

Regulation, 'donated labour' and the NHS reforms
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Background

There is an unresolved debate about the effectiveness of NPM-type institutions in regulating the behaviour of public sector workers compared with the incentives and sanctions arising from less formal 'embedded' institutions of trust, social obligation, professional reputation, ethic and altruism. The former rely primarily on institutions that are enforceable by management or, in the last resort, in the courts. The latter are mediated by 'relational contracts' that depend on 'soft institutions' such as reputation and on compliance with professional standards, reinforced by professional associations and largely enforced by the threat of 'shunning' and exclusion. A central issue in public administration, and for this study, is whether or not reforms that introduce more formal institutions, ones that generate 'high powered' performance incentives, reinforce or undermine the non-financial incentives characteristic of 'Public Sector Motivation'.

The NHS reforms offer an opportunity to explore these issues. If they can be characterised crudely as a shift from a not-for-profit/public sector (PS) type management regime towards a management regime more typical of a for-profit (FP) organisation, it might be expected that effort, and possibly productivity, would decline. PS workers might believe that a more formal performance management regime effectively 'expropriates' their trust, professional reputation and altruism in the sense that it is unrecognised or unrewarded. On the other hand if, as many in the government believed in the 1980's, the soft PS-type incentives and sanctions had been weakened and could no longer prevent shirking, the introduction of a more formal management regime might serve to improve labour productivity and service quality.

This pilot study carried out at the University College London Hospital (UCLH) in 2008 and 2009 focused on the extent to which the more formal regulatory institutions introduced by the NHS reforms have reinforced the effectiveness of informal ones or have weakened them and produced unintended consequences.

The broad theoretical context for the study is the subject of an extensive literature including by Coase, North, Williamson and Dixit. This literature has been reviewed as part of the study (Jerrett Myers (2008) 'Public service motivation' and performance incentives: a literature review: www.opi.org.uk and Martin Karlsson (2008) 'The economics of 'public service motivation': a literature review www.opi.org.uk).¹ Much of it is based on the economic assumption that choices between effort at work and leisure are largely shaped by financial compensation accruing to labour. However there is also a large non-economic literature asserting that although pecuniary considerations play an essential part, when organisations produce socially valued output, altruistic, 'mission' (making a difference) reputation and other non-financial incentives (termed by some Public Service Motivation or PSM) are important determinants of worker effort and service quality. The new institutional economics literature attempts to conceptualise the way these incentives relate and interact in a single analytical framework by drawing attention to the incentives and sanctions generated by a hierarchy of formal and informal institutions that promote 'good' and inhibit 'bad' behaviour.

Recent theoretical work, notably by Dixit, is particularly relevant to the issues explored by the study. Drawing on the work of Ostrom (1990) he identifies three factors that favour the effectiveness of informal institutions, broadly those relying on embedded and voluntary incentives, in regulating the behaviour of a cooperative group: (i) the stability of the group; (ii) the speed and accuracy of the detection of cheating; and (iii) the spread of information around the group, partly a function of its size. It might be argued, on the one hand, that changes within the NHS workforce weakened each of these factors making

¹ Full references can be found in these review papers and other outputs produced by the project.

it necessary to introduce a more formal regulatory regime. Alternatively it might be argued that the introduction of the more formal regime undermined the regulatory strength of informal institutions primarily by challenging, and so destabilising, tightly-knit professional groups that valued reputation, service and 'mission'.

The empirical approach proposed by OPI's research application was based on the proposition that 'donated labour' (that is labour supplied but not contracted for) is an observable proxy for worker motivation (Francois, 2004; Grout and Yong, 2003). Recently, Grout and colleagues have tested this proposition using data from the British Household Panel Survey between 1991 and 2001 (Grout, 2006). They found that workers in health, education and social services working in not-for-profit (NFP) and public sector (PS) organisations 'donated' more labour than those working in 'for profit (FP) organisations. The logic is that if workers know that FP owners will expropriate the value they add by donating labour in the form of additional profits, they would be disinclined to work for longer than required by contract. The presumptions are that increased donated labour improves labour productivity as donated labour does not add to wage costs and that the quality of service improves because, for example, patients needing care would receive it whether or not clinical staff were contracted to provide it. Perhaps staff would not leave work until the staff on a new shift had arrived.

