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By Richard M.J. Bohmer and Candace Imison

ANALYSIS & COMMENTARY

Lessons From England's Health Care Workforce Redesign: No Quick Fixes

ABSTRACT In 2000 the English National Health Service (NHS) began a series of workforce redesign initiatives that increased the number of doctors and nurses serving patients, expanded existing staff roles and developed new ones, redistributed health care work, and invested in teamwork. The English workforce redesign experience offers important lessons for US policy makers. Redesigning the health care workforce is not a quick fix to control costs or improve the quality of care. A poorly planned redesign can even result in increased costs and decreased quality. Changes in skill mix and role definitions should be preceded by a detailed analysis and redesign of the work performed by health care professionals. New roles and responsibilities must be clearly defined in advance, and teamwork models that include factors common in successful redesigns such as leadership, shared objectives, and training should be promoted. The focus should be on retraining current staff instead of hiring new workers. Finally, any workforce redesign must overcome opposition from professional bodies, individual practitioners, and regulators. England's experience suggests that progress is possible if workforce redesigns are planned carefully and implemented with skill.

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Many nations are bracing for an increasing mismatch between demand for and supply of health care services. A growing population of elderly people with multiple and complex conditions combined with a shrinking number of informal caregivers suggests a substantial future care gap. Shortages in the professional health care workforce are anticipated around the globe. Furthermore, advances in information and communication technology are changing the nature of the work of health care—specifically, what can be done by whom and where.

For nations seeking strategies that will help them cope with these looming health care challenges, England's experience with redesigning its health care workforce offers a number of helpful lessons.

Workforce Modernization In England

The English National Health Service (NHS) has an extensive history of workforce redesign, driven by a mix of workforce shortages, long waiting times for health services, and a need to contain health care costs. In the early 2000s England's NHS undertook a series of broad reforms that included steps to modernize the workforce. The reforms were ushered in by England's Labour Party government, led by Prime Minister Tony Blair. The Labour government's health reforms sought both to redress years of underinvestment in the NHS and to drive service improvement through stronger performance management; greater regulation; and the use of market incentives, including support for patient choice of providers and introducing non-NHS providers from the for-profit and not-for-profit sectors.[1]

In 2000 the government adopted the NHS Plan, a ten-year investment program that included plans to expand and modernize the NHS workforce.[2] The plan was far-reaching in its ambitions for workforce reform: "The new approach will shatter the old demarcations which have held back staff and slowed down care. NHS employers will be required to empower appropriately qualified nurses, midwives and therapists to undertake a wider range of clinical tasks including the right to make and receive referrals, admit and discharge patients, order investigations and diagnostic tests, run clinics and prescribe drugs."[2]

The plan also signaled a desire to renegotiate pay and working conditions for general practitioners (GPs), hospital doctors (all of whom are salaried in the NHS), nurses, and all other clinical and nonclinical NHS staff. Designed to increase productivity and address long-standing issues in each staff group, national contracts were negotiated for hospital doctors, GPs, and all nonmedical staff by 2004. The new "consultant" contract[3] established formal job planning (an annual plan that sets out consultants' duties, responsibilities, and objectives for the coming year) for all fully qualified hospital doctors. The new GP contract introduced a quality-based incentive structure called the Quality and Outcomes Framework.[4] In addition, a new integrated pay structure, Agenda for Change,[5] introduced a single pay scale for all nonmedical staff with a common skills and assessment framework, in part to support new and more flexible roles.

The NHS has since both increased the number of health care professionals and pioneered new and extended roles for doctors, nurses, and allied health professionals. It has also greatly expanded the use of unskilled and unlicensed staff, such as health care assistants in hospital settings. The Changing Workforce Programme, a national initiative established in 2001, sought to pioneer new ways of working in the health care sector and was a major stimulus in redesigning care roles.[6] The initiative's staff of forty-eight workforce modernizers provided dedicated support and skills in workforce redesign, ultimately helping implement projects at 247 sites.

The different types of workforce redesigns pioneered through this and other initiatives have been framed in a number of ways.[7,8] However, in essence all of these taxonomies involve fundamental changes in the work, the worker, or both (Exhibit 1).

Some workforce changes have, in effect, created new (or alternative) workers to take on the work of others ("old work"). For example, in response to long waiting times for elective care

and growing demand for better management of chronic disease in primary care, some GPs have improved their skills in areas such as dermatology and the care of patients with diabetes to become "GPs with a special interest." They deliver care that has traditionally been provided by specialists in the hospital setting. Such specialized GPs can accept referrals from other GPs and diagnose and treat patients whose conditions are not especially complex. Shortages of primary, pediatric, and emergency care providers, especially doctors-in-training, led to the development of the nurse practitioner, who has the ability to assess patients, order diagnostic tests, and do routine prescribing.

