Evaluating Models of Service Delivery: Reconfiguration Principles

Executive summary

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Executive Summary

Background

The aim of the research was to analyse and explain the process of reconfiguration, to evaluate its consequences within the limitations of both the data and of the possibilities of attributing events to causal processes originating with reconfiguration, and to draw any conclusions that might be of wider interest.

Many health systems are concerned with the issue of how best to configure their hospital based services. There is an inevitable balance to be struck between the capital investment and high infrastructure costs of the hospital sector which has to be set against a strengthening primary care sector, new forms of medical care delivery options and shifting demographic factors within different countries.

The pressures for service reconfiguration manifest themselves in specific ways at particular sites. The interplay between the generic model of forces and the local trigger is a key component of this research report. There is evidence that the drivers of change are not always those stated at the outset, that proponents of change tend to exaggerate the likely benefits and understate the costs, and that the process of change itself can be a constraint to service improvement.

Definition [Chapter 1.2]

For the purposes of the present study we have developed the following two-part definition - the word “configuration” is used here in two senses, one broad and one narrow.

In the narrow sense, hospital configuration means the distribution of medical, surgical, diagnostic and ancillary specialties that are available in each hospital or other secondary or tertiary acute care unit in a locality, region or health care administrative area.

Reconfiguration, in the narrow sense, therefore means a deliberately induced change of some significance in the configuration by managers and policy makers.

In the broad sense, however, reconfiguration is sometimes used in the grey literature to mean the full range of processes of change affecting hospitals.

Objectives [Chapter 1.1 & 1.3]

The overall objectives of the research were:

1. to evaluate the performance of each site in terms of sustained delivery and the processes relating to planning and implementation of the reconfiguration,
2. to draw overall conclusions about factors associated with success and failure in each site, and
3. to develop a framework of assessment for proposed reconfiguration that would also serve as the basis for evaluation of such changes in provision.
The Sites [Chapter 6]

The three sites were identified within the Department of Health project ‘Configuring Hospitals in Health and Social Care Systems’. Each of these sites had taken a different and distinctive approach to maintain acute service provision. The sites are designated as A, B, and C throughout the report and represent significant differences in terms of urban, rural and inner-city contexts.

Conduct of the research [Chapters 1.4, 1.5 &2]

The research consisted of the following distinct strands of work.

Firstly, a detailed qualitative programme of interviews was conducted, in two waves, with key stakeholders in each of the three case study sites, to examine the process by which reconfiguration was negotiated and implemented to the different extents that it was implemented at all in the three cases.

Secondly, data were obtained from ambulance trusts and, where possible, from the hospitals themselves, to enable quantitative analysis of the flows of emergency patients.

Thirdly, activity data on selected specialities in each hospital were examined using Joinpoint regression analysis to identify trends that might be related to activities undertaken in the name of or consequential upon reconfiguration.

Although some preliminary analysis of financial data was possible using nationally available data sets, difficulties in securing usable data at the level of the individual hospital made it impossible for us to conduct the full analysis originally intended.

The Literature [Chapters 3, 4, &5]

A review is presented of the principal findings from recent empirical studies, mostly from peer-reviewed sources, on various aspects of hospital change that may form part of hospital reconfiguration. The analysis of the literature leads readily toward the proposal [Chapter 5] of a conceptual framework and hypotheses relating to the politics of hospital reconfiguration processes.

In attempting to answer the basic research questions posed, it might be expected that the available literature would readily provide

• taxonomies of types of reconfiguration and of key processes,

• accounts of processes expected to be associated with each of type reconfiguration, and

• hypotheses about the impacts of each type upon key stakeholders

In reality, the resources gleaned from the literature are more modest than anticipated but still useful and are organised into a conceptual framework. The literature reviewed covers a definition of reconfiguration, the key drivers for change, the dependent and independent variables of reconfiguration and change, trends and rationale for change, networks and relationships and mergers. Finally, the literature on the politics, goals and values and their inter-relationship is examined and a typology for illustrating differences is offered.
The Process of Reconfiguration [Chapter 7].

Qualitative approaches were used to examine the process of reconfiguration, by reflecting the experiences of stakeholders including the wider health community. This element of the study uses semi-structured interviews with internal and external stakeholders in two rounds separated by eighteen months to two years, and documentary analysis, to study the proposed changes and the implementation process, including consultation and involvement of stakeholders.

