Who runs public health? A mixed-methods study combining qualitative and network analyses

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ABSTRACT

Background Persistent health inequalities encourage researchers to identify new ways of understanding the policy process. Informal relationships are implicated in finding evidence and making decisions for public health policy (PHP), but few studies use specialized methods to identify key actors in the policy process.

Methods We combined network and qualitative data to identify the most influential individuals in PHP in a UK conurbation and describe their strategies to influence policy. Network data were collected by asking for nominations of powerful and influential people in PHP (n = 152, response rate 80%), and 23 semi-structured interviews were analysed using a framework approach.

Results The most influential PHP makers in this conurbation were mid-level managers in the National Health Service and local government, characterized by managerial skills: controlling policy processes through gate keeping key organizations, providing policy content and managing selected experts and executives to lead on policies. Public health professionals and academics are indirectly connected to policy via managers.

Conclusions The most powerful individuals in public health are managers, not usually considered targets for research. As we show, they are highly influential through all stages of the policy process. This study shows the importance of understanding the daily activities of influential policy individuals.

Keywords decision-making, evidence-based policy, public health policy, social network analysis

INTRODUCTION

Reducing health inequalities is a major focus on public health policy (PHP), but health and socioeconomic inequalities in the UK continue to increase.¹,² Researchers have attempted to explain this persistence in terms of resources and organization of services, and in the lack of evidence in choosing policy targets or implementing policy.³ A growing body of research demonstrates the importance of interpersonal relationships in (public health) policy-making, finding evidence⁴,⁵ and decision-making.⁶ Understanding how PHP decisions are made, and the main influences on policy may ultimately provide answers to the problem of persistent and increasing inequalities.

However, attempts to describe the influence of individuals or organizations on PHP have so far focused on networks of academics on national policy,⁷ the role of informal networks in health policy⁸ or the role of knowledge brokers focusing on knowledge transfer.⁹,¹⁰ No empirical study has thus far investigated the activities of policy individuals in public health and attempted to draw conclusions about their influence on policy processes.

At the time this study was undertaken, the primary functions of the public health system (health improvement, health protection and improving health services) were...
officially the responsibility of the National Health Service (NHS), although they are now transferred to local Authorities. However, the wider determinants of health inequalities such as education, transport and housing lie outside of the scope of NHS activities, necessitating partnership working.

In this study, we aimed to identify the most influential PHP individuals in a major UK city and provide explanations for their success in influencing policy, by combining network analyses with qualitative data.

Methods

The conceptual framework for the study was derived from a literature review and scoping interviews. Six key concepts (the policy process, use of evidence, power and networks, leadership, public health as well as governance and context) were used to design the sampling frame, structure the interviews and later to formulate the framework for analysis.

Population

Relevant individuals were defined as directors or executives involved in PHP (making policy, or gathering/analysing evidence for PHP) within the conurbation, or making policy that directly affected the conurbation. Deputy directors and council officers were also included where senior staff were unavailable. Employees working below these levels were excluded, as scoping interviews indicated that they would not be in a position to make policy themselves. Recruitment and data collection were carried out between January and September 2011. To protect the anonymity of participants, all individuals were given an identifying number.

Network analyses

An initial seed sample \( n = 84 \) was identified through key organizations in the conurbation involved in developing and delivering health policy (response rate 62%), and contacted by email, with telephone follow-up. They were, by means of a questionnaire, asked to provide demographic information and to nominate other people who they thought were (i) the most powerful individuals in PHP in the conurbation and (ii) the individuals who influenced them the most in PHP. Respondents were asked to provide the names and job titles for as many people within each category as they felt appropriate. These nominees were also contacted if they fell inside the criteria described above, until data collection ceased. Nominations were collated to form a network of directed ties, where individuals nominated others as ‘powerful’ or ‘influential’ (definitions were not provided to allow respondents to provide their own interpretations).

