QUALITY AND SAFETY

The adoption, local implementation and assimilation into routine nursing practice of a national quality improvement programme: the Productive Ward in England

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Aim and objective. To explore why innovations in service and delivery are adopted and how they are then successfully implemented and eventually assimilated into routine nursing practice.

Background. The 'Productive Ward' is a national quality improvement programme that aims to engage nursing staff in the implementation of change at ward level.

Design. Mixed methods (analysis of routine data, online survey, interviews) to apply an evidence-based diffusion of innovations framework.

Method. (1) Broad and narrow indicators of the timing of 'decisions to adopt' the Productive Ward were applied. (2) An online survey explored the perceptions of 150 respondents involved with local implementation. (3) Fifty-eight interviews in five organisational case studies to explore the process of assimilation in each context.

Results. Since the launch of the programme in May 2008 staff in approximately 85% of NHS acute hospitals had either downloaded Productive Ward materials or formally purchased a support package (as of March 2009). On a narrower measure, 40% (140) of all NHS hospitals had adopted the programme (i.e. purchased a support package) with large variation between geographical regions. Four key interactions in the diffusion of innovations framework appeared central to the rapid adoption of the programme. Despite widespread perception of significant benefits, frontline nursing staff report that more needs to be carried out to ensure that impact can be demonstrated in quantifiable terms and include patient perspectives.

Conclusions. The programme has been rapidly adopted by NHS hospitals in England. A variety of implementation approaches are being employed, which are likely to have implications for the successful assimilation of the programme into routine nursing practice.

Relevance to clinical practice. This paper summarises the perceived benefits of the Productive Ward programme and highlights important lessons for nurse leaders who are designing (or adapting) and then implementing quality improvement programmes locally, particularly in terms of how to frame such initiatives – and provide support to – ward-level staff.

Introduction

Encouraging the widespread adoption of beneficial innovations in health service delivery and organisation and then facilitating their successful local implementation and assimilation into routine practice are challenges faced by policymakers in all publicly funded health care systems. However, reviews of empirical studies of sustained organisational

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change suggest that the evidence-base to help guide both national and local strategies is insufficient (Buchanan *et al.* 2007). Most studies lack rigour (i.e. they are typically atheoretical and anecdotal) and are not designed to test, empirically, hypotheses about the process of achieving sustained change (Greenhalgh *et al.* 2005).

Such reviews recommend that further research should focus on the processes by which innovations in health service delivery and organisation are implemented and assimilated into routine practice (or not) in particular contexts and settings and whether these processes can be enhanced. The aim of this paper is to explore the local adoption, implementation and assimilation of one such innovation into routine nursing practice by applying an evidence-based diffusion of innovations framework to a national quality improvement programme.

Background

In England, the NHS Institute for Innovation & Improvement's (NHSI) *Productive Ward: Releasing Time to Care* programme aims to empower ward teams to identify areas for improvement by giving staff the information, skills and time they need to regain control of their ward and the care they provide. The NHSI supports the English National Health Service (NHS) to transform healthcare for patients and the public by rapidly developing and spreading new ways of working. Specifically the Productive Ward (PW) programme aims to:

- increase the proportion of time nurses spend in direct patient care,
- improve experience for staff and patients and
- make structural changes to the use of ward spaces to improve efficiency in terms of time, effort and money.

The programme originated in 2005 through partnership working between the NHSI, nurse leaders and industry partners and was further developed through a design process that included working with four test sites in 2006 and with 10 Learning Partners during 2007–2008. The programme is described as distinctive because it aims to provide tools specifically developed to engage frontline staff in the initiation and implementation of change at ward level. The programme draws on principles of 'Lean Thinking' to reduce activities that do not add value; in the case of healthcare this could result in releasing more staff time for work that directly meets patient needs. The modules and toolkit are freely available to NHS organisations via the NHSI website. Hospitals also have the option of purchasing 'Standard' or 'Accelerated' packages from the NHSI to assist with local implementation.

In May 2008, the government announced a £50 million investment to support the dissemination and implementation

of the PW in England. This central investment was provided on the basis of evidence from the early test sites, widespread commitment from nursing leaders and the promise of what PW might help to achieve across the NHS (Department of Health 2008). Funding was distributed through the 10 regional health authorities in England (Strategic Health Authorities – SHA).

Adoption, implementation and assimilation

This study sought to explore the PW programme broadly as an innovation in service delivery and organisation. We aimed to study issues about its adoption and its local implementation and assimilation into routine nursing practice in England. Narrow definitions of 'adoption' that focus solely on a discrete organisational decision to accept or reject an innovation are unhelpful (Greenhalgh *et al.* 2005); rather, adoption in organisations is not a one-off, all-or-nothing event but a complex and adaptive process (Denis *et al.* 2002). 'Adoption' does not always result in widespread usage of an innovation in an organisation; after it is adopted 'it needs to be accepted, adapted, routinised and institutionalised' (Zhu *et al.* 2006).

