

# The productivity of primary care research networks

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## SUMMARY

*Primary care research networks are being publicly funded in the United Kingdom to promote a culture of research and development in primary care. This paper discusses the organisational form of these networks and how their productivity can be evaluated, drawing on evidence from management science. An evaluation of a research network has to take account of the complexity of the organisation, the influence of its local context, and its stage of development. Output measures, such as number of research papers, and process measures, such as number of research meetings, may contribute to an evaluation. However, as networking relies on the development of informal, trust-based relationships, the quality of interactions within a network is of paramount importance for its success. Networks can audit and reflect on their success in promoting such relationships and a more formal qualitative evaluation by an independent observer can document their success to those responsible for funding.*

*Keywords: primary care research networks; public funding; network organisation; network productivity; network interactions.*

## Introduction

IN recent years there has been a rapid growth in the number of network organisations in Europe promoting research and development in primary health care. The networks vary in their aims and organisation. Flemming distinguishes between networks providing epidemiological data and networks concerned with the process of care, including quality assurance and clinical trials: both can contribute to promoting a culture of research in general practice.<sup>1</sup> Research networks may have similar aims but differ in their form of organisation.<sup>2</sup> For example, some have a hierarchical organisation with a strong centre, often at a university, leading satellite units or network members; others are less hierarchical with coordination and cooperation between satellite units and members as well as with the centre.<sup>2,3</sup> Research networks vary in their commitment to developing an organisation that conforms to the working definition of a 'network' used in a United Kingdom (UK) government report:<sup>4</sup> 'a non-hierarchical organisation with

informal internal relationships based on trust and co-operation, and driven by a common ethic'.

In the UK, government policy emphasises the importance of primary health care for the National Health Service (NHS) and has prioritised the funding of primary health care research. National reports have detailed the way in which primary health care research should be developed and the health issues that need research.<sup>4-6</sup> These policies have encouraged the development of over 30 research networks in the UK that aim to increase both the research culture and the research capacity within primary care. This paper focuses on these networks, most of which have joined a UK Federation of Primary Care Research Networks,<sup>7</sup> and in particular their function as network organisations.

In the UK, nearly all the primary care research networks are funded from NHS research funds.<sup>7</sup> Those responsible for the investment of these public funds need evidence of the effectiveness of their investment. Therefore networks need to demonstrate that they have increased the culture and capacity for research in primary care. The experience of the networks suggests that this is not easy. This paper draws on the literature from management science to discuss why it is difficult for networks to demonstrate their effectiveness and to suggest ways in which it may be done.

## Productivity measures used by primary care research networks in the UK and their limitations

Most active primary care research networks in the UK use both outcome and process measures.<sup>3</sup> Outcome measures include: number of research proposals developed, research grants obtained, infrastructure funding obtained, research presentations and publications, and reports on evidence-based practice such as practice protocols. These outcomes may be matched to the network's explicit objectives. Process measures are also used as surrogate outcome measures for a particular stage of network development, especially in the early stages when other outcomes may not yet have been achieved. Such measures include: number of consultations by facilitators; number of participants at network courses, meetings, and workshops; newsletter distribution; maintenance of a research database; involvement of consumers in planning research; or involvement of different disciplines in research activity.

These outcome and process measures may appear straightforward for a relatively hierarchical network where decisions are made centrally, communication within the network is channelled through the centre, and there is little contact between satellite units. However, if a network aims to be non-hierarchical, with informal internal relationships based on trust and cooperation, the outcome and process measures are more difficult to pin down. However, there is ample evidence in management literature that innovation, exchange of knowledge and skills, flexibility to respond to changes in the environment, and efficiency of operation are enhanced when an organisation works as a network, depending mainly on informal relations and trust between its members rather than hierarchy and contract.<sup>8-10</sup> This is particularly true for organisations engaged in research and development.<sup>11</sup> This would suggest that primary care research networks may be most productive if developed as informal, trust-based networks. Any evaluation that aims to demonstrate their worth as publicly

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funded organisations therefore needs to be sensitive to the aims and form of the organisation, otherwise the evaluation may act as a disincentive to developing productive networking. The next section discusses the difficulties in identifying outcomes in informal, trust-based networks.

### Evaluation of outputs and the nature of networks

Networks can become complex organisations with interaction occurring between individual members or units, between network co-ordinators and network members, and between the network and its context. Each activity may influence other activities and future strategies. If the number of members or units is fairly small then the interactions and outcomes can be fairly easily described. However, as the network develops, a description of the activity and interactions of the individual units becomes more difficult and can no longer provide an understanding of the network.<sup>12</sup>

Networks can become learning organisations<sup>13-15</sup> making the best use of the alliances formed and adapting to the knowledge gained. However, developing as a learning organisation takes time and resources and so productivity takes time to become apparent. This can make it difficult for networks to demonstrate their worth in the early stages of development.