To identify the most important individuals, Hubs and Authorities analysis was used, using UCINet. In network analysis, there are a number of methods to identify key players within the network. Degree centrality just counts the number of times actor A has been chosen, whereas Hubs and Authorities scores produce a more nuanced picture. To score highly as an Authority, an actor needs to be nominated by those who are good at choosing people frequently chosen by others, i.e. Hubs are good at identifying powerful people, and Authorities are those who are identified by Hubs. In effect, this analysis identifies those individuals who are commonly assumed to be powerful or influential. These measures are effective at identifying key players because they reflect respondents’ knowledge of the social context, in effect weighting the votes of those who are better informed.

To identify a set of actors, an arbitrarily defined cut-off where there was a rapid tail-off of values was used as a threshold.

Semi-structured interviews

Twenty-three individuals were interviewed, one individual twice. The interview sample included four Directors of Public Health (DPH), one deputy DPH, two NHS managers, three councillors, four council officers, one academic and four public health intelligence staff. These individuals were purposively selected to include those central and peripheral to the network, and across professional boundaries.

Each interview lasted \( \approx 1 \) h. All participants were explicitly reassured that the researcher was not ‘doing an audit’ or ‘evaluating’ them in any way to ensure that they felt comfortable with disclosing their activities, particularly important at the time.

Interviews were recorded using a digital voice recorder, and the data were stored on a secure hard drive. Transcribed verbatim, transcripts were checked, adding and changing punctuation, phrasing and emphasis as understanding developed. The wording of responses was not changed, and the transcripts were edited only to aid understanding. A random third of all transcripts were co-coded by A.M.

A framework analysis was used to index data from the transcripts, using the headings and subthemes from the conceptual framework. Using standard framework analysis methods, the framework was iteratively updated to include new relevant subthemes identified through the initial interviews. Each transcript was coded exhaustively using this framework to identify main themes using Nvivo 8.0.
Data from the semi-structured interviews were analysed together with the network data to identify the main individuals, their characteristics and the strategies they used to influence the policy process.

**Results**

One hundred and fifty-two policy individuals were contacted through the survey (response rate 80%). For the power network, 51 actors responded. Of these, 36 were not nominated by their peers, 15 were nominated and 25 further actors who did not respond were nominated. In total, therefore, the power network had 76 actors, with figures for the influence network also in Table 1.

Between them, 225 network members were identified, of which 124 were outside the network boundary described above. Their responses were not sought, therefore, but they were included in the analysis of the network. Forty-three individuals included within the network boundary did not respond. The characteristics of all network members are described in Table 2.

**Power and influence**

Influential and powerful individuals were identified as those with high Authorities scores. Both networks were dominated by a set of actors (power network by five, and the influence network by seven), with a high degree of overlap. The characteristics of the most highly scoring individuals in both networks are summarized in Table 3. As might be expected, being a DPH or an executive explains the nominations of five of the Authorities. The highest ranking individual (ID187) in the power network was the regional professional public health leader, and as such was accountable for all local public health activity. No public health intelligence experts, academics, third-sector representatives or politicians (e.g. councillors or council leaders) were identified as Authorities.

However, three policy managers—mid-level managers in the NHS and local Authorities—were identified as authorities (Individuals ID221, ID219 and ID207). One policy manager (ID221) was the second-ranked individual in both networks. They had no formal public health training or expertise and did not hold executive or professional public health roles, which explain the presence of the other actors in the Authorities sets. To explain these nominations, descriptions of strategies used to influence the policy process, obtained from the semi-structured interviews, were compared with the network data.

**Influencing the policy process**

Using a framework analysis of participants’ accounts of the policy process, four strategies to influence the PHP-making process were identified: (i) controlling decision-making organizations; (ii) controlling policy content; (iii) controlling policy-makers and (iv) using network structures (Fig. 1). We describe below how each of these four strategies was presented by respondents.

Participants described how decision-making organizations were controlled: designing the governance structures and founding the organizations involved, writing agendas and work programmes for these organizations and using meetings.

