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Accomplishing Institutional Work: The Role of Visibility in Multidisciplinary Service Innovation

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Abstract

This paper integrates institutional and practice scholarship to examine the recent development of multidisciplinary team (MDT) working in UK cancer care delivery. Our contribution highlights the role of visibility in the practice of institutional working. We demonstrate how new forms of visibility influence and are influenced by the purposive action of actors at different levels involved with the practice of institutional work. Our study confirms the importance of defining, educating, and policing as overlapping categories in creating new institutional practices, and the difficulty of constructing normative networks. We identify different forms of visibility at work, which include: scandals of specialist performance in the media, government performance based targets, practices of disciplinary groups in situated co-presence, and the lead clinician use of ICT's as a best practice innovation across a network.

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Accomplishing Institutional Work: The Role of Visibility in Multidisciplinary Service Innovation

1. INTRODUCTION

This paper seeks to further our understanding of the origins and development of new practices (Lounsbury and Crumley 2007) by going beyond the scope of a single institutional entrepreneur and integrating institutional and practice scholarship. We draw on recent research on institutional work, which uses a multi-level analysis of internal organizational processes and broader field-level institutional dynamics to examine the purposive action of individuals and organizations in the creation of institutions.

Lawrence and Suddaby (2006) view institutional work as 'intelligent, situated, institutional action' (P. 11), and suggest that a number of theoretical and methodological approaches can be drawn on to illuminate its dynamics. The practice orientation underlying institutional work focuses on the world inside or the 'internal life' of the process of institutionalization. It is within this spirit that our paper contributes to examining the role of v*isibility* in the practice of institutional working. We illuminate how visibility both influences and can be influenced by the purposive action of individuals and organizations at multiple levels in creating institutions. As Thompson (2005) emphasises, in the new world of mediated visibility, the 'making visible of actions and events is not just the outcome of leakage in systems of communication and information that are increasingly difficult to control; it is also an explicit strategy of individuals who know very well that mediated visibility can be a weapon in the struggles they wage in their day-to-day lives.' (P. 31).

Our study therefore builds on theoretical developments of visibility (Thompson 2000, 2005, Star and Strauss 1999, Zuboff 1988) and institutional work (Lawrence and Suddaby 2005) to understand new practice creation of multidisciplinary teams (MDT) in cancer care delivery. Using a multi-level approach, we trace the formation and evolution of urology MDTs at a UK based hospital, Alpha, between 2003-2004, and subsequent attempts to extend the MDT across a cancer network (CanNET) between 2005-2006. Specifically, we examine how visibility is inseparably linked to actions by the media, government, a lead clinician, and different disciplinary groups in the development of MDT working.

Different forms of visibility at work were identified, which included: scandals of specialist performance in the media, government performance based targets, practices of disciplinary groups in situated co-presence, and the lead clinician use of ICT's as a best practice innovation across a network. These forms of visibility both influenced and were influenced by overlapping categories of institutional work, namely *defining*, *educating*, and *policing* in the creation of new institutional practices, and highlighted the difficulty of constructing normative networks.

In the next section, we briefly review the literature on institutional work and practice creation. We then elaborate theoretical developments on visibility and explore its role in institutional work through our case analysis of cancer MDTs. The following section discusses our key findings, and concludes by synthesising our key contributions.

2. Literature Review

2.1 Institutional Work and New Practice Development

Over the last decade, institutional approaches to innovation have emerged as a marked shift away from the traditional focus on explaining organizational similarity or the fixity of institutions as a source of stability and order (Scott 2001, Lawrence and Suddaby 2006). A dominant focus has been on the concept of institutional entrepreneurship (DiMaggio 1988, Fligstein 2001, Maguire et.al. 2004, Greenwood and Suddaby 2005), recognizing the role of powerful actors such as the state and professions who mobilize resources to create new institutions or transform existing ones. The literature on institutional entrepreneurship has focused on mature organizational fields such as accountancy (Greenwood, Suddaby and Hinings 2002, Greenwood and Suddaby 2005), and financial services (Lounsbury 2002), as well as emerging fields as diverse as HIV/AIDS treatment advocacy (Maguire, Hardy, and Lawrence 2004) or high technology innovation (Garud, Jain, and Kumaraswamy 2002).

More recently, the concept of institutional entrepreneurship has been criticized for being too narrowly focused on powerful actors and emphasising the latter stages of practice creation (Lounsbury and Crumley 2007). Far less attention has been given to the sources of new practices and the involvement of a wider array of field-level actors and activities (e.g. Maguire et.al. 2004), a key focus of our study on multidisciplinary working. The more recent literature on institutional work (Lawrence and Suddaby 2006) seeks to redress these limitations by integrating a practice and an institutional perspective. Lounsbury and Crumley (2007) goes as far as to suggest that ‘ practice is a kind of institution - sets of material activities that are fundamentally interpenetrated and shaped by broader cultural frameworks’ (P. 996). Such a practice

approach to institutional work highlights the creative and knowledgeable work of actors (Orlikowski 2000) and the performativity of skilled individuals that reproduce and alter a given practice through variation in its enactment (Feldman 2003). It is through this performativity-driven variation in activities that new practices are created from activity innovations (Lounsbury and Crumley 2007).

Lawrence and Suddaby (2006), in their extensive review of the empirical research have identified ten distinct sets of practices through which actors engage to create new institutions. These practices fit within three broader categories of activities, namely political work by actors in reconstructing rules, reconfiguring belief systems, and altering meaning systems. Later on in our discussion, we will compare our case findings to relevant and distinct sets of practices within these broader categories of institutional working.

2.2 The New Visibility

2.2.1 The Rise of Mediated Visibility

The importance of visibility has long been theorised in organization studies with respect to relations of control. A powerful image and representation of visibility and control has been Bentham's panopticon which features a semi-circular building with an 'inspection lodge' at the centre and prison cells around the perimeter giving guards an open view. In this arrangement, control and subordination was maintained by the uncertainty experienced by inmates who perceive that they are constantly being watched. In Foucault's words, Bentham made 'visibility a trap' (Lyon 1994). However, for Foucault (1977), the image of the panopticon had more far reaching implications; characterizing the changing relationship between visibility and control as deeply embedded in the social disciplines of modernity.