Objectives

The issues to be explored as set out in OPI's proposal were as follows:

1. What impact have the NHS reforms had on 'donated labour'?
 2. Are there significant differences in donated labour across clinicians by cohort and/or country of training?
 3. Is 'donated labour' a valid proxy for 'worker motivation'?
- The first objective was met on the basis of the results of a survey of UCLH doctors and nurses.
 - The second objective was partly met: it was not possible to assess differences in donated labour by country of training since the sample was too small (see the difficulties encountered in recruiting survey participants below).
 - The third issue was explored but the conclusions reached were not particularly robust.

As the study proceeded, it became clear that the issues of interest were broader than the technical characteristics of 'donated labour' as a proxy for motivation. Rather they centred on the effects of national level reforms and Trust-level management innovations on clinical activity and productivity. As a result, the objectives of the study were restated as follows:

To investigate how and why working patterns of clinical staff in one large teaching hospital have changed in response to NHS and Trust management reforms. Specifically:

1. Has a more rigorous management regime undermined altruism?
2. Has a more rigorous management regime reduced clinical effort?
3. Has a more rigorous management regime improved labour productivity?

A further important objective was to contribute to 'debate, dissemination, dialogue and knowledge transfer' as the study proceeded. We have been less successful in this regard (see 'Activities' below).

Methods

The methods employed followed those set out in OPI's proposal except that the intention to capture the increased effect of the threat of 'hard sanctions' by recording the number of cases referred to the General Medical Council and the Medical Defence Union since 1989 was dropped. It became evident that the interpretation of these data was problematic. It was not easy to classify complaints. Many were dealt with by the UCLH Trust and there were few referred to the GMC or MDU. Another study in the ESRC

Public Services Research Programme Medical Regulation Sub-group is exploring this issue from a broader perspective than one NHS Trust.

1. Literature reviews

Two reviews of the related literature were carried out (see outputs)

2. Secondary data collection

Numerical data were obtained from the Department of Health Hospital Episodes Statistics database and tabulated for the years 1994-5 to 2007-8 for the UCLH NHS Trust hospitals, other London Teaching Hospitals and All England NHS Trusts covering clinical activity (Finished Consultants Episodes), number of consultants by specialty, number of beds, bed occupancy rates, mean and median length of stay, waiting lists, mean and median waiting times, number of day cases and bed days per year.

A history of the DH reforms was compiled from secondary sources. Their implementation at UCLH was documented from interviews with senior UCLH managers. Management innovations initiated by the UCLH Trust were documented from the Trust's Annual Reports and interviews with senior managers. Knowledge of the reforms was checked during interviews with a sample of doctors and nurses.

3. Primary data collection

A significant part of the reported results is based on a survey of 48 nurses and 46 doctors employed by UCLH.

The study team went to considerable lengths to generate interest in the survey as difficulties in recruiting participants were anticipated. The Trust appointed the Workforce Director as the study's sponsor. Advice was sought from the Chief Nurse, who appointed the Senior Nurse for Practice Development and the Senior Nurse for Research to liaise with the study team. A leaflet about the study was produced and disseminated around the hospital and a dedicated information page added to the OPI website. One of the study team (AM) presented the study to a senior nurses' meeting. Meetings were arranged with each of the Clinical Directors (except one), all of their General Managers and all of the 'Modern Matrons.' The purpose of the study was explained and their support solicited. There was considerable support expressed and given.