"New workers" have also taken on "new work." For example, lay providers have been trained to support self-care.

Finally, there are examples of "old workers" taking on "new work," such as the new role of "community matron." This has extended the duties of the community nurse ("old worker") to include care coordination and care management ("new work").

There have also been specific initiatives to develop multidisciplinary teams that now provide the core of many services based in primary care, the community, or the hospital. One hospital-based example is Hospital at Night,[9] a national initiative triggered by the European Working Time Directive, which limits the time doctors can work to forty-eight hours a week. This initiative provides patients with access to a centralized multidisciplinary team after standard business hours. The central tenets of Hospital at Night include formalized handoffs of patients, extended nursing roles (including prescribing), pager filtering (screening and redirecting pages from wards to medical staff) through central coordination by senior nurses, and ensuring that routine work is not carried over into off-duty hours.

The Consequences Of England's Workforce Redesign

COSTS The NHS Plan's focus on increasing the numbers of new nurses, doctors, and allied health professionals (Exhibit 1), especially when resources were not constrained, proved politically popular and relatively easy to achieve, but it came at a substantial cost.

The plan increased the number of qualified doctors by nearly 50 percent and the number of nurses by 10 percent in the period 2002–12.[10] However, there are now concerns that workforce growth has surpassed the staffing levels needed and that the NHS will not be able to afford to employ all of the doctors now being trained.

EXHIBIT 1

Options For Workforce Redesign

	Old work	New work
New (alternative) worker	Redistribution: handing off existing tasks to other workers, such as nurse practitioners and general practitioners with specialist interests	Creation: creating new jobs for work previously not done by anyone, such as genetic counselors, and lay providers to support self-care
Old worker	Capacity expansion: increasing the numbers of nurses, doctors, and other health professionals	Retraining: expanding the job descriptions of existing workers, such as community matrons, to include work previously not done by anyone

SOURCE Authors' analysis.

PRODUCTIVITY The NHS Plan also emphasized new contractual arrangements that were designed to increase the productivity of health care staff. However, there is little evidence that the expected productivity gains have been realized. For example, consultant specialists' productivity was expected to increase by 2 percent per year but instead fell marginally, decreasing by 0.2 percent per year in the period after the introduction of the contract.[3] Realizing benefits from a contract requires strong human resource management—a capacity often lacking in NHS organizations.[3]

The other three options represented in Exhibit 1—creating new workers or redistributing or giving new work to existing workers—have all proved more difficult to execute, in part because they forced a redesign of work that depends upon the complex interactions among multiple professions. Not surprisingly, professional resistance has been a common experience, and even small numbers of key local opinion leaders have been major obstacles to change. In contrast to the situation in other nations, English professional health care organizations were largely supportive of new roles and working arrangements.[11] The most frequent source of opposition at the local level—often driven by concerns about loss of control—was middle managers.[6]

Local opposition also came from people in clinical leadership roles, particularly if they felt that their position or professional status was being threatened.[6] Individual professional staff resisted change both directly and indirectly. For example, some health care professionals were reluctant to embrace training for support staff. Others managed to block progress by raising objections about clinical governance, legal liability, or professional practice issues even where concerns did not exist.[6]

UNEXPECTED OUTCOMES The options presented in Exhibit 1 have also been associated with some unexpected outcomes. Importantly, if the sole purpose of a workforce redesign is cost reduction, instead of service improvement,

England's experience suggests that policy makers who pursue a similar strategy may be disappointed for a number of reasons.

▶**SERVICE SUBSTITUTION:** An assumption that is often implicit in redesigns of the health care workforce is that people in new roles will substitute for existing staff. In fact, these new people can become complements instead of substitutes, thereby adding to costs.[8] For example, nurses can be effective substitutes for doctors only if doctors completely cease providing the care that is transferred to the nurses and engage in higher-value activities instead.[8,12] Studies of, for example, specialist nurses working in pediatric intensive care[13] and general practitioners taking on the work of specialists provide evidence of this.[14]

Even if tasks are redistributed, there will be an increase in overall costs if not enough work is transferred to change the number of full-time-equivalent staff or the mix of providers.[15]

▶**INCREASING SERVICE COSTS:** One effect of a redesigned workforce is that a new role or service can increase demand, either because improved access reveals a previously unmet patient need or through supply-induced demand for health services. For example, nurses working in primary care have been found to detect previously unidentified problems.[14] And GPs' adding minor surgery to the services they provided encouraged the treatment of patients who would not have been treated by a specialist.[16]

▶**SUBSTITUTABILITY:** A recurrent theme in workforce redesign is the substitution of less costly workers for more expensive ones. As Exhibit 2 shows, the economics can be very appealing to policy makers aiming to reduce costs.