The broader definition taken in this study incorporates how innovations once formally 'adopted' are put into daily practice in an organisational context. For this, we draw on the concept of assimilation defined as 'an organisational process that is set in motion when individual organisation members first hear of an innovation's development, can lead to the acquisition of the innovation and sometimes comes to fruition in the innovation's full acceptance, utilization and institutionalization' (Meyer & Goes 1988).

A conceptual model

A systematic review of the extensive literature on the diffusion of service innovations produced a model for understanding the complexities of the adoption, implementation and assimilation of innovations into day-to-day healthcare services (Greenhalgh *et al.* 2005). This review found that few empirical studies acknowledged the complexities of spreading and sustaining innovation in service organisations. Most concentrated on specific components of the model (for example, certain features of innovations or specific characteristics of individual adopters) and failed to take account of their interactions and contextual and contingent features. The model (Fig. 1) was developed to help make sense of the multiple components and interactions that influence adoption, implementation and assimilation in complex settings such as acute hospitals.
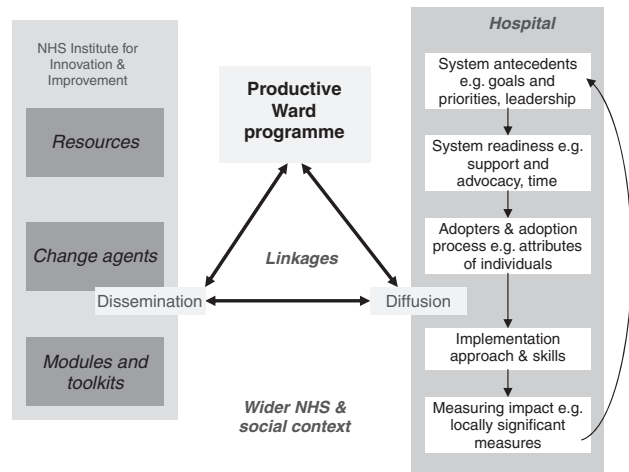
Figure 1 Framework for examining adoption, implementation and assimilation of the Productive Ward programme. Adapted from Greenhalgh *et al.* (2005).

The origins and early development of the PW programme – and details of the formal dissemination strategy that accompanied the availability of national funding – are reported on elsewhere (NNRU & NHSI 2010). In this paper, we focus on analysing the local components and key interactions between them that help to explain the rate and scale of the adoption, implementation and assimilation of the PW into routine nursing practice in NHS hospitals in England.

Methods

We adopted a mixed-method approach, guided by the diffusion of innovation framework described earlier, to collect data sufficiently broad to address the aim of the study. Qualitative research contains many variants, but our stance was to examine perception and experience, focusing on personal engagement in PW, perception of facilitators and barriers, organisational context and impact of the programme. We employed interpretive methods to focus on description, interpretation and explanation of the programme (Lee 1999). The research combined first-hand accounts, documentary analysis and observation of local implementation of PW. Hence, overall analysis of these different sources employed a narrative strategy of qualitative process research (Langley 1999) to construct 'stories' from the various strands of data. These narratives provided not only chronology (the story of development, adoption and implementation from the perspective of different stakeholder groups) but also concepts, understanding and theory closely linked to data (Golden-Biddell & Locke 1997).

Our research protocol outlined an explicit sampling strategy and techniques. These were:

- using routinely collected data to 'map' the adoption of the PW programme nationally
- a national survey of staff with experience of organisational-level implementation (150 self-selecting organisational leads, service managers and clinical leads)
- in-depth 'case studies' with five hospitals in different regions of England.

Routinely collected data

We analysed data that had been collected by the NHSI relating to the 'adoption' of the PW in two ways: (1) by when a PW package was first downloaded from NHSI website by a member of staff from a NHS organisation and (2) by the date when an NHSI support package was formally purchased by an organisation.

National on-line survey

An online survey was targeted primarily at staff in NHS acute hospitals, which had implemented or were considering implementing the PW programme. The survey used open and closed questions to explore perceptions of the PW programme in terms of the identified key components of the diffusion of innovation model (see Fig. 1), as well as assessing the local adoption and implementation of particular modules and the availability and accessibility of local impact data. One hundred and fifty responses were received with 56 (46%) of respondents identifying themselves as 'project leader/facilitator for PW', 19 (15%) as the 'manager of the PW itself' and 14 (11%) as 'working in the PW most of the time'. Seventy of the respondents identified themselves as either a 'ward manager/sister/charge nurse', 'staff nurse' or 'matron'.

Organisational case studies

Five organisational case studies of NHS acute hospitals focused on the local implementation and assimilation of PW into routine practice and included an analysis of the key factors that had shaped the local success or otherwise of the programme in each hospital context. Our case study sites were selected on the basis of regional distribution, stage of PW implementation, type of support package purchased from the NHSI and willingness to participate. In each site, interviews were undertaken on-site with staff nominated by PW leads to gain a picture of implementation 'ward to board'. The semi-structured interview schedule covered issues such as: personal role and involvement in PW, experiences of implementation, barriers and challenges, outcomes and sustainability. A total of 58 interviews were audio-recorded and transcribed for analysis.

