

Innovations on a shoestring: Job quality causes and consequences of innovations in health and social care

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Abstract

The article examines the innovation-job quality-employment nexus in social and health care in the United Kingdom and Sweden, respectively. Through seven case studies carried out with a common methodological and analytical framework in the two countries, it shows how the constraining factors of fiscal strictures derived from budgetary regimes and chronic labour shortages have two key consequences for innovation. The first is that in the absence of room for manoeuvre with regard to extrinsic job quality, intrinsic job quality becomes the primary innovation arena. Here the activation of feelings and ideologies of empathy towards patients and clients and occupational/professional pride are central. The second is that most of the innovations found aimed at addressing labour shortages are ameliorative rather than solutions, leading to the development of the concept of “coping innovations.” Both of these processes are symptomatic of “innovation on a shoestring” due to structural conditions. Certain, arguably beneficial, aspects of these constraints are identified, such as activities directed towards enhancing person-centred approaches to clients/patients and colleagues, less ‘technologisation’ of care contact, and opening up opportunities for non-traditional occupational and social groups in health and care work. Non-beneficial aspects of these constraints include heightened work intensity and employee turnover, an overtaxing of the Florence Nightingale ethos, and incomplete or unsatisfactory training and career development programmes.

Keywords: Human Capital, Skills, Occupational Choice, Labour Productivity; Public Sector Labour Markets; Working Conditions; Firm Organisation and Market Structure; Human Resources, Human Development; Innovation and Invention: Processes and Incentives. Public services, innovation, job quality, social care, health care, financial constraints, intrinsic motivation

Introduction

Innovation is often conceived as essential for, and driven by, economic competitiveness, where competitiveness is secured by innovation leading to the introduction of new or significantly improved products or services that increase market share, or the value and thereby price that can be commanded by these products or services. Additionally, process or organisational innovations can lead to reduction in production costs and increases in profit margins. A market context is the taken-for-granted foundation that underpins this mainstream approach to innovation.

However, innovation also takes place in organisations operating under different logics and with other dynamics. In this article we analyse innovation processes and outcomes in social and health care organisations in the United Kingdom (UK) and Sweden, where market mechanisms have less bearing than public-sector budgetary constraints. Djellal, Gallouj and Miles (2013: 98-99) explain that there has been a profound neglect of innovation in such organisations, largely on theoretical (or ideological) grounds. Djellal et al. (2013:99) argue that publicly funded non-market services are habitually ignored as having little to do with innovation because:

“They (public service organizations) are under political influence, which puts them on the margin of the rationalistic economics of innovation. They often suffer from lack of resources, of resources that can be devoted to risky innovation projects, and of incentives for innovators and intrapreneurs. There is little pressure from consumers of the services, or else this pressure is dispersed by the rigid bureaucratic structures that induce inertia in the public sector...”

In picking apart the above assumptions as unsound, Djellal, et al. (2013: 99) note that innovations can be produced under conditions, and by mechanisms, contrary to those posited in the neo-classical-based conception of innovation processes.

In this article we pick up on several of the abovementioned themes. One concerns what is presented as a barrier to innovation: lack of resources or financial constraints. Yet rather than *inhibiting* innovation, financial constraints are found to function as an *influential parameter* spurring and influencing how and what types of innovations take place. Financial constraints do not, as we demonstrate below, take innovation off the agenda of public sector organisations, but for the reasons of the ideological blinders Djellal et al (2013) discuss, they are taken off the radar of mainstream innovation research.

Due to financial constraints and the general non-expansionary fiscal effects of innovation in public services, innovations in the cases studied targeted other problems, like labour shortages and employee retention, or goals like increasing intrinsic job quality, largely by facilitating improvements in quality of care. A second theme is that despite these organisations not operating in traditional product and service markets, they remain subject

to competitive pressures from other actors, especially with regard to labour. Thirdly, we show that while largely devoid of material “incentives for entrepreneurs and intrapreneurs,” non-material incentives, driven by empathy, occupational pride and professional development spur innovation, especially towards improved treatment, care and contact outcomes.

Empirical Research Context

Financing and regulation

The UK cases focus on social care in client’s homes (i.e. home care). Social care is separate to the National Health Service (NHS). In England, where the case organisations are located, publicly-funded social care is provided through local authorities acting as commissioners of care. There is a continuing downward pressure on social care budgets because of cuts to local government budgets. Results from a recent survey found 71% of local authorities anticipated making cuts to frontline services and 80 per cent considered adult social care the most pressing issue (Butler, 2017).

There has been a shift away from public service direct provision towards greater private provision, including commissioning home care providers in the private and voluntary sectors. Under this system, local authorities have discretion over what is paid to care providers. Despite an ageing population, real expenditure on social care in England fell by 7% between 2009-10 and 2013-14. One of the ways this was achieved was by tightening eligibility thresholds (i.e. means-testing and needs-testing) for publicly funded social care (UKHCA, 2016). Of particular relevance to job quality, there is a growing prevalence of very short duration visits commissioned by local authorities: for example, in January 2016, Unison reported that 74% of councils in England commissioned care visits that lasted 15 minutes or less (UNISON, 2016). Reduction in real expenditure on social care has also been achieved by local authorities passing the financial squeeze on to care providers, by negotiating lower prices for the care they publicly finance. In 2016, the UK Home Care Association (UKHCA) said that nine out of 10 councils in the UK were failing to pay realistic prices to support older and disabled people in their own homes (UKHCA, 2016). There has also been a rapid growth in personal budgets, and a shift towards self-directed support as the default model of delivery for the majority of people with care and support needs. In addition, a growing number of people fund their own care.

When taken altogether, the combination of policy reforms means that social care providers are trying to deliver high quality care for less and less money. Cumulatively, Humphries (2013:8) states these trends have resulted in ‘a system that is crisscrossed with fault lines in how services are funded, commissioned, provided and regulated: between NHS and local authority social care, private and public funding, and private and public delivery.’ In terms of the regulatory environment, home care providers in England are regulated under the *Health and Social Care Act 2008* by the Care Quality Commission (CQC).

The Swedish cases focus on hospitals, providing comprehensive specialist health care on an out- and in-patient basis. In the Swedish health care system, the Ministry of Health has the overarching political responsibility for health care, but the regulation of health care at the national level is carried out by state agencies, of which the National Board of Health and Welfare (*Socialstyrelsen*) and Health and Social Care Inspectorate (*Inspektionen för vård och omsorg: IVO*) are the most important. Health care provision itself is provided at the sub-national level by county or regional governments [*landsting* or *regioner*]. Aside from provision of health care, each county or region in Sweden finances its health care activities via direct taxation of the residents in the county or region (though some targeted financing comes from the state.). There are national directives dictating that certain medical procedures can only be carried out at specific hospitals, and in these cases the county which sends its patients to these facilities pay compensation to the county where the hospital in which the treatment is carried out is located. There are also national laws stipulating that health care in Sweden must be equivalent in all counties, meaning that it can be organised in different manners, but the treatment and care quality and effects must be equivalent.