However, the interchangeability of staff and workforce roles cannot be assumed. Potential savings from reassigning work from more costly providers can be offset by the longer times that less expensive staff need for consultations and their higher rates of referrals, repeat patient visits, and testing.[8,11,12,17] Research on postacute care in the hospital has found that nurse-led care had longer lengths-of-stay and used more resources,

Comparative Costs Of Health Care Workers

Type of worker	Cost per hour (£)
Medical consultant	157
General practitioner	141
Junior doctor	52
Senior nurse	58
Nurse	41
Health care assistant	21

SOURCE Curtis L. Unit costs of health and social care 2012 [Internet]. Canterbury (UK): University of Kent, Personal Social Services Research Unit; c2012 [cited 2013 Sep 24]. Available from: http://www.pssru.ac.uk/project-pages/unit-costs/2012/index.php?file=full. **NOTE** Cost per hour includes salary and benefits; overhead; and paid vacation, sick, and training leave.

and thus it cost more than doctor-led care.[18]

And despite the huge salary differential between senior and junior hospital doctors, early assessment by a senior doctor is more cost-effective than one by a junior doctor. Senior doctors have a higher threshold for risk and thus are less likely to admit patients than their junior colleagues are.[19]

▶FRAGMENTATION: One of the perennial dilemmas in health care service design is the inevitable trade-off between the benefits of specialization and the costs of fragmentation. Experience in England suggests that this is more than a theoretical risk. Creating teams that are too large can increase transaction costs and decrease continuity of care, as staff spend increasing amounts of time conferring with each other and thus have less time available for direct patient care.

A detailed analysis of the operation and outcomes of twenty community-based teams showed that costs were positively related to the number of professionals involved in the care of a patient. For each additional practitioner who cared for a patient, the cost per patient rose by £150 per episode.[20] The study also showed that better patient outcomes (measured as a mean change in standardized measures of dependency that capture health-related quality of life) were positively and significantly associated with being treated by fewer types of practitioners during the episode of care.[20]

In primary care, if multiple workers provide health services for a patient, the continuity of care may be reduced, and it becomes more time-consuming and costly to coordinate care.[11]

Quality Often Equivalent Or Better

The unexpected consequences discussed above relate more to the economics of care than to its quality. Given that cost control is often the prevailing rationale for workforce redesign, England's experience may give policy makers pause.

Nonetheless, workforce redesign can increase quality, in part by exploiting the benefits of improving the staff's focus on different aspects of care. The risks of fragmented care notwithstanding, staff focused on the needs of particular patient groups have been found to provide even higher-quality care than did the groups for which they substituted. For example, consistent with experience elsewhere, nurses in the NHS who substitute for doctors in primary care have achieved equivalent or better outcomes,[8,21,22] measured as either patients' experiences of care or reduced complication rates.

Lessons Learned

The English experience also suggests a number of general principles that would increase the chances of a successful workforce redesign and could help overcome professional and other barriers at the local, state, and national levels.

REDESIGN THE WORK BEFORE THE WORKFORCE Workforce redesign and work redesign are interdependent. Changes in skill mix and role definition should be preceded by a detailed analysis and redesign of the work.[23] This should help avoid some of the problems related to role substitution, such as having more skilled and expensive staff continue doing their old work and thus undermining the impact of the new substitute staff.[8,14]

Defining a role in a new work context and aligning new and redesigned roles to team and organizational goals should also help address concerns about loss of professional identity or responsibility, which have been major issues in some workforce redesigns.[6,24,25] Aligning a new role with organizational goals should also increase the sustainability of the role by, for example, ensuring that the new role is not lost when the person who first filled it leaves.[26]

In sum, workforce redesign is best conceptualized not as a "skills add-on" but as a process that involves the concurrent redesign of the service and the workers' roles.

CLARIFY AND SUPPORT NEW ROLES AND RESPONSIBILITIES The English experience shows that clarity about roles and responsibilities is critical to the successful implementation of workforce redesign. Lack of such clarity undermines the chances that anyone in a new or extended role will work at his or her full potential. In a surprising number of instances, roles were introduced without clearly defined responsibilities, and the changes thus failed to have their anticipated impact.[8,24,25]

The presence of protocols and standardized

England's experience is a cautionary tale that underscores the risk of naïve assumptions about the potential impact of new ways of working.

care can facilitate the transfer of tasks from one role to another and enable less-qualified staff to undertake tasks that were previously the domain of more-expensive personnel.[8]