The representative sample design required 75 doctors and 75 nurses representing the ten specialities accounting for 89% of clinical activity at the hospital (as measured by 'Finished Consultant Episodes (FCEs)'). A key intention of the study was to see how behaviours and attitudes have changed across age cohorts employed at the hospital so that approximately equal numbers of three cohorts were to be sampled: those qualifying before 1983, between 1983 and 1995 and after 1995.

The initial response to invitations to participate in the study was so poor that any attempt to interview a representative sample, was abandoned. As a result, Clinical Directors and Modern Matrons were asked to nominate staff for interview in the desired age cohorts. Anticipating further difficulty it was decided to request a much larger number than required by the sample design: 117 doctors and 117 nurses of the 946 doctors and 2,018 nurses and midwives employed at UCLH in March 2008. Problems recruiting survey participants continued to the point that thought was given to abandoning the survey. In the event Clinical Directors nominated 78 doctors and Modern Matrons 88 nurses. As a consequence of the problems of signing staff up to the study, the final sample was around 40% of those requested. The process of gaining agreement from participants to take part in the study, fixing appointments with them and completing the survey instruments also took much longer than originally anticipated delaying the completion of the study.

Both samples are biased. The doctors' sample is biased away from surgeons towards physicians and, in particular towards paediatricians and cancer care specialists. It is plausible to expect that these might be more altruistic and driven by more powerful intrinsic incentives than some other specialties. The nurses' sample is similarly biased although less so. The emphasis on current members of staff excluded those that might have left the trust or the NHS because they were unhappy with the institutional ethos and

remuneration. In this sense the sample is biased towards those that remain tolerant (if not happy) of the current working environment. Finally, as participation in the study was voluntary, it is probable that the sample was biased towards clinicians with a particular interest in the reforms, in clinical management or had a strongly held opinion about the effects of the reforms on clinical practice.

A two part survey instrument was used to elicit information on personal characteristics, motivations and working patterns. The first instrument was a paper-based survey comprising questions on the employee's background and training, details about work patterns and team ethos in each position held at the Trust and questions about knowledge of recent NHS and Trust-specific reforms. The survey was completed by each person individually with an interviewer on hand to assist if required.

Information on contracted and actual working hours was obtained from both doctors and nurses. Staff were given the freedom to report contracted hours in variety of different units including rostered hours over a one or two week period (mainly for nurses), sessions, days, on-call shifts and programmed activities (used in the most recent consultant contracts). These units were then converted into hours using standard conversions. Respondents were then asked to recall the number of hours they had worked in each post at UCLH. The reported hours worked were compared with contracted hours to give a measure of time worked in excess of contract as a proxy for 'public sector motivation' (PSM). The results were compared with each respondent's psychometric profile.

The second instrument was a psychometric analysis devised by Robert & Joyce Hogan and adapted for the UK by Geoff Trickey & Gillian Hyde of Psychological Consultancy Ltd (PCL). The self-reported personal attributes assessed by this 'Motivations, Values and Preferences Inventory' (MVPI) are the preference for recognition, power, pleasure, altruism, affiliation, tradition, culture, security, business and rationality. The design of the MVPI differs significantly from the design of other assessments of Public Sector Motivations. However, it allows survey data to be compared with two reference groups: UK business people and professionals; and the general UK population. The distribution of the reference group's personal characteristics have been normalised so that the 50th percentile coincides with the mean, median and mode values. As far as is known, this is the first time psychometric profiling has been used as a research tool in a hospital-management setting.

Potential non-sampling biases in the data collection are evident from the methods adopted. The survey respondents were asked to recall how much time they spent at work in earlier posts compared with hours specified in their contract. The data from earlier posts are more likely to suffer from recall error than more recent posts although the direction of the potential bias is unclear. Ideally, responses would be compared to a similar sample of staff interviewed in the past but no similar data are, to our knowledge, available. Although there are now regular surveys of hours worked in the NHS these were only started recently. Moreover, they report the proportion of NHS staff in different categories that work more than their contracted hours by different amounts. Therefore, it was not possible to triangulate our results with this or any other source of information. For these reasons, each of the three written papers reporting the results of the study carry a warning that the conclusions are provisional and should be interpreted with care.

