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Paired Learning

A peer-learning leadership development initiative
for managers and clinicians in the NHS

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The design, planning, delivery and evaluation of this project has been an extremely rewarding process for all of us involved, and we are very grateful to our colleagues at Imperial College Healthcare NHS Trust who have supported us throughout. We have also received support and encouragement from colleagues within the NHS Institute for Innovation and Improvement and from within the leadership development team at NHS London.

We have had interest in Paired Learning from across the UK and smaller pilots were also run at the North Middlesex University Hospital NHS Trust and King's College Hospital NHS Foundation Trust, based on the same principles but using slightly different, locally adapted, learning activities.

Finally, and most importantly, we would like to thank all of the participants from this pilot who put such energy and commitment into the programme, and who contributed so fully to the evaluation. Many have moved on into other training posts or different roles within other Trusts and have expressed a desire to develop similar schemes within their organisations. We hope that this report helps them to do just that.

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Executive Summary

With the current emphasis on clinical leadership in the NHS, and the emergence of evidence for the links between medical engagement and improved organisational performance, there is increasing recognition that doctors and managers need to enter a new phase of collaboration. There is very little published that explores how this collaboration can best be encouraged.

This report describes the 'Paired Learning' leadership development programme, which was established at Imperial College Healthcare NHS Trust in 2010. In this initiative, Specialist Registrar doctors and Band 7-8 managers were paired up in order to learn from each others' expertise and to gain a different perspective into each other's roles. The aim was to use a peer-learning approach to support personal development as well as encouraging collaborative work on service and quality improvement activities for the benefit of patients.

The programme was comprehensively evaluated through an inductive approach, rooted in grounded theory. Quantitative self assessment questionnaires were used to measure before and after changes in preparedness for leadership. In addition, a thematic analysis was carried out on data obtained from semi-structured interviews; this was used to validate and add to the quantitative findings.

The study found the Paired Learning programme to significantly increase preparedness for leadership roles for both Specialist Registrar doctors and managers across a wide range of domains. The qualitative analysis demonstrated that the co-development of managers and doctors had a powerful impact on the personal learning, attitudes and behaviour of participants. In addition there were a number of demonstrable wider organisational benefits, resulting in improvements in patient care through the collaborative work done within the programme.

We believe that this low-cost, work-based peer-learning initiative could successfully be established, with local variations, within many different healthcare organisations across the UK and perhaps beyond.

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Section 1 - Background

This section uses a wide range of sources to explore the background to the relationship between clinicians and healthcare managers within the NHS. Focusing on historical aspects, training pathways and cultural differences it brings together the evidence highlighting the value in clinicians and managers working closely together to improve organisational performance and patient outcomes.

Manager – Doctor Relationships within the NHS

It is widely recognised that a culture of tribalism is embedded in many NHS organisations and that doctors and managers in particular operate in very different ways. It has been noted that clinicians who take on management responsibilities face the challenge of working across two different cultures (Ham and Dickenson, 2008). The nature of working relationships between doctors and managers have been documented throughout the history of the NHS and a review of literature reveals evidence for a continued and deep tension between these two groups (Davies & Harrison, 2003). The relationship between doctors and managers in the modern day NHS has been described as “destructive antagonism” (Degeling et al., 2003) and one of “mutual suspicion with only occasional signs of shared purpose and mutual respect,” (Edwards et al., 2003). Bruce and Hill (1995) found over half of medical consultants surveyed to be concerned about the relationship between doctors and managers. Pendleton and King (2002) relate poor motivation amongst doctors to the conflict between the ethos of medicine and doctors’ perception of

an incompatible management agenda. The two groups have been found to demonstrate markedly different perspectives on a range of organisational issues such as “recognising connections between clinical decisions and resources,” and “the value of multi-disciplinary teams.” (Degeling et al., 2003). A study examining doctor-manager relationships in United Lincolnshire Hospitals NHS Trust (Reasbeck, 2008) found evidence for communication barriers and a lack of confidence in the other group, with the majority of doctors stating that the level of conflict was undesirable.

Such views are arguably extreme and perhaps represent only one side of the story. There is undoubtedly variation in doctors’ and managers’ individual experience of each other and indeed, constructive relationships exist in areas of the NHS where doctors have been “drawn into cooperative networks with managers,” (Harrison & Smith, 2003; Kirkpatrick et al., 2008). A national study on the relationship between NHS Medical Directors and Chief Executives showed both groups to have positive views on their relationship overall and shared confidence that doctor-manager relationships were continually improving (Davies & Harrison, 2003). In a national study of doctor-manager relationships in the NHS, using semi-structured interviews to draw out key themes, Kirkpatrick et al. (2008) found that open communication and a collaborative style of managerial and clinical leadership were key to strong relationships between the two groups.

Overall, the literature depicts an ambivalent picture where poor doctor-manager relationships are based on a lack of trust and professional consensus, with relatively sparse evidence of the conditions underpinning constructive relationships (Coombes, 2005).

Understanding why manager – doctor relationships have often been poor

In a sector where individuals are generally working for the same common aim of improving healthcare services and patient outcomes, it is surprising that there are often poor relationships between doctors and managers. The historical context is important. Against a background of resilient clinical autonomy, the multiple reforms to the NHS and shifts in power and authority towards management, have led to mistrust and conflict between management and the medical profession (Harrison and Smith, 2003).

There is also evidence for cultural conflict between doctors and managers that is rooted in the different professional focus and training pathway for each group (Beecham, 1995). The role of management has been described as “proactive, systems-oriented and collective” (Scheck McAlearney et al., 2005). This contrasts with the more autonomous medical culture which tends to centre on the individual patient and involve mainly reactive problem solving.

There are also differences in the criteria for career progression which for doctors tends to be based on acquisition of clinical expertise. Doctors have historically achieved leadership positions through developing excellence in clinical care, research or teaching, with little experience or training in management and leadership. (Gatrell and White, 1996; Forbes et al., 2004). In contrast, managers tend to acquire leadership responsibility through developing work-based management competencies in a practical way. Managers are generally rewarded on their ability to build teams and manage priorities more so than by gaining expertise in a specialised area. A further cultural difference is linked to differences in medical and management language and jargon which can lead to communication difficulties and tribalism (Atun, 2003). Finally, the way in which information and data is considered credible varies significantly, with doctors holding a preference for quantitative data to support an 'evidence base' and managers often using more qualitative and anecdotal evidence (Kirkpatrick et al., 2008).

In summary, the literature indicates that doctors and managers may have different priorities and different perspectives on issues in healthcare by virtue of their different roles. Conflict between doctors and managers may in part be a consequence of working within differentiated cultures in which there are different expectations of the "correct way to perceive, think and feel," (Schein, 2010). Developing initiatives that lead to a better understanding of these different perspectives and stronger engagement between clinicians and managers is crucial to ensuring there is a strong joint focus on improving care for patients.

The evidence for medical engagement

Medical engagement can be described as ‘the active and positive contribution of doctors within their normal working roles to maintaining and enhancing the performance of the organisation, which itself recognises this commitment in supporting and encouraging high quality care’ (Spurgeon, Barwell and Mazelan, 2008).

Driven by evidence that medical engagement is linked to improved organisational outcomes, it is increasingly acknowledged that there is a need for greater collaborative working between doctors and managers. Data from a sample of 33 NHS Trusts in England revealed an association between medical engagement and organisational performance with higher performing NHS Trusts reporting that on average 44% of their doctors were engaged compared to only 17% in poorly performing Trusts (Hamilton et al., 2008). In their book *Medical Leadership: From the Dark Side to Centre Stage*, Spurgeon and colleagues describe in detail the development of a Medical Engagement Scale. This work provides compelling evidence of a strong association between levels of medical engagement and externally assessed performance parameters in healthcare providers (Spurgeon et al., 2011).

There is also strong international experience exploring the benefits of engaging doctors in the leadership of organisations. In the USA, through the implementation of a medical leadership development approach, Kaiser Permanente, a large healthcare provider in Colorado, realised significant improvements in the quality of healthcare; increased patient

satisfaction, reduced staff turnover and an \$87 million rise in net income over five years. Similarly the Veteran's Affairs administration attributed significant reductions in mortality rates for men over age 65; increases in patient satisfaction rates and an increase in patient numbers by 50% to a clinically led improvement strategy in which medical leadership was integral (Mountford & Webb, 2008).

Taking a different angle, there is also strong evidence that a *lack* of clinician-management engagement is associated with poor organisational performance and presents a barrier to change and improvement (Ham & Dickenson, 2007). A comparative analysis of eight inquiries into major quality and patient safety failures within the acute healthcare sector across six countries found common themes of poor communication, low levels of information sharing across professional groups and a lack of effective clinical leadership (Hindle et al., 2005). Similarly, poor working relationships between clinicians and management were cited as a major cause of concern at the Bristol Royal Infirmary Inquiry. It was reported that, "to protect patients, as they saw it, clinicians fought a rearguard action against what was termed 'management.' Suspicion became the order of the day, particularly among doctors and nurses...suspicion of government, suspicion of trust managers, suspicion generally borne of years of genuine frustration that the NHS was failing to provide them with the tools they need." (p. 265, Final Report).