Table 1 Total number of NHS hospitals in England purchasing accelerated or standard support packages, and number only downloading materials [by Strategic Health Authorities (SHA)]

SHA	Total no. of NHS hospitals and primary care organisations	Purchased package (no. of hospitals)		Downloaded materials (no. of hospitals)	Adoption (%)
		Accelerated	Standard		
East Midlands	23	2	0	21	100
South Central	23	19	2	2	100
South West	39	13	13	10	92·3
West Midlands	38	2	3	30	92·1
South East Coast	28	19	0	6	89·3
East of England	40	27	0	7	85
Yorkshire and The Humber	37	2	10	19	83·8
North West	63	8	3	41	82·5
London	75	17	0	44	81·3
North East	23	0	0	17	73·9
Total	389	109	31	197	86·7

The research design enabled us to conduct the study in two ways that increase the external validity of the findings. First, a team of four experienced qualitative researchers conducted data collection and met weekly to discuss findings from different strands of the work. Second, multiple perspectives and cases were investigated. For the purposes of protecting organisational anonymity, we have referenced each site (case study 1–5). We made use of cross-case summary tables to synthesise key findings from the 'rich' primary data, in order that the conclusions drawn can be linked back to the data (Langley 1999). For the purposes of this paper, we have focused on synthesis of the survey and case study data – to draw out lessons for policy, practice and research. Readers may consult the full report (NNRU & NHSI 2010) for an 'audit trail' from research design, through data collection to interpretation of the findings.

Results

Adoption

Figure 2 illustrates the rate of adoption of the PW nationally (by acute hospital, mental health and primary care organisation) using both the measures outlined earlier, whichever date was earliest. The figure therefore includes hospitals that 'adopted' the PW programme (by download from NHSI website) but did not elect to purchase either of the support packages offered by the NHSI.

This broadest measure of 'adoption' suggests that uptake of the PW by NHS organisations has been high (87% of acute hospitals, 92% of mental health organisations and 82% of primary care organisations). As Fig. 2 illustrates, by the time central funding was announced in May 2008, momentum

had already grown and the PW had been taken up across the NHS at a rapid rate.

Analysis of the data provided by the NHSI shows that from its national launch in 2008 uptake of the PW has been high across all of the SHAs in England. Overall, between 74–100% of all NHS acute hospitals in each SHA have expressed interest in the PW programme either through formally purchasing a support package or downloading the models or toolkit from the NHSI website (Table 1).

Taking a decision to purchase a support package as a more formal measure of 'adoption', the percentage of NHS hospitals that have adopted the PW programme is 40% (*n* = 140). Few hospitals (8%) have purchased the Standard package when compared to the Accelerated package. There are also significant variations between SHAs in terms of the purchase of support packages by hospitals. Different SHAs have clearly used different approaches to support local
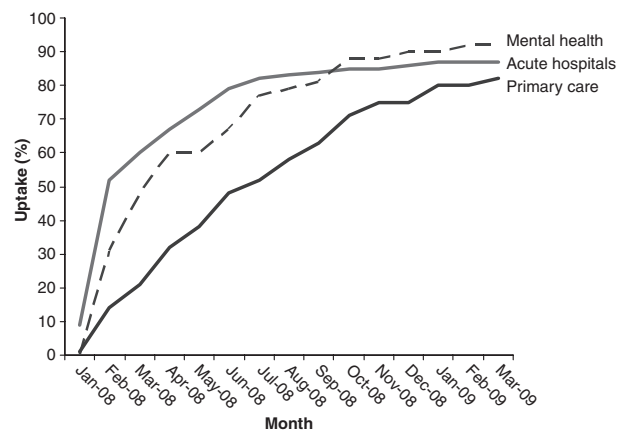

Figure 2 Diffusion curve by organisation type (acute hospitals, mental health organisations and primary care organisations).

implementation of the PW programme; in three of the SHAs over 20 hospitals have purchased one of the packages (in some cases directly supported by their SHA), whereas in three other SHAs less than five hospitals have performed so (and in one of these SHAs none at all).

The organisational case studies (Table 2) showed that key drivers for adoption are specific to each organisation and its strategic goals. An interviewee in one of our case study sites summed up how the programme had emerged at a timely moment for the hospital:

Our context was absolutely ripe for it in the sense that we had largely worked our way through establishing the [hospital] on a more substantial financial footing and we were very keen to move to a post-recovery renaissance phase for the organisation. The PW is perfect for that. (Executive/Board member)

Table 3 shows that survey respondents overwhelmingly strongly agreed or agreed that 'The PW fits well with what we want to do in this organisation' (92%). In our case studies, key drivers of adoption of PW included that is was seen either as a mechanism for organisational change (case study 2), or an opportunity to build leadership capacity (case study 4), or a way of demonstrating commitment to improving patient care (case study 1).