During the data collection period, the NHS was undergoing major reorganization. Influential individuals were involved in setting up and designing the new configuration of organizations, which developed and implemented policy across the conurbation (e.g. ID219 and ID221). Policy managers directed the activity of key decision-making organizations. By providing meeting papers and co-writing agendas, policy managers effectively decided what would be discussed at each meeting. Often, there were informal meetings before the ‘official’ meeting, at which people would be sounded out, supporters briefed, potential challenges discussed in advance and responses prepared. One prominent individual (ID219, policy manager in the NHS) said his motto was: ‘Never going into a meeting with a proposal without knowing exactly how it’s going to come out of the meeting’ . . . That sounds terribly manipulative but to me it’s about momentum.

The second set of strategies related to providing policy content defined as the ideas and proposals, which formed

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**Table 1** Network members

<table>
<thead>
<tr>
<th></th>
<th>No. of respondents</th>
<th>No. of respondents not nominated</th>
<th>No. of respondents nominated</th>
<th>No. of people nominated who were not respondents</th>
<th>No. of actors in the network in total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>51</td>
<td>36</td>
<td>15</td>
<td>25</td>
<td>76</td>
</tr>
<tr>
<td>Influence</td>
<td>63</td>
<td>38</td>
<td>25</td>
<td>108</td>
<td>171</td>
</tr>
</tbody>
</table>
the basis for discussions and policy statements. Policy managers provided executive members with a pre-selected policy ‘menu’ or single-choice option, which was their job to sign off. This was a highly skilled job requiring a sophisticated understanding of what was politically feasible, what would be valuable for members and politicians to attach themselves to and what would be pragmatically achievable. These roles overlapped with knowledge brokerage roles, including providing evidence, evaluating, disseminating and using evidence.

The third set of strategies to influence the policy process related to controlling and influencing of other policy individuals; gate-keeping experts, finding champions and persuading others. Although many policy-makers identified ‘experts’ as a source of information,17 few policy-makers identified individual experts or professionals directly. By representing a group of experts (such as public health professionals—policy manager ID221), or executives (policy manager ID219), policy managers were able to form links with other policy individuals who preferred to deal with him/her rather than with any number of experts or executives individually.

Attaching other individuals to policies, ideas or bits of evidence was a strategy used by the policy managers. Figureheads were chosen to give weight, authority and credibility to policy positions. Academics discussed ideas such as ‘champions’ or ‘knowledge brokers’. For them, this role was more translational—convincing someone in the council to ‘take the evidence and run with it’, than the more concrete strategies described by the policy-makers. Policy managers explained that access to information was not enough, and

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**Table 2** Sample characteristics

<table>
<thead>
<tr>
<th>Job type</th>
<th>% male</th>
<th>% medics</th>
<th># interviewed</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public health professional</td>
<td>39</td>
<td>68</td>
<td>5</td>
<td>31 (14)</td>
</tr>
<tr>
<td>Other types of clinicians</td>
<td>83</td>
<td>100</td>
<td>1</td>
<td>6 (3)</td>
</tr>
<tr>
<td>NHS executive or director</td>
<td>62</td>
<td>23</td>
<td>1</td>
<td>26 (12)</td>
</tr>
<tr>
<td>Public health intelligence staff</td>
<td>69</td>
<td>6</td>
<td>4</td>
<td>16 (7)</td>
</tr>
<tr>
<td>Council executive or councillor</td>
<td>76</td>
<td>9</td>
<td>3</td>
<td>33 (15)</td>
</tr>
<tr>
<td>Managers, officers, other staff</td>
<td>52</td>
<td>6</td>
<td>6</td>
<td>50 (22)</td>
</tr>
<tr>
<td>Academic or researcher</td>
<td>61</td>
<td>44</td>
<td>1</td>
<td>36 (16)</td>
</tr>
<tr>
<td>Charity director</td>
<td>42</td>
<td>0</td>
<td>0</td>
<td>12 (5)</td>
</tr>
<tr>
<td>Central government staff/MP</td>
<td>62</td>
<td>15</td>
<td>1</td>
<td>13 (6)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>26</td>
<td>22</td>
<td>225</td>
</tr>
</tbody>
</table>