Drawing on these examples of failure and malpractice in healthcare delivery, alongside the evidence for the link between medical / clinical engagement and improved organisational performance, it is clear that developing effective relationships between clinicians and

managers is an important factor in delivering high quality care. At a time when the NHS is facing unprecedented challenges to increase quality and reduce costs, medical engagement (and indeed clinical engagement – i.e. not just restricted to doctors) has a crucial role to play in delivering sustained improvements within the NHS.

One risk of this argument is the conclusion that the only solution to improving organisational performance rests in the unrealised leadership potential of doctors and other clinicians, and their willingness to engage and interact with managerial priorities. Importantly, there is also emerging evidence of the impact of “managerial engagement” with clinicians.

The case for management engagement

Managers in the NHS play a crucial role in enabling clinicians to lead. In a study exploring the conditions commonly required to nurture doctor-manager relationships, Kirkpatrick et al. (2008) found the most productive relationships were where senior managers led on and promoted the development of clinically-led services and channelled investment into the training and communication required to deliver change. This enabled doctors to better self-manage rather than having managers strive to exercise control. Their findings point to a “bilateral process of engagement,” which emphasises the importance of management confidence in the leadership capabilities of doctors. Evidence suggests that such engagement is not commonplace across the NHS; Hamilton et al. (2008) found that across both high and low performing NHS Trusts, Chief Executives wanted to get to know their

doctors better although few had strategies in place to address this. Against a political background of the denigration of healthcare management and a drive to reduce the number of NHS managers, a recent commission into leadership and management in the NHS brought evidence for the under-management of healthcare services and warned that a continued reduction in healthcare managers would jeopardise the quality of patient care (The King's Fund, 2011). It appears that an emerging and encouraging view of healthcare managers is one where, working together with clinicians, they are seen as an enabler of clinical leadership.

A new phase for doctor-manager relationships

With this emergence of evidence for the relationship between clinician-management engagement and organisational performance, and the context of current healthcare policy developments that place an emphasis on clinical leadership, there is increasing recognition that doctors and managers need to enter a new phase of increased collaboration.

Ham and Dickenson (2008) point to international experiences in Denmark and Kaiser Permanente in the USA to demonstrate there is potential for the NHS to overcome the challenges of professional bureaucracies through developing a culture in which "autonomous professionals accept the need to work in partnership with their peers and with managers." Stanton and Lemer (2011) argue that "dual leadership of managers and clinicians constitutes a more effective leadership that engages more of the workforce, since individuals are more likely to accept leaders who share a common background and whom

they hold respect for". Similarly, The King's Fund (2011) argue that, "Management and leadership needs to be shared by managers and clinicians and equally valued by both."

Most recently, Turner-Warwick (2011) has reiterated this argument, proposing that a new model of leadership should be explored, *"where there is an equal partnership between the clinical profession and those with business and financial experience, where each can bring their own skills and learn enough of each others' profession, not only to gain insight, but to gain mutual trust and respect."*

The case for collaborative approaches to leadership development

It has been argued that leadership drives organisational culture (Schein, 2010). A number of authors have suggested that joint leadership development and educational interventions can improve relationships and the perceived cultural divide between doctors and managers. At present doctors and managers access leadership development opportunities largely in isolation from each other. However, if doctors and managers need to improve at working collaboratively, it follows that an important aspect of this is *learning* together.

Evidence from the USA demonstrates that organisational culture can be changed through joint leadership development initiatives (Crosson, 2003). In a review of the various interventions used to establish common ground and improve relationships between managers and doctors, Garelick and Fagin (2005) found support for three approaches:

- (1) Developing sustainable relationships through enabling understanding of each others' training and role and respect for the differences between doctors and managers
- (2) supporting reflective practice and the ability to analyse problems from different perspectives
- (3) building interdisciplinary educational strategies that allow doctors to understand academic management principles and allow managers to learn about medicine.

The view that non-clinical managers should receive training to better understand the principles and limitations of medicine appears to be a novel one and is proposed by Turner-Warwick (2011) who argues that efforts to improve clinical leadership need to be balanced in this way. Indeed, there is a strong case for interventions that enable managers to better understand clinical medicine alongside approaches that teach clinicians about management, so that managers and doctors both understand each others' worlds and can engage on an equal level. Following a detailed review of the relationships between doctors and managers from 1991-2010, Greener et al. (2011) echoed the drive for co-development, proposing that training, development and education of individuals working in healthcare should be tailored to support strong collaborative working relationships between these groups. Their findings indicate that both managers and clinicians need to be provided with an understanding of the NHS history and context and that training should encourage active collaboration across professional groups to allow participants to

understand the benefits of a different perspective. As the authors note the training should address real work issues “in an applied setting where critical engagement and collaborative working across clinical and managerial boundaries are put at a premium.”

One criticism of the argument for co-development is that managers and doctors have different roles which require different skills. Indeed, there is also a case for independent training and development for role-specific skills. However, it is distributed leadership that will enable the challenges of professional bureaucracies to be overcome and the benefits of networks to be realised (Anderson, 2009). As Alimo-Metcalfe and Alban-Metcalfe (2009) report, leadership development for distributed leadership “is about enabling individuals and groups to work together in meaningful ways.” A review of the leadership literature by McGuire et al. (2009) found evidence that collective leadership was more important than expert knowledge or skills in organisations. They recommended that organisations endeavour to find a balance between developing leaders through an individual-competency approach and “fostering the collective capabilities of teams, groups, networks and organisational leadership.” With the rapidly changing NHS structure, it makes sense that effective leaders going forwards will be those who can work across boundaries and bring about change through networks of interconnected individuals and organisations.

Evidence for the impact of co-development for managers and doctors

Despite all of the recommendations described above, there is currently very little evidence for leadership development programmes in the NHS that co-develop managers and doctors

with the explicit aim of supporting them to lead and improve services together. In the North West of England, NHS Graduate Management trainees were paired with emerging clinical leaders in a “buddy” programme aimed at encouraging partnership working between the two groups early on in their careers (Ahmed-Little and Dunning, 2010). The manager-doctor pairs explored each others’ perspectives through networking and completing activities that focused on work-based issues. However, there is a lack of evidence for the impact of this initiative or indeed any similar programmes within the NHS. Klaber et al. (2008) found that few clinical leadership development programmes had been formally explored for measurable outcomes and highlighted the importance of establishing a robust evaluation strategy during the planning phase of development initiatives. This is particularly true, at present, with heavy financial pressures requiring that resources are allocated in an increasingly considered way. It is important to understand and demonstrate the evidence for the impact of future leadership development initiatives if their associated costs are to be justified.

Conclusions from the literature review

To summarise the literature that has been reviewed in this section, there are a number of studies that document poor working relationships between managers and doctors in the NHS. There are likely to be many varied reasons for this, although the clinician-management divide has often been referred to as resulting from a difference in culture. There is strong evidence for the link between clinician-management engagement and improved organisational performance and the literature indicates that the roles of both

clinicians and managers are important here. There are, however, many factors that influence the performance of healthcare organisations so this link is unlikely to be a directly causal one.

There is an emerging argument for the value of programmes of learning jointly involving clinicians and managers. Studies in the USA have demonstrated that co-development through leadership or education programmes are effective in increasing collaboration, although there is a clear lack of evidence for the impact of similar initiatives in the NHS.

In summing up our understanding to date, it seems likely that experiential learning-based initiatives, focused on improving relationships between clinicians and managers as they learn and work together, could have a significant impact on both sets of participants. However, there is at present very little evidence for the impact of programmes that take this approach.

This research aims to bridge a gap in the literature by exploring the outcomes of 'Paired Learning' a co-development programme for doctors and managers within the NHS. This initiative aimed to support participants in developing a greater understanding of each others' role and increase their readiness to work together to improve healthcare services for patients.

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Section 2 – Paired Learning programme

This section explores the design, planning and implementation of the Paired Learning programme, which was piloted and fully evaluated at Imperial College Healthcare NHS Trust in 2010-11. Smaller pilots were also run at the North Middlesex University Hospital NHS Trust and King's College Hospital NHS Foundation Trust, based on the same principles but using slightly different, locally adapted, learning activities.

Background

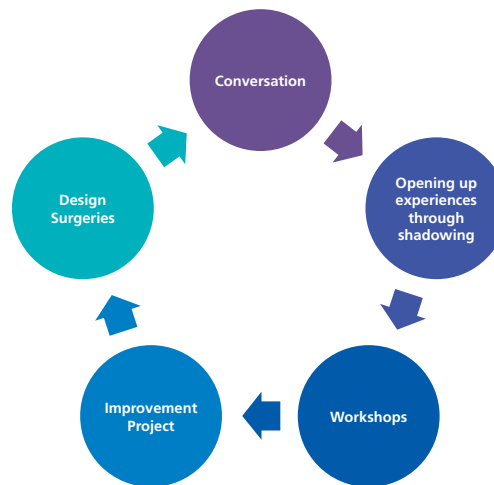
Imperial College Healthcare NHS Trust was created in 2007 and is one of the largest Trusts in England, made up of five hospitals in North West London. In partnership with Imperial College London, the Trust is part of one of the UK's first academic health science centres, focusing on advances in patient care, clinical teaching and scientific innovation. The Trust is organised into 7 Clinical Programme Groups (CPGs) each containing a range of specialties. Each CPG is led by a senior clinician who works closely with the CPG's Head of Operations, Head of Nursing and other senior clinicians.