The outcomes of the networks emerge from their activity, but because of the complexity of the organisation the outcomes cannot necessarily be predicted.<sup>16</sup> Although networks need a common ethic and agreed targets towards which members are working, if they only evaluate their success against pre-set targets then they may miss outcomes that could not be envisaged when the targets were set. Such outcomes may be an unexpectedly high level of interest from a particular group of professionals or unpredicted cooperation from an academic centre.

Each network develops in a particular time and place, with all the past experiences of the health service and its health care professionals influencing its development. It will also be influenced by research policy and resources, and the activity of other research institutions. Each research network has a different baseline from which to develop and functions in a different context. The contexts may vary in their receptivity to change.<sup>17</sup> Each network can therefore only be judged by the 'added value' it brings to its particular situation, rather than by comparison with other networks or organisations operating in different situations. This can make a national evaluative exercise of these networks very difficult.

This 'added value' will need to be documented year on year. This is difficult because of the very nature of networking: it can be impossible to disentangle how much of a research achievement was due to the activity of the network and how much was due to input from other organisations such as a university. However, each network operates within a locality and it would be possible to describe the development of research activity in that locality whether the research output, such as research grants or papers, carries the 'label' of the network, university, or other health service organisation.

For primary care research networks to continue to encourage informal, trust-based networking any evaluation needs to take account of the complexity of the organisation and its interaction with the local context. Traditional measures of research output, such as research grants and research publications, may be used but judged for each locality, and taking account of the stage of development of the network. Unexpected outputs must also be included and because they are unexpected they need to be consciously sought and brought into the evaluation.

### Evaluating the effectiveness of network activity

The body of literature in management science and sociology that provides evidence for the success of informal, trust-based networks for research and development also identifies the processes that enable these networks to be effective. Using this literature as a guide, the organisational processes of primary care research networks can be evaluated.

Networks need meetings and workshops where professionals are socialised into the world of research and where trust and understanding can develop between professional groups and individuals.<sup>8,18</sup> Developing social relations based on trust increases the efficiency of diffusing information.<sup>19,20</sup> It facilitates the development of new knowledge<sup>21</sup> and the sharing of detailed technical knowledge,<sup>22</sup> such as research techniques, and enables the development of innovative organisation,<sup>23</sup> such as inter-disciplinary research teams. Meetings also reaffirm the network ethic, which is important for enhancing network processes and outcomes.<sup>24</sup> Face-to-face communication can be supplemented with the use of newsletters and information technology and these media can also publicise network successes so it is seen as an organisation worth belonging to.<sup>16</sup> These communication processes can be measured to demonstrate that appropriate networking activity is taking place. This monitoring can also alert network coordinators to potential problems, such as groups becoming marginalised and so dissatisfied<sup>25</sup> or the network becoming too large and complex for it to be successfully maintained with the available resources.<sup>20</sup> A network may also undertake an audit with its members to gauge how far it has created an environment that fosters effective relationships between participants by adapting existing tools, such as those used recently to audit the relationship between public health and primary care groups.<sup>26</sup>

The effectiveness of primary care research networks in developing as informal, trust-based networks can also be evaluated through observation of the quality of network interactions and through interviewing network members. The evaluation would seek answers to questions such as:

- Is there a sense of shared identification?
- Do members trust each other with research information and ideas?
- Is there cooperation between the centre and members, and between members?
- Are there real examples of reciprocity?
- Is there a healthy level of competition among members or is it excessive?
- Is the network perceived as a successful organisation to belong to?
- Is the knowledge-base sufficient?
- Is the organisation developing and learning or are individual members making use of it then moving on?

These questions can be asked by members of the network reflecting on its development. However, to demonstrate to funding bodies that the network is being successful, this form of evaluation requires resources for an independent observer, such as in the ongoing evaluation of the former North Thames primary care research networks.

### Conclusion

Primary care research networks need to be evaluated in order to demonstrate that they are an effective use of public money. The productivity of a network can use traditional measures such as grant income and research papers, and its activity can be documented through the use of process measures. All these measures

are best used with an understanding of how networks function. This includes taking account of the complexity of their organisation and the context in which they operate, and understanding the types of outcomes that can be expected at different stages of development. There are tensions for networks between investing time and resources into the development of effective and lasting network relationships, from which cooperative research can develop, and investing in activity that produces research output in the short term. Any evaluation of network productivity needs to recognise this tension and take responsibility for the effect of evaluation on the balance of activity in the network.

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