Building on this concept, Lyon (1994) amongst others, believes that the plethora of information and communication technologies (ICT) has facilitated the development of the electronic panopticon. This amplifies the significance of new forms of visibility and renders them more complex, while strengthening their long-established role as a means of exercising control. ICTs facilitate monitoring as they reinforce the 'invisibility of the inspection, its automatic character, the involvement of subjects in their own surveillance, and so on' (Lyon 1994, p. 67). Furthermore, Zuboff (1988) shows that the enormous visibility facilitated by ICT-assisted information has significant implications for authority relations.

Recently, Thompson (2005) has argued that the Foucauldian inspired perspective of the panopticon in understanding visibility and control is not adequate to account for the new visibility facilitated by information and communication media. He suggests that there is an additional dimension of the visibility afforded by ICT which emphasizes how 'many people (less power-ful) are visible to a few'. Instead, with ICT's and the media, 'few (more power-ful) people are now visible to the many'. There is a changing relation between control and visibility, one which is no longer dependent on co-presence. One no longer has to see the other individual or to witness the action or event, as was the case of a public execution displayed as a physical spectacle (Foucault 1977, Thompson 2005). Rather, the visibility of individuals, actions, and events is severed from the sharing of a common locale or co-presence as face-to-face interaction. This form of direct supervision and coordination is no longer needed as social relations are shaped through the increasing use of new technologies (Lyon 2001). This mediated visibility, however, often acts as a double-

edged sword. The development and use of information and communication technologies can expose individuals to new kinds of risks and control, a distinctive kind of *fragility*. On the other hand, as we will see later on in our case, individuals can also use ICT's to *carefully manage* their visibility and self-presentation.

2.2.2 Scandal as a Mediated Event

The phenomenon of a scandal can be used to illustrate some aspects of this new visibility that has been brought about by information and communication technologies (Thompson 2005). An important feature of scandal comes from its early Greek origins, *skandalon*, understood to be 'the cause of moral stumbling'. As such, a scandal refers to actions or events whose occurrence or existence involves the transgression of certain values, norms, or moral codes. Scandals can be mediated events because they are events, which are constituted in part by mediated forms of communication. Their disclosure and commentary in the media is partly constitutive of what makes an event a scandal. Furthermore, mediated scandal is a situated event embedded in socio-historical contexts (Thompson 2000). They involve particular individuals, who create and bring scandal into existence through their acts and speech acts, and who often go to great lengths to uncover and publicly disclose the acts of transgression regardless of its reality. Public speech acts accompany the disclosure, which serve as a kind of moralizing discourse that reproaches and rebukes, and expresses disapproval of actions or individuals in a shameful or discrediting fashion. The participants at the centre of an unfolding scandal may be anxious and deeply fearful as to how their lives and the lives of those who matter to them will be affected by it. The extent to which the scandal exposes the individuals' self image and carefully managed self-presentation can lead to deep disappointment and dismay at

the perceived shortfalls of individuals. The consequences of a scandal will depend on the extent to which individuals' reputations are damaged and relations of trust are corroded, and this may extend to devalue or defile the institution of which these individuals are a part. However, there is a positive side. Participants embroiled in the scandal can proactively use information and communications media to carefully manage their visibility and self-presentation.

In summary, the rise of the new *visibility* facilitated by ICT and the media has important implications for the practice of institutional working. In particular, scandals and other forms of mediated visibility both influence and are being influenced by the purposive action of individuals and organizations at multiple levels in the development of new practices.

3. Methodology

An in-depth longitudinal case study was carried out between 2003-2006 on the development of a multidisciplinary practice in a large UK hospital, Alpha and across the regional cancer network. Meetings had been set up in April of 2002 by a surgeon, the urology department head and clinical lead of the cancer network. The goal of the meetings was to discuss and conclude on the management of patients with a variety of urological cancers. In this paper we examine the research question 'What role does visibility play in the purposive action of individuals and organizations at multiple levels in the development of multidisciplinary practice?' Our epistemological stance sought rich descriptions of actors' reality at multiple levels and the meanings they developed regarding visibility and multidisciplinary team working over time. We believe the longitudinal nature of our study enabled us (through time) to examine how

visibility is inseparably linked to actions by the media, government, a lead clinician, and different disciplinary groups in the development of MDT working. Honorary work contracts were obtained for the fieldworkers for each phase of the study.

3.1 Data Collection

The first phase of the fieldwork began in 2003 by the third listed author and continued for 17 months, during which there were ongoing changes to meeting format and membership. Data collected in first phase of the research was collected through non-participant observation of 30 MDT meetings, 7 related meetings, and other practice related activities as summarised in Table 1. Detailed notes were taken regarding content of meetings, their organisational features, including seating arrangements, timing, use of equipment, and ongoing interactions. While MDT meetings form the primary basis for our analysis, insights into traditional practices and how members related to one another were gained from observation of other activities, including attending clinics and meetings between surgeons and pathologists to view histology slides, as well as numerous informal discussions and semi-structured interviews (recorded where possible) with the 12 senior team members and 5 rotating junior doctors. The interviews covered the perceived role of meetings in influencing practice and stimulated respondents to reflect on the nature of team collaboration.

Table 1: Sources of Field Data collected at Alpha

Phase 1	**Phase 2**
30 multidisciplinary meetings 2 theatre sessions, 4 clinics, 7 other meetings (including regional nursing Meetings, pathology meetings, audit meetings) 21 interviews Regular informal contact and discussions during visits Regular updates through key informants Documents, protocols	15 Multidisciplinary meetings Other meetings with IT developers, clinical audits patient pathways, cancer waiting time meetings 28 interviews Regular informal contact and discussions during visits Documents, protocols

The second phase of the research undertaken by the first two authors took place between March 2005 and June 2006 during which MDT meetings were being scaled up to the network level and a multidisciplinary management system was being designed and developed. During this second phase, we collected data through non-participant observation of 15 MDT meetings, and a number of others. These included: Tumour Working group meetings across the network, IT, and service improvement meetings on clinical audits, cancer waiting times, and patient pathways. We also conducted 28 semi-structured interviews with clinicians from hospitals across the cancer network, senior managers of the network, administrative personnel from Alpha, and the software vendor with whom the lead clinician worked in designing and developing the MD management system. Further data collection was iteratively done following preliminary analysis. Specifically, a number of government data sources on the Cancer Plan, performance targets, as well as media reports on specialist doctors' performance and scandals were collected.