The Paired Learning programme - introduction

The Paired Learning programme at Imperial College Healthcare NHS Trust was designed to pair up Band 7 and 8 healthcare managers and Specialist Registrar doctors as “buddies” in a way in which they could learn from each other’s expertise and experience and jointly improve services for patients.

The programme was developed by Dr Bob Klaber, a Consultant Paediatrician, who had observed, throughout a decade of post-graduate medical training within different NHS Trusts, that it was extremely unusual for junior doctors to work alongside managers in a pro-active and visible way. In fact, the norm was that they did not even say “hello” to each other. The frontline role of junior doctors dictates that they have a strong and immediate influence on the performance of the organisation yet they are often unaware of the wider organisational pressures - this seemed to be a huge missed opportunity. Together with John Lee, Head of Operations for Clinical and Investigative Sciences, and Rachel Abraham, Associate Director of Education, the Paired Learning pilot was designed and launched. The aim was to bring managers and junior doctors together within the workplace to facilitate improved communication, peer-learning and a stronger understanding of each others’ roles and the impact they each have on patient care.

The pilot, which ran over eight months, paired up 17 healthcare managers with Specialist Registrar doctors and comprised five key elements:



- **Conversations between pairs**
- **Work shadowing**
- **Workshops on building self-awareness, leadership and improvement skills**
- **Service and quality improvement projects**
- **“Design surgeries” providing change leadership expertise and support for projects.**

The design of the programme was multi-factorial and included classroom-based and experiential approaches. Pairs were encouraged to participate in all five elements of the

programme although none were compulsory. The following section outlines each of these elements in more detail:

Conversations

Pairs were encouraged to find opportunities to meet up and talk to each other. The aim was for each person to find out a little more about their partner, to understand their role within the organisation and to explore their perspectives on a wide range of healthcare-related issues. These discussions within the pairs were designed to stimulate learning but also to provide a grounding on which both shadowing and project work could flourish.

Shadowing

Pairs were asked to open up shadowing opportunities for each other with the aim of expanding perspectives through exposure to real work-based situations. This could include managers experiencing the clinical aspects of theatres, out-patients, wards or Emergency Departments, and may involve attending out-of hours shifts and having direct conversations with patients. Clinicians would have the opportunity to sit in on meetings and conversations about operational and strategic issues with their manager pair. This would include exposure to discussions around finance and performance which are likely to be entirely novel for most clinicians. Underpinning all of this shadowing is the possibility for pairs to come together to discuss expectations and potential learning from a planned shadowing experience, and then to come back together to reflect and debrief on it

afterwards. This opportunity to pre-brief and debrief is generated through the emerging relationship of the pairs and is likely to mean the shadowing is not just 'interesting' but is a deep learning experience.

Workshops

Alongside learning through conversation and shadowing, the design of the Paired Learning pilot was underpinned by a programme of facilitated workshops, with groups of managers and clinicians learning alongside each other. Acknowledging potential differences in the learning needs of the manager and clinician groups, the emphasis was placed on developing the skills and behaviours to lead change. It was hoped that this approach would help participants to drive real improvements across many different contexts.

The six facilitated workshops were based on:

- Developing self-awareness and a shared purpose
- Exploring the NHS context: quality, safety, finance, productivity and policy
- Developing skills and tools for change
- Designing services for quality and safety
- A 'powerlab' simulation: to explore working within systems
- Sharing learning through project presentations

Improvement work

The fourth component of learning within this programme comes from the collaboration and joint working on a project related to improving services for patients. Participants were encouraged to choose a project that was relevant to their role within the organisation. This might be work that the pair could tackle together, or alternatively work about which they were able to use each other as a 'sounding board' or a 'critical friend' to develop and improve. There was an acknowledgement that there was no resource available to support projects, but that participants would have good access to the programme leads should they need specific support. There was also reassurance offered that the project did not necessarily need to be completed within the time-frame of the programme. It was however important that key milestones were achieved, and that there was clarity about next steps.

Design surgeries

Project work was supported by the availability of regular drop-in 'design surgeries'. These were facilitated by one or two of the programme leads and gave participants the opportunity to informally discuss their project work, within the context of a small group of supportive colleagues. These surgeries also gave the programme leads an opportunity to catch up with participants to find out how they were getting on.

Participants & Pairings

Access to Participants

Participants were recruited to the Paired Learning programme through publicising the opportunity within Imperial College Healthcare NHS Trust. Advertising was targeted at an existing network of managers, most of whom were alumni of the NHS Graduate Management Training Scheme, although wider advertisements were also put out across the Trust. Advertising for doctors was targeted at Specialist Registrar level doctors within training programmes that rotate through the Trust.

Potential participants could apply to the programme by completing the pre-programme questionnaire (see Section 3). This was made available as an online questionnaire and a link to the web address was sent to all potential participants who had expressed an interest.

As this was a pilot programme there was no formal assessment and selection process. One potential candidate dropped out after discussions with the project lead, but all others who applied enrolled onto the programme. In the second year of running the programme (which commenced in November 2011) a different approach was taken, due to increased numbers of applicants. After being shortlisted, all candidates were interviewed by a pair of programme leads, before being accepted onto the programme. Although this constituted a significant time commitment, it meant that the programme leads had met all of the participants in person prior to the programme starting. This helped to achieve momentum,

establish personal commitment to the programme and also greatly augmented the matching process.

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Section 3 – Evaluation of Paired Learning

Both quantitative and qualitative data were collected as part of the strategy to evaluate the impact of the Paired Learning pilot.

The pre-intervention data was collected by questionnaire, as part of the application process, prior to the start of the Paired Learning pilot. The post-intervention data was obtained by questionnaire, alongside an individual semi-structured interview in the final month of the programme (see appendix 2). In line with the longitudinal design, this allowed a comparison of pre and post-programme findings. A description of the quantitative and qualitative data collection process is set out below.

Pre-Programme Questionnaire

All participants were asked to complete a pre-programme questionnaire requiring qualitative and quantitative responses. The questionnaire was developed by a medical consultant and educationalist together with a non-clinical senior manager to ensure that the questions and language were appropriate and clear for both managers and doctors. This was made available as an online questionnaire and a link to the web address was sent to all potential participants who had expressed an interest. The questionnaire comprised two sections.

Content

One section of the questionnaire, which essentially acted as the 'application form', asked participants for demographic information such as job title, grade, training pathway and directorate. Following this, the questionnaire requested qualitative responses to questions about the reasons why they had applied to the programme. The non-demographic questions asked of managers and doctors in the second section of the questionnaire are provided in Table 1.

Pre-programme application: questions to managers / doctors:
1. Do you currently have any involvement with management/medical colleagues within your organisation? If you do, please describe it below.
2. Why have you applied to be part of this pilot programme?
3. Please describe three areas of personal development and learning that you hope to gain through working alongside a manager /doctor in this paired learning initiative
4. Please describe three examples of where your experiences of working as a manager /doctor in the NHS may be able to support the learning and development of the manager you are paired with
5. Do you have any additional comments to support your application?

Table 1: Pre-programme questions for managers and doctors

Table 1: Pre-programme questions for managers and doctors

The other section required participants to self-assess their level of preparedness (along a 5 point scale) for 17 different competencies important for future leadership and management roles. A copy of the preparedness scale can be found in appendix 1.

Content validity of the competencies was gained through testing them against the skills, knowledge and behaviours described in the Medical Leadership Competency Framework (NHS Institute for Innovation and Improvement, 2010) and the Leadership Qualities Framework (NHS Institute for Innovation and Improvement, 2005), both of which have now been superseded by the new NHS Leadership Framework. Further statements were added to measure participants' preparedness of working with teams of managers and clinicians. Identical questions were provided to both doctors and managers to allow direct comparison between the two groups.

Scale

A five-point "preparedness scale" (Klaber, unpublished data, 2009) was used where numerically ordered ratings were selected as follows:

- 1 = I feel very unprepared for this
- 3 = I feel somewhat prepared for this
- 5 = I feel very well prepared for this

Midway ratings of 2 and 4 were undefined in order to capture the responses in-between the three defined levels of preparedness; it has to be acknowledged that this type of 5-point scale is ordinal-based and not interval-based.

Scale constructs were based on the Dreyfus model of skill acquisition (Dreyfus and Dreyfus, 1986) which provides a way of assessing the development of skills or competencies from novice to expert level across 5 discrete levels. It had previously been successfully piloted on 350 postgraduate medical trainees (Klaber, unpublished data, 2009) and therefore was deemed suitable for this study.

There were significant logistical advantages to using a combined approach to both the application and the pre-programme assessment. However, there was a risk that using the pre-programme questionnaire as an application form may have influenced the responses provided by potential participants. Bowling (2002) notes that people may want to answer “in a way they think the investigator wants to hear,” or “present themselves in the best possible way,” and this remains particularly true when there is a desirable incentive at stake such as participation in a development programme.