Survey respondents also strongly agreed or agreed with the statement that 'Releasing time to care is a cause that I strongly identify with' (97%). For staff working at all levels in the case study sites, the associated notions of focusing on core values and tangible change were central to the appeal of the PW:

The thing that really appeals to me is because it actually does focus on what nurses do for patients and how we can improve that and it focuses on all the essentials of care. I think it empowers ward sisters and ward teams to be able to take control of their environment and their ward and make it the best. (Director of Nursing)

I was really quite excited about it because what I read and saw about it, (was) that it really was something where teams of people who were delivering direct patient care could actually change things for themselves. (PW Facilitator)

Implementation

Respondents to the survey reported it was most common, at the time of the survey, for the PW programme to be being implemented on up to six wards in their hospital (60%). The most popular number of wards for the next phase of roll-out was 10. Over half (59%) of implementing wards were Medical, Surgical or Care of the Elderly.

Overall, the majority of survey respondents (Table 3) in hospitals implementing the PW felt there was a local

champion for the programme in their organisation and there was a strong clinical leader backing them. Survey respondents agreed that leadership and support from senior staff in their hospital was generally good. Most hospitals had received, or allocated, specific funding to help implement PW. Fewer respondents felt that there was good patient and carer involvement in the implementation of the programme in their organisation.

Our case study sites devised their own local approaches to implementation of the PW programme (Table 2). Some have focused implementation on selected wards (case studies 1 and 4); some have devised an overall organisation-wide plan for implementation and have rolled out the programme in stages or phases (case studies 3 and 5), whilst one undertook immediate whole-hospital implementation (case study 2). Interviewees at this latter site expressed a strong view that improvements at ward level must be connected with and supported by whole-organisation cultural change:

Early on we came to the conclusion that actually we couldn't have a PW without having a Productive Hospital. The ward is an organism within an organisation. (Executive/Board member)

Similarly, resourcing of the programme has been managed in different ways: original Learning Partner hospitals received support from the NHSI (case study 1), whilst other hospitals have set up a dedicated PW team (case studies 4 and 5) or made use of the skills of existing service development teams with support from lead executives and clinical staff leads (case studies 2 and 3).

As identified in the survey responses and observed at the five case study sites, the key organisational factors that were perceived to have influenced the successful local implementation of the programme were:

- staff having a 'felt need' for change and seeing the PW as a simple practical solution to real problems
- engaging with the NHSI and drawing on the PW modules and resources
- selecting initial wards on the basis of their desire to work on PW
- emphasising local ownership of the programme and empowerment of ward staff, rather than using a directive approach
- providing sufficient resources and support, in particular allocated budgets for backfill of staff time.

With regard to this final factor, by far, the most commonly reported facilitating factor for local PW implementation was having dedicated project leadership. In particular, having a realistic and flexible plan, support from a steering group, clinical facilitation and communication about PW helped to maintain the momentum of the work itself. Case study sites

Table 2 The adoption, implementation and assimilation of Productive Ward (PW) in five case study acute hospitals

	Case study 1	Case study 2	Case study 3	Case study 4	Case study 5
Type of hospital	Non-foundation	Non-foundation	Foundation	Foundation	Non-foundation
Size (no. of beds/wards)	2200/90	1860/82	770/31	590/29	920/32
Strategic Health Authorities (SHA)	East Midlands	Yorkshire & the Humber	South West	South East Coast	London
Adoption					
Timing of adoption	August 2007	Mid-2007	October 2007	February 2008	March 2008
Key driver	SHA suggested case study 1 become one of 10 early learning partners. PW aligned with aims and culture at the case study	Newly merged hospital used PW as a way of uniting two cultures with one vision	Had necessary internal resources/skills to initiate and fund PW itself	Became aware of PW and saw benefits; expressed interest to work with NHS Institute and SHA agreed to provide funding	Adoption stimulated by SHA suggestion and offer of funding. PW seen as opportunity to build capacity for nursing leadership and efficiency improvement
Implementation					
NHS Institute support	NHS Institute learning partner	Purchased accelerated support package	No support initially	Purchased accelerated support package	Purchased accelerated support package
Internal strategy	Overall organisational plan for implementation but rolled out in stages; wards undergo selection process to join	Whole organisation from outset (aspiration is 'Productive Hospital')	Phased whole organisation	All ward roll-out to be phased over two-year period	Focused implementation with selected wards; eventual whole-hospital roll-out
Resources	Dedicated PW team skilled in change management	Dedicated service development team with extensive clinical experience	Internal service improvement team but no dedicated PW facilitators at launch. Two dedicated PW facilitators appointed after eight months	Dedicated PW implementation team including service improvement and clinical specialists	Dedicated project lead and facilitator, both clinically qualified
Assimilation	Allowing staff to learn by doing, adapting PW to the contexts they are working within. Focus on staff empowerment to encourage participation and innovation; ward team themselves lead applications to join	Ongoing action learning sets, extensive training sessions and time-out days for each cohort	Recognition of value of identifying and implementing small step change; accessible and manageable by all. Synergy of PW work with other performance tools and initiatives	Full use of other available training programmes synergistic with and supportive of aims of PW. Supporting and facilitating staff to make PW their own project	Practical and flexible approach to development of best practice. In-house DVD to promote PW ideals and approaches