Innovation

Innovation in social and health care is an area of increasing importance, yet there is a lack of academic literature about innovations, other than medical and technological innovations that are developed outside the workplace. Hospitals and care providers are this typically viewed as 'recipients' of innovations.

Departing from this misconception of hospitals exclusively as recipients of innovations, hospitals are increasingly recognised as important locations of innovation and entrepreneurial activity (do Carmo Caccia-Bavae, Guimaraes & Guimaraes, 2009; Rey-Rocha & López-Navarro, 2014; Lunt, Exworthy, Hanefield & Smith, 2015; Miller & French, 2016;). Rey-Rocha and López-Navarro (2014) argue that innovation is the fourth basic mission of hospitals, alongside the well-established trinity of clinical practice, research, and education/training. Yet Gallouj and Zanfei (2013:90) note that most studies on innovation in health care emphasise the role of science and technology-based innovation (see Thune and Mina 2016 for a review of medical innovation). Hence important non-technological innovations are overlooked. In contrast, Djellal and Gallouj (2007:190) take a wider perspective:

"... hospital innovation is a category much broader than medical innovation. It is thus necessary for the actors in hospitals, the public authorities and researchers in the social sciences to take into account these various reservoirs of innovation and the actors involved in them, both individually and in terms of the interactions between them (reciprocal effects, conflicts)."

From this expanded perspective, Djellal and Gallouj (2007) find the first domain of innovation in hospitals is concerned with process innovations (oriented towards efficiency) across all activities at the hospital. The second domain focuses on technical and processual aspects of medical treatment per se, with an emphasis on the use of products. The third also looks at technical aspects: information technology and techniques. The fourth domain looks at a relational, attitudinal dimension: the service perspective. This perspective foregrounds expectations and demands, often of a qualitative nature, beyond technical aspects of interactions at hospitals which may in turn affect efficiency and treatment effectiveness. We see this fourth area of innovation as an unacknowledged background factor to the first, regarding employment strategy and employee retention.

Much of the abovementioned emerging research from the health care sector should be transferable to social care. Yet technological innovation, such as the use of digital assistive technologies, have featured less in service-delivery in social care than in health care. In part, this is because technological innovations tend to be expensive to implement. It is also because there is some resistance to technology, because of an attitude that the human element of caring should not be replaced by technology. In terms of non-technological innovation, some interesting incremental rather than radical workplace or organisational innovations are underway, mostly concerned with ways to improve both the quality of care delivered to clients and improve the way work is organised and managed (see examples later in this article).

Crucially, part of the 'discovery' of innovation processes within both hospitals and care companies can be linked to a shift in conceptions of innovation from a focus on the linear Science, Technology and Innovation (STI) mode as the predominant perspective on innovation, to the Doing, Using and Interacting (DUI) mode (Jensen, Johnson, Lorenz & Lundvall, 2007, Consoli & Mina, 2009).

With the former perspective, innovation takes place through a research and development (R&D) process that is largely divorced from the everyday practice where the innovations are to be implemented. With the later perspective, the DUI approach (which is complementary rather than mutually exclusive to the STI approach), the role of practical experience is emphasised, and innovations are oriented towards altering workplace practice as the central dimension of innovation. Rather than innovations being remotely invented, developed and then diffused for implementation, the DUI practice-based approach emphasises proximate iterative approaches to innovation. This has led to an increasing focus on workplace innovation (Oeij, Rus & Pot, 2017).

This shift in approaches to innovation opens the way for studying a wider range of innovations in hospitals and social care. The vast majority of innovations discussed in this article are of the DUI, workplace innovation type (though hospitals are also deeply involved in STI type of innovations as both co-producers and recipients).

By expanding beyond a narrow focus on STI innovation, and in differentiating between the STI and DUI modes of innovation, our conception of innovative processes is broadened to encompass both more remote, linear, science-based processes and more proximate, recursive, practice-based processes of innovation.

Job quality and employment

The relatively low status society attaches to caring work has led to pay and conditions universally regarded as poor. The UK care workforce is dominated by women, with ethnic minorities and non-UK nationals disproportionately represented. Care workers are low-paid, with insecure employment, irregular hours, low employee benefits, low unionisation, little training and few opportunities for advancement (Qureshi & McNay, 2011; Gardener & Hussein, 2015).

Given it has been estimated that wages make up around 60% of costs for care providers (Harmer 2015) and the commissioning process drives down the amount paid to home care providers, it is not surprising that home care workers continue to be among some of the lowest paid workers in the UK. In 2013 the median hourly wage was only 15% above the UK National Minimum Wage (Bessa, Forde, Moore & Stewart, 2013). For a small but significant minority of home care workers, the combination of low (and variable) hourly rates of pay and non-payment for travel time between clients results in hourly pay rates that reflect the actual time worked often falling below the legal minimum hourly rate of pay (Pennycook, 2013).

The nature of home care work in the UK (and elsewhere) has become more medicalized, incorporating work that was previously done by medical and associate professionals. While care work can be intrinsically rewarding, it can also be physically and emotionally demanding. Care workers are sometimes at risk from challenging behavior from clients. In terms of work intensity, care workers have to work at high speed and to tight deadlines. Because of the configuration of shift work and the physically and emotionally demanding nature of the work itself, there is often a significant spillover from work to home. In the UK, despite new regulations coming into force in 2015, including new standards covering the conduct and level of training of required by individual care workers, few formal qualifications are required for job entry (UKHCA, 2016).

Care companies in the UK find it increasingly difficult to attract, recruit and retain care workers. In 2016 the annual turnover rate in the independent and voluntary sector as a whole was 39% (up from 24.3% in 2015) (Unison 2016:36). Low pay rates, isolation resultant lone working, increasing medicalization of duties and work intensification as a result of short visit times are among the factors contributing to high turnover rates in the sector.

Shifting attention to hospitals, most attention has focused on nurses and other related occupations (Zangaro & Soeken, 2007; Lee & Cummings, 2008). Other occupations that are found in hospitals, including physicians and medical secretaries, but also managers,

administrators, cleaners, cooks, HR personnel, accountants, ICT technicians, etc., are less often the subject of attention in the literature. This leads to research on job quality in health care focusing primarily on nurses, and to a lesser extent on nursing assistants, orderlies and physicians (Misfeldt, Linder, Lait, Hepp et al., 2014).