Post-Programme Questionnaire

All participants were also asked to complete a post-programme questionnaire at the end of the programme (around 8 months after the programme had been launched). This closely followed the format of the pre-programme questionnaire. The first section of the

questionnaire asked participants to once again self-assess their preparedness for certain situations, repeating the preparedness scale used in the pre-programme questionnaire.

The second section of the questionnaire asked participants to use free-text responses to answer questions about the impact of the programme on their personal learning and on the organisation. The questions managers and doctors were asked to answer are provided in Table 2.

Pre-programme application: questions to managers / doctors:
1. Please describe three areas of personal development and learning that you gained from working with a manager/doctor on the paired learning scheme.
2. Please describe three areas where you were able to support the learning and development of the manager/doctor you were paired with.
3. Please describe the current or projected outcomes (e.g. patient outcomes, financial implications) of any projects you worked on as a result of paired learning, providing quantifiable results wherever you are able to.
4. Please describe how paired learning has impacted on your future career plans.

Table 2: Post-programme questions for managers and doctors

All participants were asked to complete the post-programme questionnaire at the end of the programme. This was also web-based and sent by email to all participants by the project leads at the end of the programme. Non-respondents to the post-programme

questionnaire were sent a personal reminder email by the project lead at weekly intervals for a period of three weeks to encourage completion.

Post-Programme Interviews

All participants were asked to participate in an individual semi-structured interview in the final 2 months of the programme.

Interview Design

These semi-structured interviews allowed the project outcomes to be explored in an open and incremental way. That is, questions were continually developed or modified as the interviews progressed to allow the researcher to investigate some areas that had not emerged at the point of questionnaire design or to gain a deeper insight into issues emerging as particularly prominent or unusual.

Anderson (2009) notes a number of challenges to using a semi-structured interview design compared to a structured interview or questionnaire, including a greater time requirement for generating in-depth data; interviewing fewer participants due to the time commitment and challenges in recording and analysing larger volumes of data. These challenges fed into the interview design and were mitigated in a number of ways. The semi-structured interviews were carried out during the final two months of the eight month programme to enable sufficient time for in-depth interviews to be held between

the researcher and a large proportion of participants. This also enabled sufficient time to analyse the data in a robust way.

Interview Content

An interview framework was designed to allow potential individual learning and organisation performance outcomes to be evaluated in detail. The interview content was grounded in Bloom's Taxonomy of Learning Objectives (1956) which divides educational objectives into cognitive, affective and psychomotor objectives, described in this study as knowledge, attitudes and skills.

Specific interview questions were developed using Kirkpatrick's Learning Evaluation Model (Kirkpatrick, 1994; cited by Phillips, 1996) as a framework for evaluation at four levels: reaction, learning, behaviour and results. Table 3 provides a summary of the model and the way in which it has been used to define question types or areas for this study.

Level	What is measured	Description	Paired Learning Evaluation Question Type	Paired Learning Evaluation Tools
1	Reaction	How the participants responded to or felt about the learning experience	<ul style="list-style-type: none"> - Level of participation in elements of programme - Challenges in programme - Elements of programme you would change or do differently 	Post-programme questionnaire; interview
2	Learning	The measurement of the increase in knowledge during the programme	<ul style="list-style-type: none"> - Identify knowledge and skills learned and how gained 	Interview ; no formal pre and post knowledge test
3	Behaviour	The extent of applied learning in the workplace	<ul style="list-style-type: none"> - Identify attitudes and behaviours towards other professional group and towards organisational issues before and after participation - Identify how participation has changed these 	Pre-and post-programme questionnaire; interview
4	Results	The effect on the organisation or environment as a result of the learning experience	<ul style="list-style-type: none"> - Identify project outcomes - Identify impact on department, colleagues and organisation 	Post-programme questionnaire; interview

Table 3: Kirkpatrick's four levels of training evaluation, adapted from Phillips (1996).

A full copy of the semi-structured interview framework can be found in the appendix 2.

Interview process

Participants were invited to take part in an evaluation interview via an email from the researcher, although it was made clear that this was not compulsory.

The majority of interviews were conducted face-to-face to maximize the quality of data collected. However, due to logistics of working at different sites, 3 interviews were carried out over the phone. All interviewees were sent a copy of the interview question framework at the point of signing up for an interview and were encouraged to think about their answers prior to the interview and write down notes or prompts for the interview.

Each interview started with a briefing of the aims of the research and an overview of the areas of questioning to prepare interviewees. The interviewer also explained the confidentiality agreement, reading through the statement of informed consent and providing the interviewee with the opportunity to ask questions. Interviews were carried out in a quiet and private office environment to encourage open communication and thus improve the depth of data obtained. This also helped ensure the audio recordings were of a high quality. Interviews lasted between 25-60 minutes depending on the length of time participants spent answering the questions.

The interviewer asked respondents for permission to record the interviews. Where consent was given the audio recording device was placed on a table between the interviewer and interviewee to enable either to switch off the device if required. During the interview, the

researcher noted down key phrases, ideas and themes. Following the interview, the researcher added to these notes to produce a short summary of the interview which was fed into the qualitative data analysis. Where interviewees did not wish to be audio recorded, the interviewer took summary notes and key quotes during the interview and wrote a summary of the interview immediately afterwards to ensure written 'field notes' were as accurate as possible.

Sample Size

Due to the relatively low number of participants in the Paired Learning programme, and the need to obtain data from both managers and doctors, this study aimed to achieve a 90% response rate from managers and doctors in both the pre-and post-programme questionnaire and a 50% response rate for interview from both manager and doctor groups. Actual response rates for managers and doctors are listed in the table below.

	Response Rate		
Group	Pre-programme questionnaire	Post-programme questionnaire	Semi-structured interview
Managers	88%	65%	60%
SpR Doctors	100%	100%	65%

Table 4 – Evaluation response rates

Data Analysis Methodology

Quantitative Data Analysis

The pre-programme and post-programme preparedness scores for doctors and managers were compared using two slightly different non-parametric statistical tests. Differences in scoring for each of the groups over time (i.e. comparing the pre- and post-programme scores) were assessed using the Wilcoxon signed-rank test. These tests were performed on the overall mean preparedness scores for all doctors and all managers, and then repeated for the mean of each of the 17 individual questions within the preparedness scale.

Qualitative Data Analysis

The qualitative analysis used a 'framework' approach to grounded theory which involves "a systematic process of sifting, charting and sorting material according to key issues and themes" (Bryman and Burgess, 1994). In line with this approach, the qualitative data were analysed using these five stages:

1. *Familiarisation*: the researcher listened to comments during the data collection phase and by reading through interview transcripts, noting key ideas, concepts and issues.
2. *Identifying a thematic framework*: this involved reviewing these notes and building them into a framework within which the data could be sorted and ordered. The

framework used a priori themes from the research question as well as emerging themes from the data.

3. *Indexing*: this is the process by which the thematic framework was applied to the qualitative data by going through the transcripts and attributing quotes to different themes with 'codes' written in the margins.
4. *Charting*: this is the process of building up a picture of the whole dataset by charting the data by theme. Each part of the transcript was cut and placed with other parts of the transcript which had been attributed the same code or theme. NVivo 9 software was used as a tool to facilitate this process.
5. *Mapping and Interpretation*: The key characteristics of the data were pulled together in a way in which the data could be interpreted as a whole. The charted themes were mapped to the thematic framework, providing 'evidence' for the framework. This stage of the process allowed associations between attitudes, behaviours and motivations to emerge.

The validity of qualitative analyses can be increased by using more than one researcher, known as investigator triangulation (Denzin, 1978). Here, research stages 1 and 2 of the analysis were carried out independently. The outcomes were then compared with a second researcher and discussed until consensus was reached. The subsequent stages of analysis were carried out together with the second analyst.

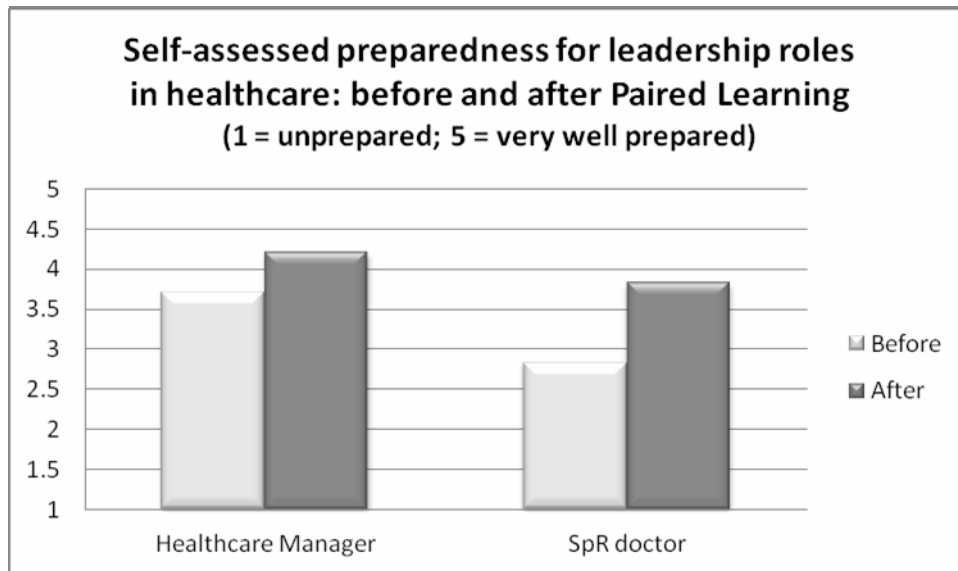
In addition to the added value of using a second researcher, the strategy of using a mixed-methods design (i.e. both qualitative and quantitative) enabled further triangulation of ideas and themes which served to further increase the validity of the findings.

