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## **Distributed leadership, team working and service improvement in healthcare**

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### **Abstract**

#### **Purpose**

To analyse the introduction of distributed leadership and team working in a therapy department in a healthcare organisation, and to explore the factors that enabled the introduction to be successful.

#### **Design/methodology/approach**

Case study. Qualitative and quantitative information was gathered from one physiotherapy department over a period of 24 months

#### **Findings**

Distributed leadership and team working were central to a number of systems changes that were initiated by the department, and which led to improvements in patient waiting times for therapy. The paper identifies six factors that appear to have influenced the successful introduction of distributed learning and team working in this case.

#### **Research limitations/implications**

This is a single case study. It would be interesting to explore whether these factors are found in other cases where distributed leadership is introduced in healthcare organisations.

#### **Practical implications**

The paper provides an example of successful introduction of distributed leadership, which has had a positive impact on services to patients. Other therapy teams may consider how the approach may be adopted or adapted to their own circumstances.

#### **Originality/value**

Although distributed leadership is thought to be important in healthcare, particularly when organisational change is needed, there are very few studies of the practicalities of how it can be introduced.

**Keywords:** Health care; distributed leadership; teams; team working; service improvement; physiotherapy

#### **Article Classification:**

Case study

## Introduction

Throughout the developed world there are currently challenges to healthcare systems, of ageing populations, improved technology, and restricted funding (World Health Organization, 2009, 2012). In the UK, responses have included central government attempts to improve the quality and efficiency of the National Health Service (NHS) by major structural changes, such as through the Health and Social Care Act, 2012, and by setting performance standards and policies (e.g. Department of Health, 2000). Activities within healthcare organisations have included a focus on service improvement, to analyse and refine processes in order to reduce waste and to increase quality of care (e.g. Health Foundation, 2013). These in-organisation initiatives have included the introduction of the principles and techniques of Lean manufacturing (Jones and Mitchell, 2006) quality improvement (Aveling et al, 2012; Batalden and Davidoff, 2007) and process improvement (Millar, 2013; NHSIII, 2005).

Whilst these principles and techniques have been found to be of benefit in healthcare systems (Mazzocato et al, 2010), there is evidence that their application is often not straightforward, and that they are affected by the specific contexts in which they are introduced, including the social and professional contexts within healthcare (Adler et al, 2003; Batalden et al, 2011; Powell et al, 2009). In making changes in healthcare, there is frequently an emphasis on the importance of engaging the clinicians who are delivering the service in the process of making changes (e.g. Locock, 2003; Powell, 2009; Williams et al, 2009). In particular, collective working in teams, where knowledge, ideas and influence may be shared among team members, is often seen as important to improving and maintaining the quality of services (Ezziane et al, 2012; General Medical Council, 2012; West and Lyubovnikova 2013).

Some studies emphasise the role of leadership in winning the engagement of clinicians and other key stakeholders, and bringing about change (e.g. Morrow et al, 2014; Storey and Holti, 2013). A recent focus on distributed leadership in healthcare (Fitzgerald et al, 2013) indicates the importance of the exercise of leadership influences at different levels within an organisation or system. However, in a review of publications on distributed leadership, Currie and Lockett (2011) observed that, whilst distributed leadership 'is regarded as important in health and social care, particularly when change and improvement are required, beyond a limited number of studies... there is little consideration of how [it] is enacted on the ground' (Currie and Lockett, 2011, p. 287).

This paper presents a case study of an example of the introduction and enactment of distributed leadership and team working in the context of the organisation and delivery of musculoskeletal (MSK) physiotherapy services in a single department, over a period of two years. The experience of making this change is related to theories of distributed leadership and team working in the context of service improvement, and the case study offers practical suggestions for departments that may wish to follow a similar route.