3.2 Data Analysis

Data was represented in various forms to provide triangulated descriptions of events, meanings and actions (Miles and Huberman 1994). Analysis occurred in two phases. The first, data reduction, involved thematic coding of data to describe emerging high level themes (Miles and Huberman 1994). At this stage our focus was to understand the practice of multidisciplinary working. As the interrelationships of themes became clearer the number of categories was collapsed and a few central themes emerged, which included: the ability to share and integrate knowledge, internal organizational processes and broader field-level institutional dynamics, and the role of different forms of visibility on the purposive action of different actors at multiple levels. We

subsequently analysed selected data in light of theories of visibility, institutional work and new practice creation in order to make sense of their inter-relationship and thereby illuminate the findings to our research question.

4. Case Study

Over the past couple of decades, a wave of reforms has accompanied the move to 'new public management' primarily driven by the loss of public confidence in health professionals in the wake of a series of scandals (Dent 2007; Syrett 2003). For example, the Bristol Royal Infirmary inquiry unearthed a very high mortality rate of babies undergoing heart surgery at the Bristol Royal Infirmary (Kennedy 2001). In the Shipman case, a general practitioner was found guilty of murdering many of his older patients (Smith 2004). The government decided to externally regulate the work of different health professionals through the imposition of clinical guidelines, performance targets and other output measures. This was to be achieved through different regulatory institutes and frameworks such as the National Institute of Clinical Excellence (NICE).

In the context of these institutional changes, the NHS National Cancer Plan provided national standards for cancer care. This included the development of multidisciplinary teams, development of specialists centres within cancer networks and increased accountability through peer review. By early 2001, there were 34 cancer networks established throughout England. Peer review teams were responsible for evaluating whether cancer networks were meeting a wide range of agreed measures. The actual peer review process consists of the following three key stages (NCAT 2004), namely pre-assessment, a peer review visit, and action planning, implementation and follow-

up. During the pre-assessment phase, the cancer teams within each network went through a self-assessment process making available to the Peer Review Team a range of data and information. Amongst others, these include: cancer waiting times, mortality rates, multidisciplinary involvement and key clinical quality indicators. After the peer review visit, the Team produced a report based on the findings from the self-assessment process and the actual visit. A final report is circulated to a number of health leaders prior to becoming publicly available.

Alpha was a regional cancer centre in a large metropolitan network CanNet. Prior to the onset of the MDT at Alpha, communication between the various disciplinary specialists on cancer patients took place either through dictated letters or verbally through an informal and voluntary basis. The leader realised changes were needed in how the cancer services operated, and sought to develop a multidisciplinary team. At the time they had also received the funding for a nurse specialist position, and funding through the oncology department for an administrative coordinator, who was centrally involved in organising team meetings, and collecting statistics required by the government. Team meetings began in April 2002, when a radiologist, surgeons (4 consultants, and 2 registrars), pathologist, nurse specialist and administrative coordinator began meeting on a weekly basis after clinic. A radiotherapist soon joined the group on an irregular basis. At this point, there was little preparation prior to the meetings and no clear direction on which patients were to be discussed. Thick bundles of patient notes were brought to the meetings and used to summarise patient details as necessary. Minutes of discussion were not kept.

The leader sought to develop meetings so that all patients with new cancer diagnoses were discussed, as well as those patients experiencing significant changes to the course of their disease. The meetings were held between 7:30- 9:30 a.m. in a darkened room to facilitate discussion whilst viewing scans. During the meeting, x-rays, and other films (e.g. computerised tomography, or CT scans, and Magnetic Resonance Imaging, or MRI) were displayed on screens whilst being discussed with other relevant clinical details. Around 12-15 people attended, depending on rotas for clinical duties. The discussion of cases typically started with a surgeon discussing the patient's clinical history. The radiologist would discuss interpretations of core radiographic details, a pathologist would contribute cellular descriptions, and radiotherapy oncologists and nurses would occasionally offer a contribution.

Meetings gradually became more formalised, with a database being developed to manage the decision making process, collate treatment decisions, and organise patient histories. The team was joined by medical oncology halfway through Phase 1 of the fieldwork. A number of satellite hospitals in the surrounding metropolitan communities had developed a collaborative relationship with Alpha and several consultants held positions at these smaller hospitals as well as Alpha as part of their NHS work. A few surgeons from these satellite hospitals began attending the MDT meetings at Alpha, occasionally bringing their patients for discussion.

The leader decided to develop a larger MDT that represented all the hospitals in the network in 2004. At these much larger network MDT meetings (approx. 40 professionals) there were varying levels of participation by the 6 hospitals in the network given the pseudonyms Beta, Epsilon….. Meetings continued to be held at

Alpha, though the timing of the meetings were altered. Patients were organised into tumour type, so that clinicians with a specialised interest could time their attendance to suit their skill set. For example all patients with testicular cancers were discussed for the first half hour, followed by those with prostate cancers. Some clinicians elected to attend the whole meeting, while others came and left. While all the patients from Alpha were discussed at this meeting, clinicians from other hospitals tended to refer patients to this 'Pan MDT' when they were particularly complicated patients. Otherwise they would be discussed in a more local meeting at their respective hospitals.

To facilitate the organisation of the patients and their management plans, the leader sought to develop a new Urology MDT management system that would track patient decisions, treatments and outcomes across the network. A somewhat similar system had been developed by cardiac surgeons following the scandal at the Royal Bristol Infirmary mentioned earlier. The primary purpose of the system was to manage cancer patient care from the 6 hospitals in the network, to be a simple cancer specific accountability system for clinical use, and to record and publish the outcome of the MDT meeting. Key secondary uses of the system were to provide information for managers on key indicators such as waiting times and an audit outcome of cancer treatments.