Quantitative Findings

The quantitative findings showed significant improvements in both the manager and doctor groups when comparing their pre-programme and post-programme self-evaluation scores.

Overall (mean) preparedness levels in managers at pre-programme and post-programme measurements using the 1-5 preparedness scale were 3.72 and 4.22 respectively; a significant increase ($z = -3.621, p < 0.005$).

Overall (mean) preparedness levels in Specialist Registrar doctors at pre-programme and post-programme measurements using the 1-5 preparedness scale were 2.84 and 3.84 respectively; also a significant increase ($z = -3.623, p < 0.005$).



Looking at each of the 17 questionnaire areas in more detail, post-programme increases in mean preparedness scores were found for each item in the questionnaire for both doctors and managers, with *statistically significant* positive differences in 15/17 items for managers and all 17 items for SpR doctors. The difference in mean preparedness scores between the pre-and post-programme questionnaires for each preparedness item is shown for managers in Table 5 and for SpR doctors in Table 6.

Question	Mean pre-programme score	Mean post-programme score	Z	p-value
7. Leading a multi-professional team to improve services	3.53	4.18	-3.207	0.001
8. Understanding the data streams that can inform quality improvement	3.53	4.00	-3.051	0.002
9. Understanding how clinical evidence can inform improvements to patient care	2.93	3.82	-3.071	0.002
12. Project managing a quality improvement initiative	3.67	4.45	-3.127	0.002
14. Understanding the hierarchies of a clinical team of doctors	2.93	4.00	-3.035	0.002
4. Working within a team to set up a new clinical service	3.47	4.00	-3.000	0.003
15. Understanding the key bodies involved in the training of doctors	2.27	3.36	-3.017	0.003
17. Understanding how services are commissioned and funded	4.13	4.73	-2.887	0.004
2. Working alongside consultant colleagues	3.73	4.18	-2.714	0.007
13. Understanding how management decisions are made	4.33	4.73	-2.646	0.008
3. Working in a clinician-manager partnership	3.80	4.09	-2.530	0.011
1. Working alongside senior management colleagues	4.20	4.45	-2.449	0.014

Question	Mean pre-programme score	Mean post-programme score	Z	p-value
5. Supporting and mentoring junior colleagues	4.13	4.36	-2.449	0.014
11. Initiating projects to improve local services	3.73	4.00	-2.449	0.014
6. Communicating with all members of your department	4.20	4.36	-2.236	0.025
16. Understanding the hierarchies of a management team	4.67	4.82	-1.732	0.083
10. Developing a business case to support a service development plan	4.07	4.18	-1.663	0.102

Table 5: Comparison of pre-and post-programme preparedness scores for managers grouped by significance level; using the Wilcoxon signed-rank test for significance ($n_1 = 15$, $n_2 = 11$)

Question	Mean pre-programme score	Mean post-programme score	Z	p-value
1. Working alongside senior management colleagues	2.35	3.83	-3.810	<0.001
2. Working alongside consultant colleagues	3.61	4.22	-3.900	<0.001
3. Working in a clinician-manager partnership	2.52	4.00	-3.900	<0.001
4. Working within a team to set up a new clinical service	2.61	3.61	-4.001	<0.001
7. Leading a multi-professional team to improve services	2.87	3.83	-3.906	<0.001
8. Understanding the data streams that can inform quality improvement	2.26	3.28	-3.739	<0.001
10. Developing a business case to support a service development plan	1.83	3.87	-3.804	<0.001
11. Initiating projects to improve local services	2.35	3.72	-3.841	<0.001
12. Project managing a quality improvement initiative	1.87	3.87	-3.750	<0.001
13. Understanding how management decisions are made	2.09	3.39	-3.817	<0.001
14. Understanding the hierarchies of a clinical team of doctors	4.17	4.78	-3.500	<0.001
15. Understanding the key bodies involved in the training of doctors	3.74	4.67	-3.947	<0.001

3.16

Question	Mean pre-programme score	Mean post-programme score	Z	p-value
16. Understanding the hierarchies of a management team	2.00	3.50	-3.819	<0.001
17. Understanding how services are commissioned and funded	2.04	3.33	-3.819	<0.001
6. Communicating with all members of your department	4.00	4.39	-3.464	0.001
9. Understanding how clinical evidence can inform improvements to patient care	3.78	4.17	-3.464	0.001
5. Supporting and mentoring junior colleagues	4.13	4.22	-2.121	0.034

Table 6: Comparison of pre-and post-programme preparedness scores for SpR doctors, grouped by significance level, using the Wilcoxon signed-rank test for significance. ($n_1 = 23$, $n_2 = 18$)

Qualitative Findings

The qualitative analysis of the programme highlighted a number of important themes. These are presented in the tables that follow and are evidenced by key example quotations.

Reaction to the paired learning programme (1 of 4)		
Theme	SpR doctor	Healthcare Manager
The majority of participants described the matching process, in which participants were asked to seek out a potential partner at the launch event, as uncomfortable.	SpR 9: "I found the whole initial meeting and trying to find a partner really awful. It was just like being back at school and picking for teams."	Mgr 6: "The self-led matching process was uncomfortable. Everyone was joking afterwards saying it was a bit like speed dating or being asked to a school ball or something."
Participants had different reasons for pairing with a particular individual. Common motivations were to learn from practices in other areas of the organisation; to investigate a departmental issue with someone from within the same area; or to work with someone with similar aims for the programme.	SpR4: "We were both keen to do something within my specialty because he had an interest in that area too and had worked in a similar field before."	Mgr 1: "Some of the things that we're doing in orthopaedics felt quite easily translatable to ophthalmology...so we kind of chatted a bit more and I invited him to come to our three day value stream mapping." Manager 2: "It's been useful to get someone from outside my division because I don't have the broad experience of different NHS areas. I think that will help me in my change management responsibility, definitely."
Pairs who had a strong interpersonal connection tended to participate more fully in Paired Learning activities.	SpR 10: "It was brilliant actually because we got on really well from the start. So I felt really comfortable from the outset that I could ask inappropriate questions and be really honest about the fact that most managers I have met have been very arrogant and unapproachable."	Manager 2: "We got on on a social level as well so we could definitely chat, which I think is really important." Mgr 3: "I think some of the pairs have just melted away because they never really got off the ground."

Reaction to the paired learning programme (2 of 4)		
Theme	SpR doctor	Healthcare Manager
Likewise, pairs who had a weaker interpersonal connection tended to participate to a lesser extent.	SpR 5: "It has been a bit tricky...we are both based in the same hospital but we haven't made a continued effort to try to meet."	Mgr 6: "We got on well but I think we weren't necessarily going to meet up after work or anything like some of the other pairs. It was a bit more formal I suppose which means it's just another piece of work."
Leadership and role modelling of the collaboration from the Paired Learning programme leads was crucial to the programme.	SpR 7: "I've been inspired by some great leadership and role models through paired learning. I've learned skills from them and feel really motivated as a result."	Mgr 19: "It is very clear that the project leads have worked closely together and that was a very clear message from the start. It's a joint thing, a partnership. That sets the tone and gives us confidence that we can work in partnership successfully too."
Managers and SpR doctors perceived their joint conversations the most valuable part of the programme for learning, in particular the opportunity to understand a different perspective.	SpR 4: "I've learned most just though talking to my manager pair, about the management structure and the business side of things. Conversations helped put it all in context."	Mgr 14: "My view is that I learned best through having discussions with the doctors rather than through the taught content."
Completing a project was not perceived as the most important element of the programme by participants; however, it provided a focus for conversations and a reason to meet up.	SpR 2: "I really need to see that it was something that could stand out on my CV. I think if my project had defined and measurable outcomes then I could present it at a conference and put it on my CV and that would have provided an incentive. But we didn't really define our project clearly so it fell down my list of priority things to do."	Mgr 2: "In the end we didn't really need a project because we got on with each other and I knew that projects and ideas would just emerge from our discussions."

