Mackenbach, Hu and Looman’s (2013) investigation of the relationship between democratization and life expectancy in European countries is an example of a study in the growing field of “political epidemiology” (Muntaner et al., 2010; 1396). We define political epidemiology broadly as the study of the impact of welfare regimes, political institutions and specific policies on health and health equity. In this commentary we provide some critical reflections on political epidemiology, distinguishing between three approaches and analyzing what can (and cannot) be learned from each.

Political epidemiology

The WHO Commission on Social Determinants of Health’s (CSDH) (2008) conceptual framework for action on health inequities includes the political context (governance, policy) among the drivers of population health. While meso-level social determinants of health (SDH) (e.g., neighborhood contexts) are increasingly well understood, the more upstream and systemic SDH remain under-researched (CSDH, 2008).

Political epidemiology studies the relationship between the political context and (the distribution of) states of health and wellbeing. While such research has been conducted for at least two decades, its definitions, conceptual, theoretical and methodological foundations are still being established (Espelt et al., 2010; Lundberg, 2008a, 2008b; 2010; Navarro, 2008).

A typology of political epidemiology

Three broad approaches to studying the health impact of the political context can be identified: the welfare regime approach, the politics approach and the individual policy approach. These approaches vary according to the level at which they conceptualize the causal processes linking the political context and health, in their methodology and in their application. While the welfare regime and politics approaches have been debated (Espelt et al., 2010; Lundberg, 2008a, 2008b; Muntaner et al., 2011), the individual policy approach has received less attention.

The welfare regime approach

The well-established welfare regime approach is largely grounded in Esping-Andersen’s (1990) classification. This macro-level approach classifies societies based on their degree of de-commodification (state efforts that reduce individuals’ reliance on the market for their wellbeing), social stratification (privilege versus public) welfare provision. Esping-Andersen (1990) mainly suggested three regimes: social-democratic, Christian-democratic and liberal (later adding a fourth type, the Mediterranean). Others subsequently developed and expanded this classification to consider regimes outside of Europe and North America (but excluding those in regions such as Africa and South America, see Eikemo & Bambr, 2008).

Studies in the welfare regime tradition are generally cross-country or cross-regional comparative studies aiming to determine the differential impact of welfare regimes on population health and/or health equity in high-income countries. Welfare regime theory points to systematic differences across countries in social rights and protection that are likely to generate higher levels of population health and health equity (Lundberg, 2010). A 2011 review concluded that population health is generally best in the social-democratic regime, whereas (relative) health inequalities are comparable across regimes (Muntaner et al., 2011). However, a 2012 review concluded that empirical evidence does not consistently support welfare regime theory (Brennenstuhl, Quesnel-Vallée & McDonough, 2012). The authors of the review concluded that “measurement of policy instruments or outcomes of welfare regimes may be more promising for public health research than the use of typologies alone” (Brennenstuhl et al., 2012; 397). Nonetheless, the welfare regime approach continues to be an active research area (examples in Table 1).
The politics approach

Beyond the organizing framework of the welfare regime approach, political epidemiology broadens out to diverse other potential SDH that are difficult to encapsulate in one descriptive term. (We have nonetheless attempted to summarize these studies under the umbrella descriptor of “the politics approach”). These studies have investigated the health effects of political traditions and ideology (e.g., neoliberalism), processes (e.g., democratization, globalization, corruption, privatization, trade liberalization), systems (e.g., democracy versus autocracy) or institutions (e.g., unions, political parties, bureaucracy). Research programs on political traditions, globalization and democracy remain the most prominent in this area (Muntaner et al., 2011). The Mackenbach, et al. (2013) study of the relationship between democratization and life expectancy in European countries is an example of this approach (further examples in Table 1).

The individual policy approach

The third and so far least prominent approach in political epidemiology involves studies evaluating a clearly defined, discrete (often social) policy’s impact on individual- or population-level health. Social policy has been defined as “public policy and practice in the areas of health care, human services, criminal justice, inequality, education, and labor” (Malcolm Wiener Center for Social Policy, n.d.). In economics and econometrics there is an established tradition of evaluating the impacts of individual social policies on various outcomes. Examples include the effect of raising the minimum wage on employment rates (Card & Krueger, 1994) and of an increase in the exposure on change in the outcome, using such causal inferential methods as instrumental variable, fixed effects or discontinuity regression analysis. In the field of population health, this approach has only recently begun to be applied to examine the health impacts of social policies (Table 1), e.g., our recent study of in-work tax credit (Pega, Carter, Blakely et al., 2013).

