Competing or Collaborating Systems: Are we Ready for Health and Social Care Integration?

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Abstract

In 2013, the UK Government announced a major £3.8 billion healthcare initiative, the Better Care Fund. This funding was intended to be used within local health and care systems to drive closer integration, create new service efficiencies, support technological innovation and most importantly, improve outcomes for patients and people with care and support needs. This is a new experimental policy with no evaluation of early progress to date. In this position paper we propose that significant challenges lie ahead both in terms of developing new strategies for health and social care partnership development and also operationalizing these within new forms of collaborative professional working. We argue that a systems or sociotechnical approach can facilitate a better understanding of the potential challenges for integrating health and social care information systems.

Keywords: Social Care, Social Care Integration, Information Systems Integration, Health Care Systems, Sociotechnical Systems

Introduction

On the 25th February 2015, the UK Conservative government announced that devolved NHS budgetary responsibility and powers will be given to a consortium of 10 Local authorities in the Greater Manchester area. This will transfer over £6 billion of funding from central NHS control to the local partnership comprising NHS hospital Trusts, CCGs and Local Authorities. It is due to take effect from April 2016 in order to lead the way to fully integrated health and social care service provision in the North West of England.

In June 2013, the UK Government announced a major £3.8 billion healthcare initiative known as the Integration Transformation Fund, later to be renamed the Better Care Fund (Bennett and

Humphries, 2014). This funding was intended to be used within local health and care systems to drive closer integration and improve outcomes for patients and people with care and support needs. As further details emerged, it became clear that most of the money would come from existing English National Health System (NHS) budgets – it was not new money and this is equivalent to an average reduction in allocations to English NHS Clinical Commissioning Groups (CCGs) of around £17 million, with potential knock-on consequences for acute and community health services. One further issue around the Better Care Fund was that the government proposed to transfer nearly £2 billion of the English NHS funding to social care in a bid to reduce hospital admissions, especially as a response to a worrying upward trend in acute Accident and Emergency (A&E) admissions, a growing elderly population with increased patient demand, and a lack of hospital acute care capacity. The total NHS budget for England in 2015/16 is around £98.7 billion, the Social Care budget is approximately £17 billion. There are 211 CCGs and 151 Local Councils in England. CCGs commission for hospital services, community health and mental health services, Local Authorities commission for social care and public health, and NHS England provides the funding for Primary Care (GPs) and specialized services.

The Newcastle Integration Ready Project

In April 2014, Newcastle City Council (NCC) in collaboration with their two local Clinical Commissioning Groups (CCGs) bid for £21.8m of government Better Care (BC) funding to support a series of key projects aimed at developing joint partnership working between health and social care organizations. The integration of what are traditionally seen to be separate work processes, practices, and information systems was viewed as critical to the success of the chosen initiatives which would act as beacons or pilots for the development of partnership working. This would refocus effort and resources into community settings, placing the emphasis on preventative care and caring for patients in their own homes as a strategy to reduce unnecessary or overlong stays in hospitals and expensive interim care facilities. The Integration Ready Project (IRP) was conceived in July 2014 as a joint research project between the NCC/BC Project Board and Newcastle Business School with a remit to assess the integration requirements of the partner stakeholder organizations and report back within a 12 month period with details of the key systems integration issues and challenges for the future BC project roll out. Systems were defined as relating to people, process, information and technology.

The BC Project Board viewed the challenges facing them on three levels:

- Level 1: Whole systems opportunities through data sharing. The rationale for this related to enhancement of care and health experiences through seeing the various services as an integrated system with data flowing seamlessly from health to social care and vice versa. There was also the perceived need for professionals in various parts of the system to co-ordinate care packages and support offers to customers.
- Level 2: Customer relationship opportunities through a new technological platform: Here the argument was around the 'preventative' role of technology where services could be

developed that augment existing 'face to face' care through the use of for example smart technology. They also perceived a need to push information to people about community based support, health and care information in order that they are able to manage their condition and stay independent for longer.

- Level 3: Individual service opportunities through existing and new equipment: Finally they perceive a need to change culture within their organisations in order to gain acceptance of new technology, develop innovative solutions to some of their difficulties and to expand some of the telecare and telehealth applications that are still only embryonic.