Studies of physicians tend to show comparatively high degrees of well-being and job satisfaction, though burnout is taken to be an indicator of more problematic job quality issues (Montgomery, 2011). In a European study of physicians, Bovier and Preneger (2003) found aspects of job quality and work satisfaction, generally positive. The most problematic areas for physicians related to workload and stress, administrative tasks, work-life balance reconciliation, as well as unsatisfactory extrinsic factors such as income and prestige. Physician well-being is also a primary component in the quality of patient care (Scheepers, Boerebach, Onyebuchi, Heineman et al., 2015).

A great deal of the literature on job quality among nurses focuses on temporal issues, such as concerns about such as scheduling, length of shifts, shift work and temporal flexibility (Zangaro & Soeken, 2007; Lee & Cummings, 2008; Van Bogaert, Clarke, Willems & Mondelaers, 2013; Ball, Day, Murrells, Dall'Ora et al., 2017). Here a direct relationship to work life balance comes in, as both volume and timing and flexibility of work impinges upon reconciliation with non-work demands (Boama & Laschinger, 2016; Ghislieri et al., 2017). The combination of nursing being a female dominated profession and the mainstream gendered domestic labour regimes in contemporary societies makes this a generally acute and pervasive issue. Other central topics include rewards: wages and prestige; career progression opportunities; knowledge and skill development; the intensification of work; job composition (in terms of tasks); the relationship of nursing to other occupations: both in the workplace and in society at large; the forms and levels of occupational support available; and the myriad of issues around emotionally satisfying and taxing work in dealing with persons in high valence situations characterised by physical and emotional contact.

From the discussion above, two factors are of paramount significance. The first is associated with the temporal aspect of work in health and social care. Some treatment (acute, emergency treatment usually in emergency wards) and care (intensive care units) must be carried out immediately and with a high degree of attention. Other types of treatment (i.e. elective surgery) and home care can be planned and carried out in a more deliberate manner. The second issue relates to the fact that the expected (from the individual, colleagues, supervisors, patients, relatives, clients, etc.) level of treatment and care largely depends on the financial, organizational and social support provided by employers and colleagues (Laschinger, Finegan, Shamian & Almost, 2001; Ghislieri, Gatti, Molino & Cortes, 2017) where facilitative factors such as training and discretion are often constrained financially (Freidson, 2001).

Methods and Data

A case study approach was adopted to investigate the innovation-job quality-employment nexus in social and health care in the UK and Sweden, respectively. This approach is the preferred method of empirical inquiry to investigate a contemporary phenomenon in-depth and within specific context (Eisenhardt, 1989; Piekkari Welch & Paavilainen, 2009; Yin, 2009). Case studies are useful for illuminating a set of decisions, why they were taken, how they were implemented, and with what result (Schramm, 1971 in Yin, 2009:17). This method is particularly relevant to our research questions, as it enables explanation of causal links in real-life innovations that are too complex for survey or experimental strategies (Yin, 2009).

While case study research can include both single and multiple case studies, multiple case design is often considered more robust. However, it is crucial to select cases using defensible and appropriate logic. This article draws upon empirical evidence from seven case studies which are a sub-set of larger number of case studies conducted in the qualitative component of the Qulnne project (quinne.eu). A common theoretical, methodological and analytical framework was developed to investigate the relationship between innovation and job quality; to measure the mutually reinforcing effects of that relationship; and to enable analysis of the employment outcomes from the dynamism of that relationship (Jaehrling, 2017; Warhurst, Mathieu, Keune & Gallie 2018).

A common theoretical, methodological and analytical framework was used as the basis for selection of our cases, making it possible, and appropriate, to generalise our empirical findings more broadly than within the particular cases we analyse. Analysis and reporting of findings is undertaken both *within* and *between* cases, in order to help understand why certain innovations were adopted (or not) and to identify the presence of causal links between the innovations, job quality and employment outcomes.

Three of our seven case studies are on UK-based care companies, and four are on Swedish-based hospitals. While details about the financial and regulatory aspects in the UK and Sweden are outlined in the previous section, undertaking comparisons within and between two outwardly different branches and countries has revealed some noteworthy similarities and differences. The main unit of analysis is constant across our seven cases: innovation, where the decision about the unit of analysis was based on the most appropriate level for interpreting the innovations and placing them in context. In summary, four cases were primarily focused at the highest organisational level (i.e. hospitals, care company) while a further three cases were primarily focused at the work unit-level (i.e. ward, specialist centre, local franchise). This being so, there is some overlap between cases, for example, the hospital ward is the primary focus of analysis for one case (Case E) while its broader setting: the hospital per se is the focus of Case D. Along similar lines, while the unit of analysis for one of the social care cases (Case B) is the local franchise-level, this case is best understood in the context of the business model and philosophy of the UK head office. A summary of key characteristics for the seven case studies is set out in Table 1.

Table 1: Summary characteristics of cases

Case	Organization type & ownership forms	Mission	Country	No. of interviews
A	Privately-owned, family-run care company	Deliver publicly funded home care services	UK	6
B	Local franchises plus national office of international care company	Deliver privately funded home care services	UK	12
C	Privately-owned care company, part of a wider group	Deliver publicly funded home care services	UK	7
D	University hospital in Regional Government "A"	Health care, teaching and research	Sweden	19
E	Pediatric Surgical Unit** in Regional Government "A"	Pediatric surgical care	Sweden	17
F	Cancer center, State and 3½ Regional governments**	Develop and coordinate cancer care	Sweden	3
G	Clinical hospital in Regional government "B"	Full-service clinical hospital, training and some research	Sweden	4***

*The case on privately funded home care company (Case B) involved interviewing staff at the UK head office and two franchisees (Local Franchise 1 and Local Franchise 2).

**Three and a half county/regional governments fund this organization. One county government funds this organization in half of its county and a sister-organization that operates in the other half of the county.

***The case on the pediatric surgical unit (Case D) is a subsection of the larger Case C – university hospital. Therefore, there is some overlap with interviews between these case studies.

The case study fieldwork took place in 2016-17. The analysis draws on transcripts and contemporaneous notes arising from 68 in-depth, face-to-face or telephone interviews (or focus groups, in one instance) with employees, stakeholders and relevant experts; field visits, participation in workshops, desk-based industry research and material published on relevant websites. Triangulation of different data sources was used to take into account different viewpoints, and to ensure that the findings are credible and robust.

As a condition of being granted ethical clearance, participation in the case study research was voluntary, requiring written informed consent. If specific consent was given, interviews/focus groups were recorded and transcribed. The transcripts were subsequently anonymised including the assigning of pseudonyms to participants and organisations.