DELIVER THE BENEFITS OF TEAMWORK A robust evidence base confirms that the quality of teamwork is directly and positively related to the quality of patient care, staff well-being, and innovation in health care.[27] Major studies of teamwork in the NHS have produced results that are consistent with these findings and have also found common success factors, such as strong team leadership, shared team objectives and underlying values, improved performance feedback and training, and the availability of dedicated time and space for team learning.[27] Studies have also identified common barriers to teamwork, including multiple lines of management, difficulties with interagency work, perceived status differentials between different groups of professionals, and lack of organizational systems and structures for supporting and managing teams.[27]

As the focus of health care shifts from episodic to chronic care and from inpatient settings to community settings, traditional notions of a team as a tightly bounded group located in one place and working on a defined and short-term problem or task are being replaced. The new team is a loosely aligned group, whose members are often drawn from different organizations and locations and who come together for short periods of time to solve a set of problems for and with a chronic disease patient in the community—and then quickly disband.[28]

The ways in which future teams work together may be more important than how the role of any one type of professional is designed. Understanding how to create structures that support loosely aligned and distributed teams and help-

ing providers develop the skills needed to operate in such teams may turn out to be at least as important as—if not more important than—redistributing current tasks among old and new professional roles.

PROVIDE STATUTORY GUIDANCE AND REGULATION Professional demarcations and self-interest can be major obstacles to change and innovation in health care.[13,29] In addition, the evidence from workforce modernization in England is that new roles developed without a nationally agreed-on skill set that is recognized by a professional body can be limited in their portability and therefore their impact; this also raises issues of quality and longer-term sustainability.[29,30] Uncertainty about staff pay and the implications of change for pay can also be a barrier to change and innovation.[6]

A fine balance needs to be struck between local freedom to innovate and national control and support through regulation or national pay and condition agreements.

FOCUS ON EXISTING STAFF AND ROLES FIRST Given that the majority of people in tomorrow's workforce are already working today, greater emphasis needs to be placed on the needs of the workforce already in place (the "new work, old worker" quadrant in Exhibit 1) than on future new roles. It is easier and more effective for staff to acquire specialist competencies than for teams to acquire specialist staff.[12,15,17]

However, such retraining will require a major shift in the deployment of the national training budget for the NHS. Approximately 60 percent of that budget is now spent on doctors, who make up 12 percent of the workforce.[31] And there are no national funding streams for health care workers without professional qualifications, such as health care assistants.

Conclusion

The mismatch between the demand for and supply of health care services will frame the management and policy agenda for decades to come and shape future approaches to the redesign of the health care workforce. The migration of care out of hospitals and into community settings will change the nature of that workforce. Roles and decision rights will be redistributed, and some people not traditionally thought of as health care workers will become increasingly important providers of health care services.

England's experience is a cautionary tale that underscores the risk of naïve assumptions about the potential impact of new ways of working. Well-intentioned reforms have often failed to generate the expected results because workforce redesigns were not accompanied by work rede-

signs. New roles became supplementary instead of substitutive, and gains on the cost side were offset by increases in utilization rates or transaction costs.

For policy makers and local leaders contemplating redesigning the roles of health care workers as a mechanism for achieving greater quality of care at lower cost, a key lesson emerging from England's experience is that such a redesign is not a quick fix. Any workforce redesign strategy must overcome opposition from professionals or trade unions. And the prospect of success is further reduced by the fact that implementing such change is an extremely challenging endeavor.

Successfully redesigning the health care workforce is highly dependent on the skill with which the redesign is implemented and the completion of many complex steps, which include planning each new role and its boundaries, clarifying roles and responsibilities beyond those implied by professional titles, understanding interactions among team members and the psychology of work, streamlining patient flow, eliminating unnecessary tasks, and decommissioning old roles. Substantial capabilities for operations and change management are needed to support the implementation of new workforce models.

Evaluations of the workforce changes attempted by the English health service also revealed what has not been completed. There has been minimal investment in training and devel-oping the workforce that is so essential to supporting older patients in their homes. In England that workforce consists of nearly two million workers in social care,[32] three million volunteers,[33] and more than five million informal caregivers,[34] who together far outnumber the 100,000 doctors and about 300,000 nurses who work for the NHS.[10] Yet these social care workers, volunteers, and informal caregivers are precisely the workers who will provide much of the health care in the future. Given the obvious imbalance, it would be a mistake to make professional training the sole focus of workforce redesign and investment.

Furthermore, as the English experience suggests, greater benefits may arise from having staff in teams acquire specialist competencies than from having teams acquire specialist staff. More remains to be accomplished to strengthen teamwork and provide professionally recognized training to extend competencies.

Finally, evolution in science, technology, public expectations of health care and a rising disease burden—combined with persisting scarcities in the supply of health care workers in general and in the supply of those who can care for an aging population in particular—make workforce redesign a process, not an end. The match between the workforce and the work needs to be constantly reviewed to ensure that yesterday's workforce is not deployed to do tomorrow's work. ∎

NOTES

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