This IRP project examines health and social care integration at a strategic level focusing on information systems integration. Previous studies (Waring, 2015; Wainwright & Waring, 2007; Wainwright & Waring, 2004; Waring & Wainwright, 2002; Waring & Wainwright, 2000) have shown that integration is a complex construct but can be broken down into three interlinked domains comprising; systems and technical, strategic and organizational. Building on previous theories relating to integration of information systems, this research aims to identify how strategy, organizations, people, processes and technology are currently connected in the delivery of complex health and social service provision to patients and citizens as part of the Newcastle Better Care strategy. It is envisaged that a systems and sociotechnical view can be used to explain how complex patterns involving different professional relationships can develop over time and become embedded in information technology adoption and use. It is proposed that systems views of integration, informed by relevant theory, can help facilitate more effective and efficient health and social care delivery. This view is supported by Wastell (2011) who critically reviews current practice related to the development of UK child care protection systems alongside social care systems and NHS IT systems more generally. He argues that there is no evidence base available, or even being created, to determine what constitutes good process and practice in social care information systems provision. Hence, there are inevitable large scale and very publicly embarrassing failures when quality standards and safety protection principles are breached. Wastell (2011) reviews the literature and argues for managers to embrace systems design, especially sociotechnical methods, in order to develop a core competence for understanding complex systems behaviours and developing management practices that are fit for purpose. This is predicated on better information systems design which takes account of human, social, organizational and political factors as key determinants for implementation and adoption success. Previous empirical work (Waring & Wainwright, 2000; Wainwright & Waring, 2000; Wainwright & Waring, 2004) investigating large scale enterprise systems adoption both in the private sector and in the NHS also reviewed the integration literature concluding that it was mostly dominated by issues concerning technical interoperability - avoiding more complex issues relating to organizational culture, behaviour, power and politics. A 'Three domains' model for information systems integration was proposed (Wainwright & Waring, 2004) as a tool for analyzing and assessing the areas that should be accommodated if full systems integration was to be successfully achieved. This was where system was defined more broadly in terms of aligning organizational strategy and departmental goals with technology that facilitated new working processes and practices whilst recognizing power and political issues due to crossing traditional structural and professional working boundaries.

Research (Work in Progress) Findings

A simplified systems and technology map of the main partner organizations involved in the IRP and BC project has been developed, Figure 1, to illustrate the distinct organizational, systems and technical boundaries concerned. The researchers have been placed in a privileged position to gather stakeholder views from all these organizations along with relevant schematics and documents as an aid to drawing up the whole systems view. This is the first time that such a full picture has emerged showing the complex nature of the proposed integration relationships.

