‘Public Policy Networks and ‘Wicked Problems’: A Nascent Solution?’

(Prof Ewan Ferlie, Prof Louise FitzGerald, Dr Gerry McGivern, Prof Sue Dopson and Chris Bennett)

Corresponding Author:

Prof Ewan Ferlie
Department of Management,
King’s College London;
Franklin Wilkins Building,
150 Stamford Street,
London SE1 9NH

E mail: Ewan.ferlie@kcl.ac.uk
Tel: 00 44 (0) 207 848 6646

The authors acknowledge funding from the National Institute of Health Research (Service Delivery and Organisation programme). However, the views expressed are those of the authors and not necessarily of the NIHR SDO.

‘Public Policy Networks and ‘Wicked Problems’: A Nascent Solution?

Abstract: The last two decades have seen a shift in public services organisations from hierarchies to networks. Network forms are seen as particularly suited to handling ‘wicked problems’. The time is ripe to make an assessment of the nature and impact of this shift. Using recent evidence from the United Kingdom (UK) National Health Service (NHS), we explore the nature and functioning of eight different public policy networks. We are also interested in whether there has been a radical transition – or not- from hierarchical to network forms.

Most networks were found to relate to ‘wicked problems’. We identify from the literature three key domains needed to support a full transition: (i) cross organisational Information and Communication Technologies (ICTs)/data bases (where we found little change); (ii) strong Inter Organisational Learning (IOL) (where we also found little change) and (iii) a shift from vertical management to lateral leadership (where we found more change). So hybrid forms which mix hierarchy and network endure. We discuss academic and public policy implications. Despite this mixed pattern, public policy networks should be given time to develop, given the many ‘wicked problems’ faced.

Introduction

The last two decades have seen a shift in public services organisations from hierarchies towards networks internationally, not only in the UK (Ferlie and Pettigrew 1996), but also the Netherlands (Kickert et al. 1997), other EU countries (Boivaird et al. 2002) and now the USA (Goldsmith and Eggars 2004). The Network Governance model of public management (Newman 2001) endorses such networks theoretically, as a policy response to so called 'wicked problems'.

But have network forms consolidated themselves in practice? Has the turn to network forms been fruitful or disappointing? We start by reviewing the academic literature and outlining three domains necessary to support a full transition to network forms: cross organisational ICTs and data bases; high inter organisational learning; and a shift from vertical line management to broader, lateral, leadership. We use this framework to assess the organisational transition from hierarchical to network forms in a set of UK case studies, concluding the transition is only partial. Yet the 'wicked problems problem' remains pervasive within our cases. We defend networks as the best way of handling these 'wicked problems', calling for more time for them to develop.

Network Governance and The Turn to Public Policy Networks

Various authors detect a move away from traditional vertically integrated large organisations in the public sector. Jessop 1994 argues the large bureaucracies of the public administration era are being delayered, echoing moves to more flexible 'post

Fordist' firms. The 'hollowing out of the state' thesis (Rhodes 1997a) asserts the unitary nation state is losing functions upwards (to supra national bodies such as the European Union), downwards (to strong regions) and sideways to devolved agencies (agentification). The Network Governance (NG) reform doctrine (Newman 2001) moves these ideas into the public policy domain. The NG model, enacted in the UK by New Labour governments after 1997, shifts the governance mix (Rhodes 1997b) from markets/hierarchies to networks. Many UK public policy networks were created around 2000 so the time is ripe for an assessment.

Networks and the 'Wicked Problems Problem'

The public policy literature suggests network forms are particularly effective in tackling 'wicked problems.' This concept (Rittle and Webber 1973) refers to problematic social situations where: (i) there is no obvious solution; (ii) many individuals and organisations are necessarily involved; (iii) there is disagreement among stakeholders; and (iv) where desired behaviour changes are part of the solution. 'Wicked problems' (Clarke and Stewart 1997) go beyond the scope of one agency (e.g. anti crime or smoking strategies) and unaligned interventions by one agency have perverse side effects. They instead require a broad systemic response, working across boundaries and engaging citizens and stakeholders in co producing policy making and implementation.

Sullivan and Skelcher 2002 similarly consider 'cross cutting themes' in public policy which go beyond the remit of one agency. They point to high organisational

fragmentation in public services following earlier ‘hollowing out of the state’ reforms. As a response, UK public policy networks try to rebuild systemic capacity to achieve ‘cross cutting outcomes’ in these hollowed out policy arenas: *‘cross cutting issues are those which have a fundamental effect on well being yet continue to defy the actions of governments to address them…they cannot be tackled successfully by a single agency, nor will disjointed action have any real effect’* (Sullivan and Skelcher 2002, p56). ‘Wicked’ problems often demonstrate chronic policy failure. Achieving ‘cross cutting outcomes’(e.g. lower crime rates; better population health) redirects attention from narrow, vertical, performance management systems. Such complex outcomes are long term, dependent on intermediate processes such as building inter agency collaboration.

A Radical Organisational Transition to Network Forms? : Three Supporting Domains

We here explore whether there is a radical shift – or not – from hierarchical to network forms in UK public services. We are particularly interested in understanding the process of organisational transition. We argue a full transition will involve simultaneous changes to structure, organisational capability and process. So structural change towards networks has been reinforced by a policy emphasis on a ‘leadership’ capability (as opposed to vertical management) (Graham *et al* 2009). Lateral leadership is indeed important, but the literature suggests cross agency ICTs and high IOL are further underpinning organisational capabilities. We suggest that if there is little change in these three domains that new network forms will not consolidate fully.

Domain 1: Cross Organisational ICTs, Data Bases and Knowledge Management

Well developed public policy networks depend on effective cross organisational ICTs and data bases to share information across agency boundaries: that is, they need a joint knowledge management strategy and capacity (Currie and Suhomlonova 2006). New ICTs (e.g. desktop computers, e mail, the web and electronic data bases and templates) are available to support network forms informationally. We argue that (i) the ability to share electronic information easily across agency boundaries and (ii) the development of shared and meaningful data bases will underpin any move from stand alone agencies to a functioning network.

