities of countries by welfare state regime type (e.g., social democratic, liberal, conservative) (Navarro and Shi 2001). Researchers have also focused on specific components of the welfare state (e.g., social expenditures as proportion of the national budget) and examined their association with population health status across age groups and countries (e.g., Conley and Springer 2001; Lena and London 1993). Welfare state research is at the core of contemporary debates in capitalist economies on the role of the state versus the market. These sets of welfare state studies constitute a heuristic research program even if results are contradictory; redistributive welfare regimes seem to be associated with overall better average health indicators while class inequalities in health are not consistently lower in those regimes. Variability in countries (OECD, pair comparisons, middle and low income); periods (post-World War II "golden age" versus later); units of analysis (individuals versus countries); measurement of socioeconomic position (social class, education, occupation and income); and health outcomes (life expectancy, infant mortality rate and under-five mortality) might account for the lack of consistent findings. The second area of exploration is closely linked to welfare state studies but takes the model "upstream" a step further. It concerns the relation between political tradition, for example, years of government with a Labour party and population health averages or health inequalities between socioeconomic

groups (e.g., Espelt et al. 2008). In fact, researchers interested in political tradition incorporate welfare regime types in their models (Chung and Muntaner 2006).

A third area of inquiry concerns the relation between democracy and population health (Franco et al. 2004). The contemporary notion of democracy is broad and encompasses the presence of democratic institutions (e.g., universal suffrage, parliament, party) that represent "good governance" (e.g., lack of corruption, civil society participation). Yet, most of these studies focus narrowly on single indicators of democracy, which were pragmatically developed by non-academic organizations. Seemingly crucial elements of liberal democracy such as the role of private campaign contributions or proportional representation are not measured or analyzed. Overall, however, we found that democratic regimes are associated with better health outcomes than non-democratic regimes, even after adjusting for national income (Franco et al. 2004).

Fourth, a few development and globalization studies have examined population health from the perspective of international politics. Although only six articles met our inclusion criteria for our review, the potential for these substantive foci is substantial (Labonte et al. 2009). The assumption that nations are politically independent units seems unrealistic, even when we limit our studies to wealthy countries (e.g., G20, NATO, World Trade Organization, World Bank, International Monetary Fund) (Muntaner and Lynch 1999). Thus, globalization studies add a layer of complexity to country comparisons as they model the political relationship between countries.

The main conclusion of our review of the epidemiologic evidence is that politics has an effect on population health with egalitarian ("left wing") political traditions producing the most affirmative results. Advanced levels of democracy are consistently related to better population health, mirroring Sen's (1999) finding that democratic governments, on average, are more accountable to their populations than non-democratic governments. Welfare regimes with long periods of Social Democratic tenure seem to have strong effects on population health and moderate effects on health inequalities. Research focused on globalization as a determinant of population health is in its infancy though some evidence suggests deleterious impacts.

For all political themes, there is a pressing need to better understand the political mechanisms of policy formation using ecologic units of analysis and longitudinal multilevel designs to strengthen evidence of policy effects at the individual level. Also, political economy of health and welfare regime frameworks would be well-served to explicitly consider the potential causal pathways linking political processes to individual health. A specific problem of this field is the relatively narrow conceptualization and measurement of "democracy." Large differences in health effects are likely to be found between: (1) the indirect representation and dual party systems that characterize liberal parliamentary democracies; and (2) the direct participatory democracy or the local participatory budgeting of, for example, the Brazilian city of Porto Alegre (Côrtes 2009). Institutional indicators such as "constitutional veto points" (e.g., the American supreme court) that make it difficult to implement major policy changes at the national level are also likely to have an influence on population health (Huber and Stephens 2001). New indicators developed by

social epidemiologists reflecting different forms of democracy should be tested with respect to their relation to population health. The measurement of democracy does not correspond to *a priori* socio-epidemiologic models but rather to available indicators constructed by academics and non-government organizations with specific views of democracy (e.g., The Freedom House indicator).