The typology of claims and arguments presented about hospital reconfiguration, and the kinds of basis claimed for them in rival priorities about what is counted as “the public interest” [Chapter 5], was arrived at through an examination of the data from the three sites. We investigated how these different interpretations of the public interest were distributed among stakeholders, and how they related to the solutions they advocated. This analysis confirmed that ‘patient’ public health interest claims, concerned with health outcome, are most commonly expressed by clinicians. ‘Taxpayer’ public interest claims concerned with efficient use of resources were most likely to be expressed by the internal non-clinical group made up mostly of trust executive team members. The diverse group of external stakeholders were most likely to express ‘consumer’ claims (typically about access to care and the patient experience). ‘Voter’ public interest claims relating to the local significance and value of services were rarely expressed by interviewees in this study. No type of claim was exclusive to any one group.

Views of the purpose of reconfiguration were most polarised in Trust C. Though all three sites achieved changes in delivery of acute services and were able to claim benefits, none could be termed an unqualified success. Trust A implemented service changes and benefits in cost and output were claimed, but these changes do not fall within the definition of reconfiguration adopted for this study which involves the distribution of services between hospitals, in that they did not involve the removal of services from any site. Trust B also implemented service changes and the reconfiguration plan was formally signed off as complete, but interpretation of the reconfiguration as a success was challenged by some internal and external stakeholders, and the process was lengthy. At Trust C, service changes within the definition of reconfiguration used for this study did not take place. All three face internal as well as external obstacles to the sustainability of acute services – financial, safety, clinician challenge and managerial change all affect long-term embedding of service reconfiguration. However, all three case studies offer the chance to learn about how reconfiguration can be planned and implemented.

Emergency Care [Chapter 8]

Difficulties were encountered in collecting reliable data related to emergency department flows highlighting the need to undertake prospective studies and recommendations for the same are offered. The use of process flow charts is proposed and discussed as a way of demonstrating whole system change, with statistical process control charts used to demonstrate changes in each arm of the flow chart. Statistical Process Control Methodologies allow evolving changes to be observed.
A focus group of clinicians was used to determine methods of assessing potential clinical impacts of reconfiguration in addition to the above. The group agreed unanimously that this was best done by modelling changes in patient pathways.

**Modelling Service Change using HES Data [Chapter 9]**

Here we offer a graphical means of representing the complexity of Hospital Episode Statistics (HES data) in a way that provides a common frame of reference for health professionals from different backgrounds to visualise and interpret the actual patterns of hospital activity changes that have occurred over time. This process of sense-making is concerned with finding patterns of meaning and explanatory structure in complex or seemingly unstructured situations and has both a cognitive and social component. Interpreting HES data in this way requires careful consideration at local Trust level and there are many unresolved questions that commonly surround attempts by various stakeholders to represent the reasoning and rationale for service change scenarios.

Trends in the HES data from the three participating sites were examined through inflexion point regression (a non-linear ‘piece-wise’ or segmented regression modelling). ‘Joinpoint Regression Analysis’ (JRA) has been designed for the specific purpose of estimating optimal linear and non-linear trends in frequency data and used in numerous studies where it is critical to identify changes in trend. Trends in Finished Consultant Episodes were identified and used to identify and monitor the impact of planned and unplanned interventions.

The exploration of HES data in this way can provide a way of exploring and understanding reconfiguration, allowing for both planned and unplanned effects and for the intrinsic untidiness of change processes through the involvement of Trust staff. The quantitative analysis of the HES data suggests many interesting local ‘stories’ about the strategic planning and implementation of change and focuses attention on the extent to which these fluctuations in levels of service activity are the products of the strategic will of managers or are the results of the impact of unexpected situations and circumstances.

With further research to systematically establish the reliability and validity of this approach, adopting this type of conceptual framework for sharing HES data may provide a basis for more effective communication between staff from different backgrounds and perspectives on the change, more effective problem solving about organisational change leading to more effective planning and implementation of local change.

**Financial Effects [Chapter 10]**

This element of the study was limited by lack of data. The practice of compiling accounts at Directorate level rather than across sites and services meant that the range of data needed to observe how these changed during local site reconfiguration of services was not available.

Data downloads were obtained from HES for two of the three sites in this study. Although there is scope in HES for recording of the site within a trust at which treatment is provided to inpatients and day cases, this is not necessarily always
collected. Our request for HES data showed that for one Trust there was no site-specific data available.