What we can (and cannot) learn from the different approaches

Drawing on scientific debates (Espelt et al., 2010; Judge, 2008; Lundberg, 2008a, 2008b, 2010; Muntaner et al., 2010; Navarro, 2008), we have drawn out comparative advantages and limitations of the three approaches in Table 2. The approaches differ in the strength of their theoretical foundations and the robustness of their concepts and measurements.

In terms of theories, the welfare regime approach and, to a lesser extent, the politics approach are grounded in well-developed theories, but their propositions are much harder to test for causality. The welfare regime approach, in particular, faces several theoretical criticisms, including that existing theories and classifications are based on single aspects of the welfare state (e.g., public financial credits) (Lundberg, 2008a); assume that diverse welfare resources are organized similarly within (clusters of) countries (Lundberg, 2008a); assume that welfare states are stable over time (despite policies changing); and are not established for most low- and middle-income countries. The empirical evidence does not align well with theory (Brennenstuhl et al., 2012). By comparison, the individual policy approach lends itself to the counterfactual framework for testing causality, but it misses the “big picture” of why policies matter for health.

In terms of concepts and measurements, we argue that the welfare regime approach faces distinct challenges. Firstly, welfare regimes may be too broad to capture health-relevant aspects of the political context. For example, research has found persistent (or widening) health inequalities in Europe's modern welfare states (Mackenbach, 2012). But these findings may result from the macro-level lens of welfare regime analysis failing to capture the “fine grain” of impacts on population sub-groups. Thus, if public financial credits have no health effect in their recipients (low-income population) yet improve health in non-recipients (middle- and high-income population) via “welfare security”, the net result may be either no effect or even an exacerbation of health inequalities (Pega, Blakely, Carter & Sjöberg, 2012). The presence of such “negative” policy impacts may explain empirically inconsistent (Brennenstuhl et al., 2012; Muntaner et al., 2011) findings on the relationship between welfare regimes and health inequalities. Secondly, the application of relatively static welfare regime concepts may fail to capture important changes of a country’s social policies over time. Sweden was an exemplary social-democratic welfare regime, yet it decreased the generosity of its social policies considerably after the mid-1980s. Despite this, Sweden is generally classified as a social-democratic regime before and after the mid-1980s. Third, the approach fails to incorporate potentially important time dimensions (e.g., lag effects of policy). If certain social policies have a long-term (rather than short-term) effect, changes in outcomes may have resulted from welfare changes many years previously.

Table 1
Examples of studies taking the three different approaches.