Table 3 Survey respondents' views about engagement and support in descending order of strength of agreement with statement (%)

	Strongly agree	Agree	Neither agree/ disagree	Disagree	Strongly disagree	Don't know	Response count
'Releasing time to care' is a cause that I strongly identify with	73·5* (83)	23 (26)	3·5 (4)	–	–	–	113
There is a clear 'champion' for the Productive Ward in this organisation	50·9* (58)	35·1 (40)	11·4 (13)	1·8 (2)	–	0·9 (1)	114
This organisation is sharing ideas and knowledge with other hospitals implementing the Productive Ward so that we all benefit from each other's learning	45·1 (51)	37·2* (42)	10·6 (12)	2·7 (3)	–	4·4 (5)	113
The Productive Ward fits well with what we want to do in this organisation	44·7 (51)	44·7* (51)	7·9 (9)	–	–	–	114
Specific funding has been made available to help implement the Productive Ward in this organisation	43·9 (50)	34·2* (39)	8·8 (10)	11·4 (13)	0·9 (1)	0·9 (1)	114
There is a strong clinical leader, respected by his/her colleagues, who supports the Productive Ward in this organisation	42 (47)	42* (47)	10·7 (12)	1·8 (2)	2·7 (3)	0·9 (1)	112
The general communications and information about Productive Ward are useful	30·7 (35)	52·6* (60)	13·2 (15)	2·6 (3)	0·9 (1)	–	114
There is an experienced and skilled 'change team' in this organisation that facilitates and supports the implementation of the Productive Ward	20·5 (23)	46·4* (52)	18·8 (21)	8·9 (10)	3·6 (4)	1·8 (2)	112
The overall project management associated with the implementation of Productive Ward is good	27·4 (31)	53·1* (60)	13·3 (15)	4·4 (5)	0·9 (1)	0·9 (1)	113
There is strong patient and carer involvement in the implementation of the Productive Ward in this organisation	10·5 (12)	27·2 (31)	36·8* (42)	18·4 (21)	4·4 (5)	2·6 (3)	114

*Median response when treating responses as ordinal scores.

that had the benefit of well-resourced development departments were particularly well placed to start PW work by drawing on and devising customised solutions. Interviewees felt this had enabled their hospitals to adopt and implement PW more rapidly. Three of the five sites had created specific posts for PW facilitators or leads to support implementation (Table 2). However, the volume of work now associated with the programme meant that all sites were working to expand towards PW teams with substantive posts and dedicated functions.

Sharing of tools and resources and external networking and collaboration between organisations were also reported as being important for hospitals when developing plans for implementation; most respondents agreed that their hospital 'is sharing ideas and knowledge with other hospitals imple-

menting the PW so that we all benefit from each others learning' (Table 3). In contrast, by far the greatest barrier to PW implementation was staffing pressures. Respondents to the survey cited the following as examples of barriers to implementing the programme locally: managing clinical workload, bed pressures, high staff turnover, high sickness rates, winter pressures, infection outbreak and shortage of bank staff.

Assimilation

The review that informed our diffusion of innovation framework identified 11 characteristics of an organisation likely to successfully assimilate a service innovation (Greenhalgh *et al.* 2005). We explored these 11 characteristics in

our survey (Table 4). The majority of respondents agreed that support from senior staff was good both in terms of encouraging and facilitating the sharing of knowledge and ideas and providing leadership and vision. Fewer respondents felt that middle management relationships and communication were good. A third of respondents agreed that, typically, staff in their organisation are rewarded not punished for taking risks; this could explain why staff in our case study sites clearly perceived PW as being different to other quality improvement approaches in terms of giving them a sense of 'permission' to try new ideas and ways of working.

