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Using the structure of social networks to map inter-agency relationships in public health services

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ABSTRACT

This article investigates network governance in the context of health and wellbeing services in England, focussing on relationships between managers in a range of services. There are three aims, namely to investigate, (i) the configurations of networks, (ii) the stability of network relationships over time and, (iii) the balance between formal and informal ties that underpin inter-agency relationships. Latent position cluster network models were used to characterise relationships. Managers were asked two questions, both designed to characterise informal relationships. The resulting networks differed substantially from one another in membership. Managers described networks of relationships that spanned organisational boundaries, and that changed substantially over time. The findings suggest that inter-agency co-ordination depends more on informal than on formal relationships.

1. Context

There is a large and diverse literature, stretching back over more than 20 years, that charts the decline of the bureaucratic organisation of public services, and its gradual replacement with decentralised networks of agencies charged with delivering services to citizens (Bouckaert et al., 2010; Sorensen and Torfing, 2007). These developments are often referred to as examples of network governance. Network governance is a broad term, and authors draw on a range of theoretical traditions including cybernetics, rational choice and governmentality: arguably, the range of traditions reflects genuine difficulties in studying and understanding contemporary developments. It is still not clear, even with the benefit of some hindsight, why multi-agency arrangements have developed in so many public services in so many countries. Increases in the scale and complexity of social challenges, however, such as providing services to frail older people in their own homes, and supporting disadvantaged families with young children, seem to have played a role. It is still not clear, even with the benefit of hindsight, why the multi-agency arrangements have developed, but increases in the scale and complexity of social challenges, such as providing services to frail older people in their own homes, and supporting disadvantaged families with young children, seem to have played a role. Research evidence has shown however that decentralised networks have not been a panacea. Multi-agency co-ordination has often been problematic, with the result that citizens have not been receiving the combinations of services that they need.

This article presents a quantitative study of network governance, which focuses on local organisational responses to national health and wellbeing policies in England. Successive governments have funded initiatives aimed at less advantaged communities, where circulatory and other problems are concentrated, and which are a disproportionately large source of morbidity and mortality (Department of Health 2008). In practice, in any given locality, no single statutory, private or voluntary service can deliver effective solutions on its own: effective implementation requires co-ordination among several agencies. We might expect, therefore, to find evidence of de-centralised networks in localities – of local organisations seeking to co-ordinate their work with one another, in order to secure funds from government departments and to direct them effectively to disadvantaged communities.

The network governance literature is characterised by abstract theories, and by narrative studies which focus on negotiations between agencies. There have been few quantitative studies of network governance, of the kind that are more common in the literatures on social networks, even though multi-agency working clearly raises questions about the patterns of, and dynamics of, those working relationships. This study employs quantitative methods to investigate, (i) the configurations of networks, (ii) the

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stability of network relationships over time and, (iii) the balance between formal and informal ties that underpin inter-agency relationships. The study presented here forms part of a larger project examining creation and mobilisation of knowledge among managers in health and social care (Ward et al., 2014).

2. Conceptualising networks

Conceptually, the term network has an awkward multiple character. It has been used to refer straightforwardly to patterns of relationships – a diagram of a network tells us who interacts with whom. It has also been used as an explanatory concept, where the behaviour of the network 'produces' some social phenomenon of interest (Clark, 2013; Lanham et al., 2013). It can also be used normatively, for example as an ideal type in studies of the governance of organisations, just as bureaucracies were normative ideals in decades past (Lewis, 2011). Our interest here is in part descriptive, and in part designed to shed light on normative assumptions about inter-agency networks. In this study we focused on the managers – sometimes referred to as middle managers – who are responsible for co-ordination. We did not focus on actors involved in strategic planning, or those delivering services to individuals or groups, but on those who sit between the two, and might be expected to be in contact with colleagues in other agencies on a weekly or monthly basis.