**Table 3** Characteristics of powerful and influential individuals

<table>
<thead>
<tr>
<th>Individual identifier</th>
<th>Influence authority score</th>
<th>Power authority score</th>
<th>Job type</th>
<th>Medic</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID187</td>
<td>0.474</td>
<td>0.507</td>
<td>Public health professional</td>
<td>X</td>
</tr>
<tr>
<td>ID221</td>
<td>0.467</td>
<td>0.440</td>
<td>Policy manager</td>
<td>–</td>
</tr>
<tr>
<td>ID85</td>
<td>0.425</td>
<td>0.378</td>
<td>Public health professional</td>
<td>–</td>
</tr>
<tr>
<td>ID219</td>
<td>N/A</td>
<td>0.245</td>
<td>Policy manager</td>
<td>–</td>
</tr>
<tr>
<td>ID107</td>
<td>N/A</td>
<td>0.234</td>
<td>Public health professional</td>
<td>X</td>
</tr>
<tr>
<td>ID59</td>
<td>0.238</td>
<td>0.215</td>
<td>Chief executive (council)</td>
<td>–</td>
</tr>
<tr>
<td>ID207</td>
<td>N/A</td>
<td>0.198</td>
<td>Policy manager</td>
<td>–</td>
</tr>
<tr>
<td>ID146</td>
<td>0.336</td>
<td>N/A</td>
<td>Chief executive (NHS)</td>
<td>–</td>
</tr>
</tbody>
</table>

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the ability to persuade other individuals was an essential skill required for anyone wishing to influence the policy process. ID221 explained that:

If I present proposals . . . I’ll sound people out first. One of the rules of big meetings is never go in there without basically having it done beforehand, if you know what I mean. I’m not saying stuff goes through on the nod, but make sure a few key people are cited on it and are happy with it and then you know you’ll have somebody to back you up should there be any major challenge in the room.

Not all policy managers or evidence producers felt that it was their role to influence decision-makers. One DPH thought that the job of experts was simply to ‘advise politicians, to come to conclusions and pass those on’ (ID206). Some policy managers also felt that it was not their job to try and influence councillor, but just to try and provide information for them. This argument was frequently used by people who felt they were not influential and who were peripheral within the network structures.

Finally, respondents described explicitly relational strategies and perspectives to understand power and influence. One public health professional described how:

We can’t just sit in an office and dream things up . . . I think a lot of people forget that that’s how things work in the real world, is through relationships and it does take time to build relationships, to build trust . . . That is how the world works, that’s how you get things done (ID118).

Many of the policy managers described their jobs in terms of creating and maintaining relationships between themselves and other groups. Partly, this was to do with understanding the governance. Certain groups need to be involved in certain decisions; other groups cannot take decisions, but can advise or lobby another. However, success in collaboration was largely attributed to personalities and relationships—not organizations. Some managers increased their own visibility by labelling activities or policies as ‘public health’. Ensuring that other individuals were aware of them and their activities was described as a strategy to influence policy-makers.

Discussion
Main finding of this study
This study, by combining network and qualitative methods, aimed to identify the most powerful and influential individuals in PHP and describes the strategies they used to influence the policy. The most influential individuals were mid-level managers in the NHS and in local councils who initiate and control PHP activities. Although public health professionals were identified as important in the network data, qualitative data indicated that those chosen were singled out because they were regional or conurbation-level leads, putting them ahead of their colleagues. Furthermore, analysis of the strategies indicated that, while professionals were perceived to be powerful, they did not participate in many aspects of the policy process. The dominance of managers is explained by the wide range of roles played throughout the policy process, from framing debates to finding evidence and champions, and providing policy content for executives to endorse. Their influence is hardly ever part of investigations into PHP in the UK, since these managers are not visible within the formal power structures.