5. Visibility and Institutional Work

This section examines how new forms of visibility facilitate the accomplishment of institutional work by different actors at multiple levels in the development of multidisciplinary cancer teams. The first subsection outlines briefly how the

dynamics of institutional change was triggered by scandals in the media, and the increased visibility of performance management through government targets. The second subsection complements this discussion of institutional dynamics at the field level with an analysis of the developing new institutional form. We focus on the way in which mediated visibility influences and is influenced by the purposive action of the lead clinician and the different disciplinary groups constituting the local and network MDTs. The third section examines the attempts to develop a normative network, and the difficulties in aligning the diverse roles, values and norms. We focus on the visibility associated with new infrastructure and informating.

5.1 The Role of Visibility in Facilitating New Forms of Accountability

The lead clinician was acutely aware of the power of the media in creating scandals such as those at the Bristol Royal Infirmary which had uncovered negligence and poor performance of specialist cardiac surgeons. The media publicized these transgressions of values and moral codes of the profession, which served as a moralizing discourse that reproached specialist cardiac surgeons in a shameful and discrediting fashion. The new visibility of the media makes the 'few (more powerful specialists) people are now visible to the many (patients and public at large)'. Indeed, it is widely agreed that despite the Bristol Royal Infirmary Inquiry into paediatric cardiac surgery deaths, the press were critical of and made visible individually named surgeon outcomes for cardiac surgery so as to drive public accountability (Bridgewater 2005). The Guardian newspaper had used the Freedom of Information Act to publish named surgeons' mortality in what became controversially know as 'Naming and Shaming':

> *The Dr Foster case in the [national newspaper] was a scenario whereby the data on cardiac performance I think was fed to the newspapers. It was*

> *publicized that hospitals collect crap clinical data…the media wants to know (and publicize)'What is Mr Smith's (specialist consultant) death rate?' They wanted to know this about a cardiac surgeon 3 weeks ago!*

The highly publicized scandals made more visible the poor institutional workings within the NHS urging the government to gradually implement new clinical and institutional systems of governance. These structures sought to ensure that MDTs across all network sites met peer review measures and demanded increased information regarding performance measures such as financial savings, improved clinical audits, and minimized cancer waiting times. Hospitals failing to do so face the risk of either having some services (e.g. surgery, radiology) integrated with other (usually larger) Trusts with higher ratings, or being closed down.

5.2 Situated Visibility: The Work of Local Multi-Disciplinary Teams

Different forms of institutional working were evident during the creation of MDTs, which allowed for new forms of visibility in situated co-presence. At the outset, little concrete definition of the MDT existed beyond the creation of the new group which brought together clinicians from different disciplines. A cancer manager at Alpha explained:

> *MDTs have grown out of smaller meetings reviewing the results of diagnostic tests. For example, meetings that a surgeon operating on a patient would have with radiologists and histopathologists to review the patient's CT scans, biopsies etc…*

However, the lead clinician was centrally involved in defining the key features and format of MDTs as a practice with a new identity, though team members were instrumental in translating this definition into practice. Learning how to coordinate and organise discussions and roles so that all patients received critical input from team members became central in defining the rules and procedures of this new practice. A nurse explained:

> *2 years ago, we were just learning about MDT. (We) would get together after clinic over lunchtime. A bit hit and miss as to who got discussed.*

A pathologist concurred saying, *'[Last year] there was no formal system. People showed up and patients seemed to be discussed in a more adhoc manner and you took notes if you pleased*.' She explained how she started keeping track of past referrals and monitored the 'MDT List'.

> *As I report a case, I put it on a meeting list…but the fact that all MDT meetings rely on pathology is not really right…[but] I track all cytology and histology results on all these patients…I started this about 1 year ago. It is only when you start to do it that you can work out how to change things. (Pathologist)*

The pathologist, being particularly interested in team work, deliberately designed and developed the emerging role for herself on the team that drew on her organisational skills of being attentive to detail and accuracy. She developed lists of urology patients in a database, which eventually was sent around prior to the meeting to inform participants regarding who was being discussed. As gaps in the new organizational form became visible through operational inconsistencies and poor organization, members could use the opportunity to define new procedures.

There was also a need to define a more standard set of clinical practices to function as clinical guidelines for managing patients. This became particularly more important as the pending peer review approached. Since the professionals had previously been making patient related decisions in isolation of each other, there were repeated attempts to protocolize common procedures and harmonize local discrepancies. In the middle of a patient discussion, it became usual for the leader to query the group on what would be a good protocol to adopt for the procedure. In one such example, several doctors (S= surgeon) contributed as follows in response to how prostate biopsies should be executed:

S1- '[take] 8 biopsies and go lateral'
S2- '[take] 6 and save the transition zone for later on as they can be more painful'
Pathologist- 'can't answer unless I review all the literature'
S3 'really varies with size of prostate'
S2 'I have a lot of sympathy for this (S3's) view'
S4- 'I don't have a view because there are too many views.'

In attempting to define a unified standard, the clinicians are also educating each other on their own practices, as they make visible and compare their own preferred methods. As each of the team members become more accountable for each others' practice, there was need to be clearer as to the rules and procedures followed.

The lead clinician acknowledged that the local skill set was unique and did not want to alienate the strong local surgical talent by direct challenge to the decisions they made, and hence their autonomy in practice. Nor did he want to alienate the newly acquired medical oncology group who were important for the credibility and representativeness of the meeting, and who might lose interest if challenged too overtly. For example he would insert comments like the following during the meeting,

> *This is a good example where we need to be clear about why and what we are doing…I get a lot of flack about this type of thing…this patient in other centres could be given radiotherapy…we should be clear about this [decision making process]. (Leader–Comment given regarding a patient who was to have prostate removed in treatment of prostate cancer)*

Thus the case indicates that guidelines and the existence of practice standards by professional associations, as well as colleagues in nearby institutions, who in this case were connected to Alpha in a network of practice, and contributed to policing activities during institutional work, though often articulated non threatening manners which also served to educate.