Webster 2006 reviews organisational literature on ICTs. Castells 1996 sees new ICTs acting as a radical *technological* driver which actively constitutes network based forms within a new epoch of informational capitalism. Complex network based firms would be impossible to manage without powerful computer networks which store, process and transmit information. Similar arguments apply to the public sector partnership forms suggested by the NG narrative. While Castells does not analyse the dynamics of e government, Margetts 2005 suggests that new ICTs 'hollow out' traditional middle management, creating virtual networks of interorganisational relationships within e government. Dunleavy *et al*. 2006. argue that the effects of ICTs on public organisations have been under studied. One scenario is moving into a brave new world of 'digital era

governance' where 'many agencies become their websites' (although they studied social security and taxation agencies which deliver bounded services rather than health care).

Optimists point to new ICTs enhancing local democracy and interactive policy making (Snellen 2005). Examples include electronic consultation and dialogue on agenda setting, setting priorities, draft proposals and feedback on implementation which could build the co production needed to tackle 'wicked problems'. User driven groups and chat rooms can build a critical e voice against a purely top down government agenda.

Pessimists see ICTs as contributing to a 'Surveillance State' which builds up sophisticated data bases on its citizens (Webster 2006), tracking and storing e mails, routinely metering on line actions and merging data bases for security purposes. Data on social life – especially among deviant or problematic subgroups – may be recorded on registers or risk management systems, stored and transmitted electronically. This is a dystopia of electronic surveillance, with powerful ICTs 'delocalising' information (Miller and Rose 2008) previously physically stored in written records.

All these arguments are exaggerated if ICTs play a minor role in practice: Zuboff 1984 suggests new technologies in 'informating organisations' interact with existing forms so that partial change is as likely as ICT driven organisational transformation.

Domain 2: Inter organisational Learning

Public services networks will remain weak without a capacity for IOL and joint problem solving: there is an important cognitive basis to network working. A key argument for network based firms lies in their supposed ability to learn and adapt, as in 'flat' Knowledge Intensive Firms (Alvesson 2004). The NG model (Newman 2001) argues public policy making should become more forward and outward looking, adopting a continuous learning style.

So networks' ability to learn interorganisationally becomes critical, especially in relation to 'wicked problems' with chronic policy failure. Networks should be able to transfer knowledge and best practice across organisational boundaries. UK public services networks have attempted to diffuse best practice (Rashman and Hartley 2002), but sometimes in a unidirectional 'hub and spoke' manner from a centre of excellence outwards rather than through mutual learning.

Ambitions to create learning networks have not always been realised in practice. In the early NHS cancer networks, a diffuse IOL agenda was crowded out by a primary concern with top down restructuring (Addicott *et al.* 2006). Are obstacles to learning in networks underestimated? Pollitt 2009 argues that stable bureaucracies may display better developed organisational memory (and hence learning capacity) than unstable post bureaucratic and network based forms. 'Memory loss' associated with the absence of a stable core could erode networks' learning capacity so that in practice they learnt less than hierarchical forms.

Domain 3: From Vertical Management to Lateral Leadership?

Martin *et al.* 2009 argue that a full shift to network forms will include process changes including the displacement of vertical management by broader, lateral leadership. The NG narrative certainly stresses change agency (critiqued by O'Reilly and Reed 2010) as well as structure. Public sector 'leaders' are active agents of state modernisation (Newman 2005), displaying non bureaucratic and personally embodied traits such as charisma and vision. There is a desired shift from a bureaucratic to an entrepreneurial leadership style, despite institutional constraints (Currie *et al* 2008). This includes a move from compliance to commitment and from control from the outside to from the inside (Salaman 2005). At its simplest, this creates a cult of the transformational leader who 'turns round' a failing public organisation: yet evidence from relatively simple uni professional educational settings (Currie *et al*. 2005) does suggest there can be a transformational leadership role for the Principal.

Health care contains various powerful professions (medicine, nursing) as well as general managers and the policy system. In this more complex and ambiguous system, 'dispersed' or small team based leadership – rather than dependence on a single individual – helpfully broadens the leadership base (Buchanan *et al*.2007; Martin *et al.* 2009). The leadership team shapes rather than directs. Denis *et al.* 1996 refer to a 'leadership role constellation' in health care settings taking the form of a small mixed group which can relate to all key constituencies. They further suggest that such leadership

constellations can be fragile and short lived, with high turnover (especially amongst health managers).

What management style characterises public policy networks? Ferlie and Pettigrew 1996 suggest it includes: interpersonal, communication and listening skills; an ability to cross boundaries, an ability to act as teacher, coach and mentor; an ability to transfer knowledge and to convey requisite standards and attitudes. Rhodes 1997b similarly suggests skills in the 'differentiated polity' include: coping with complexity, negotiating interdependence and diplomatic skills of patience and perseverance.

Denis *et al*. 2005 argue that in pluralist health care organisations leadership processes will be more subtle, collective and dynamic than found in the transformational leader model. This is because power systems are diffuse; the many stakeholders have divergent objectives and the complex rules and routines structure and constrain action. Such conditions are more accentuated in loose network settings. Leaders here need to constitute strong and durable networks, create coalitions of support around commonly defined objects and work to increase their influence base over time. We will explore in our cases: who leads in public networks and how?

Study Design and Methods

We draw on a recent empirical study (Authors 2009) of eight UK health orientated networks which involved both the NHS and many other stakeholders. Our approach was

based on a processual, contextual and comparative case study design (Langley 1999; Pettigrew *et al*. 2001) whereby we followed a set of purposefully selected networks in their localities through time. Comparative case study designs (Yin 1994; 1999) are commended for strong internal validity but also increasing external generalisability beyond that possible in a single case, especially with purposeful selection of cases. Both Eisenhardt 1989 and Langley 1991 argue that sets of 8 to 10 cases can generate low level patterns and generalisability beyond that possible in a single case, without sacrificing internal validity.

To secure variety in the sample, we selected four pairs from contrasting policy arenas: (i) Genetics Knowledge Parks which represent a translational science network, involving academic and health stakeholders (ii) Managed Cancer Networks which related to a high profile clinical service and which have been seen as an exemplar of the form; (iii) Sexual Health Networks which we thought would have a strong community and public health orientation and (iv) Older People's Networks which were highly multi sectoral, involving health, social care, non for profit and private sector providers.