With this *caveat*, the recording of multiple roles within UCLH provides a quasi-longitudinal data set that permits comparisons of working patterns across time and between different groups of workers. Working hours and other characteristics of each job reported by respondents were arranged chronologically providing a time series of behaviour for each person interviewed. The small size of the sample meant that the analysis was restricted to descriptive comparisons and bi-variate tests of association. The main objective of the analysis was to compare the psychometric characteristics of staff with their working patterns and to understand how these might have changed over the years.

Results

The main results of the study are as follows. After a period of activity stagnation and productivity decline, clinical activity at UCLH began to rise after 2002 followed by a rise in productivity after 2004. Although

causality could not be attributed with certainty, these changes were associated with both national and Trust-level innovations.

Although the study identified some 47 policy changes introduced by the Department of Health since 1975, the key changes at the national level driving activity growth appeared to be:

1. The reintroduction of service commissioning by Primary Care Trusts in 2004
2. The introduction of the new consultants' contract in 2004
3. The introduction of an 18 week maximum waiting time for hospital admissions in 2006.

Although the new consultants' contract carried higher salaries, its main significance appeared to be the degree of contract specification. It allowed NHS Trusts to negotiate consultant's duties and responsibilities more precisely and laid the basis for three-year directorate 'business plans' with agreed service delivery targets.

The changes introduced at the level of the Trust that appeared to be most significant included:

1. The appointment of a new Chief Executive Officer in 2000 which gave stronger and more stable leadership than earlier
2. Investments in management since 2000, most significantly in General Managers working with Clinical Directors
3. Improved governance and oversight resulting from the appointment of an independent Board of Directors after the award of Foundation Trust status in 2004.

The main contributions of General Managers appeared to be the accelerated introduction of technical innovation, particularly day case care, and the more efficient use of fixed resources, primarily beds and operating theatres. Despite the Trust's investments in management, management costs (excluding the costs of Clinical Directors) at no time exceeded 3 per cent of total current costs or 5 per cent of total staff costs. Increasing productivity meant that, despite increases in wage rates, the average FCE costs in nominal terms were only slightly higher in 2007-8 (£5329) than in 2002-3 (£5113).

Although it was not possible to estimate a production function formally, the main driver of both activity and productivity growth appeared to be increasing patient turnover from the greater use of day case care. Average length of stay declined somewhat (improved bed utilisation) but this decline was muted by the necessity to admit the more complex cases requiring inpatient care given the increasing role of day care.

Interestingly, although increases in clinical activity at UCLH were broadly mimicked across other London teaching hospitals, productivity increases were not: they have continued to decline. A broad, if tentative, conclusion might be that national level policy innovations may have created the incentives for activity growth but that they were less effective in creating incentives for productivity growth which depended more on Trust-level attention to governance and management.

It was not possible to reach any conclusions about effects of increased productivity on the quality of care although many of the survey respondents expressed concern that this may have suffered.

In line with other studies, the results of the staff survey suggested that clinicians who were more altruistic tended to work longer hours in excess of contract than others and that this 'excess time' declined as stricter management controls were introduced, suggesting a loss of 'altruistic dividend'. However, the excess time worked by the less altruistic increased so that by 2006 the working patterns of the more and less kindly were not significantly different. Despite the introduction of the European Working Time Directive limiting the hours doctors worked, since 2006 there has been an increase in the number of hours worked in excess of contract by both the 'kindly' and the 'less kindly' doctors. The results for nurses are less clear. The study was unable to test for 'tenure effects' as the psychometric analysis was done only once. However, there was no significant evidence of 'cohort effects': the younger clinicians were just as altruistic as older ones.