<table>
<thead>
<tr>
<th>Approach</th>
<th>Study</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Muntaner et al. (2011)</td>
<td>Welfare regimes and population health, health inequalities (review, 31 studies)</td>
</tr>
<tr>
<td></td>
<td>Brennenstuhl et al. (2012)</td>
<td>Welfare regimes and population health, health inequalities (review, 33 studies)</td>
</tr>
<tr>
<td>Politics approach</td>
<td>Lynch et al. (2001)</td>
<td>Trade union membership, political representation of women and child mortality</td>
</tr>
<tr>
<td></td>
<td>Navarro et al. (2006)</td>
<td>Political tradition and child mortality, life expectancy</td>
</tr>
<tr>
<td></td>
<td>Granados (2010)</td>
<td>Political tradition and population health</td>
</tr>
<tr>
<td></td>
<td>Muntaner et al. (2011)</td>
<td>Political tradition, globalization, democracy and population health (review, 42 studies)</td>
</tr>
<tr>
<td></td>
<td>Chen &amp; Cammett (2012)</td>
<td>Political activism and health care access</td>
</tr>
<tr>
<td></td>
<td>Mackenbach, et al. (2013)</td>
<td>Democracy and life expectancy</td>
</tr>
<tr>
<td>Individual policy</td>
<td>Lucas, McIntosh, Petticrew, Roberts &amp; Shiell (2008)</td>
<td>Anti-poverty financial credits and child health (review, nine studies)</td>
</tr>
<tr>
<td>approach</td>
<td>Lagarde, Haines &amp; Palmer (2009)</td>
<td>Conditional financial credits and health (review, 10 studies)</td>
</tr>
<tr>
<td></td>
<td>Pega, Carter, Kawachi, et al. (2013)</td>
<td>In-work tax credit and individual health</td>
</tr>
<tr>
<td></td>
<td>Pega, Carter, Blakely et al. (2013)</td>
<td>In-work tax credit and health (review, five studies)</td>
</tr>
</tbody>
</table>
The three approaches also differ methodologically. The welfare regime (Lundberg, 2010) and politics approaches generally do not fit well into counter-factual frameworks. Finding instances when a change in welfare regime or a change in political institution (e.g., from dictatorship to democracy) occurred to permit a natural experiment on population health change is challenging. However, all approaches share the problem of overcoming endogeneity (presence of unobserved variables that drive demand for certain policies and population health). Furthermore, teasing apart the impacts of specific policies, which may be confounded by the impact of other policies occurring at the same time or in other sectors, may be difficult (Muntaner et al., 2010). While the welfare regime and politics approaches can address this issue in part, the individual policy approach cannot determine synergic effects accruing from multiple sectors at the same time (Muntaner et al., 2010). The flip side of this argument is that any association between a macro-level political exposure (e.g., “liberal democracy”) and a population health outcome cannot pin down the exact policies that were responsible for the health difference. Arguably, the welfare regime and politics approaches’ potential for informing policy-making and practice is limited. They do not usually provide practicable information on individual social policies or policy features that policy makers could modify (Lundberg, 2008a; Muntaner et al., 2010). Suggesting interventions for changing a state’s (usually stable) welfare regime, the degree of democracy or the populace’s political preferences is difficult. In contrast, by providing evidence of the health impact of defined policy interventions, the individual policy approach has direct application in and implications for policy development. However, studying an individual policy risks disregarding the historical, political and economic context, within which the policy affects health (Muntaner et al., 2010). For example, whilst studies suggest that income inequality predicts poor health, these studies have been criticized for overlooking the influence of those more “upstream” political forces (e.g., neoliberalism) that produce inequality in the first place and are associated with a “package” of other likely also health-detrimental policies (e.g., de-unionization, fiscal austerity, privatization) (Coburn, 2004). Finally, whereas the welfare regime approach has limited country coverage (European, North American and Asian high-income countries), the politics and individual policy approaches can be applied to all countries.

A call for studies adopting the individual policy approach

We believe that the welfare regime and politics approaches have yielded important insights and that the political epidemiological evidence base is strongest if it draws on results from all approaches. However, the low-hanging fruit has been picked with respect to running country-level ecological regression analyses. By contrast, the individual policy approach (i.e., evaluating the impact of individual policy changes) has been less often practiced with respect to evaluating population health. Despite caveats about the narrow interpretation of results, we believe it promises to yield policy-relevant insights in ways that the other approaches do not.
This potential of the individual policy approach is linked to the increasing drive for evidence-based policy. While policy-making is by definition a political, rather than purely rational or technocratic, process, policy actors are increasingly required to justify their decisions through empirical evidence. Furthermore, in the context of the policy “market”, there is increasing potential to deploy evidence as a tool to advocate for specific policy options over others.

Proponents of action on SDH have been pressed to provide practical guidance and be more pragmatic. The individual policy approach, by providing evidence that is easier to apply in the policy process, is arguably better placed to address this call than the welfare regime and politics approaches. It can generate evidence that policy makers and marginalized communities can directly use to advocate for specific policy interventions. Furthermore, because of its direct applicability, the usefulness of such evidence for SDH-and health equity-focused policy development can more easily be demonstrated to important policy actors, which should increase translation of the evidence into policy and action.

Therefore, we cautiously call for greater attention and application of the individual policy approach, mindful of its limitations. By building on the insights of the welfare regime and politics approaches, accumulating more evidence on the impacts of individual social policies may be a constructive direction for political epidemiology to drive action on SDH and reduce health inequities.

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Conflict of interest
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