Despite one of the major strengths of the case study approach being its ability to deal with a variety of evidence (Piekkari et al., 2009; Yin, 2009), there is a risk that either too much, not enough or the wrong kind of data is collected. As one way to reduce the likelihood of data problems, common protocols were designed to guide the semi-structured interviews/focus groups and for subsequent thematic analysis. For each case, data was collected and then thematised for five key areas: the organisation itself; its employment profile; job quality and working conditions for its employees; its innovation processes; and any recent important innovations. Individual cases were written up, and then similarities and/or differences within and between cases were identified. Cross-national within-branch analyses (i.e. social care; health care in hospitals) based on these cases are presented in Jaehrling (2017). This article bridges two branches in different countries to explore commonalities within public service innovations over branch and national differences, based on the above common data gathering and analysis strategy.

Results

Adopting the expanded conceptualisation of innovation to include both the STI and DUI modes, a number of the innovations were identified in our seven cases in the UK and Swedish health and social care sectors. They are briefly outlined below.

An example of non-technical, organisational innovation, Case A created a number of 'champion' roles in the organisational structure. The new roles were created to improve the quality of care provided to clients, to empower staff and help them to work better as a team, and to provide additional organisational and social support to help reduce feelings of social isolation. The champions have specialist skills in their relevant areas, such as dementia care, where their role is to cascade their knowledge throughout the organisation (and externally in the community).

As part of a shift from time-and-task to more outcome and patient-focused care, another example of non-technological organisational innovation, Case C introduced a new type of practical training for its care workers. In part, this innovation was motivated by a necessity to improve medication management to conform with regulatory requirements. However, there was also an accompanying desire to improve the quality of care. The new approach to training focuses on the consequences of poor medication management, rather than on 'how to do it'. In addition to adopting a more practical learning style, a medication "lead" was introduced from amongst the care workers.

Secondly, Case C introduced 'narrative' record-keeping where care workers are encouraged to note down things like the alertness, responsiveness and abilities of the recipients, as well as what and how they eat rather than recording such information as 'all care given'. This places higher demands on care workers, both in terms of requiring them to expand their documentation, in addition to practical tasks, but also requires the care workers to use

written English language skills, where English is a second language for many care workers in this company.

In Case B, a number of innovations are connected to the company's decision that it could not operate under the UK's financial model of publicly funded care. Instead its business model is one of offering flexible care packages to clients with private funding. Because they can charge higher hourly rates for care than those available for publicly funded care, the local franchises are afforded greater discretion in their activities.

Illustrating the local discretion that is possible in a business model based on privately funded care, Local Franchise 1 at Case B insists that all new recruits, regardless of whether they have previous care experience, undertake a one week, classroom-based training course. This induction training exceeds the required minimum standard of training. In part reflecting the particular emphasis this particular franchise owner placed on care for this 'specialism', all new recruits are also required to undertake training in Alzheimer's and dementia care. When care workers have been with the franchise for six months, they are offered the opportunity to take further qualifications in Health and Social Care (funded by the company) and senior management are all offered the chance to undertake degrees: with no requirement that the subject of the degree is health-related.

In another innovative development, Local Franchise 2 in Case B invested in a Learning Development Manager and Learning Development Officer to develop the franchise's people management functions. They have developed more interactive and people-oriented induction training; 'refresher' courses on topics such as dementia, challenging behaviours, and medication; and one-to-one coaching. Close attention is also paid to succession planning to identify staff who are potentially suitable for management roles.

Close working with one local commissioning authority may be regarded as an organisational innovation in Case C, where the local commissioning authority works closely with the private care company to shift towards delivering an 'outcome-focused contract'. Under the contract, individual care plans are prepared and delivered for each client, aimed at promoting the client's independence as much as possible. Rather than care plans being fixed for a year, they are reviewed: and where necessary adjusted every 12 weeks. While this innovation was considered good in principle, it proved difficult to operationalise in practice. While there were expectations that Case C should incorporate various community services to help support the individual clients, in reality, support services/charities are stretched, and so they find it difficult to offer the desired for additional client support.

Working more collaboratively with the local authority may open up opportunities for progression within care, and also into social work and nursing, however both supervisors and care workers requiring new skills are a result of the introduction of new individualised care plans, hence training is required so workers can execute their more varied roles. While Case C was working closely with the local authority to try to address some of the operational issues,

this case exemplifies how external constraints associated with public financing arrangements and additional skill requirements for workers can impede innovation.

While the UK care companies had all: to a greater or lesser extent, recognised the importance of training in preparing care workers for the demands of their job, it was also recognised that training alone might be insufficient, hence a number of other innovations centred around provision of additional social and psychological support for care workers. For example, Local Franchise 1 in Case B introduced 'Area Meetings' with fewer rather than larger groups, Case A organised a summer excursion to the seaside for staff, clients and their families in order to provide an opportunity for everyone to come together and also as a token of appreciation for the care workers' hard work. In Case C, a fortnightly newsletter was introduced. While the main purpose was to provide work-related reminders to staff, the newsletter also provided a mechanism to thank staff for their efforts.

In the case of Case D, a university teaching hospital, a number of incremental workplace innovations centered on continuous improvement were identified. These innovations resulted, in part, from the strategic introduction of Lean Management, but in a manner focused on generating and developing bottom-up innovation, and improvement suggestions for improving work processes and delivering quality health care. The innovations involved the creation of forums for employees to make suggestions and work on implementation of their suggestions. A central forum was "pulse meetings," brief staff meetings used to take the pulse of the unit and document and follow up suggestions. These became a widespread activity at ward-level across the hospital: and are an innovation to promote further innovation. The pulse meetings led to an extreme reduction in time spent on rounds and care planning activities, where the improvement in efficiency was directly felt by employees without the need for statistical measurement. Members of each occupational group need to have the necessary competence and skill level to have a qualified opinion to be able to effectively feed into the improvement process. Consistent with the interpretation of Lean Management at the hospital, the aim to make decisions at the lowest possible level in the organisation has the potential to confer a high level of group/ward collective autonomy in specific realms. These incremental innovations rarely lead to direct changes in employment levels but delivered more efficient routines and quality of care.