These findings need to be tested by further studies. However, if confirmed, they have at least two implications for clinical management regimes. The first is that like any other workforce, clinicians are not homogenous with respect to intrinsic incentives. Both the kindly ('knights') and less kindly ('knaves') coexist in the same organisation. The mix is likely to vary between settings and, possibly, over time. The returns to the additional costs of a more rigorous management regime may be lower if the kindly types predominate. However, even the productivity of the kindly may benefit from supportive management. Overall, despite an overall reduction in time spent at work due to working time restrictions and a reduction in excess time 'donated' by altruistic doctors, activity at UCLH rose and so did productivity.

One objective of the study was to assess the robustness of 'time worked in excess of contract' ('donated time' in the Grout's terms) as a proxy for PSM. While this may be a simple and useful tool in circumstances where PSM is low, the evidence from the study suggests that time worked in excess of contract may not have always been productive, at least in the narrow sense of producing more FCEs so that the use of 'donated time' as a proxy for PSM may be limited in detailed studies where fine discrimination is required.

Activities

The OPI study team has participated in ESRC Public Service Research Programme and Medical Regulation Sub-group meetings and events and will participate in the final Programme event in December.

One of the research team (RH) has used partial findings from the study as the basis for a presentation on hospital governance reforms to a delegation from the Personnel Division of Guangzhou Municipality, China. He has also been invited to participate in an Emerging Markets Symposium on healthcare in December to speak about health system productivity.

Outputs

Publications

Myers, Jerrett (2008) 'Public service motivation' and performance incentives: a literature review:

www.opi.org.uk

Karlsson (2008) The economics of 'public service motivation': a literature review www.opi.org.uk).

Ensor, Tim, Anne Kilby, Jerrett Myers & Roger Hay (2009) Management reforms and performance at a London Teaching Hospital: OPI Working Paper www.opi.org.uk;

Hay, Roger, Jerrett Myers & Tim Ensor (2009) The NHS reforms at the University College London Hospital: OPI Working Paper www.opi.org.uk

Ensor, Tim, Roger Hay, Jerrett Myers & Anne Kilby: The NHS reforms: clinical motivations and performance: submitted to the Journal of Health Organisation and Management.

Data

Data from UCLH doctor and nurse survey have been offered to ESDS:

Doctors' data: 46 observations, 616 variables Stata data file

Nurses' data: 48 observations, 541 variables Stata data file

Impacts

None as yet. Despite trying, the study team has yet to meet the senior UCLH management team to report the study's findings. Attempts to do so will continue.

Future Research Priorities

In the current fiscal circumstances the assessments of productivity potential are important. The study's results suggest significant potential for increasing productivity, at least in other London Teaching Hospitals. These tentative conclusions could be either strengthened or refuted by similar studies to assess management arrangements and their effects on productivity (i) in other London Teaching Hospitals; (ii) in large English NHS hospitals outside London; (iii) in NHS hospitals in other 'home countries' where the balance between intrinsic and extrinsic incentives might be different. In principle, this type of comparative analysis could also be extended to public hospitals abroad and to privately-owned hospitals.

More specifically, the 'Motivations, Values and Preferences Inventory' used to create psychometric profiles of the study participants is not designed specifically to assess public sector motivations. The other best known approach by Perry is more suited to the assessment of bureaucratic motivations rather than the intrinsic institutions driving the motivations of front-line public service workers. Moreover, reflections during the study suggest that different types of public sector workers maybe driven by different motives; teachers, the police and social workers. These considerations suggest that the development of better psychometric assessment tools for front-line public sector workers would provide an enhanced repertoire of research and management instruments.

Ethics

The main ethical consideration related to the acquisition of personal data from survey respondents. Care was taken to comply with NHS and UCLH ethical requirements. Each survey respondent was provided with information about the study and agreed to participate voluntarily. Each signed a consent form. The data were treated anonymously. OPI is regulated by the Data Protection Act. The study team carried professional indemnity insurance. Each member of the research team and each survey participant was made aware of OPI's Research Ethics and Complaints procedures (www.opi.org.uk/research/documents/OPIethicsprocedures.pdf). No complaints have been received from survey respondents.

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