In terms of assimilation, hospitals can maintain momentum by embedding the principles of PW into institutional routines (Greenhalgh 2008, May *et al.* 2007). In our case study sites, a range of strategies were used (Table 2). In particular, it was suggested that PW leadership training could be one way of facilitating organisational learning and thereby 'embedding and refining helpful routines' (Greenhalgh 2008). It was also

Table 4 Survey respondents' views of their organisation's characteristics in descending order of strength of agreement with statement (%)

	Strongly agree	Agree	Neither agree/ disagree	Disagree	Strongly disagree	Don't know	Response count
Senior staff in this organisation provides strong and competent leadership and vision	18·7 (20)	45·8* (49)	23·4 (25)	11·2 (12)	0·9 (1)	–	107
Senior staff in this organisation encourage and facilitate the sharing of knowledge and ideas	15·7 (17)	55·6* (60)	25·0 (27)	3·7 (4)	–	–	108
Staff in this organisation are good at identifying new ways of improving services	13·0 (14)	55·6* (60)	26·9 (29)	4·6 (5)	–	–	108
Goals and priorities are clearly articulated in this organisation	12·0 (13)	50·0* (54)	26·9 (29)	11·1 (12)	–	–	108
In this organisation there are good information and data systems to give timely feedback on the impact of initiatives like the Productive Ward	10·3 (11)	48·6* (52)	27·1 (29)	13·1 (14)	0·9 (1)	–	107
This organisation allows departments and units to make their own decisions	6·5 (7)	53·7* (58)	20·4 (22)	14·8 (16)	1·9 (2)	2·8 (3)	108
Lots of staff in this organisation are familiar with working to improve services and can apply these skills to new projects like the Productive Ward	6·5 (7)	45·4* (49)	29·6 (32)	18·5 (20)	–	–	108
This organisation makes adequate resources (money, staff time) available to help us implement new initiatives like the Productive Ward	6·5 (7)	40·7 (44)	26·9* (29)	19·4 (21)	6·5 (7)	–	108
In this organisation staff are rewarded not punished for taking risks	5·7 (6)	28·3 (30)	47·2* (50)	12·3 (13)	1·9 (2)	4·7 (5)	106
This organisation has a clear division of labour between departments and units, with each concentrating on its own strengths and not meddling too much in the work of others	4·6 (5)	37·0 (40)	34·3* (37)	16·7 (18)	1·9 (2)	5·6 (6)	108
Middle management relationships and communication are good in this organisation	4·6 (5)	50·9* (55)	31·5 (34)	12·0 (13)	0·9 (1)	–	108

*Median response when treating responses as ordinal scores.

suggested that human resources and training and education departments could support ward leaders in being able to assimilate the principles of the programme through, for example, making PW experience a desirable criteria in job role specifications or creating audit tools that align with PW work.

Whilst there were many reported benefits of implementing PW, survey respondents perceived the programme to be having a relatively 'high' impact on teamworking (86·3%) and staff experience (82·2%) – that is to say on behavioural and experiential outcomes – compared to anticipated impacts on safety (75·2%) or clinical effectiveness (62·4%). This is a broader range of outcomes than those defined by the aims of the programme and a number of survey respondents and interviewees in the case studies identified and described the PW programme as effectively providing a practical leadership programme that had potential to meet the acknowledged deficits in ward-level clinical leadership.

Finally, interviewees and survey respondents reported limitations in being able to demonstrate measurable impact; just over half agreed that there were 'good information and data systems to give timely feedback on the impact of the initiative like the PW'. There was concern that existing PW measures are not adequately robust or consistently applied:

Frankly we were a bit disturbed by the relative paucity of the measurements and the methods used in terms of capturing releasing time to care. I'm sure, whilst they're as good as they can be recorded across the different hospitals doing this, they use significantly different methods. So in terms of how one measures it, I think part of it is getting a methodology that is easy to use, but is reasonably valid and making sure that it's consistently used. (Executive/Board member)

Our own detailed assessment of locally available data at the five case study sites shows that often only routine clinical or administrative measures were available but commonly these were not deployed in support of implementation of the PW programme.

Discussion

Issues influencing the decision to adopt an innovation such as the PW programme are subtle and complex. 'Adoption' comprises different phases, such as first finding out about an innovation, deciding to invest time or resources in it and then deciding to begin a planned set of activities to implement the innovation. However, following implementation, little is known about how innovations are assimilated into routine practice in the contemporary NHS – and the impacts such innovations have on staff once they have been adopted and implemented – although theories are beginning to be developed and tested empirically (May *et al.* 2007). Nor do we know a great deal about just how staff respond to the (often mandated) implementation of innovations and how these responses accentuate or limit the benefits of the innovations in question (Robert *et al.* 2009).

By studying the PW programme, it has been possible to identify important interactions that have contributed to the rapid diffusion of the PW programme in NHS hospitals. In this case study, four key interactions were central to the rapid adoption, implementation and assimilation of the PW programme. Each of these is discussed in detail in the following sections.

The innovation (the PW programme) itself, system antecedents and adopters

There is extensive evidence to show that people considering adopting an innovation are influenced by their preconceptions about it (Greenhalgh *et al.* 2005). In this case study, the framing of the message seems to have been hugely successful in appealing to different audiences in the NHS. While the 'PW' title speaks to the values and priorities of senior executives charged with delivering services within budget, the subtitle 'Releasing Time to Care' appeals directly to the values and concerns of professionals. Implicit in the phrase 'Releasing time to care' is the promise to reinvest the time and resources that is currently spent on non-productive activities. More than simply appealing to different audiences though, the dual title and the programme itself appear to act as a bridge between the two communities 'board' and 'ward'; the PW provides a catalyst for board members and executives to communicate more directly with ward based staff.