Reaction to the paired learning programme (3 of 4)		
Theme	SpR doctor	Healthcare Manager
<p>Consultant support could be an enabler or blocker of improvement projects.</p>	<p>SpR 5: "I had a chat with my consultant about our project idea...she thought it was a great idea and said she was happy for me to do it.</p> <p>"SpR 11: "Part of the challenge was that some of the higher consultants were not that keen for anything to really happen, they thought their idea was the only idea...I was the only doctor advocate which was awful."</p>	
<p>All participants interviewed felt that releasing time from work responsibilities was the main challenge to participating in Paired Learning. Nearly all pairs wanted to have spent more time working together.</p>	<p>SpR 9: "I didn't generally have much time to meet up. It would be really valuable to have dedicated time for this in the future."</p>	<p>Mgr 14: "Some of the workshops were quite poorly attended and it's really difficult with a busy job and for the doctors, their clinical rotas."</p> <p>Mgr 2: "Being able to do a project with tangible outcomes in the space of six months, even if you have time set aside for it – useful projects involve other people and structuring other people's time into that would still be very difficult."</p>

Reaction to the paired learning programme (4 of 4)		
Theme	SpR doctor	Healthcare Manager
Both doctors and managers felt that Paired Learning could improve collaboration and organisational outcomes through involving other professional groups, in particular, nursing staff, allied health professionals and General Practitioners.	<p>SpR 11: "Nurses are important as they are running services in some areas...GPs need to be involved because they're going to be the commissioners and we need to provide joined up care."</p> <p>SpR 10: "I would love to be able to sit down with some of the nurses and talk through where we are coming from because I think there is a massive barrier between them and us."</p>	<p>Mgr 3: "There is huge opportunity for the back office managers such as Finance managers to be involved and learn massively. Likewise, nurse managers would offer a new insight."</p> <p>Mgr 19: "I think the paired learning principle can be applied and should be applied to all staff groups -nursing, midwifery, therapies, admin staff. Getting people to work together is the bread and butter of an NHS organisation."</p>
Paired Learning was viewed as a mechanism to support the drive to develop clinical leadership.	SpR 9: "An environment where there is conflict and a constant struggle against others is a really difficult to work in. I've learned a lot about managers and management and this has helped me to lead."	Mgr 14: "Doctors will need to become more tuned to management ideas and paired learning gives the experience to those who want to manage at a senior level. In that sense, paired learning supports the national drive to clinical leadership."
Participants all felt there was a future for Paired Learning initiatives.	SpR 11: "There is a massive need for more things like paired learning and it definitely has a future."	Mgr 1: "Yes there is definitely a future for paired learning, it's about getting things done to improve the patient experiences, reducing errors and making patients feel positive about their experiences with Imperial."

Table 7: Key themes on participants' reaction to the Paired Learning programme

The knowledge and skills gained, and observed changes in behaviour and attitudes, are set out by theme in the section below. It is noted where findings relate to individuals or pairs who participated in the programme to a lesser extent.

Learning: Knowledge and Skills (1 of 3)		
Theme	SpR doctor	Healthcare Manager
<p>Pair conversations and shadowing resulted in a bilateral exchange of insight and knowledge about clinical and management roles.</p>	<p>SpR 12: "I've got a much greater understanding of how the management side of things works. Shadowing and just talking helped me understand the management structure, the financial side of the hospital and the different managers and roles they have."</p> <p>SpR 10: "I hadn't realised how much politics was involved actually. But I guess I've learned that is part of management and managing people. I definitely know a lot more about what managers do now."</p>	<p>Mgr 1: "We talked about the patient pathway and the current challenges. He gave me the clinical perspective, I explained the management processes and perspective...then he showed us round the unit and explained what patients liked and didn't like. It gave us some very valuable first hand feedback."</p> <p>Mgr 19: "I've never really understood the rotations, training and clinical rotas so on a practical level that was very good. I think what surprised me was their lack of knowledge of how a hospital runs and the management structures."</p>
<p>In particular, work shadowing enabled managers to learn about what actually happens in the clinical services and impact of clinical variation on the department.</p>	<p>SpR 9: "My relationship with managers in the department was like cold war because the clinic was always overbooked and they would push us to get patients through quickly. But requirements for some patients are very different for example, with a patient with mental health issues you might have to wait for them to calm down before you can do anything. It helped to have a manager witness this and it meant we could jointly explore solutions that were realistic."</p>	<p>Mgr 1: "I realised social issues come up quite a lot. The SpR is trying to do the rounds and you've got somebody who's more demanding than the next person. It makes it quite hard to have a standardised pathway and clinical process...I've realised it must be quite stressful for the registrars."</p> <p>Mgr 3: "Shadowing at her site gives me the opportunity to observe the behaviours without necessarily influencing them. When I walk about my areas, people change behaviour because I am there so I am not really seeing the issues."</p>

Learning: Knowledge and Skills (2 of 3)		
Theme	SpR doctor	Healthcare Manager
<p>Doctors gained insight and an improved understanding of the wider organisational context and business operations.</p>	<p>SpR 10: "At the workshop we learned about the savings challenge facing the organisation, none of the doctors had any idea of the extent of it...I didn't realise how complex the NHS was, it has been a complete eye opener."</p>	<p>Mgr 3: "It was fantastically interesting seeing how the SpRs understood things. It still sticks in my mind from the very first meeting when we were asked 'who knows what a CRP is?' Every single manager completely understood what it is whilst none of the SpRs knew what it stood for. They had no concept of cost reduction programmes whatsoever."</p> <p>Mgr 3: "At the start I think there was a significant lack of knowledge in the SpR cohort of management roles, structures, organisation, priorities and pressures."</p>
<p>Paired Learning provided an opportunity for SpRs to develop their understanding of the skills and competencies required in management.</p>	<p>SpR 10: "He was very good at influencing the senior consultants. He let the agenda reveal itself very slowly and almost very subtly so by the end of the meeting he'd got everything that he wanted from it. All were in agreement but you felt the people in the meeting hadn't realised that was what he actually had wanted to do."</p>	<p>Mgr 2: "Paired learning can help SpRs develop the softer skills that you need as a manager, like teamwork, listening, planning. The skills that are quite hard to put your finger on and everyone thinks they know how to do, but are actually long learned skills."</p>

Learning: Knowledge and Skills (3 of 3)		
Theme	SpR doctor	Healthcare Manager
<p>Forming pair relationships and a network of contacts through Paired Learning resulted in increased confidence and motivation to solve organisational problems.</p>	<p>SpR 5: "So it is knowing someone who knows someone who can speak to someone and get something done. If you are an SpR changing jobs every six months or year, you don't know who these people are and end up going 'I can't fix this problem, I don't know who I need to speak to.' Paired Learning has provided me with a confidence that we can get these things done."</p> <p>SpR 12: "It's helped with small things, like knowing who to copy into an email when you want to report an incident, so you can raise awareness of issues."</p> <p>SpR 10: "We had a long standing service issue and there were loads of emails going back and forth. I got asked to ring this guy and after a minute we realised we had already met through paired learning. It felt like because we knew each other we actually wanted to sort it out. It's been much more straightforward since then."</p>	<p>Mgr 1: "Every so often we had a chat and I offered some suggestions about how a project could go."</p> <p>Mgr 4: "We both see this as a long term networking relationship and I plan on calling on my SpR buddy for advice on an ongoing basis."</p> <p>Mgr 2: "Clinicians are in charge here and you have to be able to persuade clinicians of the benefits of a particular decision every day. So now I feel like I have a sounding board for help with clinical engagement that I do not have to politically manoeuvre. Because there are a lot off politics associated with clinician-manager relationships and we are constantly worrying about how to pitch things."</p>

Table 8: Key themes on the impact of the Paired Learning programme on participants' learning.

Learning: Behaviour and Attitudes (1 of 2)

Theme	SpR doctor	Healthcare Manager
<p>The opportunity to learn together and share perspective and experience resulted in doctors and managers developing more positive attitudes towards the other group. Paired Learning was perceived by both groups to break down barriers between clinicians and managers.</p>	<p>SpR 5: "It is good to meet people that you hear a lot of bad things about and it turns out they're actually just normal, good, hard-working bright people who want to get things done."</p> <p>SpR 10: "Before paired learning my default position was 'I don't like you.' Whereas now I think 'ok we probably have different ways of thinking but let's have a discussion about it.'"</p>	<p>Mgr 2: "I think doctors often do lack confidence in the quality of managers they work with. I think working with doctors in paired learning has helped break down those barriers."</p> <p>Mgr 3: "You need this to break down the barriers, clinicians are the ones caring about the patients and the managers are the ones caring about the money. I think when you understand each others' work you suddenly realise that actually both care about both."</p>
<p>Managers and doctors gained increased confidence to speak to their clinical and management colleagues at work.</p>	<p>SpR 10: "Because I think managers are sometimes intimidated by us and we are intimidated by them, it's easier if we just don't talk. Since paired learning I'm far more willing to go and introduce myself, hold out an olive branch and say 'if there is anything we can do to help you, let me know.'"</p>	<p>Mgr 19: "I think I was always slightly intimidated by doctors, but I've realised they are just like friends of mine who have gone on and trained as doctors. Since paired learning, I wouldn't be too intimidated to approach SpRs on the ward now and ask them something."</p>
<p>Through exposure to management meetings and decision making, doctors became more able and prepared to tackle issues, often perceived by both groups as 'bureaucracy.'</p>	<p>SpR 13: "Because of paired learning I'm more interested in asking how we can flexibly work with top down rules in a way that fits the clinicians and the managers without us being frustrated that we're being told what to do."</p>	<p>Mgr 17: "My SpR partner had written a clinical policy which he wanted to get ratified. I helped him with the process of negotiating a clinical policy, with thinking through the operational impact, and explaining who he needed to talk to so he wasn't just pushing it through alone."</p>