The focus of analysis (Yin 1994) is the nature, behaviour and impact of the network as a whole, taken with an intensive analysis of the career of particular 'tracer issues' which enables us to assess network performance against stated policy objectives (e.g. the reconfiguration of Urology services in the cancer networks). We used a range of qualitative methods. The original interview pro forma was based on an initial academic literature review so that questions were theoretically informed (e.g. role of ICTs; extent

of IOL). Data were gathered from an analysis of documents, notes taken at attendance at key meetings and semi structured interviews with a range of key stakeholders (228 interviews in total). We then wrote up single case reports organised to a common format; then moved on to pair wise comparisons. These comparisons and theoretical implications were discussed in a series of whole team meetings. Our final report (Authors 2009) combined summary analytic histories of the eight cases with thematic chapters (e.g. role of ICTs) across all networks. This shorter paper uses comparative tables (Tables 1-4) (Miles and Huberman 1994) to convey qualitative material in a structured way and assist pattern recognition, supplemented with key examples in the text to add colour.

Introduction to the Eight Networks

We now introduce the 8 networks studied, specifying the tracer issues chosen.

Genetics Knowledge Parks (GKPs) were funded to encourage translational science in the new genetics based technologies. They were a major strand of the government's strategy for genetics research (Department of Health 2003) which the local GKPs were expected to deliver. The GKPs sought to link scientists in research intensive Universities with NHS labs, NHS hospitals and other stakeholders but found it difficult to cross the boundary between the health care and academic sectors. They were relatively well resourced and led by Network Directors. They frequently reported upwards on progress against stated objectives, using electronic templates. The initial five year tranche of funding was not

renewed by the Department of Health, suggesting some disappointment with their performance.

GKP1 contained various work packages including one on developing a Sudden Cardiac Death test in cardiovascular genetics (our tracer issue). It was located in a research intensive University. The network contained many professional and occupational groups, operating with different agendas, incentives, power bases and even epistemologies (different views about what was 'good' research). Inter group tensions were notable. The appointment of a Network Director (ND), previously a research scientist, provided a leadership core, aided by other 'boundary spanners'. The network successfully commercialised a test for Sudden Cardiac Death syndrome but progress in other work packages was limited.

GKP2 's distinctive mission and tracer was to promote public health genomics as a field. It too was associated with a research intensive University. It built on an existing public health unit with a long standing 'founding' Director who remained as ND. Leadership was highly individualised. Relations were described as 'not good' with key local stakeholders in genetics and there was little joint learning. Whereas the ND saw the network as broadly successful, most interviewees felt that the network had little impact.

The two *Managed Cancer Networks* (MCNs) were set up to implement the NHS Cancer Plan (Department of Health 2000) locally. There have been historically poor clinical outcomes from UK NHS cancer services so cancer services are a major policy priority.

Substantial new funding financed service improvements. The MCNs had large and well graded staffing. They set up clinical Tumour Groups for each major cancer service to consider service reconfiguration. Our tracer issue was reconfiguration of Urological cancer services after the 2002 Urology Improved Outcomes Guidance (NICE, 2002). Core tasks set for the networks included: (i) the reconfiguration of cancer services to meet evidence based Improved Outcomes Guidance (ii) developing Multi Disciplinary Teams and (iii) devising agreed local protocols for equitable access to high quality care.

The *County Cancer Network* covered a county of 1 million population. In 2002, urology cancer services had been provided in five sites but by 2007, this was reduced to two after the reconfiguration brokered by the network. The Network Management Team (NMT) was a small mixed team centred on three people – drawn from different disciplinary backgrounds. The Service Development Officer (who had also worked as a nurse) became the first Network Director, and the current Medical Director (a local oncologist who had been involved with the network since 1997) and the Nurse Director joined in 2003. They have remained a stable NMT since then. They developed the capacity of Tumour Groups (with strong clinical representation) to take decisions rather than always intervening directly. They encouraged system wide learning, including in the tumour groups.

The *Urban Cancer Network* was in a large regional city (1.6 million population). There were here tensions between a historically dominant large teaching hospital and other providers. The network learnt from past (flawed) cancer reconfigurations and developed

new processes of locally owned decision making that would still ‘deliver the plan.’ The network consciously saw itself as providing expertise and moving across organisational boundaries. The small team based pattern of leadership was centred on three people with different work backgrounds: the Board chair, the powerful and effective Medical Director (who informally plays the role of Network Director as that post does not exist locally) and Network Manager (with a background in physiotherapy and then general management). The Medical Director is a senior consultant in a prestigious speciality in a local hospital and has been with the network since its creation.

The network team built up the capacity of the clinical Tumour Groups to take decisions rather than intervening from the top directly. By 2007, urology services had been reconfigured from 5/6 original sites onto two larger sites. In our view, both MCNs successfully achieved important public policy outcomes.

Sexual Health Networks. The ‘National Strategy for Sexual Health and HIV’ (Department of Health, 2001) set out targets for better clinical outcomes and services in sexual health (e.g. better access). It proposed developing managed networks to implement service changes, outlining standards and guidance. Substantial financial investment was available.

The *Metropolitan Sexual Health Network* was set in a deprived and diverse urban setting. It had a very strong track record in one tracer issue (reducing service access times), but perhaps less in the other (developing HIV/AIDs services for people from ethnic

minorities) where community engagement was weaker than expected. It was effective in inter organisational learning, with a well attended and open research forum. Its management style oscillated between a small team based approach and periods in which the Medical Director became individually dominant: we assessed the former as more productive. It was relatively well resourced. Overall, it was performing well in meeting key access targets, spreading good practice and learning.

The *Regional Sexual Health Network* was in a city where local public service agencies traditionally worked together well. Our two tracer issues here were the response to high teenage pregnancy rates (a major local issue) and developing HIV/AIDS services for ethnic minorities. A senior multi agency committee was set up to progress these issues. Strategy formulation and implementation was limited as there was overdependence on a busy individual and lack of administrative support.