The linkage between a formal change agency and a potential adopting hospital

The nature and quality of the relationship between an external change agency – like the NHSI – and an adopting NHS hospital will influence the likelihood of adoption and the success of implementation. In the case of the PW, the developers of the programme were linked with potential users in hospitals at the early development stage and expert opinion leaders – mainly academics and quality improvement experts – conveyed the principles behind the programme to a range of local champions who then worked to reframe these into a set of shared values and language. The NHSI – as the external change agency – benefited from a national organisational profile and pre-existing links with SHAs and NHS hospitals which had been built up over the previous 10 years.

The 'spread' of the programme has also been encouraged by using professional networks and organisational champions. As the PW has become a centrally financed initiative the main vehicle for dissemination of the approach is now through more formal vertical channels (e.g. SHA leadership, hospital executive/board sign-up), although the ongoing promotional activities of the NHSI have remained key channels for sharing learning.

System antecedents and system readiness

Different hospitals provide widely differing contexts for the successful implementation and assimilation of service innovations. Several features of hospitals, both structural and cultural, have been shown to influence the likelihood that an innovation like the PW programme will be adopted, implemented and successfully assimilated into routine practice (Greenhalgh *et al.* 2005). Organisational readinesses for implementation of the programme was heightened by a combination of factors, including strong support from directorate and executive staff, having a dedicated PW team or lead in place, as well as funding for implementation. Implementation was more likely to be successful if a hospital had the capacity to make use of PW information, undertake networking activities, communicate a clear common vision of quality improvement and promote the programme as a way of achieving this vision.

For some hospitals, there appeared to be a number of stumbling blocks to local implementation. For example, although SHA advocacy and funding for PW activities were important drivers for adoption they may not necessarily lead to successful implementation in pressurised hospitals facing staffing pressures, multiple organisational targets, rising patient expectations and quality standards. Some hospitals were better at actively seeking support networks than others and had existing informal support networks through which to share their experiences of what works and what does not.

Wider NHS/societal context and system readiness

The decision by a hospital to implement an innovation like the PW programme and whether it is successfully assimilated into routine practice is likely to be influenced by ideas and information external to the organisation. In seeking to place the 'story' of the PW in a broader theoretical framework we would argue that much of what we have described earlier can be explained from the perspectives of institutional and neo-institutional theory (Greenwood & Hinings 1996, Powell & DiMaggio 1991). Such theories consider ways organisational structures (and the rules, norms and routines in organisa-

tions) become established as the accepted and authoritative guidelines for the way things should be carried out. Such institutional perspectives generally emphasise the role of social factors rather than economic or efficiency factors in driving organisational action, including external conformity pressures from regulatory bodies or parent organisations, social pressures from other similar organisations, as well as collective, social construction processes (Westphal *et al.* 1997). For instance, in the case of the PW, national resourcing and regional support have undoubtedly boosted the rapid and widespread adoption and implementation of the programme. In addition, early adopters of the programme were seen as 'leading the way' or as having a commitment to championing quality improvement.

Study limitations

There are three main limitations to the findings from this case study. First, it is possible for there to be several very different perspectives as to when an 'organisation' decides to adopt an innovation. In the specific case of PW, the decision to adopt could be taken as the point at which a PW package was first downloaded from the NHSI website. However, this is a relatively weak indicator of 'adoption' as it is difficult to determine whether any action was taken as a consequence. A more robust measure is the date of purchase of a PW support package (standard or accelerated). However, a complicating factor is that not all hospitals that have adopted and implemented the programme purchased a package. Both measures give a clear indication of rapid progress even if the precise extent of adoption remains unclear.

Second, our study did not specifically include non-adopters of the PW programme or those that failed to implement it. Our findings cannot therefore shed any light on why and how people (and organisations) either do not adopt an innovation at all or reject an innovation after adopting it. This significant gap in our understanding mirrors the wider literature; for instance, in the more than 200 empirical research studies covered in an earlier review (Greenhalgh *et al.* 2005), only one explicitly and prospectively studied discontinuance of an innovation in service delivery and organisation (Riemer-Reiss 1999).

Third, the clear lack of comparable quantitative measures of the impact of the PW programme mean we are limited in what we can say – beyond our qualitative data and anecdotal evidence – about the relative success of the different local approaches to implementation and assimilation. Unfortunately, we found the metrics currently being deployed locally in support of the PW insufficiently robust. The increasing use of metric systems for nursing care and in particular outcomes,

provides an opportunity for measurement of wider impacts using data that is collected routinely (e.g. falls incidence, methicillin-resistant staphylococcus aureus rates, pressure sore incidence, as well as staff satisfaction surveys and staff sickness/absence) and, if standardised, more opportunity for local benchmarking (Griffiths *et al.* 2008).