The leader was less familiar with practices of the non urologists, and was not able to integrate theirs easily as a MDT practice. Thus a key role of defining the new practice was to be exposed to current practices of other members, and how they might be able to form a co-constructed account of the patient diagnosis and treatment plans drawing on each disciplinary strength and knowledge base. Disciplinary groups needed to gain insight into how other colleagues worked. As members discussed their findings and views they made their work visible to colleagues. Oncologists, for example, explained the numerous trials they were running and which patients might be eligible. Three months after the oncologists had joined the group, the leader said;

> *'I have learned more about oncology over the last few months than I have during my past 20 years of urology practice.'*

Awareness was facilitated by the use of numerous imaging technologies which could form the basis for discussions by making their work more visible. Thus surgeons would point out on a CT scan which parts needed to be removed, orientating others to their operative plans. As they became familiar with the content of each others' practice, they were also able to learn more about the perspectives and nuances that guided each others' clinical expertise. These various forms of technology became increasingly important as the meetings grew larger, and the technologies more sophisticated. The pathologists gradually displayed cellular structures, to enable further embellishment of the points she sought to highlight. Scans and slides from a variety of institutions could be shared and the development of a PACS (patient archive clinical system) enabled easy transmission of visuals through digital media, rather than hard copies of films.

The pathologist explained the importance of learning about each others practice to integrate this new form of multidisciplinary collaboration effectively;

> *So understanding the clinical aspects of urology is difficult for people who have been trained in …pathology. …[Other pathologist, who won't come to the meetings, doesn't] have or develop such a good grip or understanding of the **clinical** requirements from pathology. [Though] she is perfectly able to execute all of her reporting. (Pathologist, her emphasis)*

However, educating each other went beyond mere sharing of information and knowledge development. A difficulty that became apparent involved developing trust in each other professional competence and also in renegotiating clinical control over the patient. Being trained to be sceptical, trust in other's diagnosis and treatment plans is difficult to acquire amongst senior doctors. As explained passionately in the following quote, doctors are trained not to trust, but rather to rely on their own judgement.

> *Doctors are fundamentally mistrustful. They are naturally sceptical of working with others. [Prior to the MDT's] any collaboration was [amongst his registrars and trainees]… and you are in control…But if you take away the [consultant led] hierarchy then you are left with… a hole. And it is filled with mistrust. (Surgeon)*

Strong medical autonomy and control over their own practices, is well documented in the literature (e.g. Freidson 1970) and emphasised at Alpha:

> *Consultants have classically been a single practitioner, making their **OWN** decisions, for their **OWN** patients. Very much in control. That is how they are trained to be.* (Surgeon, his emphasis)

Multidisciplinary practice and the new visibility it afforded represented a form of peer surveillance that limited autonomy. Definitions of best practice were largely socially constructed and may appear evident to one person or sub group but not to another group. Debate gives a measure of reflexivity on the purpose and assumptions of the activity, making the clinician more accountable to peers.

In practice, it was often difficult to challenge peers who were articulate and who could make their work visible to others, displaying their impressive technical and oratory skills and abilities. Clinicians could seek to improve their visibility amongst

team members by telling vivid stories or explanations to help others make sense of their activities. In the following excerpt, the conversation is regarding a young patient who requires a big operation, without which the patient would undoubtedly die. The patient has a very large tumour that has grown from an internal organ and now covers a major blood vessel. The surgeon believes that the patient may have a chance if the tumour can be removed, though the risk of bursting the blood vessel is high and fatal. There is a brief moment of stunned silence when the surgeon suggests this operation is doable, and the leader softly asks him *how* he would go about doing this. The surgeon explains in graphic detail how he would open the patient and where anatomically he would be dissecting, speaking quickly pointing through the x-ray to illustrate. He gesticulates with his hands to demonstrate his movements and shows how he would lift the tumour gently off the blood vessel and the directions he would tug as he cups his hands together. He has the attention of the room in doing this and then says:

> *'It is going to be easier than the one I did last week.' To which there were lots of chuckles, though perhaps chuckles of horror. The radiologist says, shaking his head, 'that must have been a bad one last week then, because this looks pretty awful.' Surgeon replies, 'yes, he is just coming off the ventilator today,' turns to look at his trainee who nods in confirmation. (Field notes)*

Alternatively, those who were unable to make their work visible had difficulty in contributing to the development of the group's practice. For example nurses seldom contributed to discussions at the local (or later in the network MDT) meetings and thus had little influence on the institutional work of developing MDT practice.

> *It is quite daunting, sitting at the back of the place, speaking up in front of all those big boys. If there were a few more of us, maybe I would. (Nurse Specialist)*

When asked to reflect on the norm of exclusion of junior doctors and nurses from the discussion, an oncologist from Epsilon noted:

> *The senior people certainly don't have a problem raising their voice. I usually do. For junior people including nurses, there is an unspoken rule which says, 'speak when you are spoken to.' That may not be the most appropriate thing to do, but this is how things are.*

The size of the team meeting seemed to matter. A nurse explained that at the local MDT in her hospital (Gamma), she usually raised opinions and concerns:

> "*It's a smaller group and we tend to know each other pretty well*".