Learning: Behaviour and Attitudes (2 of 2)		
Theme	SpR doctor	Healthcare Manager
<p>Meeting managers through paired learning was a stimulus for SpR doctors to participate in service improvement meetings and initiatives with managers and their senior Consultant colleagues.</p> <p>Likewise, it provided a powerful tool for managers to gain meaningful clinical engagement and realise the benefits of this.</p>	<p>SpR 13: "My manager buddy invited me to the weekly Continuous Improvement meeting. I don't think I would have gone to that were it not for paired learning. I find it useful and the others find it useful to have a doctor there. We've been able to make decisions and now my Consultant comes along too."</p>	<p>Mgr 2: "You have to ask doctors, because every time I've asked a doctor about something I've always got an unexpected answer or they've come up with something I hadn't thought of. A doctor can't offload their knowledge to you so it has to be about relationships and communication."</p> <p>Mgr 3: "When my SpR buddy explained her experience of the situation, I realised it wasn't as bigger problem as I had thought. I realised there were some simple solutions and it's about getting people on board rather than actually changing the process."</p>
<p>Managers realised, often for the first time, the value of engaging with doctors below Consultant level. This increased their preparedness to involve junior doctors in their future work. Likewise many SpR doctors gained an understanding of why managers often fail to engage with them.</p>	<p>SpR 10: "My manager buddy made it very clear at the start that 'you're an SpR so you've got no power, so I've got no reason to talk to you.' In some ways this was really good because it made me realise why they don't engage with us - we're such small fish to them that they don't need to."</p>	<p>Mgr 2: "I was pleased to meet a junior doctor – it's absurd they are still called trainees when some have more experience than consultants – who was extremely engaged and listened well, was interested by management and didn't always look at things in the same way as consultants."</p> <p>Manager 6: "Getting to SpRs earlier and exposing them to management is incredibly important."</p>

Table 9: Key themes on the impact of the Paired Learning programme on participants' attitudes and behaviour.

Organisational Outcomes (1 of 3)		
Theme	SpR doctor	Healthcare Manager
Paired Learning was found to drive and mobilise quality improvement projects in the organisation.	SpR 3: "I was trying to get a bit more involved in the leadership of my ward before paired learning but there is no way I would have been able to complete this without the input of my manager pair."	Manager 2: "I definitely needed the impetus of the paired learning programme to do something. The project wouldn't have happened for either of us without paired learning"
Work shadowing provided the opportunity for manager-doctor pairs to use their joint expertise and different perspective to solve problems and improve services.	SpR 6: "He came along to our meeting to see what I do. There were lots of patients waiting for plaster casts. He told me there were plaster techs at the other site, got straight on the phone to them, got someone to come across to get the plasters done and the patients went home. Because we had that interface between the frontline and wider resources we were able to solve the problem."	Mgr 5: "I helped my buddy implement a patient transfer form that will ultimately improve patient safety. She had tried to implement it alone last year and it didn't work. I explained who she needed to approach, the process for including it in the relevant policy and how to get the communications out so she wasn't just pushing it through alone. They started using it a month ago."
Paired Learning was a driver of increased efficiency and operational performance of healthcare services.	SpR 13: "My boss and I now pre-assess elective patients and we advise when it is inappropriate to operate. Cancellations on the day have gone down and the length of stay compared to last year has reduced from 7.4 to 4.1 days. Some of the drivers were in place beforehand but paired learning has definitely contributed."	Mgr 3: "I've learned lots about how to engage effectively with clinicians through paired learning and the performance of our service has improved. This wasn't the sole catalyst but one of multiple things that improved performance. Problems definitely would have been bigger if the consultants weren't engaged."

Organisational Outcomes (2 of 3)		
Theme	SpR doctor	Healthcare Manager
Some outcomes of Paired Learning were difficult to quantify although it was hoped there would be long term benefits.	SpR 7: "We're trying to reduce unnecessary admissions. We're collecting data over the coming months and I don't think our numbers will be huge but if we save one breach, one hospital acquired infection, or one 80 year old from having to sit on the ward for no reason, then that to me is enough."	Mgr 2: "I hope the teaching session I gave to doctors as a result of paired learning will have planted seeds in their heads and enabled conversations to happen better in the future. I also hope our project will stimulate some real change and more efficient allocation of resources."
The Paired Learning network of interconnected doctors and managers across the organisation enabled knowledge sharing across boundaries and accelerated the rate of improvement.	SpR 10: "I felt because we knew each other we actually wanted to solve the problem. The patients go straight to a surgical ward on a Friday and stay overnight. This issue had been going round in circles for ages until we worked together."	

Organisational Outcomes (3 of 3)		
Theme	SpR doctor	Healthcare Manager
<p>Paired Learning was not perceived to have caused a change in the organisational culture. Yet it was perceived as a tool that had potential to drive a cultural change towards collaboration in the long run if it was continued and extended to other professional groups.</p>	<p>SpR 7: "There is great potential for paired learning to impact on the organisational culture. It will help us move towards a climate of improvement where patients are at the centre of everything and all staff value a different perspective."</p>	<p>Mgr 3: "This is 30-odd people out of 10,000 staff so its actual impact on the culture is zero but its potential impact is very good."</p> <p>Mgr 4: It has not changed the culture but it is influencing the culture towards a 'we should be working together because we have got common desires, benefits, interests, values and we both have useful skills' way of thinking. Paired learning influences relationships and power networks and therefore influences culture."</p>

Table 10: Key themes on the impact of the Paired Learning programme on the organisation.

Notes





Section 4 - Drawing out the Lessons

Introduction to the analysis of findings	4.0
How did the programme impact participants' preparedness for leadership roles?	4.0
How did the programme impact on participants' personal learning?	4.3
How did the programme impact on the organisation and patient care?	4.5
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Section 4 – Drawing out the Lessons

Introduction to the analysis of findings

This section presents an analysis of the qualitative and quantitative findings with the aim of:

- a) identifying impact of the Paired Learning programme on participants' preparedness for leadership roles.
- b) understanding the impact of Paired Learning on doctors' and managers' personal learning in terms of knowledge, skills, attitudes and behaviour.
- c) identifying the impact of the Paired Learning programme on the organisation and patient care

How did the Paired Learning programme impact participants' preparedness for leadership roles?

The quantitative findings clearly demonstrate that the Paired Learning programme provided powerful personal learning for both the doctors and managers who participated. It seems that bringing together doctors and managers to learn about each others' roles, and to gain knowledge and tools for improvement, is linked to increased self-confidence to lead change.

The overall quantitative results alone do not tell us whether the link between the Paired Learning programme and increased preparedness for leadership roles is a causal one, but

we know from the thematic analysis that both managers and doctors perceived Paired Learning to actively support the drive towards clinical leadership.

Both managers and clinicians felt more likely to pro-actively engage with each other to solve problems and improve services as a direct result of their experience of working together in the programme. They also suggested that this learning would be something they would take with them throughout their careers.

Greener (2011) argued that managers and doctors should participate in co-development in a way in which learning can be applied to the workplace in a collaborative way. The findings in this study support this argument, providing robust evidence that co-development can be an effective method of preparing doctors and managers for leadership responsibility.

The quantitative findings also strongly support the view that managers should be encouraged to better understand clinical medicine, so that they can engage with doctors on a more equal level to lead improvements that are closely aligned to the needs of patients (Garelick and Fagin, 2005; Turner-Warwick, 2011). In our evaluation the managers' understanding of the ways in which clinical evidence could inform improvements to patient care showed one of the most significant increases when comparing pre-programme and post-programme scores. In other examples it was the doctors who gained the most significant improvements.

With the reforms to healthcare set out in the Health and Social Care Bill (2011) and the drive for increased clinical leadership in the NHS, doctors are increasingly required to work with their management colleagues. The findings from this study indicate that Paired Learning can significantly increase SpR doctors' preparedness to work in a clinician-manager partnership. This quantitative finding is substantiated by key qualitative themes, with work-shadowing enabling participants to gain "a new perspective" (SpR 13), "jointly explore solutions that were realistic" (SpR 9) and "flexibly work with the top down rules in a way that fits the clinicians and the managers without us being frustrated that we're being told what to do" (SpR 13).

This last comment represents another common theme of increased motivation to "fight bureaucracy" through working together, which emerged from the qualitative data provided by both doctors and managers. There is a strong link to Mintzberg's (1979) concept of the 'professional bureaucracy' and the evidence from this study supports the idea that leaders in healthcare organisations are required to negotiate change rather than impose it from the top down.

How did the Paired Learning programme impact on participants' personal learning?