In order to deal with the shortage of nurses, two wards studied at Case D have implemented task-shifting innovations. Both examples are oriented towards the same employment issue: a general shortage of nursing staff leads to wards and units to try to alleviate tasks previously carried out by nurses and transfer them to other occupational groups for which there is a greater labour supply. These organisational innovations do not just shift tasks among existing staff, they also create new jobs and bring new occupational groups into the workplace. On a neo-natal ward, there is a "milk kitchen" where nurses mixed milk formula for the infants in their care. After visiting a neo-natal ward at another hospital where a designated person who was not a trained nurse had fulltime responsibility for preparing the milk for all the infants on the ward, this model was introduced at the case hospital. Nurses said this new system allowed

them to focus on their core activities and relieved them from having to leave the room at regular intervals and find someone to cover for them. By stripping out the task of preparing milk, the nursing job became less rich, as a task and its encompassing social opportunities were reduced, with an increase in bedside care time.

The other example of task-shifting is the introduction of pharmacists to apportion and allocate medicine on a ward. Like work in the milk-kitchen, apportioning medicines was a nursing task. One ward introduced a full-time pharmacist to take over this role. While this innovation was originally introduced on a voluntary basis (nurses who wanted to continue apportioning medications to their own patients could continue to do so) but over time fewer and fewer did this on their own because nurses reported having more time to concentrate on “core” nursing activities. Patient safety was also given as another reason why nurses adopted this new process, as pharmacists are specialist in measuring and preparing medications. The role of the pharmacist was accepted, despite transferring a skilled activity that was previously performed by nurses to an adjacent profession (Abbott, 1998). While these changes could have been interpreted by nurses as de-skilling and taking away alternative means of engaging in care, they were interpreted as relief from more peripheral tasks affording the opportunity to concentrate on “core” nursing practices.

An illustration of the variation in perspectives on empathy and commitment can be found in the example of the *internal staffing agency* in Case D. In an effort to try to eliminate the use of hiring health care staff and professionals from costly commercial temporary staffing agencies, the hospital set up its own internal staffing agency, mimicking the conditions offered to external temps. While these conditions are partially about pay (higher), and time (control over scheduling), another significant factor behind preferring temporary over permanent placement was concern about being “embroiled” in workplace engagement. The staffing innovation, being a full-time employee of the hospital, but being hired out to different wards or departments affords short durations at each particular workplace, affording variety and change to the employee, as well as being able to avoid dimensions of organisational, social, and emotional commitment due to structural temporal regulation. Under such parameters, the internal staffing agency, if not promoting commitment, secures durable association of health care workers to the university hospital.

The recent increase in the number of refugees and immigrants to Sweden, a general shortage of health care staff in all occupational categories bar physicians, and a general political mandate to improve employment prospects for vulnerable groups, have all contributed to another workplace innovation where Case D introduced an innovation involving the development of a more systematic way of dealing with internships for occupations below the physician level. Training, and internships more specifically, are now seen as strategic dimensions of recruitment, which have become increasingly important in the context of staff shortages across almost all occupational groups. While interns were previously recruited from the National Labour Exchange (*Arbetsförmedlingen*), the hospital now develops relationships directly with educational institutions.

In Case E, a pediatric surgical ward, a physician-led organisational innovation involved applying to become a National Specialised Medical Centre to provide specialist care for three diagnoses. At the time of application, it was not known if the financial resources accompanying the new patients that would be referred to the ward through this programme would cover all costs or not, but it was envisaged that the benefits of attaining this status would outweigh any disadvantages. The task of preparing the application for the specialist center was a one-off, large scale innovation activity that, regardless of its success, had significant repercussions for how the ward operates. It led to a complete inventorying of procedures and routines at the ward.

Having attained the status of national specialist centre, the ward has become one of two wards in the country mandated to perform these operations. While a marginal impact on the number of surgeons is foreseen, an increase in the number of nursing staff to both care for patients and liaise with other hospitals is anticipated. Becoming a National Specialised Medical Centre entails both a quantitative and qualitative change in the organisational structure of the ward, as opposed to merely a change in the volume of patients and work.

This impacts job quality in a number of ways. Task variety increases for both the ward's medical and para-medical staff; it will increase prestige; and it will open up new opportunities for education, training, development, innovation and research in the specialist fields. Of particular significance, the opportunity to deliver an unbroken chain of treatment is likely to result in symbolic, motivational and practical repercussions for ward staff in terms of knowledge development and transfer. The ability of the ward to attract and retain staff is likely to improve, because the ward will be able to offer the entire range of activities to potential recruits.

A wide range of occupational categories were involved in preparing the application and developing and implementing the innovations found relevant during this process. These activities were not specifically budgeted for, nor were staff directly compensated for their involvement. Rather, there was a reliance on a great deal of voluntary or 'discretionary effort' on the part of the ward and wider hospital staff that displays a high degree of employee commitment. While collaboration across the hospital increased, virtually all of the practices on the ward needed to be scrutinised which set in motion an examination of: and in many cases, changes to, existing procedures.

In Case F, while not carrying out any clinical activities, the network-organisation was identified as an organisational innovation in and of itself. The network develops and co-ordinates the treatment of a specific but broad illness across four different counties in southern Sweden. The network was established to both complement and replace existing structures, where its role is to both encourage new innovations in treatment of this illness in the region, as well as to disseminate innovations across a wider national network.

The network operates in Case F via collegial influence rather than a hierarchical directive approach, and this is the primary innovation utilised in this case. Much of the work of the network is project-based and inter-occupational, combining research in medical/clinical domains with research and implementation along service, delivery and administrative dimensions. Diffusion is based on best-practice, collaborative and persuasive processes rather than a top-down, command and control models so there are opportunities for employee influence.

In Case G, located in a provincial hospital with facilities in four towns, a wide-ranging organisational innovation was undertaken during an acute shortage of skilled health care professionals, causing some wards to be closed and others merged. The hospital began a step-by-step introduction of person-centred health care, where a focus on the patient as the object of care was replaced with the needs of the patient. This shift transforms relationships in a profound way and led to new work procedures. The patient's needs rather than the patient him/herself is placed at the centre of the process, and all other actors (i.e. doctors, nurses, administrators) engage with the patient to collectively plan and carry out the patient's health care. Similar to findings by Burns, et al. (2016), the introduction of person-centred care here was also interpreted and applied collegially.

An example of a more radical technological innovation was also identified in Case E, where robot-assisted surgery has been introduced for some pediatric surgical cases. Case D is one of the few hospitals in the world that uses robot-assisted surgery on children. The hospital can be characterised as an innovation leader, because it was one of the first hospitals in Sweden to adopt this technology, and then apply it in an innovative way (i.e. extending its use to children). While most of the reasons for adopting robot-assisted surgery are surgical, the care dimensions are also of great significance, as the less invasive surgery tends to result in shorter hospitalisation durations and reduced post-operative pain. While the shorter periods of hospitalisation should yield financial savings, robot surgery also renders increased quality of work for surgeons as one of the surgeons is seated comfortably behind a monitor rather than having to stand over the patient for hours while surgery is performed. Notwithstanding these aforementioned benefits, a number of drawbacks exist including the high purchase price (approximately €1.5 million per robot) and high ongoing maintenance costs, the fact that the robots are installed in a fixed physical location, and (as with all medical machinery) while vision is greatly improved, what is absent is the surgeon's traditional sense of touch.