Older People's Networks: The National Service Framework (NSF) for Older People (Department of Health 2001) sets out reforms and standards for better health and social care for older people, including a Single Assessment Process (SAP) to improve inter agency coordination. Recent guidance on Supportive and Palliative Care identified the need to improve end of life care (Department of Health 2008). Local mandated networks were set up to implement the Older People's NSF.

Regional Older People's Network: The network included a large independent sector as well as public sector agencies. The network was led by a senior social care manager who

was overloaded. It took a long time to agree a shared strategy. There were continuing issues about the distribution of power in the network which inhibited joint learning. The network struggled to develop an inter agency IT platform and was slow in progressing service improvements in the tracer issues (intermediate care and End of Life care).

Metropolitan Older People's Network: This locally driven pilot project sought to improve end of life care in residential care. The initiative was led by clinical professionals (nurses and a local primary care practice). The pilot used explicit guidelines built up in consultation with clinicians nationally. There was strong emphasis on education and training with joint learning. Cross organisational ICTs remained primitive. Relations in the network appeared cooperative with good service improvement work. At the end of the study, however, one home pulled out of the network, suggesting it was fragile.

Seven networks were 'managed' networks tasked with delivering national policy objectives: only the Metropolitan Older People's network was locally driven. The two cancer networks and the Metropolitan Sexual Health network made the most progress in the tracers and were assessed as the three 'higher performers'.

An Organisational Transition? Some Evidence From the Networks

We now match evidence from the cases against the domains specified earlier, using structured cross case comparisons (see Tables 1 to 4) and brief examples to add colour.

The 'Wicked Problems' Problem: Pervasive and Persuasive

See Table 1

We first return to the 'wicked problems' problem (Clarke and Stewart 1997; Sullivan and Skelcher 2002). Is the concept just a chimera? On the contrary, Table 1 indicates 'wicked problems' – as defined earlier - were found in most cases. The networks often worked on cross cutting objectives across agencies only realistically achievable over the long term (e.g. both cancer networks reconfigured urology services over a five year period).

Secondly, the actors included not only the NHS (both commissioning and providing functions), but also local government, Universities, and voluntary and private sector agencies. These are fragmented, multi sectoral arenas where cooperation cannot be guaranteed (e.g. the 'hard' boundary in the GKPs between the NHS and the University sectors).

Thirdly, there were challenging behaviour change objectives in much network activity, for example, in the Sexual Health networks (e.g. reducing new infections of HIV/AIDS and high teenage pregnancy rates). In the Older People's Networks, such objectives involved not only service users, but also service providers (e.g. treating older people with respect), family (e.g. improving engagement in care for a loved one who was dying) and society as a whole (e.g. making older people more visible).

Fourthly, we found some – although slight – evidence of increasing co production and influence from users and citizens (e.g. Older People's Champions as a collective source of social change in the Regional Older People's Case), although less change here than on other indicators.

We conclude the 'wicked problem problem' is not a chimera but remains of pervasive importance and should be persuasive in designing governance modes.

Domain 1: The Modest Role of Shared ICTs and Data Bases

See Table 2

Overall, Table 2 indicates continuing obstacles to the transfer of information electronically across agency boundaries and only incremental moves to shared ICTs or data bases. In practice, existing organisational forms regrouped to blunt the potentially radical impact of new ICTs (Zuboff 1984; Dunleavy *et al*. 2006).

There were some incremental changes. There were often network websites, but poorly maintained, rarely uploaded with new material and with primitive shared files capacity (although the website in County Cancer Network was better). There was some growth of video conferencing (e.g. County Cancer Network) which helped Multi Disciplinary Teams confer remotely. There were some cross hospital IT systems emerging (e.g. the

‘joined up auditable data’ in the Metropolitan Sexual Health Network could become an electronic patient record across the network). The Urban Cancer Network’s well functioning IT system (good data storage and accessibility) underpinned its ability to share and analyse information and hence add value.

However, the need for human support for ICTs and the limits placed on interorganisational exchange of information by organisational autonomy – and fragmented information systems - were apparent. Working practices were not ‘transformed’ by ubiquitous computing. The slow development of a common IT platform in the Regional Older People’s Case illustrates the danger of relying on shared IT to drive interoganisational change. Information here crossed agency boundaries through a confusing mix of electronic information, faxes and paper and it had so far proved impossible to use shared IT to facilitate a Single Assessment Process. Both sexual health networks showed over reliance on poor quality data sets that represented ‘noise in the system’ and did not add real value.

ICTs were used in electronic performance management in the GKPs but their impact was superficial as this information was not used in practice. The new End of Life register in the Metropolitan Older People’s Case was filled in manually. We found little evidence of ICTs promoting public participation. There were plans to use ICTs more creatively: for example, creating a learning platform accessible by personal pin numbers in Schools to diffuse information to young people (Regional Sexual Health) but that was for the future.

Overall, ICTs were not a major driver of organisational transformation towards network and there were few coherent network wide knowledge management strategies.

Driver 2: Disappointing Inter Organisational Learning

See Table 3

Table 3 suggests most cases showed only limited IOL. Examples include the Genetics Knowledge Parks (paradoxically both contained prestigious academic organisations!) which showed continuing epistemological barriers about what constituted ‘real’ knowledge as NHS and University structures, career patterns and incentives clashed. Academic science remained dominant in practice, despite the network’s formal goal of promoting translational science (Currie and Sihomlinova, 2006).

The Urban Cancer Network was a more positive example. There was learning from past events, notably earlier service reconfigurations which had created dissensus and resulted in decisions being imposed by an external panel. This led to a successful desire to construct a better local decision making process and avoid another external panel. Secondly, the network shared information and expertise effectively. It was a facilitator rather than a line manager, spreading information and expertise across the City. Network staff in information and service improvement became experts at the interface, offering data and advice across organisational boundaries. There was also local sharing and learning in smaller groups: the network encouraged the development of smaller clinical

Tumour Groups where basic work was done. They supported these groups and did not undermine them. The network set up processes to produce decisions consistent with national policy but which also had local and clinical ownership. Even when reconfiguration was floundering, the NMT did not take the decision away from the Urology Tumour Group but rather put pressure on it to produce a locally and nationally acceptable solution.