Other specialists actually ask for the nurses' input. On the contrary, she added, '*a lot of people tend to come to the network specialist MDT meetings without raising their voices even though they may have something important to add to the discussion.*'

5.3 Expanding the MDT: developing multi-locality meetings

The rather informal development of local MDTs and the visibility of work created within them gradually gave rise to a more formal model of MDT work that involved local units and a network centre. This structure was imposed through NICE Improvement of Outcomes Guidelines, where complex cases were centralized within the network. A lead cancer manager from CanNET explained:

> *The idea is that you are avoiding [smaller] hospitals treating people and potentially causing poor outcomes to patients.*

According to NICE and national standards (Cancer Plan), a hospital gained specialist centre status within the network by having access to sufficient resources, patients, as well as by meeting certain standards. Within CanNET two hospital trusts served as a network centre for urological cancer services, Alpha and Beta, though this was contrary to recommendations in national guidelines as the population they served was in reality too small for them both to act as specialist centres. The decision to split the network centre between two hospital trusts was the outcome of the local strategies of

individual trusts within CanNET to make their practices more visible across the network. The ex-chairman for the urology tumour group within CanNET added:

> *If you say that the centre has to be at one site … then it would be [Beta] that would lose out because they're smaller. But on the other hand there are a lot of political reasons why [Beta] needs to remain viable… There are also high-tech issues like the use of robotics in surgery, which is done at [Beta]. Brachiotherapy is also done at [Beta]. And both of those cannot be moved*

Senior management at the network were also anxious to develop a network-wide strategy that would allow them to address the expectations of their respective Strategic Health Authority to cut costs and also meet the peer-review (NICE) measures. A lead cancer manager from CanNET told us:

> *The Strategic Health Authority would want to know that we have performed well against the peer review standards... So, actually, because there are so many hospitals in the [region] they want to pick one out and say, 'alright, it's costing too much money... throw that away and then let's reconfigure our services'… [one would also] ask, 'we have radiotherapy for cancer services here in [Alpha], do we need it at [Epsilon]?'*

The clinical leader (of the network and also at Alpha) thus sought to preserve as many resources as possible at Alpha and within his network. He also sought to build strategic alliances with other newly formed MDTs within the region with similar goals. Though many of the smaller hospitals in the area were bringing their cancer patients to Alpha for team discussions and treatment planning, he wanted to formalize this arrangement by further developing the Alpha meetings to what became known as a 'Pan-MDT' structure. While continuing to innovate and define the evolving MDT practice, he met regularly with the clinical leaders of the other MDTs at CanNET to design a workable structure as to where different services should be located.

> *There will be a Strategy Paper which will say where we want to be [which will be] alongside two[other] pieces of work: a regional … strategy … about surgical work mostly, and then there is a radiotherapy strategy review for access, capacity and demand.*

In this sense, as they developed a normative network, the level and scale of visibility transcended local multi-disciplinary teams to wider multi-locality team meetings. While in theory, more eyeballs and brains at multi-locality meetings could potentially enrichen the discussion and improve decision making, the reality was somewhat different. The Chair of the Urology Tumour Working Group based at Beta explained:

> *MDT meetings at [Alpha] have become so big … with six hospitals participating, it makes it impossible for everyone to raise their opinion and a lot of people tend to stay quiet in the back of the room… Individual personalities play a big role in these meetings.*

Much more effort was required by participants at these meetings in making themselves visible to a larger group, and those that were unable to do so felt marginalized. Furthermore, in these meetings, patients were often not discussed at a very personal level as fewer people present were familiar with the patient's unique circumstances:

> *In the local MDTs they talk about CWT [cancer waiting times], which never comes up in this MDT and the reason it comes up in the local MDT is because the MDT coordinator knows how much time the patient has been in the system, how many days they got before decision to treat is made where they stop the clock for x,y,z etc… There are different levels of decision-making.*

> *This [the specialist MDT] is the high level decision on the treatment based on the clinical findings but often has no relevance to patient participation…*

Thus different aspects of the patient case became visible at these larger meetings, with an identifiable shift to a largely biomedical focus. The leaders emphasized the importance of examining the different levels of decision-making taking place within the network MDT, assessing the effectiveness of the whole network against the national cancer peer review measures, and considering the implications for the structure of the urology MDTs within CanNET.

Apart from efforts of individual clinicians to make their practices more visible to others as was the case with local MDTs, there were also competing efforts by different hospitals to retain local resources. In particular, the lead clinician from Alpha tried to maintain the hospital's central role in the Trust by carefully monitoring activities to ensure standards were being met. This became increasingly apparent as the Peer Review approached. The existence of the guidelines formed a standard which had an ongoing self disciplining effect on the practices of the team both at the local and network level meetings. Though there was not always systematic use of guidelines and protocols, there was a growing acknowledgement of their role and potential usefulness in integrating practice and facilitating more transparent decision-making as this surgeon explained:

> *Before decisions rested largely on previous experience, not taking notice of what is happening in the research and literature. Now we can also use guidelines, which never existed in the past.*

(The visibility of research based guidelines had consequences for practice and the location of service delivery) (For example,) In the past, there were cases where peer reviews led to the abolition of certain services offered by one locality (e.g. radiology and/or oncology services) and the merging of different localities into a single locality (disruption of institutions). In this context, the MDT work at Alpha had to remain visible in different ways, emphasising the measurable biomedical markers rather than patient engagement. Similarly, treatments advocated by the more visible clinicians, and could be supported by guidelines on best practice continued to mould the workings of this emerging institutional form.

The increased visibility of the MDT practices at Alpha which could now be scrutinised by other hospitals in CanNet as well as the upcoming peer reviewers, also

meant that Alpha ran the risk of losing its role as the network specialist MDT within the network to Beta, which [had a better decision-making process in place at their local MDT and] uniquely (within the Trust) offered brachiotherapy services, the use of robotics in surgery and housed the medical school.[1]

5.3.1 ICT and Informating in MDT Network Development

The lead clinician took proactive steps to use ICT to make visible local urology outcomes and innovatively meet Peer Review measures. In doing so, he mimicked the steps taken by cardiac surgeons in developing systems to monitor outcomes and provide information to patients. Specifically, he actively collaborated with his own professional association and hired the same software vendor, CancerTech, that had built the cardiac surgeons' decision support system. This new system would replace the existing Microsoft Access database with a more specialized application, which would import and merge data from different databases and also generate outcome-based data for use towards the evaluation of the meetings and in meeting peer review measures.

The solution supplied by CancerTech would comprise of two separate systems. First, a web-based system would allow clinicians to input case data into the specialist urology MDT database that would later be presented live at the actual MDT meeting. After discussing each patient case, the surgical chair for each group would instruct the MDT coordinator to enter the team's decision in real-time. Any medical data stored in legacy databases and other hospital information systems such as PACS, would also be imported through an interface engine and be available in digital form for the meeting.