The impact of this innovation on job quality is primarily in terms of work variety, as staff are engaged in something novel. As the work requires specialist skills, there is skill acquisition and development, where these skills are typically transferable to other hospitals or departments where robots are used. As the technology is novel, and the robot team contains lead surgeons, the teams have a higher degree of autonomy and discretion in its use. While those who are part of the robot team enjoy very high job security already, in theory, the highly specialised skills acquired as a result of the innovation being implemented should further increase their job security.

As the robot is only used for a restricted number of applicable and planned, elective surgeries, the pediatric unit has access to the robot once a fortnight. During the remaining time, all members of the robot team are involved in conventional surgery. Interestingly, different processes are followed for recruitment into the robot team for doctors compared to nurses and nursing assistant. Surgeons seem to have been recruited into the robot team based on expressing an interest as well as them possessing relevant similar skills (i.e. laparoscopic skills). In contrast, nurses did not tend to have specialist skills prior to moving into the robot team. While surgeons are typically provided with specialist training (often abroad), nurses are mainly trained on-the-job.

Another example of a technological innovation found at Case A was shifting from a paper-based to a digitalised system for care plans. With the new digitalised system, all care plans are recorded in the new system where all data is 'live'. An app will be installed on every care worker's smart phone where they electronically check in and out of visits, and the entire recording and monitoring of individual care plans will be digitalised. This represents a more radical type of technological innovation than merely introducing an electronic monitoring system to schedule and track visits. There are two main reasons why this innovation will be adopted. First, the local commissioning authority has an expectation that all contracted care providers have electronic monitoring systems in place. Secondly, after the initial migration of data over to the new system, the company will have real time access to details on the care that has been delivered to all of its clients and the staff involved in delivering this care. At any time, after necessary permissions have been granted, family members will be able to view details of the care that has been provided to their relative. So, this innovation has the potential to improve communication channels between the care company, clients and their families.

Introduction of the new digital technology in Case A aligns with a shift away from task-focused to outcome-focused care plans and is expected to make rostering and monitoring more efficient. While entering details via the app may limit discretion and autonomy, it may also mean that the care workers will have more time to actually care for their clients; resulting in a more rewarding or fulfilling job. As younger workers tend to be more familiar with smart phones and apps; it may mean that care work becomes more attractive to them. In contrast, older workers may find this innovation more challenging. Clicking on tasks rather than having to hand write notes may mean care work is more inclusive of migrant workers, however good literacy and numeracy skills will continue to be required.

Discussion

Though home-based social care and hospital-based health care operate at different ends of the care spectrum, and the organisation of work and skill levels are vastly different, we find a fundamental similarity in some underlying mechanisms between the UK and Swedish cases of innovation, largely deriving from similar interconnected structural challenges. Though the

innovations themselves mirror the differences in the size, complexity, and skill-demands of the different case organisations, we find several similar processes at the innovation-job quality-employment nexus.

Leveraging intrinsic job quality

Professions and occupations in social and health care are often analysed in terms of subjective dimensions of work experience rooted in the very nature of the activities carried out. Treatment and care entail intimate contact with individuals, most of whom are in vulnerable states. It also entails direct intervention in the fundamental and universal human situations of health and illness, life and death, and quality of life. These factors evoke strong emotions, both in terms of specific experiences and more durable attachments. This leads to an interest in the origins and roles of subjective sentiments of empathy and commitment in health and care occupations, as both cause and effect (Zurmehly, Martin & Fitzpatrick, 2009; O'Brien-Pallas, Murphy, Tomblin, Xiaoqiang et al., 2010; Folbre, 2012).

Empathy is often treated as a stable and measurable personality trait that is possessed by individuals to greater or lesser extents (Nesje, 2016). An alternative to the trait perspective is developed by Leana, Meuris & Lamberton, (2018) who take a more sociological, as opposed to psychological, approach to empathy. This involves two steps. The first is transforming empathy from a trait to a state that is impacted by contextual factors. The second is by adjoining empathy to an activity: care. Their operative concept, *empathetic care* is defined as what one feels and does at work out of concern for the well-being of the recipient. They find that empathetic care is a vital factor in the quality of care a recipient receives, but this is mitigated by working conditions: especially high patient-load and overtime hours worked.

Organisational and managerial practices are of central importance in promoting or constraining opportunities for empathetic care. In addition to the factors identified by Leana, Meuris & Lamberton (2018), other aspects of job quality such as discretion, training, supervisor and peer support can impact opportunities for empathetic care. These aspects of job quality have further spillover effects, in this case effecting the opportunity to do work in a satisfying way (Meyer & Allen, 1991; Meyer, Stanley, Herscovich & Topolnytsk, 2002).

The cases above underscore the central role of empathetic care opportunities. This dynamic lies behind the generation of some innovations: i.e. the primary impetus, and the acceptance of others, where different beneficial and detrimental job quality aspects weigh in the balance. In the absence of especially financial, but also other types of resources, social care companies in the UK have based several innovations on social and symbolic rewards leveraging and promoting the practice of empathetic behaviours and commitment. As outlined earlier in this article, all innovations in the case organisations should be seen against the backdrop of profound retention problems for care workers and nurses.

The examples of the introduction of the “champion” and “lead” employee roles to promote peer-to-peer learning from front-running employees display this dynamic. As these are

voluntary roles, and did not bring wage increases, they operate on other social and commitment-based mechanisms. Being given one of these roles functions as a form of recognition, with increased status as well as additional training. It is predicated upon engagement and commitment, reinforces the same, and being collegially based, it promotes interaction between staff members (collegial care) with the ultimate objective of increasing the quality of care.

Another innovation introduced without material incentives, despite requiring higher skills, is narrative record-keeping. The motivation to carry out the narrative record-keeping is predicated on the idea that it is good for the recipient (and their family), and that these actions link the care worker's activities to the health system, as such notes may be vital in future care assessments and/or medical treatment. So, this innovation simultaneously increases the workload and need for higher skills, goes materially uncompensated, but is accepted as it may improve the well-being of the recipient, as well as heighten the care worker's self-esteem by coupling their work activities to medical activities of potentially great consequence. Because the care workers are entrusted to make their own observations, use their own discretion and judgment and report in their own words their observations of what is significant, rather than a tick-the-box checklist, this stimulates the empathetic encounter. Also working via the empathy mechanism, an alternative approach to training led to an improvement in learning. Instead of merely teaching care workers how to do things in a purely cognitive manner, the new training in medication management was based on a "what happens [to the recipient] if I do not do it" training approach, spelling out the consequences of poor medication management. This alternative approach starts by creating receptivity for knowledge and skill development by appealing directly to empathy: the consequences for the care recipient of insufficient incorrect care.