However, the overall pattern of IOL was disappointing with more negative than positive examples. There were often tensions between different constituencies and poorly developed cross boundary processes. There was a bias towards action – or the impression of action – and overloaded agendas, with little reflection (e.g. Regional Sexual Health Network). Power inequalities and organisational ‘cliques’ (e.g. the reported marginalisation of the not for profit sector in the Regional Older People’s Network) made joint learning across organisational boundaries problematic (Coopey and Burgoyne 2000).

Driver 3: A Significant Shift From Vertical Management to Lateral Leadership

See Table 4

Table 4 suggests a widespread shift from a line managerial and bureaucratic style of management to a more value driven form of lateral leadership. The absence of middle

level general management is striking. It has been supplanted by various local leadership configurations, supplemented by framework setting from the centre.

Many cases suggest the mixed, small team based, leadership pattern predicted (Martin *et al.* 2009), including the ‘higher performing’ cancer cases and the Metropolitan sexual health case. Individualised leadership could become overwhelmed (GKP2, Regional Sexual Health; Older People’s cases). Such teams were significantly strengthened by stability in composition over a long time (e.g. both cancer cases). The use of Older People’s ‘Champions’ in the Regional Older People’s Case draws on distinctive collective, social movement based models of leadership.

We (once again) note the important role of clinical managerial hybrids (e.g. the Medical Director in Urban Cancer Network) who link management and professional worlds. They exert a critical bridging function, winning support amongst clinicians who remain powerful stakeholders. In the Metropolitan Older People’s Case, palliative care nurses (along with GPs) took an active clinical leadership role, promoting a quality based innovation. These linkers remain in role longer than predicted (Denis *et al*. 2001) which nurtured organisational memory and learning.

Network leaders have no line managerial power or direct resource control as finance and contracts are held by NHS commissioners, so how do they influence? They seek to be *credible,* building a reputation for competence and for ‘delivering’. They help constituent organisations meet internal objectives and targets (e.g. the Metropolitan Sexual Health

Network's advice on redesign helped a struggling hospital meet access targets). They move across organisational boundaries, bringing providers and commissioners together (e.g. Urban Cancer Network). Such credibility is helped by prior – perhaps different - career experiences and seniority, alongside strong interpersonal qualities, as in the highly graded Cancer Network Manager posts. We found few examples of a bureaucratic, rules bound style (Newman 2005) as network leaders were often value and quality driven, personally passionate to improve services.

For example, a Network Manager in a Cancer Network was seen as personally committed, dedicated to improving services, hard working and inspirational. This manager had started off as a clinical professional and showed clear underlying values of quality and equity, reinforced by personal experience: *'the leadership style comes from the passion I feel that we can make a difference…the moment you have a relative go through the pathway you suddenly understand how complicated it is.'*

Note that many network leaders exhibited a 'soft/hard' mix rather than a purely 'soft' approach. While certainly exhibiting a developmental and persuasive style, they also used top down pressures from national policy frameworks to persuade clinicians to change, if only to avoid external interventions.

Strategic grasp and conceptualisation was evident in the higher performing networks which developed a theory of how networks could add value. For example, Urban Cancer Network staff consciously developed an expert advisory role to help constituent

organisations meet their own objectives. The Metropolitan Sexual Health Network explicitly used networking to link the radically different functions (from bio molecular medicine in the teaching hospital to community groups), all needed in a holistic response to sexual health problems in a diverse locality.

As a positive vignette, the CCN demonstrates a leadership pattern based on a small mixed team of three people from different professional backgrounds (medicine, management and nursing). They worked together as a supportive and cohesive group. Their values and skills were praised by many respondents: *'the three of them … are on the whole very sympathetic and they have the interests of cancer patients at heart'* (patient representative). They exhibited 'soft management' skills, displaying strong 'contextual intelligence' *('chatting behind the scenes').* They knew who to chat to and when, and when to switch from a soft to a hard management style). There was group value commitment *('we share a belief that what we do makes a difference…we share pleasure in seeing change happen for the better'*). They supported each other during difficult periods. Their office was deliberately located in a small town between the big hospitals in the network to not appear partial. This 'soft' approach combined with 'harder' use of national frameworks and threat of an external peer review panel to amplify pressure. They produced local audit data to inform service reconfigurations. They developed legitimated decision making processes in the clinical tumour groups rather than imposing decisions from above.

Overall, there was a significant shift across the cases from vertical, line management to broader, lateral patterns of leadership. As expected, small mixed teams which included clinical managerial hybrids were common. The style was 'shaping' and value led, rather than either transactional or transformational. It is similar to the quiet, dialogic but also subtly directive style found by Martin *et al.* 2009 in a high performing cancer genetics network. We found greater stability in leadership roles by clinical managerial hybrids than Denis *et al.* 1996 and suggest such continuity is important.

Concluding Discussion: Wicked Problems are Pervasive and Require Better Developed Public Policy Networks

Implications for the Academic Literature

We develop middle range theory on public policy networks in three ways. First, we emphasise the fruitful perspective of organisational change theory. A policy simply to mandate network forms is not enough and we add to existing accounts of NG (Newman 2001; Sullivan and Skelcher 2002) by considering processes of organisational transition. We do not find a radical paradigm shift but rather a hybrid state. Will these hybrids move forward to a pure network form, slip back to a pure hierarchical form, or remain as a hybrid, either of a stable or unstable nature? An organisational change perspective alerts us to such explanatory concepts as: a long transitional phase between organisational

forms; partial (vs) transformational change; tracking the key supporting drivers needed for radical change; hybrid or 'sedimented' organisational forms in technological and organisational domains (Bloomfield and Hayes 2009; McNulty and Ferlie 2004). Institutional theory could help analyse the relationship between competing institutional logics or archetypes (Reay and Hinings 2009). Such a theoretical perspective is fruitful in analysing the continuing trajectory of public policy networks.