What is already known on this topic
Most explanations for the persistence of health inequalities focus on the lack of evidence for policy-making rather than organizational factors. Formal and informal networks in policy are acknowledged to exist, but little is known about the roles of individuals or how they influence policy.

What this study adds
The importance of professional public health and academic expertise in the policy process is questioned by these results, which indicated, quite surprisingly, that the most influential individuals were those without any professional background in public health. Policy managers may have over-estimated their own influence to show their activity range of power. This seems unlikely because their accounts are backed up by thematically similar mechanisms of influence described by other individuals.

The description of daily activities of influential individuals is an interesting lens through which to view the policy process. Those who played most roles throughout the process were also more influential, although this does not imply that is a sufficient condition; nor does it imply that being a manager involves one automatically in more roles. Specific individuals were able to use their managerial status to create and exploit opportunities to play more roles; similar to the concept of public sector entrepreneurship, which describes individuals who step beyond their own job descriptions to actively identify opportunities for the change and management of groups of people.18,19

Although private and third-sector representatives were included as respondents, none were identified as important or as playing roles in the policy process. This may have implications for the delivery of public health, much of
which is to be put out to tender. Moreover, the lack of academics and researchers as important network members suggests that, although the role of relationships is widely acknowledged as important, few academics are successfully making connections with policy-makers. The gulf between academics and policy-makers is well documented, but more may need to be done to overcome this gap.

This study was the first to have used an innovative mixed-methods approach to identify influential PHP individuals using the social network analysis in the context of PHP making. Unlike previous studies which explore PHP processes that were confined to NHS and/or researchers, we used an sampling strategy that included health services, local councils and charities. A relatively high response rate was achieved and non-response or refusal to participate seemed randomly spread across sectors and job types, thus not suggesting a significant sampling bias.

Furthermore, we support our conclusions triangulating data to explore the meaning of the networks using the qualitative data to add agency and understanding. We hypothesize that, although not directly, the results for this conurbation can be extrapolated to the wider public health community in the UK.

Limitations of this study

We were hampered by the rapid reorganization and high job loss in the sample and data collection period. Over 30% of all those contacted were either made redundant or had their organization closed. The study would be strengthened by comparison with another regional site, and by longitudinal analysis of the dynamics of policy structures.

Finally, the autonomy of actors is not always clear from participants’ accounts. For both the NHS and local government, a large proportion of budgets received from Central Government would be pre-allocated to statutory services, with the amount of discretionary activity necessarily small. For future research, this would be an interesting question to explore, as—particularly, at the local level—it may be this small proportion of activities which academics can best hope to influence.

Conclusions

In conclusion, PHP appears to be run and managed predominantly by mid-level managers who have no formal training in public health. However, this does not mean that they are not experts in PHP, and they indicated that they relied on selected groups of professional experts to provide advice. They are characterized by abilities to manage relationships, to gate-keep key groups and organizations and to play a range of influential roles throughout the policy process. The most powerful and influential individuals are not always those we might expect. We do not present this as a criticism of the public health system, but to indicate the importance of understanding local social contexts if research is to influence local policy.

Authors’ role

K.O. designed the study, carried out the data collection and analysis and prepared the manuscript. She acts as guarantor. A.M. contributed to the analysis of the qualitative data and interpretation of the results and commented on drafts of the paper. Ed.V. commented on drafts of the paper and contributed to analysis overall and interpretation of the results. M.E. provided methodological support on the network analyses, contributed to the interpretation of the results and commented on the drafts of the paper. All authors had full access to all of the data (including statistical reports and tables) in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

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Conflict of interest

The authors have declared no competing interests. Consent for data sharing was not obtained, but the presented data are anonymized and risk of identification is low. Anonymized network data are available from the authors.
References
