The management and effectiveness of professional and clinical networks

Executive Summary

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Background

Networks have increasingly been adopted as a managerial and policy solution for co-ordinating health services 'horizontally' across primary, secondary and tertiary care, across health and social care and for 'new public health' purposes. The GP Commissioning Consortia announced in Equity and Excellence: Liberating the NHS will also be networks of general practices and related organisations. Policy-makers and managers therefore have reason to be interested in discovering what forms of network structure, what network managerial practices and what other conditions are most likely to enable a network to realise the policy objectives which policy-makers and health managers have given it; that is, what factors promote the 'effectiveness' of professional and clinical networks.

Aims

We aimed to answer the following research questions.

1. How do networks emerge as rational co-ordination structures? What determines the formation of both mandated and non-mandated networks?

2. In mandated networks, what prior social networks pre-exist and how do they affect the operation of the new, mandated network? Does re-organising network structure disrupt or enhance network processes, or not affect them at all? How does the inclusion of additional occupational groups and other network members (e.g. users) affect performance?

3. What determines the way in which member organisations use relational co-ordination structures (or fail to)? What determines the effectiveness of member organisations' use of these structures?

4. What types of co-ordination processes mediate the above effects?

5. How do the different layers of network, dealing with different media or contents, co-exist and influence each other?

6. How are member organisations within a network tied to organisations outside it, how are these relationships structured, and what effect do these relationships have on how effectively member organisations use relational co-ordinating structures?

7. What effects are produced by incentives to cooperate (or not to)? What match is there between incentives and network structures? In NHS networks for example, how will the shifts to practice-based commissioning and payment by results affect network processes?

8. What determines the performance of mandated and non-mandated network structures, and are there systematic differences in the performance of the two kinds?

Methods

We compared seven health networks. Three were concerned with cardiac heart disease and three with health services for children with long-term health problems. The seventh network was set up by people with current or recent mental health problems to engage in physical self-care. Of these networks, two were 'care networks' mainly operating existing care pathways. Three were 'programme networks' focused mainly on re-configuring referral patterns, care pathways and clinical practice. One was a 'project network' managing a large-scale re-profiling of children's services in a large city. The seventh non-NHS 'experience' network focused on self-care. The latter and one of the NHS networks were voluntary, the rest mandated. We compared the networks using:

1. Social network analysis, mapping and measuring the structure of links within each network; and comparing networks in those terms.

2. Systematic comparison of case studies of each network and the outputs ('artefacts') they produced.

Results

The following findings are numbered to match the research questions.

1. We observed two modes of network creation. Voluntary networks emerged 'from below' as groupings of individuals and organisations interested in performing common tasks, which might include producing relatively intangible artefacts such as information or guidance, or more tangible tasks such as changing service provision. Mandated networks were created 'from above' by NHS management, typically by taking control of pre-existing emergent networks and then, in some cases, re-structuring them.

2. In mandated networks the membership tended to include a higher proportion of managers, network objectives became focused on national guidance, and network activities altered correspondingly. Re-organisation of networks' member organisations (especially PCTs)

was disruptive, sometimes severely and for a considerable period. Inclusion of users in the NHS networks did not have much effect on network activity but in the non-NHS experience network users played a decisive role because they controlled the network and provided its core activities.

3. Members' engagement with networks partly depended upon whether participation in the network appeared to help them meeting targets, mandates and incentives generated outside the network (for organisations) or in terms of their personal interests and opinions (for individuals). Member organisations used the networks we studied mainly by linking to each other directly, not just via the network's co-ordinating body. We found no evidence that network connectedness stimulated innovation-related activity. The most highly connected organisations were not necessarily those with the internal organisational culture most favourable to inter-professional collaboration.

4. For co-ordination the networks had a central steering group (or equivalent) with specialist sub-groups for particular tasks. Although the organisations which hosted the networks were well-connected to most other organisations in the networks studied, they were not uniquely well-connected. To a large extent network co-ordination occurred through direct links between network members in pursuit of specific tasks. Links between members were generally direct, dense (extensively connected) and deep (i.e. on multiple levels). Network co-ordination was non-hierarchical. Knowledge management, in the form of evidence-basing of clinical and care practice, became an important means of co-ordination, the more medicalised the networks were.