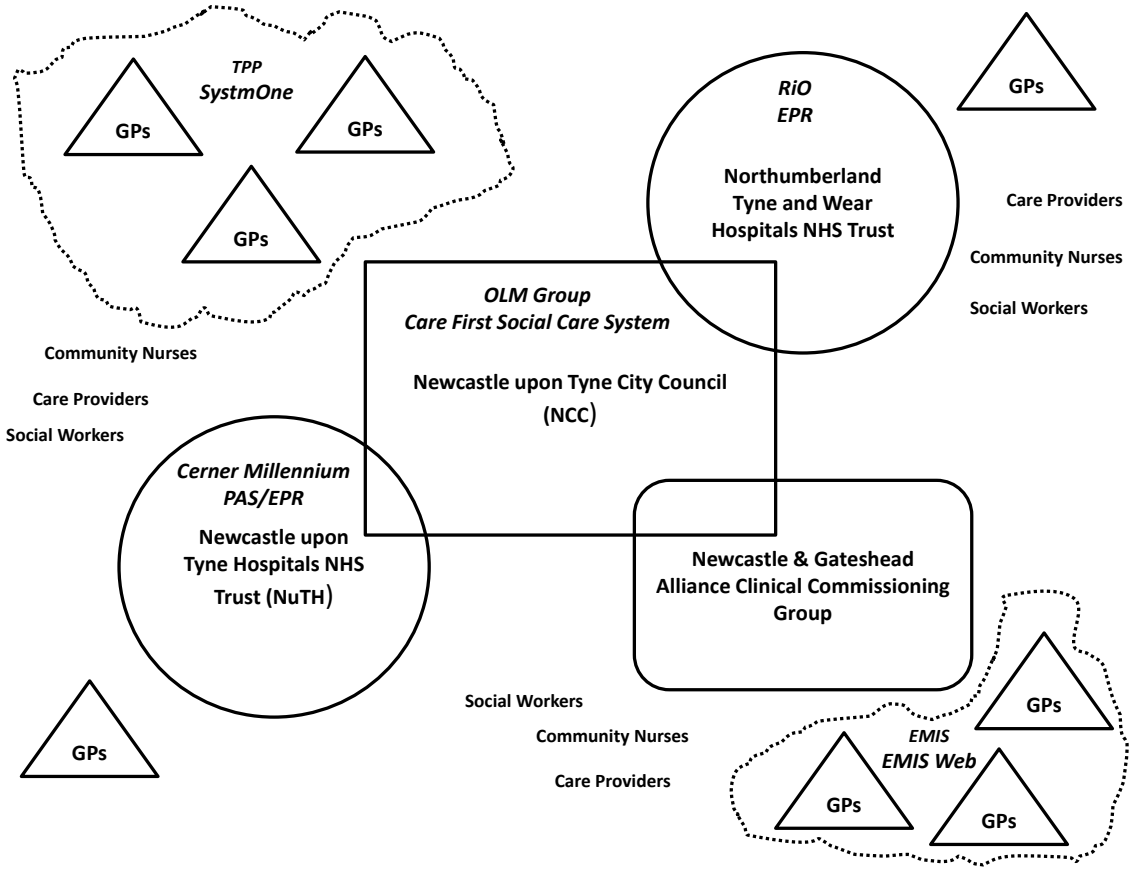

Figure 1. Better Care Project Stakeholder Organizations and IT Systems in Current Use

The Local Authority, Newcastle City Council (NCC), is responsible for all social care and wellbeing planning, commissioning and support within the defined area population. They are an elected body with distinct administrative departments covering adult, children, elderly services alongside education, infrastructure planning, and housing services. They receive a government funded budget based on population and demographic needs. In terms of health and social care, the main system in use is the Care First application provided by the OLM group. This is a mature system with many installations in similar councils across the UK. Its main purpose is to manage the social care assessment process, maintain records of all client case information whilst providing management information for effective governance of quality processes (protecting the

integrity of individual citizen/client information), and budget management for commissioned services. This system runs on an internal secure network with external communications enabled across the gov.uk information network. Access to information is through role based access control and only available to authorized social work and council employees. There is no integration link to external NHS health care organizations – information being shared on specific request only and not via direct access to the Care First system.

For the purposes of this study, only the 2 largest hospital Trusts are being examined. The Newcastle upon Tyne Hospitals NHS Trust (NuTH) is the main centre for secondary care services in the city, operating a busy accident and emergency department. It has recently adopted a new Patient Administration System (PAS) and Electronic Patient Record (EPR) system provided by Cerner Millennium. Again, internal access is based on the role based definitions with different authorizations provided on the basis of need. This mainly involves clinical staff such as all grades of medical physicians and nursing staff. External communications are provided through access to the secure nhs.net network. Social workers and non NHS staff do not have authority to access this system electronically, but may view paper notes on request – even if they work as part of integrated teams in hospital and need the information about patients to determine complex social care needs. The lack of information sharing provides barriers to expediting more efficient discharge procedures from hospitals, and can inhibit the development of more accurate care needs assessment for homecare provision of support. Hospital systems can interface with Medical Doctors in their own local practices, but only to send specific summary discharge information or pathology test results (through a gateway system called ICE). General Practitioners do not have electronic access to the Hospital System, either on site or remotely from their own practice, and vice versa for Hospital Medical Staff.

The other large NHS hospital Trust, Northumberland Tyne and Wear (NTW), focuses more on outlying suburban areas and also with mental health services. Their main system is RiO, which was developed as part of the now discontinued NPfIT programme. The same principles apply for this system in terms of limited connectivity and role based access based on defined authority and determined need.

General Practices are situated according to geographic and demographic need based on the health population profile. There are mainly 2 IT systems in use; The EMIS system is mainly used by General Medical Practitioners (GPs) who work South of the River Tyne (Gateshead), and an almost equal split between SystmOne and EMIS is favoured by GPs who work North of the Tyne in the Newcastle City areas. The 2 systems have different development histories and have not been designed to be integrated. This is technically feasible however, as new developments are moving them to be ‘cloud based’, such as EMIS Web, whereby they can more easily be accessed through mobile working in the community. Third party providers are developing solutions for interoperability of these platforms, such as provided by a Medical Interoperability Gateway (MIG), currently being trialed in some areas. The MIG technology, along with ICE, are the preferred solutions for communication interfaces between GP systems and Hospital Trust organizations. The Care Commissioning Group provides the administrative support to commission and procure health care services for the community and is led by GPs and

professional administrative support staff. However, GPs are free to make their own individual choices with regards to selection of IT software – a principle of their own autonomy and clinical freedom – as their funding comes directly from the Department of Health (NHS England).