[1] Brachiotherapy is a newer form of treatment for prostate cancer that is not widely available in the UK, and quite expensive. Robots also are relatively expensive and novel forms of doing surgery.

Second, there would be a patient analysis and tracking system which would only be available for one or two designated individuals who would receive extensive training on how to perform various analyses and reports from the data collected in the specialist urology MDT database.

The lead clinician worked closely with the software developers at CancerTech to create a workable infrastructure and get buy in. Firstly, in creating a new infrastructure to support the networked team, they had to create a design that was acceptable to numerous disciplinary groups and across different hospitals in the Trust. As explained by the software developer, there were many competing ideas on developing the basics of the system:

> *Everyone will have their own ideas, historical practices as to how fields should be designed and what process has worked best in their own local MDT. [The leader has to be careful to] involve other [hospitals] adequately. We will take paper copies of the local MDT approaches…*

In taking paper copies of templates being used at each local MDT, the system developer sought to find as many commonalities for bridging a workable solution. The infrastructure would enable certain fields, workflows and queries to be made more visible than others, which became an ongoing source of tension.

> *You can talk all you like about data… but if you don't sort out the linkages and access, there is little point…*
>
> *I think there is a difficulty in all of these details [of] adjusting to local factors.*

The lack of previous infrastructure, as all the MDTs and departments had evolved separately as institutionalised forms, made the creation of a singular system difficult. As a consequence, radical discrepancies became more visible.

> *There are a number of separate systems that don't connect to this central software and [CancerTech], I think, may be a problem because it is*

> *standalone… Historically, it's all about different systems in doctors' offices and that's the history of the NHS… If we can make this work fine, but if not we will be left with all sorts of bits and pieces as we are already.*

The second key issue the lead clinician faced was gaining buy-in of clinicians in entering data into the system and using it appropriately. The time it would take to enter data was seen to be problematic for busy clinicians who saw up to 25-30 patients a day. Not only was time an issue but the design needed to be easy to promote use. In addition, there were panoptic concerns voiced by doctors that the new decision-support system may lead to increased surveillance of their work and potentially compromise the discretion in the relationships among MDT members:

> *With the technology things are now counted and doctors are nervous of being counted….with the activity being counted, monitoring of outcome can be viewed as a threat. (Lead Clinician)*

Over time, the sharing of data amongst clinicians from the five hospitals in the network became increasingly problematic as the network specialist urology MDT could no longer be sustained with the existing technology. As a result, the hospitals had to be convinced to buy a software licence from CancerTech. Certainly, the limited budget of network members of the Trust as well as an overarching national program for IT (NPfIT) agenda did not make it easy to get buy in for this initiative. The informatics lead from CanNET discussed this challenge in relation to the CancerTech project:

> *This is a classic problem … in large NHS acute Trusts …. Ideas are never sufficiently funded; there is never enough money... [Resources are] focused on the core IT department of each Trust and one would expect that these minor satellite systems would drop by the wayside in due course ….*

There were other political elements related to the Peer Review, such as competing strategies towards gaining network centre status, which adversely affected buy in by the other hospitals. Among other things, the peer review would evaluate whether

Alpha should retain network centre status within CanNET. Thus, the IT initiative is a highly political move for a bigger battle, while placing the everyday work of the MDT to a secondary fate. A senior IT manager from CancerTech commented on the politics behind this move:

> *'What you have are six mini-empires and all of a sudden one becomes the hub and the others are expected to be spokes…so the central one develops a system for the network … [however] it's not clear that the clinicians [from participating hospitals] will simply go along with [the Lead Clinician] and allow him to get all the glory.'*

Further, the lead clinician strategically sought to retain Alpha's central role by leveraging the informating capability of the system. He designed it to specifically collect local outcomes by intervention, confident that this would show Alpha's treatment efficacy to be superior. He also was keen to display this IT enabled innovation in Urology MDT activity to the Peer Review team confident that these activities would be identified by them as best practice and rolled out across the cancer network. It would also make less visible weaknesses in their practice that might threaten their status as a the specialist centre of their network:

> *This [ICT] has to be completely 100% up and running and demonstrably efficient… by the time we are visited by the peer review in March… we need to awe and shock them [the reviewers] to get through peer review… get them to focus on the [benefits of the] system, and so direct them away from what is not going on well over here.*

6. Case Discussion and Conclusion

Early on, the news media explicitly drew on mediated visibility to uncover and publicize transgressions of specialist doctors. They created a scandal of inappropriate practices, and these developments catalyzed the government to introduce new levels

of accountability and visibility around key targets and treatment approaches. A key development in cancer care was improving service delivery through collaborative patient management. The lead clinician, in charge of urology at Alpha and also head of the regional cancer network was acutely aware and influenced by the earlier scandal and the ongoing visibility of specialist doctors' performance in the media. He sought to not only institutionalize MDTs as required by the government but also to create a larger area 'Pan MDT', whilst developing an innovative MDT management system. By so doing, he hoped to enrol his fellow clinicians to input data into the new system which would not only improve the operational and monitoring capabilities but allow the collection of local clinician outcomes to prove the effectiveness of cancer care at Alpha and the network. He also strove to make visible these innovations to a wider Peer Review team who were responsible for monitoring and evaluating clinical practice in the hope that they would be institutionalized across the NHS as best practice.

Institutional working is a complex practice building phenomenon, which focuses on how actors and agency influence institutions (Lawrence and Suddaby 2005). While illustrating the role for 'institutional entrepreneurs' such as our lead clinician, our case highlights how other actors at different levels were crucial in shaping and reifying this new practice development. Key actors involved in the co-construction of the MDTs included government departments which developed mandates and regulatory changes, local and national practice guidelines, colleagues from numerous disciplinary backgrounds, and other leaders in the network.