Secondly, we critique ICT determinism (Castells 1996) and instead stress mediation by the governmental context which reduces their impact. Zuboff (1984, pp412-414)'s work on partial ICT driven change in private firms highlights key informal and subjective factors (cross organisational leadership; ideological commitment to participative management models) which expand the scope of IT driven organisational change. In the public sector, formal aspects of organisations (separate governance arrangements; distinct legal mandates and confidentiality requirements; separate financial flows; formally agreed divisions of labour between professions) are highly institutionalised. This governmental setting further blunts radical ICT driven change so hybrid forms emerge (Bloomfield and Hayes 2009), heavily shaped by the receiving agencies.

Thirdly, the study helps retheorises the literature on leadership of public networks, at least in arenas with strong professions. We found a relatively benign 'post bureaucratic' leadership style with high engagement from health professionals drawn into managerial roles. Small team based leadership was more common than individualised forms, notably in the higher performing cases. Clinical managerial hybrids displayed strong values and

expanded professional identities. They operated as ‘shapers’ and quiet system architects building organisational capacity over time, rather than individual transformational change agents (contrasting with the pattern in education, Currie *et al*. 2005). Their long term careers in the networks (e.g. core team in Metropolitan Sexual Health Network) provided a stable organisational core, ultimately rooted in the logic of professionalism, which protected organisational memory and learning. Thus the Urban Cancer Network explicitly reflected on a flawed past process to design an improved one. These professionalised leadership configurations are more stable than current literature predicts (Denis et al, 1996). So the concerns of post bureaucratic critics (du Gay 2005; Pollitt 2009) appear overdone, as they did not envisage a stable professionalised leadership configuration emerging as an alternative organisational core to one based on fragile general managerial roles.

Implications for Public Policy

We return to our earlier observation that most networks in the study were mandated, with a brief to deliver national policy objectives. Is a mandated network a contradiction in terms? Does it drive out key network features such as informal negotiation and reciprocity? Newman 2001 identifies as a potential contradiction within the UK’s approach to Network Governance the tension between the looser rhetoric of networking and the retention (perhaps even intensification) of top down targets and performance management to which these networks were subjected. Yet our three higher performers (two MCNs and the Metropolitan Sexual Health Network) were broadly successful in

meeting mandated policy goals but also maintaining local engagement and ownership. The Urban MCN achieved this through strong hybrid roles, retaining some local discretion and redesigning their decision making processes to encourage clinical participation. So they achieved a fruitful balance between the top down and the bottom up.

The ‘wicked problems problem’ argument for networks (Clarke and Stewart 1997; Sullivan and Skelcher 2002) remains persuasive. Our cases demonstrated their core features as identified in the literature including: complex patient pathways between multiple providers (e.g. cancer services); multi sectoral systems with non aligned incentives and behaviours (e.g. Genetics Knowledge Parks); challenging behaviour change objectives (e.g. sexual health); and chronic policy failure (e.g. older people’s cases). Health policy is often and misleadingly designed around discrete and bounded services (e.g. elective surgery) which demonstrate few such features and are more amenable to market forms of governance.

If network forms are retained, major drivers need reinforcement in the policy domain to reinforce organisational change. We suggest cross organisational ICTs /knowledge management and interorganisational learning are areas for policy attention, as well as developing broader leadership (Martin *et al.* 2009).

What are the implications for designing the curriculum of management development programmes for leasers in public policy networks? They include: introducing the concept

of ‘wicked problems’ and their pervasiveness (Table 1); developing skills to help develop use of new ICTs/knowledge management within networks (Table 2) and creating high learning capability across organisational boundaries (Table 3). Finally, the finding that a ‘shaping’ pattern of leadership based on clinical hybrids, small mixed teams (Table 4) and a soft/hard management style as opposed to individualistic and transformational styles was appropriate needs to be reinforced. The lessons from our higher performing cases usefully provide positive real world examples.

Limitations and Future Research Needs

Our study is but one qualitative study of public management networks in one country (UK), but has reasonable internal and external validity. Our findings should be compared with other public policy networks (e.g. higher education) in the UK and internationally (e.g. Netherlands) to see if patterns emerge. Is the ‘wicked problems’ category a parochial UK phenomenon or it is apparent internationally?

Qualitative studies should be complemented by quantitative studies of networks, their performance and exploration of performance determinants. Future work should further develop middle range theory on organisational change processes (or other relevant social science themes) as well as provide empirical evidence. More work on the dynamics of ‘successful’ mandated networks would be useful.

In conclusion, the important UK public policy experiment with managed networks so far suggests a partial rather than radical transition from hierarchical to network forms. Yet the case for them to handle a pervasive ‘wicked problems problem’ remains compelling. They are a nascent solution that needs more time to develop. Our study provides a (qualified) defence and cautions against a wholescale tilt back to quasi markets.

References

Addicott, R., McGivern, G. and Ferlie, E. 2006 ‘Networks, Organisational Learning and Knowledge Management’, *Public Money and Management*, 26, 2, 87-94.

Alvesson, M. 2004 *Knowledge Work and Knowledge Intensive Firms.* Oxford: Oxford University Press

Authors, 2009 *Networks in Health Care: A Comparative Study of Their Management, Impact and Performance,* Final Report for NIHR SDO

Bloomfield, B. and Hayes, N. 2009 ‘Power and Organizational Transformation Through Technology: Hybrids of Electronic Government’, *Organization Studies*, 30,5, 467-487.

Boivaird, T., Loffler, T. and Parrado-Diez, S. 2002 *Developing Local Governance Networks in Europe.* Baden Baden: Nomos Verlagsgesellschaft

Buchanan, D., Addicott, R., FitzGerald, L., Ferlie, E. and Baeza, J. 2007 'No one in charge: Distributed Change Leadership in Health Care', *Human Relations*, 60, 7, 1065-1090.

Castells, M. 1996 *The Network Society.* Oxford: Basil Blackwell

Clarke, M. and Stewart, J. (1997) *Handling The Wicked Issues – A Challenge for Government*. University of Birmingham: School of Public Policy Discussion Paper

Coopey, J. and Burgoyne, J. 2000 'Politics and Organisational Learning', *Journal of Management Studies,* 37, 6, 869-886.