Discussion

Viewing integration of health and social care services from a systems and technical perspective demonstrates that the BC and IRP project will be extremely challenging and complex. This is now being recognized by government agencies and policy makers (Ham et al, 2011). Technical interoperability is still a fundamental issue, but there are even more fundamental problems associated with merging work processes and operations based on principles of partnership working and multidisciplinary teams. This is when the core professional staff are unable to legitimately share important patient or client information electronically between them. They must still rely on verbal information sharing and printed or scanned copies of relevant extracts of notes. This becomes even more complex when health and care professionals are visiting patients at home or in the community. Mobile working solutions have not yet been adopted. Hand written notes and forms are still regarded as normal practice. These must then be transposed back into the relevant systems when workers return to base. Patients/Service Users (the Citizen) retain hand written forms and records in their own homes – and these can be consulted by care staff or family when required. At the moment patients do not have electronic access to their own medical notes – although this may be possible in the future.

From a strategic perspective, the joint commissioning and procurement of complex mixed economies of health and social care provision will depend on the quality of information gathered for reporting and decision making purposes. This information is currently acquired through a set of complex reporting arrangements, both locally at the level of the CCGs and also the Local Authority, but also from national reporting requirements to the Department of Health. Integrated services and working arrangements will make these requirements even more vital. The lack of current integration presents a large obstacle to timely and accurate collection even with large professional data and information analytics organizations supporting operations such as Commissioning Support Units. The evidence base to demonstrate that the new integrated health and social care strategies are working depends on the quality of information – and hence the successful integration at a systems and technical level.

Finally, from an organizational perspective, a detailed social/historical and cultural analysis will be needed to fully appreciate how different professions can effectively work in partnership. If this is not addressed there will be unmanageable political and power challenges which will prevent full integration success. Traditionally, the NHS has been viewed as a complex system run by professional bureaucrats and the medical professions. It is always a political tool for each political party as it is a sacred and protected component of British culture and values. Medical practitioners, governed by the Royal Colleges, have always exercised great professional autonomy and freedom. This will not easily be relinquished in terms of more equal working with local authorities and other (non NHS) professional groups. The local authorities and social work

do not have equal professional status or power to effect changes, and do not have such significant budgets. Social workers are also seen as the 'Gatekeepers' to care service resources and associated with payment for services, whereas healthcare professionals within the NHS are seen as delivering 'free at the point of use' medical services on demand. Patient loyalty is therefore disproportionately in favour of doctors and nurses as opposed to social workers. Therefore, the main bulk of IT investment has gone into clinical medical systems at hospital and GP levels. Relatively little investment has gone into social work and community based care support systems. A significant management of change project lies ahead in order to connect health and social care systems for the common good of patients and citizens. The professional and organizational boundaries must be fully appreciated and navigated if this is to be feasible.

Impact and Implications

Our research findings to date indicate that the challenges to greater integration and partnership working are currently ill-defined and most likely seriously underestimated – despite the UK government and political rhetoric. The full impact of the shift of funds from the NHS budget into a shared health and social care budget is yet to be seen and will require rigorous evaluative research studies to evaluate the benefits and value for the patient/service user/citizen. A key issue is whether health organizations and agencies can enter fully into a collaboration with Local Authority social care organizations given the complex nature of professional autonomy, governance and operational work practices. It is possible that there could be serious clashes of culture with social care provision not being seen as equal in legitimacy to direct health service provision whether at primary, secondary or community care levels.

Integration must be examined from a strategic, tactical and operational level. Professional culture must be better understood if cross boundary working in multidisciplinary care teams is to be effective. The social and political analysis must also be factored in to any new design for integrated and interoperable ICT systems. Information sharing will be crucial to successful partnership working, but information governance issues may be the major hurdle in both the short and long term. Figure 2 provides a simple illustration of how a sociotechnical analysis may facilitate the design of new collaborative systems for information sharing and partnership working. This must be viewed in terms of people, process and systems/technology elements; none can be viewed or dealt with in isolation from the other.