Conclusion

Interactions between several factors have contributed to the rapid adoption of the PW programme in England: the innovation itself was adaptable and well framed for different groups of staff; the linkages between the external change agency and potential adopters were generally strong; the readiness for change was heightened by the priority accorded to local quality improvement agendas and the pre-existence of service improvement teams and expertise; and the wider NHS/societal context emphasised the need for efficiency and to meet national targets, to build leadership capacity and to demonstrate commitment to quality improvement.

Most research on the diffusion of innovations focuses on simple, product-based innovations, for which the unit of adoption is the individual and diffusion occurs by means of simple imitation (Greenhalgh *et al.* 2005). It is important not to overgeneralise from this to complex, process-based innovations in service organisations where various changes in structures or working routines will be required. The particular organisational contexts where both 'formal' and 'informal' adoption decisions are made are likely to be crucial in determining the likely success of implementing and assimilating an innovation like the PW into routine practice.

As policymakers and healthcare managers seek to increase the speed and scale of the realisation of benefits from innovations like the PW they must recognise the crucial importance of seeing 'adoption' as a process rather than a discrete event. By doing so, they would see that the very rapid diffusion of the PW in England conceals wide variation in the drivers for adoption, local methods of implementation and the organisational contexts into which it must be assimilated.

Relevance to clinical practice

This paper summarises the perceived benefits of the PW programme from the perspectives of nursing leaders and nursing staff at ward level and highlights important lessons for nurse leaders who are designing (or adapting) and then implementing quality improvement programmes locally, particularly in terms of how to frame such initiatives for – and provide support to – ward-level staff.

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Contributions

Study design: EM, GR, JM, PG, LC; data collection and analysis: EM, JM, PG, GR and manuscript preparation: GR, EM, JM, PG, LC.

Conflict of interest

None.

References

Buchanan DA, Fitzgerald L & Ketley D (eds). (2007) *The Sustainability and Spread of Organizational Change: Modernizing Healthcare*. Routledge, London.

Denis JL, Hebert Y, Langley A, Lozeau D & Trottier LH (2002) Explaining diffusion patterns for complex healthcare innovations. *Health Care Management Review* 27, 60–73.

Department of Health (2008) Department of Health news release. '£50m to double time Nurses spend on patient care', 8th May 2008.

Golden-Biddell K & Locke K (1997) *Composing Qualitative Research*. Sage, Thousand Oaks, CA.

Greenhalgh T (2008) Role of routines in collaborative work in healthcare organisations. *British Medical Journal* 337, 1269–1271.

Greenhalgh T, Robert G, Bate SP, Macfarlane F & Kyriakidou O (2005) *Diffusion of Innovations in Health Service Organisations*. Blackwell, Oxford.

Greenwood R & Hinings CR (1996) Understanding radical organizational change: bringing together the old and the new institutionalism. *Academy of Management Review* 21, 1022–1054.

Griffiths P, Jones S, Maben J & Murrells T (2008) *State of the Art Metrics for Nursing: A Rapid Appraisal*. King's College London, London.

Langley A (1999) Strategies for theorizing from process data. *Academy of Management Review* 24, 691–710.

Lee TW (1999) *Using Qualitative Methods in Organizational Research*. Sage, Thousand Oaks, CA.

May C, Finch T, Mair F, Ballini L, Dowrick C & Eccles M (2007) Understanding

the implementation of complex interventions in healthcare: the normalisation process model. *BMC Health Services Research* **7**, 148.

Meyer AD & Goes JB (1988) Organisational assimilation of innovations: a multi-level contextual analysis. *Academy of Management Review* **31**, 897–923.

National Nursing Research Unit & the NHS Institute for Innovation and Improvement (2010) *The Productive Ward: Releasing Time to Care. Learning & Impact Review*. NHS Institute for Innovation and Improvement, Warwick.

Powell WW & DiMaggio PJ (1991) *The New Institutionalism in Organizational Analysis*. University of Chicago Press, Chicago, IL.

Riemer-Reiss ML (1999) Applying Rogers' diffusion of innovations theory to assistive technology discontinuance. *Journal of Applied Rehabilitation Counseling* **30**, 16–21.

Robert G, Greenhalgh T, MacFarlane F & Peacock R (2009) *Organisational Factors Influencing Technology Adoption and Assimilation in the NHS: A Systematic Review. Report for the National Institute for Health Research*

Service Delivery and Organisation programme. HMSO, London.

Westphal JD, Gulati R & Shortell SM (1997) Customization or conformity? An institutional and network perspective on the content and consequences of TQM adoption. *Administrative Science Quarterly* **42**, 366–394.

Zhu K, Kraemer KL & Xu S (2006) The process of innovation assimilation by firms in different countries: a technology diffusion perspective on E-business. *Management Science* **52**, 1557–1576.

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