Knowledge and Skills

For managers, two of the most significant increases in preparedness for leadership roles related to understanding the key bodies involved in the training of doctors and the structure of medical hierarchies. Likewise, SpRs' understanding of management hierarchies showed a very highly significant increase. Supporting conversations between managers and doctors and bringing the two groups together to learn about each others' role is likely to be linked to improved understanding of each others' background and reporting structure. This finding is supported by the qualitative findings in which SpR doctors reported that work shadowing, joint workshops and, crucially, pair conversations resulted in improved understanding of the management structure, the financial side of the hospital and the different roles managers have.

At the start of the Paired Learning programme, most SpR doctors felt poorly prepared to understand and support the business operations of the clinical service such as developing a business case to support a service development plan, understanding how services are commissioned and funded, and understanding how management decisions are made. Managers, in contrast, were well or very well prepared in these domains; we might expect this given the different focus of management and medical roles. Following the programme, SpR doctors were significantly more prepared along all of these competencies and on average rated themselves as 'well prepared' for these tasks. This supports the

efficacy of our experiential peer-learning approach to leadership development; with SpR Paired Learning participants gaining business knowledge through talking to, shadowing and participating in learning activities with managers. At the same time managers improved their understanding of how evidence and data can support a case for change.

Attitudes and Behaviour

A strong theme from the qualitative findings was the impact of the Paired Learning programme on breaking down the barriers between doctors and managers. Many SpR doctors reported having very poor views about managers before the programme began. They had little or no prior experience of having worked in partnership, or having even communicated with the service managers within their departments. Similarly many of the managers reported that they had very rarely worked with doctors below consultant level and had not been pro-active in seeking their input.

Increased positive attitudes towards the other group as a result of Paired Learning emerged as an important finding of the programme evaluation. This finding substantiates Turner-Warwick's (2011) argument for bi-lateral engagement in which through working together, managers and doctors not only gain insight but importantly, "mutual trust and respect."

How did the Paired Learning programme impact on the organisation and patient care?

By demonstrating improvements to the quality of patient care and operational efficiency of services as a result of Paired Learning, this study supports the previously described link between clinician-management engagement and improved organisational performance. Table 10 illustrates a number of specific examples where clinicians and managers on the programme describe collaborative projects which led to improved patient outcomes. However, this study cannot demonstrate a definite causal link between Paired Learning and these improvements since it is possible that they may have happened anyway, or differently, without the programme.

Marion and Uhl-Bien's (2001) analysis of the implications of complexity theory for leadership in organisations emphasises the role of leadership in creating an environment that enables a productive future through allowing "followers" to innovate. This provides a helpful model for looking at the findings of this study, in which doctors and managers were given space to think creatively about generating change within the organisation and were provided with this opportunity through the strong leadership and facilitation of the project leads. In turn, the pairings, interactions, projects and changes created by the manager and doctor participants were self-organised and therefore were diverse and tailored to individual needs.

Limitations of the Findings

The study obtained quantitative data through using a self-assessment questionnaire before and after the programme. This means that individual scores are dependent on the participants' level of self-awareness, which can be variable. As such we cannot be confident that participants' self-assessed preparedness ratings are in line with their *actual* level of preparedness for certain leadership tasks. Instead the preparedness scale is more indicative of personal confidence levels for leadership. Future research in this area might consider some sort of objective, external analysis of participants' managers or colleagues, although the logistics of this are difficult.

A further limitation of the findings is that there was no baseline qualitative data collected and future research might consider using a non-participant comparison group in order to increase the validity of findings.

Finally, although the response rates to the web-based questionnaire and for participation in the semi-structured interview were impressively high (see Table 4) it is important to consider whether the non-respondents may have given different responses.

Conclusions

This study demonstrates that an experiential work-based peer-learning development programme can significantly increase self-assessed preparedness for leadership roles in both SpR doctors and Band 7 and 8 managers, in line with the key skills and competencies required to lead in the NHS.

With the increasing emergence of evidence for the link between clinician-management engagement and improved organisational performance, the co-development of managers and clinicians seems an intuitive direction for development initiatives. *This evaluation of the Paired Learning programme provides some of the first clear evidence for the impact of such an approach.*

The NHS is challenged with meeting rising expectations about the quality of care and there is an urgent need for organisations to mobilise the Quality, Innovation, Productivity and Prevention (QIPP) agenda.

Through bringing together doctors and managers to learn about each others' roles and gain tools for delivering change, this study has demonstrated that peer-learning initiatives can energise service and quality improvement work resulting in real improvements in the services provided to patients. This study concludes that this approach can support NHS organisations to deliver on the QIPP challenge.

Paired Learning provides a highly effective intervention to break down the barriers between doctors and managers and improve collaboration for the benefit of patient care. Whilst Paired Learning has been described as a development programme throughout this study, it appears that the initiative provides a powerful mechanism for improving communication between different groups of individuals.

This detailed evaluation has looked at the impact on two professional groups within one organisation; however it is clear there is potential for Paired Learning approaches to be used with other groups across healthcare and beyond. With system-wide change across the health and social care sector, the ability of individuals to work across boundaries is at a premium and will be crucial if care is to be provided in an integrated way in the future. As such the next step for research, innovation and practice in this area will be to examine the impact of peer-learning initiatives with multi-disciplinary groups and those working across complex organisational boundaries.

Paired Learning was the winner of the 'London Deanery Elisabeth Paice Award for Educational Excellence: Best Clinical Leadership Development' in December 2011

Notes



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Notes





Appendices

7.0

Appendix 1 - Paired Learning Self Assessed Preparedness Scale (same questions and scale used for Pre and Post questionnaires)

7.1

1. Reflecting on your experiences and training to date, please use the 1 to 5 scale to rate how prepared you feel for each of the areas of work below

	(1) I feel very unprepared for this	- (2) -	(3) I feel somewhat prepared for this	- (4) -	(5) I feel very well prepared for this
Working alongside senior management colleagues:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working alongside consultant colleagues:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working in a clinician-manager partnership:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working within a team to set up a new clinical service:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supporting and mentoring junior colleagues:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating with all members of your department:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leading a multi-professional team to improve services:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the data streams that can inform quality improvement:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding how clinical evidence can inform improvements to patient care:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing a business case to support a service development plan:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiating projects to improve local services:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project managing a quality improvement initiative:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding how management decisions are made:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the hierarchies of a clinical team of doctors:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the key bodies involved in the training of doctors:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the hierarchies of a management team:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding how services are commissioned and funded:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 2 - Semi Structured Interview Plan for Evaluation

Research aim

To evaluate Paired Learning as an approach to clinical and management development. Specifically, to understand:

- Individual participation in Paired Learning
- Knowledge and skills gained.
- Changes in behaviour and attitudes
- Outcomes for the patients/services/organisations

Opening the Interview

- Introductions
- Explanation of the purpose and scope of the research project.
- Discuss confidentiality issues and answer any questions, reference to informed consent sheet.
- Obtain verbal and signed consent from individuals to participate.

Interview Questions

1. Participation in Paired Learning

These first questions will ask about the *process* of Paired Learning for you, including how you paired up with a doctor/manager, the activities you took part in and the reasons behind your decisions.

- 1.1 How did you find your Paired Learning partner?
- 1.2 What activities did you take part in together?
- 1.3 How often did you meet or communicate with each other?
- 1.4 Which methods of communication did you use most often?
- 1.5 Which Paired Learning workshops did you attend?
- 1.6 Did you attend any design surgeries?
- 1.7 Did you work on a shared project?

2. Knowledge and Skills

- 2.1 Can you identify any knowledge and skills you gained from participation in the Paired Learning programme?
- 2.2 How were these gained?
- 2.3 Have you applied this in the workplace and if so, what was the outcome?
- 2.4 What knowledge and skills do you think your partner learned from working with you?

3. Attitudes and Behaviours

- 3.1 Can you describe your attitudes and behaviour towards doctors/managers before participation in Paired Learning?
- 3.2 What are your attitudes and behaviour towards doctors/managers now?

3.3 Can you describe any changes in your attitude towards service issues or wider organisational issues that have occurred as a result of Paired Learning?

3.4 Do you think the attitudes or behaviour of your partner has changed through participation?

4. Outcomes for the Organisation

4.1 Can you describe any shared projects you have worked on together and the outcomes/how these have been measured?

4.2 Has your participation in Paired Learning impacted on your colleagues or department? (positively or negatively).

4.3 How do you think Paired Learning impacts on the organisation?

4.4 How do you think Paired Learning impacts the leadership teams of the future?

5. Closing Questions

5.1 Which element of Paired Learning did you gain the most from and why?

5.2 What were the challenges to participating in Paired Learning? (both signing up and along the way).

5.3 How did you attempt to overcome any challenges?

5.4 What would have improved the Paired Learning experience for you?

5.5 Who do you think has learned more from Paired Learning, doctors or managers?

5.6 Do you think there is a future for Paired Learning in organisations and if so, in what other contexts do you think clinicians and managers may work together?

5.7 This study aims to evaluate the outcomes of the Paired Learning approach to clinical and managerial development, is there anything else you would like to contribute?

Thank you very much for participating in this interview.

Can we contact you in the future as part of a longitudinal study?