Modelling political aspects of international relations remains the most underdeveloped set of studies perhaps because of the elaborate social modelling that these studies require. However, based on the studies published to date, three studies did test for competing macrosocial hypotheses between modernization and dependency perspectives (Shandra et al. 2004; Shen and Williamson 1997, 2001). Political science, political sociology and comparative welfare state studies commonly analyze ecologic data using time series with panel regression analysis, methods that are seldom used in political economy of health and welfare regime disciples. Nonetheless, these methods – in which a dependent variable at one time is regressed on itself at a previous time (or lagged dependent variable) and other independent variables at that same earlier point in time – should be adopted by contemporary researchers since they are the proper method for time-series data. Thus, we can estimate the effects of independent variables on change in the dependent variable between two time points making causal inferences with non-experimental data (Finkel 1995).

Welfare state research is at the core of contemporary debates in capitalist economies on the role of the state versus the market. To date, welfare state studies have demonstrated both positive and mixed health results. On one hand, Social Democratic welfare regimes committed to more egalitarian policies exhibit better population health outcomes when compared to other regime types. This finding is consistent with the well-known capacity of social democracies to reduce social inequities through the provision of universal and redistributive policies (Esping-Andersen 1990; Kenworthy 2004). On the other hand, relative health inequalities are not consistently smaller in Social Democratic countries and do not systematically differ amongst welfare regimes. Potential explanations for these mixed findings include variability of countries analyzed (exclusive focus on OECD countries); period effects (post-World War II "golden age" versus retrenchment period); units of analysis (individuals versus countries); limited measurement of socioeconomic position (education, occupation and income); and type of health outcomes examined (no disease-specific models and over-reliance on self-reported health). In addition to the narrow scope of health indicators, limited studies on period and cohort effects and studies using time series constitute other challenges of these welfare state-type studies.

The set of studies focusing on political tradition provide some evidence on the relation of political orientation to population health. Results, however, are limited to small sample sizes. Time in government and number of cabinet members from a given political orientation (Espelt et al. 2008) are promising institutional indicators of the political power associated with a given political orientation due to the objectivity of their measurement and consistency of findings in the political science literature (Huber and Stephens 2001).

9.5 Considerations Regarding Comparative Political Studies in Social Epidemiology

Based on the articles reviewed, we acknowledge that conducting macro-level, comparative quantitative studies presents some unique challenges to advancing political of economy of health approaches including a-historicism, the "small N" problem, omitted variables and missing data.

9.5.1 The Problem of A-Historicism in Time-Series Analyses of Historical Processes

Because of the specific ontological features of this field (i.e., the universe of countries contains approximately 200 units), macro-comparative political and policy analyses have always been at risk of lack of statistical power. Recently however, quality datasets of multiple time series have become available for quantitative comparative political and policy research. As a result, sample sizes can be expanded from the traditional tens of observations to hundreds. In earlier years, the field of comparative politics, in particular the comparative study of the welfare state, was approached using descriptive and prescriptive studies, while empirical social scientists regarded welfare states as a convenient source of data for testing abstract theoretical claims. Following Shalev (2007):

> Earlier works in comparative political economy tended to focus on explaining enduring cross-national differences. …The standard tools of the trade were scatter-plots, correlations and primitive cross-sectional regressions. …The turning point was a controversial cross-national regression study by Lange and Garrett (1985) . …In a final response to their critics…they suggested that the debate would only be resolved by the use of a pooled Cross-Sectional Time Series design, which in addition to furnishing a much larger number of observations would enable researchers to directly study whether the effects of changes in government composition are conditioned by national institutional contexts. …Two years later…their seminal article…turned pooled regression into the design of choice for quantitative comparative political economists.

While alternative qualitative approaches in comparative political studies such as those of Ragin (1987) had very little impact, the pooled cross-sectional approach has become the analytical method of choice in this field. Nevertheless, the mismatch between ontology and epistemology introduced by the use of the pooled cross-sectional regression method is a problem that sociology and social epidemiology cannot ignore (e.g., Hall 2002; Ragin 1987; Verba 1967). While various regression methods remain effective tools for hypothesis testing in comparative studies, they rarely provide explanations and mechanisms (Hall 2002). In Freedman's (1991) own words, "regression may provide helpful summaries of the data" but cannot "carry out much of the burden in a causal argument."