Objectively, these innovations run counter to the material interests of the care workers, as they increase demands without due compensation, but they are very much in line with empathetic and commitment concerns of the employees towards the recipients of their care. The Swedish cases show possibly not more profound but more complex innovations, due to the greater organisational complexity of hospitals.

The processes around the application to become a "National Specialised Medical Care Centre" entailed a tremendous work burden in addition to the normal work undertaken at the ward. While the previously outlined need for meticulous documentation of procedures and routines was an obligatory part of the application process, this process generated another extensive layer of "voluntary" innovation work, as when it was discovered that routines could be improved, these additional activities were simultaneously undertaken. Professional and occupational prestige can be seen as a major animating element behind the application, but this cannot explain the vast undertaking of innovation work based on a desire to improve routines found wanting during the inventorying process. Furthermore, a recurrent explanation for the application was being able to maintain an "unbroken care chain" for *their*

patients. Thus, the direct empathetic concern for the ward's patients was shared across occupational categories.

Thus, two aspects of empathetic commitment manifested themselves in the application work. First, the vast majority of the work required to write the application was voluntary (uncompensated) effort on part of the staff. Secondly, the review of procedures generated even more work as established routines and procedures were found outdated and revised and updated. Rather than just allowing these things to persist, they were altered, or revised. Without the high degree of engagement at all levels throughout the ward, such an undertaking would not have been possible, and definitely not self-initiated.

In both a Swedish hospital and one UK social care case, person-centered approaches were introduced. This ideational change, in brief, marks a shift from seeing the patient as comprising a set of objectively discernable needs for which there are set courses of treatment or care, to seeing the "patient" as a whole person with unique needs, desires, values and capabilities that should be drawn upon in the mutual formulation of courses of treatment and care. The major challenge facing the hospital was not so much financial, but rather recruitment and retention of skilled staff, in part due to its provincial location. The person-centric innovation was part of a wider programme to make the hospital a more attractive place of employment. The primary objective is to improve both service quality and efficiency at the hospital, as well as job quality, by focusing on and developing the empathetic meeting between patients and staff. In addition to focusing solely on staff-patient relations, other relations, such as staff-staff (collegial as well as hierarchical) and the relations between staff and the patient's relatives were also brought in focus. Thus, the shift to person-centred care not only brought in a new set of considerations, with the objective of deepening the empathetic practice in relation to the patient/person, but also extended this to a wider range of relationships in care and the workplace, and thus placing new qualitative but enriching demands, and extension of these to a wider circle.

In the cases of task-shifting, we probably see the most apparent examples of an interest in more extensive empathetic care opportunities surpassing other considerations, such as job enrichment/task retention, and the opportunity to "leave one's station" for other tasks and encounters with colleagues.

What can we learn from comparing innovations in home-based social care in the UK with hospital treatment and care in Sweden?

The innovations above have divergent impacts upon different aspects of job quality but generally the same foundation in promoting empathetic care opportunities. Most of the examples show how factors such as work intensification in terms of adding new tasks, engaging in more complex or demanding tasks, working overtime, accepting leadership roles, all without material compensation are initiated or accepted by employees if these activities are interpreted as promoting the empathetic relationship with recipients and colleagues.

Empathy and commitment are the lynchpins of what innovations are initiated and accepted in the cases above. If not providing the impetus for these innovations, empathy tips the job quality equation, from a burden in several respects, to things some feel inspired or compelled to do.

Comparatively, what we see across national regimes, at different ends of the care spectrum, and in organisations of vastly different size and complexity, is that the aspects of job quality which are worsening are precisely those that impact workload, stress and burnout, which in turn are identified as central factors in voluntary turnover among nurses (Hayes, O'Brien-Pallas, Duffield, Shamian et al., 2012).

Paradoxically, one can say that the innovations that are facilitated by empathy and commitment lead to increased subjective job quality (such as job satisfaction) but declining or stagnant objective job quality. This study adds evidence to the operation of a Florence Nightingale mechanism: what we term *Nightingale trade-offs*, whereby declining job quality in certain parameters is embraced, due to the opportunity to practice empathy and commitment. The opportunity to express and develop empathy and commitment is essential to meaningful and fulfilling workplaces, and even when such opportunities are mitigated by organisations, employees often find ways to achieve these in everyday work through things like “job crafting” (Wrzesniewski & Dutton, 2001). However, as we have seen in the cases above what employees gain in terms of meaningfulness in their work in some cases comes at the expense of other vital aspects of job quality. Recalling the two factors Leana, Meuris and Lambertson (2018) find adverse to empathetic care – heavy workload and overtime, the situations most of the innovations discussed above are premised on might, in the longer term, even be self-eroding of empathy.

Ameliorative or ‘coping’ innovations

Under the financial constraints experienced by the case organizations, the innovation-job quality-employment nexus takes on a specific configuration. Instead of innovation being an activity expected to bring expansive financial returns, many of the innovations outlined above deal with either ameliorating the effects of financial constraints or seek to improve care and job quality “on a shoestring.” In distinction to “frugal health care innovations” (Arshad, Radic & Radic 2018), the innovations above are largely non-technological, and arise from and seek to address local conditions. While some can be (or actually have been) diffused to other locations, the innovations are predominantly for local consumption.

The financial constraints faced by both social care companies in the UK and by Swedish hospitals impact the innovation landscape in three main ways. First, financial constraints play a large role in labour shortages, at least by exacerbating employee turnover, especially in key occupational categories such as nurses and frontline care givers. Particularly for nurses in the Swedish cases and care workers in the UK cases, lack of career development opportunities, but especially work intensification and deterioration of working conditions, has led to a vicious

circle of employee turnover, leading to a further erosion of working conditions. In the case of nurses in Sweden, it has also led to higher expenditures for hiring in nurses from external temporary agencies. As a consequence, innovations emerge to deal with labour shortages through activities like task-shifting, and as in Case D where the hospital introduced an internal temporary work agency.

Across cases we see a variety of efforts directed towards employee retention using dimensions of intrinsic job quality as levers. In Figure 1 we can see this operating in the left-hand and right-hand columns. In the left-hand column we see coping innovations such as task-shifting, the internal temporary staffing agency and arguably also the expanded internship programme which positively impacts recruitment opportunities, but not retention. The latter may even exacerbate retention problems as training interns may be personally rewarding for existing staff, but it may also diversify and intensify their work beyond existing core tasks (yet another Nightingale trade-off found in the right-hand column).