The analysis of the cases treated at each of the two sites shows a relatively high degree of stability in clinical activity at both sites. The highest volume Healthcare Resource Groups (the way in which activity is coded for Payment by Results – essentially based on diagnosis, procedure and cost) are identified along with, where the volumes in HRGs are smaller, the volume of individual chapters of the HRG classification, minus the high volume HRGs reported separately.

The national cost index provides a basis for overall comparisons based on the scale of change. For example, if only 5% of a Trust’s activity is affected by reconfiguration, we would not expect to see a major shift in the cost index, even if this reconfiguration was adding significantly to costs. A cost increase of 20% in reconfigured activities would add only 1% to the cost index. However, it is noteworthy that over the period of the study, the cost indices of the Trusts involved have been relatively stable.

**Conclusions and Recommendations [Chapter 11]**

**Conclusions**

At its broadest level the project has provided a useful taxonomic framework through a confirmation of the literature and qualitative material. The latter too has provided important insights into the multi-faceted and tortuous process of implementing change in the NHS, emphasising the political context of service reconfiguration.

We have offered a definition of reconfiguration but beyond this is the degree to which it is appropriate to view reconfiguration as a singular event or a continuing process. The former suggests that there is a point in time when services change and the system works or does not. This conceptualisation makes an evaluative approach appropriate. Our view tends more towards the second perspective that reconfiguration is a process often taking place over a considerable period of time with piecemeal components, some of which function more quickly and more effectively than others.

A parallel dimension is that of reconfiguration as a technical initiative based around systems (financial, clinical, safety or others) as opposed to politically seeking to come to a decision or solution in the context of competing values. This research project has largely experienced configuration as a political issue. Frequently technical criteria are rehearsed but the prevailing view is that the strength of the political perspective is, in the end, greater. This has a major impact upon the issue of sustainability.

The multiplicity of issues and criteria at play in a reconfiguration scenario are frequently in conflict. Moreover as no agreed or acceptable weighting system exists to determine which issues dominate it is unrealistic to see any reconfiguration decision to meet all the criteria or crucially for any reconfiguration to be the best or most successful model. The potential for the variables to acquire different status or value in specific local contexts makes it most unlikely that a reconfiguration in one context will offer a generalisable model elsewhere.
It seems that government policy in respect of reconfigurations sees enhanced public involvement and consultation as a solution. The assumption seems to be that the involvement will be educative in such a way as to lead to smooth acceptance of service change. All the evidence gathered here from the wealth of stakeholder interviews suggests that this is very optimistic.

The NHS functions in an unstable, turbulent environment where technological changes are often at odds with other policies. The inter-dependencies of specialties do not yield a fixed value. The service has evolved over time: the stand-alone provision that currently exists would quite recently have been seen as unacceptable.

In the context of assessing the financial merit of a particular configuration it is quite clear from the research here that national resource allocations and policies such as Payment by Results and National Tariffs massively dominate Trust finances beyond anything traceable to an evolving reconfiguration. Moreover, the emerging policies around Treatment Centres and private provision as well as Primary Care Trust commissioning, make it difficult to assess and attribute any movement in an organisation’s financial position to a single variable.

At the level of the health community it can appear that a reconfiguration plan exists to overcome a crisis point somewhere in the system. The degree to which reconfiguration plans have precise measurable milestones or clear monitoring systems is quite limited. This is compounded by the high levels of movement in the key actors such that there is a fading memory of the commitments, and newcomers have little personal allegiance to previous agreements.

It is difficult to view the reconfiguration plan as a dominant force in an organisation’s behaviour. It may set a general direction but the detail of day to day operational decision making appears to come from more current service priorities.

The paucity of really relevant data to assess reconfiguration outcomes as documented here is probably linked to the issue of who owns or monitors the process of enactment. However, the work on the HES data with these three sites has identified how HES data in conjunction with particular local statistics can offer a useful way of assessing the size of the service change, the control exercised over the process and the sustainability of the new pattern.

**Recommendations**

The findings from the present study lead to a number of recommendations in terms of how future reconfigurations might be implemented and investigated.

Longitudinal studies - As the policy context becomes ever more complex, it will be necessary to follow proposed reconfigurations very closely from inception, to planning, to implementation.

Data collection - It is clear from this study that retrospective data collection presents a difficulty in terms of capture and interpretation. HES data offers a way of assessing the progress of reconfiguration.
Generalisability - The issue of generalisability needs to be tackled in terms of both technical content – what was the favoured solution and what were the factors that made it successful in a particular site – and of cultural context.
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The management of the SDO programme has now transferred to the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton. Although NETSCC, SDO has 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.