Another problem of "political studies" relates to the characteristics of social events as opposed to those, say, of experiments. Social processes occur in sequences

of actions located within constraining or enabling socio-historical structures. They are often impossible to control or reproduce; it is a matter of particular social actors in particular social places and at particular social times (Abbott 1992). "It is…the portrayal of social phenomena as temporally ordered, sequential, unfolding, and open-ended 'stories' fraught with conjunctures and contingency" (Griffin 1992). The occasions we usually encounter in comparative historical analyses are where what we have are "instances" where similar processes are apparently operating but, aside from that, differ in all manner of other relevant respects – rather than "cases" – considered comparable (the same set of properties is used to describe each of the elements). As Hopkins (1982) states: "Put sharply, the cases necessary for the statistical portion of inquiry must be presumed essentially homogeneous (members of a sample of a universe); the instances necessary for the historical portion must be presumed essentially heterogeneous (members respectively of universes of one)."

For example, Social Democracies are Northern European countries and Late Democracies are Southern European countries. As a consequence of their different historical trajectory, they are characterized by different patterns of risk factors: less smoking in the South; protection via the traditional "Mediterranean diet;" and a less stressful lifestyle. In addition they have different historical trajectories in spite of their relative geographical proximity. In the post World War II period, Late Democracies suffered from non-democratic "right wing" or Fascist regimes, while Social Democracies enjoyed stable democracies. That is, countries with different political and welfare state traditions are extremely difficult to compare due to the confounding effect of cultural and economic factors or historical trajectories on population heath.

In this situation, comparing results (as in a formal statistical approach) is not sufficient. We need to explain different initial conditions and the same process in different contexts. Because of these dilemmas and the inferential limitations of quantitative analyses, the best we can hope from quantitative analyses of comparative political and policy processes is what Hempel (1965) called a "narrative sketch." Logical positivist Hempel used the terms "narrative sketch" or "explanation sketch" to convey the notion of "covering law"-type historical scientific explanation. We suggest its use in sociology and social epidemiology in a slightly looser way. While not against the concept of general law in comparative political and policy research, the quantitative analysis of pooled countries can only present a partial answer to comparative political and policy research in sociology and social epidemiology. As the "path dependence" school suggests, there is a certain amount of irreducible and unique historical path in countries, which can only be discovered and analyzed using a qualitative methods such as case studies (Huber and Stephens 2001; Shalev 2007). Therefore, while acknowledging the necessity of the empirical quantitative approach, we recommend the use of the term *narrative sketch* as an acknowledgement of its limitations in this emerging area of sociology and social epidemiology and leave room for further social-historical investigations to complement the use of quantitative techniques such as pooled regression.

Political and policy processes (e.g., increasing social security or medical expenditures) are typically considered similar in the countries that are grouped together, but the effect of these processes has the potential to vary across grouped

countries because the initial conditions are different in these countries (e.g., degree of social participation, social movements supporting policies). The "sketch" should provide historical explanations of what happens at the aggregate level instead of presenting mere associations among relevant factors. "Carrying out the burden in a causal argument (Freedman 1991)" or account for the "historical proportion" need to be conducted through qualitative case studies or quantitative studies aware of these short comings (Hopkins 1982).

At best, the presentation of a simple summary of associations is insufficient, and, at worst, it will be misleading, as illustrated by Issac and Griffin (1989). These authors claimed that "much conventional quantitative time-series research is 'a historical'…that critical contingencies of social change, understood as the sudden or gradual temporal conditioning of historical-structural relationships (Duncan 1975) are for the most part ignored in quantitative explorations of historical processes (Hernes 1976)." Thus, using the same data and measures as examined in previous studies (Ashenfelter and Pencavel 1969; Edwards 1981; Hannan and Freeman 1988), these researchers conducted a "correlational" variant of the "moving regression" (Brown et al. 1975) or "moving covariance" method (Issac and Griffin 1989) to analyze the relationship between changes in strike frequency and three indicators of union strength for the period from 1882 to 1980. They found sudden structural changes in the relationship, i.e. the change in the direction of the association, in the early 1920s, in the mid- to late-1930s, the mid-1940s and in the mid-1950s, with the most dramatic change in the mid- to late-1930s. These breakpoints correspond to historical changes in labour institutions and regulations and the resulting change in labour militancy or the growth in membership of the American labour movement that had not been identified in previous analyses. These findings, again, point out the need for historical specific analyses in comparative politics and policy studies in sociology and social epidemiology as well. At the same time, the study is a good example of using quantitative analyses to conform to the historical reality. In sum, the alternative to the intrinsic problems of comparative political and policy analysis in sociology and social epidemiology is to incorporate appropriate amendments to existing quantitative methods.