Currie, G., Boyett. I. and Suhomlinova, O. 2005 'Transformational Leadership within Secondary Schools in England – A Panacea for Organizational Ills?', *Public Administration*, 83,2, 265-296.

Currie G. and Suhomlinova, O. 2006 'The Impact of Institutional Forces Upon Knowledge Sharing in the UK NHS: The triumph of professional power and the inconsistency of policy', *Public Administration*, 84, 1, 1-30.

Currie, G., Humphreys, M., Ucbasaran, D. and McManus. S. 2008 'Entrepreneurial Leadership in the English Public Sector: Paradox or Possibility?', *Public Administration,* 86,4, 987-1008.

Denis, J-L, Langley, A. and Cazale, P. L. 1996 'Leadership and Strategic Change Under Ambiguity', *Organization Studies,* 17, 4, 673-699.

Denis, J-L, Lamothe, L. and Langley, A. 2001 'The Dynamics of Collective Leadership and Strategic Change in Pluralistic Organizations', *Academy of Management Journal,* 44,4, 809-37.

Denis. J-L., Langley, A. and Rouleau, L. (2005) 'Rethinking Leadership in Public Organisations' in (eds) Ferlie, E., Lynn, L. and Pollitt, C. *The Oxford Handbook of Public Management,* Oxford: Oxford University Press. pp446-467.

Department of Health 2000 *NHS Cancer Plan*, London: Department of Health

Department of Health (2001) *Better Prevention, Better Services, Better Sexual Health – The national strategy for sexual health and HIV*, London: Department of Health

Department of Health 2003 *Our Inheritance, Our Future: Realising the potential of genetics in health,* London: Department of Health

Department of Health 2008 *End of Life Care Strategy – Promoting high quality care for all adults at the end of life*, London: Department of Health

Du Gay, P. (ed) 2005 *The Values of Bureaucracy,* Oxford: Oxford University Press

Dunleavy, P., Margetts, H., Barstow, S. and Tinkler, J. 2006 *Digital Era Governance*, Oxford: Oxford University Press

Eisenhardt, K. 1989 'Building Theories from Case Study Research', *Academy of Management Review*, 14,4, 532-550.

Ferlie, E. and Pettigrew, A. 1996 'Managing Through Networks – Some Issues and Implications for the NHS', *British Journal of Management*, 7(S), S81-99.

Goldsmith, S. and Eggers, W. 2004 *Governing By Network: The New Shape of the Public Sector,* Washington, DC: Brookings

Jessop. B. 1994 'Post Fordism and the State', in Amin, A. (Ed), *Post Fordism – A Reader,* Oxford: Basil Blackwell, pp261-279.

Kickert, W., Klijn, E. and Koppenjan, J. 1997 *Managing Complex Networks*, London: Sage

Langley, A. 1999 'Strategies for Theorising From Process Data', *Academy of Management Review,* 24, 4, 691-710

Margetts, H. 2005 'Virtual Organisations' in (Eds) Ferlie, E., *et al., op cit*, pp305-325.

Martin, G.P., Currie, G. and Finn, R. 2009 'Leadership, Service Reform and Public Services Networks – The Case of Cancer Genetics Pilots in the English NHS', *Journal of Public Administration Research and Theory*, 19, 4, 769-794.

McNulty, T. and Ferlie, E. 2004 ''Process Transformation'?: Limitations to radical organizational change within public services organizations', *Organization Studies*, 28,8 1389-1412.

Miller, P. and Rose, N. 2008 *Governing The Present.* Cambridge: Polity Press

Miles, M. and Huberman, M. 1994 *Qualitative Data Analysis.* London: Sage

Newman, J. 2001 *Modernising Governance.*, London: Sage

Newman. J. 2005 'Enter The Transformational Leader: Network Governance and the Micro politics of Modernisation', *Sociology,* 39, 4, 17-734.

National Institute of Clinical Excellence (NICE) 2002 *Improving Outcomes in Urological Cancers,* London: NICE

O'Reilly, D and Reed, M. 2010 ''Leaderism': An Evolution of Managerialism in UK Public Service Reform, *Public Administration*, forthcoming.

Pettigrew, A., Woodman, R. and Cameron, K. 2001 'Studying Organisational Change and Development – Challenges for Future Research', *Academy of Management Journal*, 44,4, 697-713

Pollitt C. 2009 'Bureaucracies Remember, Post Bureaucratic Organizations Forget?', *Public Administration*, 87, 2, 198-218.

Rashman, L. and Hartley, J. 2002 'Leading and Learning? Knowledge Transfer in the Beacon Council Scheme', *Public Administration*, 80, 3, 523-542.

Reay, T. and Hinings, C.R (2009) 'Managing The Rivalry of Competing Institutional Logics', *Organization Studies*, 30, 6, 629-652.

Rhodes, R.A.W 1997a *Understanding Governance.* Buckingham: Open University Press

Rhodes, R.AW. 1997b 'From marketisation to diplomacy: It's the mix that matters', *Australian Journal of Public Administration*, 56, 2, 40-53.

Rittel, H. and Webber, M. 1973 'Dilemmas in a General Theory of Planning', *Policy Sciences,* 4, pp155-169. Amsterdam: Elsevier

Salaman, G. 2005 'Bureaucracy and Beyond: Managers and Leaders in the 'post bureaucratic' organisation', in Du Gay, P. (ed), *op cit*, pp141-164.

Snellen, I. 2005 'E Government – A Challenge for Public Management', in (eds) Ferlie *et al, op cit.,* pp398-421.

Sullivan, H. and Skelcher, C. 2002 *Working Across Boundaries – Collaboration in Public Services.* Basingstoke: Palgrave Macmillan

Webster, F. 2006 *Theories of the Information Society.* 3rd edn. London: Routledge

Yin, R. 1994 *Case Study Research – Design and Methods.* Beverly Hills: Sage

Yin, R. 1999 'Enhancing The Quality of Case Studies in Health Services Research', *Health Services Research*, 34, 5, 1209-24.