Lawrence and Suddaby (2005) outline a number of forms of institutional work, some of which they demonstrate as being involved in creating institutions, some maintaining and others disrupting institutions. Our case focuses on how different forms of institutional work were accomplished by the range of actors in the creation of institutions as new practice development. For example, the case illustrates institutional work of *educating*, which was not the sole privy of the institutional entrepreneur. Rather, it was accomplished by actors involved in teaching each other their disciplinary clinical practices in order to achieve integration and consistency. Responsive co-construction of the new practice demanded that actors display their work and points of view as well as active listening to enable integration.

There was a parallel role by the lead clinician in *defining* the boundaries of MDT working, drawing from existing guidelines and mandates. At the same time, however, the lead clinician was also heavily influenced by the new forms of visibility made possible by the media (e.g. scandal) and ICT's (e.g. performance management) in the wider institutional field of healthcare. Another important element of the definition of MDT work was to enable networks of practice to develop with each MDT in a network structure to facilitate collaboration beyond current hospital boundaries. As with *educating*, the *defining* process, was also the institutional work of not only the institutional entrepreneur but other actors at multiple levels.

Policing constituted another form of institutional work in creating our new practice form, though Lawrence and Suddaby (2006) categorize it as being integral to the work of maintaining institutions. It was initially facilitated through processes of *educating* others concerning disciplinary practices, which opened these practices up for scrutiny

by a new group of colleagues. In addition, peer review represented an official 'police check' from actors outside the group. ICT's were used to formalize and extend this policing effect by monitoring performance and ensuring compliance with decisions made by the MDT team. The increased need to police MDT's as a new practice became increasingly apparent as the team grew in size and as the deadline for peer review approached. In preparation for the review, the lead clinician developed and implemented protocols and local guidelines to monitor MDT's. Further, national guidelines also served as actants in policing the standard of care within the team, with clinician's practice being exposed against this standard.

Though analytic separation of 'educating', defining', and 'policing' were discernable, they were not as discrete and separate as conceptual categories (cf Tsoukas 1996) across different stages of the institutional working in creating and maintaining institutions. Instead, these forms of institutional work overlapped considerably, and this somewhat ironically highlights the importance of a practice perspective as advocated by Lawrence and Suddaby (2006). For example, educating oneself on related practices within the team, across the network, and in the health care field was central in defining the new practice.

In each of the aforementioned forms of institutional work, we find visibility to be centrally at work across multiple levels in shaping the creation of MDTs. The initial scandal of the Royal Bristol Infirmary made visible the breach of care in hospital services as well as the lack of accountability of current practitioners. As the press media scandalized these blatant transgressions and made them increasingly visible, new policing forms of practice developed requiring improved accountability. While

this has led to a new form of 'earned' autonomy amongst specialists, the medical profession, by situating peer review of practices by other medical specialists rather than directly by administrators, controlled the form and nature of accountability. The lead clinician was also able to strategically use ICT and its visibility to manage and track performance, and control what type of information regarding the practice became visible to protect turf against possible hospital closures or mergers. Further, ICT's helped make local outcomes by procedure at the hospital visible across the network in addition to policing the new practices.

Specifically, the informating capability of ICTs facilitated the collection and monitoring of patient outcomes and clinical performance, making visible the MDT's practice, both at a group level as well as individually (Zuboff 1988). This new visibility served to police the development of the MDT identifying and improving inefficient practices, whilst rewarding those with high performance. At the same time, this new visibility raised considerable resistance amongst team members across the network, making the system implementation difficult and protracted. At the time of peer review, the system was behind schedule and only partially implemented, which limited its 'wow' factor and its diffusion as a best practice across the network.

Visibility enabled through co-located working and meetings enabled the process of educating team members on disciplinary practices, which had previously received little consistent exposure. Having a history of collegial relationships at Alpha, many clinicians were able to learn productively from each other. However, the case also demonstrates that reputed specialist doctors in the group who had a more privileged voice or were able to make their work more visible through technology or dramatising

patient management secured a central role in the MDT decision making. In support of Star and Strauss' (1999) invisibility of nursing work, our case highlighted how nurses' decreased visibility served to demote their contribution to the institutional work of MDT creation relative to specialist doctors. The relative silence of nurses on the team reinforced their role as secondary actors within the new team, which further served to institutionalize their marginalization.

Visibility enabled by the development of a 'Pan MDT' infrastructure highlighted the numerous discrepancies of practice amongst actors across the network. Lawrence and Suddaby (2005) highlight that developing normative networks from loose coalitions or diverse actors may expose the different roles, values and norms that underpin the institutions. In our case, Beta and Alpha had particular conflict about who might take on the role of network centre, should peer review decide that the attempted integration of both via the innovative Pan MDT structure was inadequate. Similarly, the smaller local MDTs tended to better value patient and nurse participation relative to the 'Pan MDT' structure, which was perceived to exclude voices and marginalize groups thereby defeating its expected benefit of scale of expertise.

We close by highlighting our key contributions. Firstly, we build on the emerging focus in institutional theory on institutional work and how it is accomplished. We confirm the crucial role of educating, defining, policing and development of normative networks in the creation of institutions and highlight how new visibilities enabled or constrained that process. Our case highlights that these conceptual categories may overlap significantly and we therefore support exploration of other approaches (e.g. ANT, Latour 1987, 1999) to further our understanding as to how a

network of actors and actants work together to accomplish institutional work (Lawrence and Suddaby 2006) in practice. Secondly, we have demonstrated how the new visibility made possible by ICT's and the media are inseparable with the purposive actions of actors involved with the practice of institutional work. Visibility is central in giving form and concreteness to the internal life of practices constituting evolving institutions. We highlighted different forms of visibility, including: scandals of specialist performance in the media, government performance based targets, practices of disciplinary groups in situated co-presence of MDT's, and the lead clinician's attempted development of ICT's as a further practice innovation. In so doing, we also contribute to new forms of visibility and control in organizations beyond informating and implications of an electronic panopticon (Thompson 2005), and crucially how they are intimately connected to the purposive actions of multiple actors involved with the practice of institutional work. Future work could build on this study to examine the role of visibility in accomplishing institutional work not only in the creation of institutions for new practice development but also in maintaining and disrupting institutions.

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