9.5.2 The "Small N" Problem, Statistical Power, Omitted Variables and Sensitivity Analyses

The "small N" problem stems from the fact that the phenomenon we have at hand is a set of complex social processes occurring among a few countries (less than 200) and, usually, much less due to lack of quality datasets in low- and medium-income countries. The number of cases is too small to permit multivariate analyses that include all of the potentially relevant explanatory factors (Kenworthy 2004). Analyses, therefore, run the risk of omitted variable bias. Thus, as it is well known in epidemiology, if a variable that is correlated with both the independent variable of interest and the dependent variable is not included in the regression, the coefficient for the independent variable may overestimate its true effect (Kenworthy 2004).

It is empirically unfeasible to include all explanatory variables, and, even if we could, we would not be able to test their effect in a single model because of multicollinearity. Therefore, in macro-comparative political and policy analyses, we use various types of sensitivity tests to assess the stability of hypothetical models. First, "extreme bound analysis" can be performed using one explanatory variable and all possible combinations of other variables with less than four explanatory variables (Leamer 1983; Deravi et al. 1990). Also useful is a variety of the "jackknife test," generating a number of bivariate regressions equal to the number of countries by using subsets of datasets. Only seven of the studies reviewed here conducted such sensitivity analyses (Avendano et al. 2009; Chung and Muntaner 2006; Conley and Springer 2001; Bambra et al. 2009; Baum and Lake 2003; Eikemo et al. 2008a; Klomp and de Haan 2009). Political economy of health and welfare regime researchers engaged in comparative population health research would be well served to become acquainted with these analytical methods.

9.6 The Missing Link in Political Epidemiology: Social Class

Social class understood as a power and political relation (as in managerial control, property relations, labour unions, political parties and class based social movements) is absent from social epidemiology. Yet, as suggested by the Whitehall studies (Marmot et al. 1991, 1997) and several other analyses (Muntaner et al. 2010), power relations can be an important social mechanism by which health disparities are generated. The typical pattern of relying on a single ordering of income does not tap into the social mechanisms that explain how individuals arrive at different levels of material resources. Occupational measures cannot account for social inequalities because occupation refers to the technical aspects of work rather than to power relations (such as asset ownership or managerial control). For example, somebody who drives an automobile for a living could be a self-employed owner of a taxicab, a supervisory worker of a taxicab chain, the owner of a taxicab chain, a taxicab driver renting a car or some combination of the above.

Class politics, as opposed to popular research areas such as "globalisation" or "social capital," is absent from social epidemiology (Muntaner 2004). For example, the working classes of low- and middle-income countries may or may not have influence over the international financial institutions that outline developing countries' health policy reforms. Again, without assessing social class power and political relations, we fail to generate mechanisms and explanations to further health disparities research. We can begin to understand the mechanisms that generate differences in income, wealth or credentials if we use social class measures that capture power relations (e.g., property relations, managerial control) (Muntaner and Lynch 1999; Muntaner et al. 2010). We can add even more complexity when class power is mediated (via one's family), is part of a trajectory (e.g., higher education), involves simultaneous positions and is measured at multiple

levels or with continuous indicators (e.g., rate of exploitation, value of productive assets owned, number of workers supervised).

We also need to confront the causes of the neglect of power relations in social class research. By focusing on the properties of social positions rather than persons, power relations clash with the lay (middle class) assumption that a person's social class reflects some intrinsic attribute ("will power," "talent," "effort"). For this reason, power relations are simultaneously intriguing and unsettling.

9.7 Bringing Politics Back into Epidemiology

Guided by a political economy of health and welfare state regime framework, our review of 73 studies suggests that there is an association between politics expressed in terms of democracy, globalization, political traditions and welfare states and population health and health inequalities after adjustment for a common range of confounders. The strongest and most consistent associations with improved population health are advanced levels of democracy and egalitarian political traditions, while the health effects of welfare states are inconsistent. This emerging field of study is limited by a dearth of globalization studies, over-reliance on high-income core countries, infrequent use of longitudinal and time-series designs, few sensitivity analyses and limited conceptualizations of politics and power. Research on the association between politics and health has only recently emerged as a body of research, and it is clear that further investigation of this phenomenon is warranted. Informed theory, rigorous methods and conceptual clarity will be needed to reveal how political forces function as a macro-determinant of population health.