5. The network layer(s) carrying out the core activity of the network tended to be the most dense. Network links mediated by money were never more dense than other layers of links, and usually much less dense. Financial incentives played little part within the networks.

6. Member organisations had relatively few and weak links to bodies outside the network. Member organisations' links to other organisations within the networks were more numerous and stronger. Links outside the networks tended to be with multi-disciplinary bodies rather than with (uni-)professional networks.

7. The main incentives for network members to cooperate were the expectation of practical help-in-kind and the legitimacy of evidence-based practice. Network co-ordinators were able to 'harness' more powerful targets and incentives (e.g. Payment by Results) originating

outside the networks. Practice-based commissioning had little effect on the study networks.

8. Voluntary and mandated networks differed in the balance between national and local objectives; composition of membership (more managers in mandated networks); and ability to 'harness' incentives external to the networks. Network artefacts were predominantly intangibles (guidance, policies etc.) but some tangible service changes were also produced, especially by the user-controlled 'experience' network. There was some evidence that the more highly-connected organisations showed a greater reduction in referrals susceptible to primary-secondary care co-ordination.

Generalisation from the networks we studied to others requires caution in view of the small numbers of study networks. Routine service outcome data could be matched to SNA data only for three networks. Nevertheless our study networks do appear qualitatively fairly typical of their kinds.

The distinctive theoretical contribution of this study is to analyse health networks as being processes of production. Its distinctive empirical contributions are evidence of what outputs the networks contributed to their local health economies; and evidence suggesting that the organisations most closely connected with the networks' core process of production were also the organisations responsible for the lowest growth in hospital admissions preventable by primary-secondary care co-ordination.

Conclusions

1. Network managers have to nurture and develop network identity, make it explicit and involve the less-connected members so as to increase the connectedness and therefore effectiveness of the network. This requires skills of relationship-maintenance, diplomacy, consultation and negotiation.

2. Networks can function effectively without all their links and activity being mediated by the co-ordinating body. For many purposes it is important to establish and conserve direct links between network members, not just links to the co-ordinating body.

3. It is necessary that the member organisations select representatives with sufficient status and power within their 'home' organisation to implement network decisions.

4. Engaging potential members becomes easier if the network can 'harness' the existing incentives which these members already face outside the network.

5. Mandated networks are liable to make little use of other (external) networks or resources. Network co-ordinators should encourage network members, and the network collectively, to exploit external linkages.

6. Frequent health system re-structuring is detrimental to networks but seemingly a fact of NHS life. Maintaining stable membership and roles helps networks continue functioning during these periods.

7. Because network co-ordination depends heavily on relationality (which takes time and continuity to develop) and shared activity it would be prudent wherever possible to base GP commissioning consortia on PBC consortia and other existing GP networks.

8. The experience of earlier networks suggest that GP commissioning consortia may be liable to become somewhat closed to outside resources of knowledge, impervious to patient and carer influence, and sedimented with an accumulation of mandates and activities leading to 'mission drift'; unless measures to the contrary be taken.

9. Obviously the effectiveness of the GP consortia as commissioners will depend on their ability to influence key actors within secondary care providers. Less obvious, but an implication of this research, is that it will also depend on their ability to influence the 'hinterlands' within their member general-practices, because that is where consortia decisions will (or will not) be implemented.

Addendum

This document is an output from a research project that was commissioned by the Service Delivery and Organisation (SDO) programme whilst it was managed by the National Coordinating Centre for the Service Delivery and Organisation (NCCSDO) at the London School of Hygiene & Tropical Medicine. The NIHR SDO programme is now managed by the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSC based at the University of Southampton.

Although NETSCC, SDO has managed the project and conducted the editorial review of this document, we had no involvement in the commissioning, and therefore may not be able to comment on the background of this document. Should you have any queries please contact sdo@southampton.ac.uk.