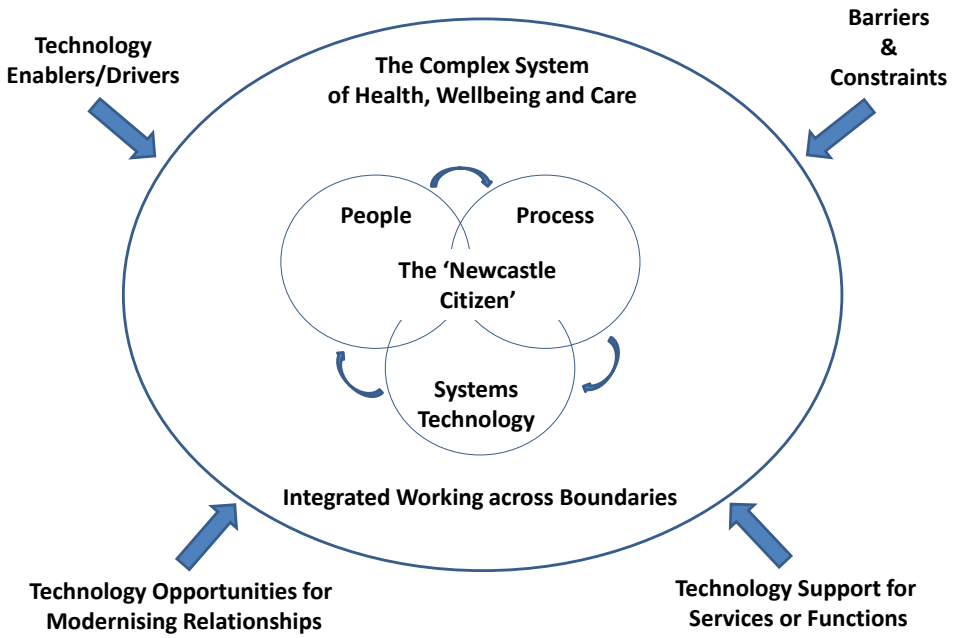

Figure 2. Sociotechnical View of Health and Social Care Integration

At the heart or centre of this system of care is the patient/citizen. Technology can be seen as an enabler and driver of process change. This provides or affords opportunities to develop new forms of partnership and multi-agency working. It can also act as a barrier or constraint however, if the systems remain isolated operating as competing islands governed tightly within professional boundaries.

The impact of the UK Government Better Care strategy is yet to be seen both on national and also on local levels. A great emphasis is being placed on the integration of information systems and technologies to facilitate new collaborative forms of organization for joined up health and social care. The Newcastle Integration Ready Project is an attempt to gain an early understanding of the challenges and issues that will lay ahead.

References

Bennett, L. and Humphries, R. 2014. "Evidence Summary: Making Better Use of the Better Care Fund", *Kings Fund Publication*, January, 2014, www.kingsfund.org.uk/bettercarefund

Ham, C., Imison, C., Goodwin, N., Dixon, A.,South, P. 2011. "Where next for the NHS Reforms? The Case for Integrated Care", *The Kings Fund*, www.kingsfund.org

Wainwright, D. and Waring, T. 2004. "Three Domains for Implementing Integrated Information Systems: Redressing the Balance Between Technology, Strategic and Organizational Analysis", *International Journal of Information Management*, (24: 4), August, pp. 329-346.

Wainwright, D. and Waring, T. 2007. "The Application and Adaptation of a Diffusion of Innovation Framework for Information Systems Research in NHS General Medical Practice", *Journal of Information Technology*, (22:1), March, pp. 44-58.

Wainwright, D.W. and Waring, T.S. 2000. "The Information Management and Technology Strategy of the UK National Health Service: determining progress in the NHS acute hospital sector", International Journal of Public Sector Management, (13:3), pp. 241-259.

Waring, T S. and Wainwright, D.W. 2000. "Interpreting integration with respect to Information Systems in Organizations - Image, Theory and Reality", *Journal of Information Technology*, (15), June, pp. 131-148.

Waring, T. and Wainwright, D. 2002. "Communicating the Complexity of Computer-Integrated Operations: An innovative use of process modelling in a North East Hospital Trust", *International Journal of Operations and Production Management – Special Issue on Healthcare Systems*, (22:4), pp. 394-411.

Waring, T.S. 2015.(forthcoming) "Information Management and Technology Strategy Development in the UK National Health Service Acute Hospital Sector: A maturity model perspective". *Public Money and Management.*

Wastell, D. 2011. "*Managers as Designers in the Public Services – Beyond Technomagic*", Triarchy Press, Devon, UK.