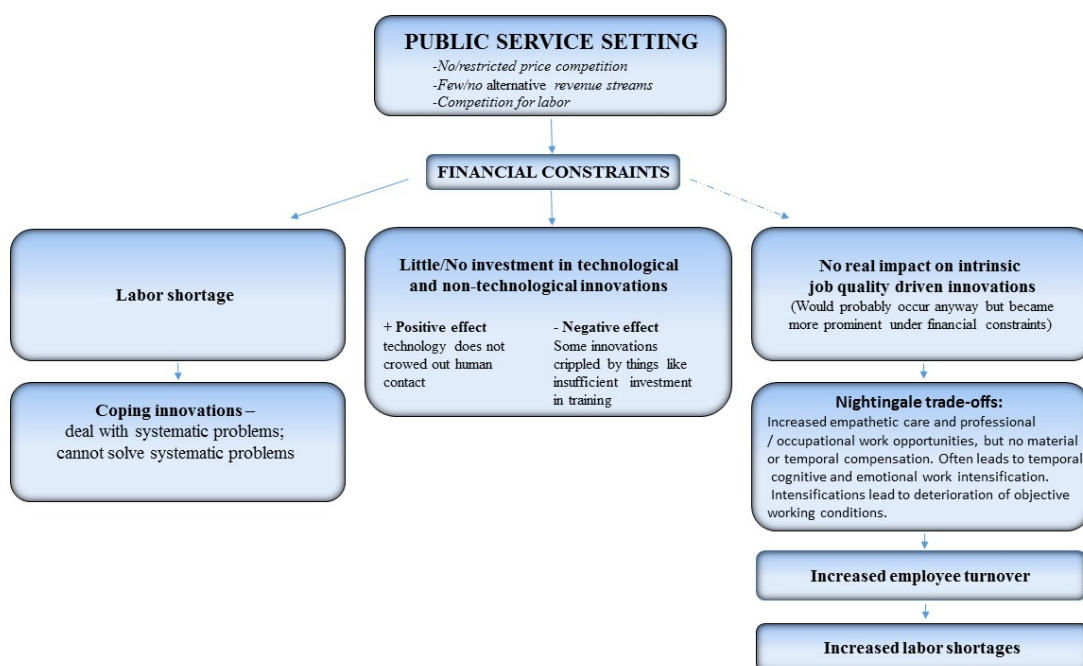


Figure 1: Innovation in public service cases, financial constraints and intrinsic job quality

Rather than the expansionary effects of innovation we expect to see under market conditions, a range of ameliorative, *coping innovations* that deal with conditions that cannot be resolved within specific workplaces emerge. As the problems (and thereby also *solutions*) exist at a higher or systemic level, what is possible at the local level is restricted to alleviating effects rather than addressing root causes. However, these innovations, by improving intrinsic job quality and working conditions at the local level, can mitigate competitive pressures from

other employers: be they similar or alternative occupational opportunities, or things like commercial temporary work agencies offering better conditions.

Secondly, the focus is on less expensive intrinsic job quality factors, most obviously, improving empathetic care opportunities (the centre and right-hand columns in Figure 1). Here we see innovation activities that were either initiated or promoted by employees themselves to improve care quality and opportunities, often on a shoestring. While some innovations can be more or less realised unfettered, as they are not reliant upon large economic resources, we also find other innovations that have curtailed effectiveness due to insufficient resources. To the former we have Case G, the Swedish hospital person-centred care programme, whereas in the latter category the inability to expand training to a satisfactory level in Case A.

Finally, the lack of financial capital available for investment in innovation has meant that there has been little recent technologisation of these workplaces (the central column in Figure 1.). With the exception of the use once a fortnight of a surgical robot in one of the clinics, the innovations that were developed in the case organisations centred around the organisation and use of staff, and interaction with patients and clients. Some of the innovations are seen as creating more human interaction and expression by diminished or altered use of technology, for example in the adoption of narrative descriptions of the recipients' condition, rather than merely ticking boxes. In this sense, the lack of financial resources plays a causal role in which innovations are, or are not, promoted.

Conclusion

Returning to Djellal et al. (2013: 114) with whom we opened this article, some steps have been made in this article to broaden understanding of a neglected range of innovation processes through comparative analysis of social and health care in the UK and Sweden:

“It is remarkable that the public services have been neglected for so long by the bulk of innovation scholars. Taking them into account will extend our understanding of the diversity of innovation processes: not least across the different public services and even across organisations within the same nominal bloc of services and of the institutional settings that shape them.”

One of the primary contributions of this article has been in extending our appreciation of innovative processes beyond those produced under conditions, and by mechanisms, posited by the neo-classical-based conception of innovation processes. In doing so, we illustrate how other factors come to the fore in innovation processes. By escaping the confines of the market paradigm and broadening our conceptions of innovations from an exclusive focus on the STI mode to include the DUI mode, it could be said that we have adopted an innovative approach to the study of innovation. In doing so, we identified innovations in health and social care that emphasised the role of practical experience and that altered workplace practice.

We have also shown how the constraints derived from public budgetary regimes and chronic labour shortages have two key consequences for innovation.

First, focusing primarily on the dimensions of intrinsic job quality in terms of empathy and care, a reversed order between material and ideal, emotional or normative interests has been documented, where material interests were seen to be sacrificed for other interests. The consequences of these in terms of *Nightingale trade-offs* have been elaborated.

As people live longer, their medical and care needs become increasingly complex. This means that publicly financed health and social care are likely to face ever-increasing funding pressures. While technological innovation will remain important in developing new and better ways to treat and care for patients, in the absence of room for manoeuvre with regard to extrinsic job quality, developing a better understanding of how less radical workplace innovations can lead to improvements in intrinsic aspects of job quality, and sometimes result in improved retention and other cost savings, is paramount. Activation of feelings and ideologies of empathy towards patients and clients, and occupational or professional pride, take on great importance.

Secondly, symptomatic of 'innovation on a shoestring', most of the innovations identified in our case organisations were ameliorative or 'coping' innovations aimed at addressing labour shortage problems. Certain, arguably beneficial, aspects of these constraints are identified, such as activities directed towards enhancing person-centered approaches to clients, patients and colleagues, keeping technologisation of care contact down, and creating opportunities for non-traditional occupational and social groups in treatment and care work. A number of non-beneficial aspects of these constraints were also identified such as heightened work intensity and employee turnover, and incomplete or unsatisfactory training and career development programmes.

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