A number of authors, including Lewis (2011), Sorensen and Torfing (2007) and Rhodes (2006) have reviewed the substantial and diverse literatures on network governance. While there are differences in the domains studied, and in the theoretical conceptualisations and methods used, it is nevertheless possible to make some general observations. We can say that agencies have become more dependent on one another to deliver services, and therefore need to negotiate with one another in order to co-ordinate their work. By implication they need to have objectives in common, and be able to share knowledge and act upon it. We can also say that networks are typically assumed to arise 'naturally', presumably in response to the developments noted above, but are often co-opted by regional or national policy makers, who seek to formalise them and use them instrumentally to achieve their objectives.

In the case of health and wellbeing services, in this study, monies were allocated on a programme basis by central government, and received initially by a lead agency, which was responsible for co-option and coordination in a locality. On the basis of the literature, therefore, we would expect to observe a mixture of formal and informal relationships in localities. We would also expect to find either successful – and by implication, at least, stable – relationships, or evidence that co-ordination efforts had failed.

In connection with the latter, there is evidence that networks are by no means a panacea, and there are many reports of difficulties with inter-agency and inter-professional working. These include broad alliances of agencies involved in public health programmes (Bauld et al., 2005), health and social care partnerships (Williams and Sullivan, 2010) and managed clinical networks (Waring et al., 2013).

3. Studying networks

The majority of studies of network governance arrangements have produced narrative accounts of practices across organisational or professional boundaries. They have typically conceptualised networks as the products of on-going negotiations between actors. Relatively few have used quantitative methods to investigate underlying patterns of relationships. There are conceptual and technical reasons why this has been the case, some highlighted a long time ago by the problems associated with structural functionalism – with its over-emphasis on systems and structures – and others stemming from the difficulties of interpreting quantitative network analyses (Provan et al., 2010).

While narrative approaches avoid a number of problems, though, they arguably do so at a price. In particular, they cannot be used to address two fundamental questions about network governance, namely (i) who are the actors within networks, given that networks may be large and involvement in them informal, and hence invisible via 'official' documents?, and, (ii) what is the dynamic behaviour of networks? Do networks change in size and configuration over time, or are they typically stable over periods of months or years? This study draws on the work of Lewis et al. (2008) and Crossley (2011), who address the two questions in their work. It should be stressed that network governance theories, being abstract in nature, have little to say about the fine-grained characteristics of networks, whether it is the ways in which individuals in different organisations are related in networks, or the ways in which networks change in membership or structure (or both over) time.

The most common approach to network analysis makes use of graph theory to express the pattern of connections between actors. Sociograms are often used to visualise relations in networks. It is also usual to generate measures of a network to show the importance of actors within it, e.g. by establishing the degree, or number of connections with others, for actors in the network. For our study, identifying degrees was of limited value, because we had limited the number of connections named by participants to five: the method itself would influence the degree statistics. Our principal focus in this study, though, was on collective action. Crossley (2011) argues that a number of important network phenomena occur in clusters, which lie between the 'poles' of structure and agency. For that reason we have focused on clustering, and the stability of clusters over time.

4. Methods

4.1. Setting

The study was conducted at three sites in the North of England. All three were defined by the geographical area covered by a single National Health Service (NHS) commissioning body and a single local government organisation. The three sites had a number of general features in common. Their local authorities were all metropolitan boroughs, each including a number of towns and more rural districts. Each one had more than one Lower Layer Super Output Area as measured by the Index of Multiple Deprivation – a geographical area used for reporting of official statistics in England – that was in the bottom 10% of areas nationally. Details from all three sites are provided (Ward et al. 2014). NHS ethics approval was obtained for the study (REC reference number 10/H1307/130).

4.2. Sampling step 1: landscape mapping

In developing our own study we were aware that there are problems associated with network sampling strategies that need to be minimised. For example, it is a mistake to assume that the relevant actors are all attendees at a relevant meeting, or staff in a functional unit or management team (Creswick et al., 2009; Currie et al., 2010; Dyer and Nobeoka, 2000). The problem with snowball sampling is that the process of asking informants to nominate other people to interview is that their nominations effectively determine network connections: the network may simply be an artefact of the sampling strategy. The resulting data might retrace pre-existing formal relationships – for example, interviewees might identify