Harvard University Professor Richard Lewontin (2001), in his critical analyses of the standards of social sciences, noted that equating the status of experimental sciences and sociology was a self-defeating strategy. Instead, he recommended the use of data simultaneously with explanatory narratives to "fill in" where the data cannot go. The emerging field of the "politics of population health" or the comparative political and policy studies of population health is providing interesting inspirations to sociology and epidemiology and reminds us of the health-defining role of political and other macrosocial factors. However, such cautious warnings as Lewontin has suggested should be applied to this emergent field of sociology and epidemiology as well.

9.8 Conclusions

This chapter has shown that political and welfare state variables are salient determinants of population health and health inequalities and that absolute and relative health differences exist across countries along a range of political variables, including democracy, globalization, welfare states and political tradition. Identifying these

associations represents an important first step; however, more work is needed to understand how to apply conflict-based theories to reduce health inequalities.

Conflict-based theories such as political economy of health and welfare regime frameworks emphasize, respectively, how social structures and institutions create, enforce and perpetuate social inequalities in health as well as the extent to which the state, operating as a social system, decommodifies the welfare needs of its citizens to mediate reduce these inequalities. Social epidemiologists are now applying these theories and their associated concepts to yield new important insights and, in the process, are rapidly advancing the sub-field of "political epidemiology" (Gil-González et al. 2009; Muntaner and Chung 2008). Applying political epidemiology to understand population health requires specifying how political and welfare regime variables are proxies for social structural forces that either favour or oppose egalitarian health outcomes and the distribution of proximal social determinants (e.g., socioeconomic resources, affordable housing stock, reliable public transport, green spaces for health recreation or regulation workplace hazards).

To illustrate how health inequalities can be reduced from a political epidemiology perspective, consider the example of political traditions, defined as left-right ideological dimensions, reviewed above. Conceptualizing political traditions as a determinant of population health expands social epidemiology's scope of interest to understand how structural levels of health inequalities are generated, what levels of political jurisdictions are relevant as well as which political forces and ideologies favour egalitarian outcomes. From this viewpoint, reducing health inequalities requires understanding how pro-distributive political parties, social movements, organized labour and other forms of working-class power mobilize to create strong welfare states that institutionalize the equal distribution of social and health-relevant resources. Conversely, to understand how political traditions might contribute to health inequalities, future research can assess the impact of conservative ("right wing") political parties and neo-liberalism in addition to the familiar structural adjustment policies imposed by the World Bank and by the International Monetary Fund on policy arrangements that lead to increased social stratification and class conflict. Advancing these research programs relate well to current work in social epidemiology on the mediating pathways that link social determinants to the health of individuals and populations (Marmot 2000).

Answering this chapter's central question – how does politics influence population health? – offers an important lesson on how future research can be augmented with path-dependent models. Path dependence explains how institutional patterns are created and reproduced from the sequential interplay between historical decisions and contingent events (Mahoney 2000). Applying this logic to the institutional reproduction of health inequalities reveals how historical relations and events influence power mechanisms, institutional characteristics and mechanisms of political change. Thus, achieving health equality is dependent on the path of past political struggles and outcomes in addition to current policies, programs and other factors that mediate population health outcomes. The challenge involves linking health inequalities to a particular set of historical events and demonstrating how these events are themselves contingent upon time and place.

A power-based, path-dependent approach suggests that health inequalities are not inevitable but result from contingent events such as historical transformations (e.g., transition to democratic governance structures); changes in democratic power (e.g., electoral swings between political parties); international relations (e.g., increasing impact of globalization); and social class compromises (e.g., varieties of welfare states). Common to these examples is the inherent conflict between those who are empowered verses those who are powerless through the persistence of political, economic and cultural institutions. The presence of conflict implies that these institutions possess the potential to be influenced, altered and even transformed (Sewell 2009). In this sense, power-based accounts, which integrate political relations and institutional reproduction, offer an intriguing framework for social epidemiology to explain the path-dependent causes of health inequalities as well as their possible reduction. Though political epidemiology remains in its infancy, considerable evidence exists that demonstrates that political factors are as important to population health today as they were during Engels' and Virchow's time.

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