Zuboff, S. 1984 *In The Age of the Smart Machine.* New York: Basic Books

Table 1: The Networks and Their Wicked Problems

Network	Cross cutting outputs	Range of stakeholders	Networks' Behaviour change objectives	Co production with citizens
GKP1	From academic to translational science	2 Ministries, NHS providers and commissioners, NHS labs, University, social science	Academic behaviour	Some interest in wider ethical and social issues;
GKP2	As above	As above, plus public health	As above	As above
Urban Cancer	Improved health outcomes; system redesign on a population basis; high quality patient pathways;	NHS: commissioners and providers; palliative care; cancer research; service improvement partnership; Various voluntary organizations including hospices.	Earlier patient presentation; broadening of provider perspectives and behaviours;	Expanding role of user reps;
County Cancer	As above;	NHS hospitals and commissioners; voluntary organizations including hospices;	As above	Slight influence from user reps;
Metropolitan Sexual Health	Fewer HIV/AIDS infections; systemic service redesign;	NHS hospitals and commissioners; public health; health promotion; City HIV consortium; voluntary organizations,	Healthy sexual behaviours;	Disappointing;

		including a major provider;		
Regional Sexual Health	Fewer HIV/Aids infections; lower teenage pregnancy; systemic service perspective;	City Council; NHS commissioners and providers; family planning; schools; community nursing; social services; voluntary organizations;	As above	As above
Metropolitan Older People	improvement in end of life care across a local system;	NHS: Primary Care; hospitals; NHS supervisory tier; hospice; family doctors; nurses; social services; independent sector care homes;	Addressing social taboos; changing provider, societal and family behaviours;	Some – greater control over how to die;
Regional Older People	Cross City integrated strategy and service redesign;	City Council; Social Services: NHS hospitals, primary care, commissioners, various voluntary organizations including a major provider; large independent care home sector;	Changing societal and provider attitudes to elderly people;	Designation of City wide ‘champions’ for older people;

Table 2 – The Modest Role of Shared ICTs and Data Bases:

Network	Role of ICTs	Data Base Issues	Commentary
GKP1	Limited – NHS and University systems remain incompatible;	None	New forms of virtual and template based reporting upwards; yet not used centrally.
GKP2	ICTs not a major theme	None	As above
UCN	Minimal role of novel ICTs;	Proactive local audit; good data storage and accessibility;	Information seen as a source of expert advice which adds value;
CCN	Slow development of teleconference based MDTs; Good website.	Pro active work on local audit	Management Team used local data to achieve local service changes in line with Cancer Plan/IOGs.
Metropolitan SH	Cross hospital IT systems slowly emerge; 'joined up auditable data'; Dated website	Inaccurate and misleading GUM data bases; issues of confidentiality.	Gaming around target meeting
Regional SH	Future plans to develop a learning platform at school level;	Inaccurate and misleading GUM data bases, issues of confidentiality; useful local data on teenage pregnancy rates.	Distortions caused by lagged national data;
Regional Older People	Major IT problems with Single Assessment Process; inter organisational barriers; duplication of notes;	None	Failure of inter agency ICTs
Metropolitan Older People	Primitive and incompatible IT systems; duplication of notes	New register on End of Life Care filled in manually	Failure of inter agency ICTs

Table 3: Organisational and Interorganisational Learning

Network	Learning Pattern	Commentary
GKP1	Very limited; no joint intellectual fora; continuing epistemological differences; some learning about others' approach to work;	Narrow implementation focus; weak processes to discuss differences between groups; both epistemic AND organisational boundaries;
GKP2	Some internal learning but weak inter organisational learning; no joint intellectual fora; continuing epistemological differences;	A public health 'enclave'; retreat into base academic disciplines; both epistemic AND organisational boundaries.
UCN	Strong organisational learning (i) redesigning organisational processes (ii) sharing information and expertise across boundaries (iii) promoting learning in smaller groups.	ability to reflect on past events and change the process; also develops a theory of how network adds value;
CCN	Strong on organisational learning; Network Executive Board diffuses information; learning in subgroups;	Learning from previous reconfigurations; broader fora; good use of local audit data;
Metropolitan SHN	Reasonably high; some cross boundary sharing; large scale Research Day;	mixed large scale research arena as a learning space
Regional SHN	Mixed: some in the strategic group (new meeting format to encourage discussion); but weak connection to the field or systemic learning	Attempt to focus agendas to improve quality of discussion at meetings;
Metropolitan Older People	Strong collective OL; education and training emphasis;	Vulnerable to exit of independent sector provider – loss of learning.
Regional Older People	Limited learning in core management groups; some wider learning through Older People's Champions; also overloaded agenda and learning crowded out;	Enduring tensions between different professions and agencies; 'cliques'; few systems for shared learning;

Table 4: Leadership Configuration, Skills and Style

Network	Leadership Configuration	Boundary spanners	Skills base	Management Style
GKP1	Generally individualised, centred on Network Director; no deliberately constructed team	Network Director, supported by others.	Building credibility; ND had background in scientific research;	ND - Personable, focussed, inter personal contact; did unpleasant work (upwards reporting)
GKP2	Individualised; long standing network founder	Largely absent	High social capital; visioning; weaker operationally;	Maverick; few local linkages; stable;
CCN	Mixed team: trio	Network and Medical Directors	Well functioning team;	Hard working; engaged; committed; quality led; soft/hard balance
UCN	Mixed team – trio	High impact Medical Director; Network Manager	Well functioning team; strong vision and conceptualisation;	Enthusiasm; quality orientated; soft/hard balance;
Metropolitan SHN	Phases – from small team; through individualised; back to small team	High impact Clinical Director; small leadership grouping; mixed boundary spanning capability	Strong on service improvement; target meeting; research	Oscillates – strong emphasis on hitting key targets
Regional SHN	Overloaded individual manager	Individual leader;	Consultative	Participative, inclusive, well embedded, lacks connections to clinicians;
Metropolitan OPN	Clinical champions, notably nurses	Small group of nurses and GPs; link to	Clinical credibility; strong education and	Inclusive, strong quality values; service

		care homes;	training base	improvement;
Regional OPN	Overloaded senior manager at top; collective social movement from below	not yet well developed	Consultative	Trying to build consensus and develop an agreed strategy