## **Service improvement, team working and distributed leadership**

Service improvement in healthcare has been defined as a 'planned and targeted effort to improve patient-facing outcomes from a service' (Fitzgerald et al 2013, p. 228) and is most frequently associated with the analysis and redesign of processes within healthcare systems to improve the patient experience and to reduce waste (Health Foundation, 2013). In the UK, there has been an enthusiastic application of principles and techniques of Lean manufacturing (Mazzocato et al, 2010; Radnor et al, 2012), which originated with Toyota Manufacturing Company (Womack and Jones, 1996), with a number of reported examples of successful applications of Lean in healthcare achieving cost reductions, productivity improvements, enhanced quality of care, and improved patient satisfaction (Mazzocato et al, 2010). However, Lean is one among several quality improvement methodologies (Walshe, 2009), which use process analysis and process change to improve value for and reduce waste (Gijo et al, 2013; Joosten et al, 2009). In healthcare, Lean may be 'primarily implemented as a process improvement approach' (Drotz and Poksinska, 2014, p. 179), rather than as a whole-system change.

The techniques of these quality improvement approaches emphasise an analysis of systems and flows; however, the techniques are not adopted or employed in a neutral space, but in task contexts and social contexts that are influenced by the perceptions of staff and other stakeholders (Waring and Bishop, 2010). The extent to which a certain tool or technique will be accepted by healthcare professionals is often dependent on their judgement of its 'local validity and usefulness' (Sanders et al, 2014). It is thus advisable to seek the active engagement of clinicians and other healthcare staff in the evaluation, adaptation, adoption and implementation of any new tool or technique (Gollop et al, 2004; Powell et al, 2009). In addition, attempts to improve processes within healthcare often begin with a thorough analysis of how systems currently operate (NHSIII, 2005), and this benefits from the knowledge and experience of the range of staff who contribute to the workings of the system (Locock, 2003).

Teamwork in healthcare is not only seen to be important for these intermittent analyses of processes, however. The delivery of most health care requires contributions from a range of staff, often from different professions, and some attempts to improve services have focused on improving team work between members of staff. Ezziene et al (2012, p.429) argue that, 'in healthcare as a whole, teamwork, and our ability to both lead and follow within teams, is not really optional but the key to being able to deliver care that is patient centred and of high value,' and add that improving teamwork is one way to improve access, patient outcomes and patient satisfaction.

West and Lyubovnikova (2013) observe that the delivery of high quality healthcare is dependent on the effective collaboration and communication between various individuals and groups, which is a key component of team working. They warn that organisations need to take pains to develop 'authentic and effective teamwork... rather than relying on the dangerous illusion that simply labelling a group of healthcare professionals a "team" will produce the coordination, clear role allocation and powerful shared responsibility the notion of "teamwork" implies' (West and Lyubovnikova, 2013, p. 135). They identify characteristics that distinguish 'real teams' from 'pseudo teams', including interdependence, shared objectives, and reflexivity. West et al (2013) suggest that, in healthcare, single discipline (rather than multi-disciplinary) teams are more likely to be able to develop effective team processes, as are long-lasting (rather than short-lived) teams.

Distributed leadership is closely related to team working (Day et al, 2004). Leadership can be defined as 'the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives' (Yukl, 2010, p. 26). It may be exercised by one person in a situation, or by many. There has been a rapid growth in research interest in distributed leadership since 2000 (Bolden, 2011). Interest in the idea has been partly fuelled by increasing disillusionment with heroic models of individual leadership (Thorpe et al, 2011), and distributed leadership is seen as particularly suitable for healthcare contexts (Kings Fund, 2011).

As a concept, distributed leadership is not sharply defined. Gronn (2002) suggested that distributed leadership was typified by concertive action, which could be achieved by spontaneous collaboration, or by intuitive working relationships that develop over time, or by institutionalised practices. Formally established teams would fit with the last of these three categories. Currie and Lockett (2011) in reviewing literature on distributed leadership and related concepts, linked distributed leadership with 'shared leadership' (Pearce and Conger, 2003), which 'is a group phenomenon, with followers playing a role in influencing and creating leadership' (Currie and Lockett, 2011, p. 290).

In healthcare settings, Fitzgerald et al (2006) found types of distributed leadership to be linked with effective service improvement. Fitzgerald et al (2006) found collective leadership at senior levels evident in the work of small groups of twos and threes, but also found what they called 'dispersed leadership' - 'the active engagement of staff both at different levels in the organisation and from a range of professional and managerial backgrounds' (Fitzgerald et al 2006, p. 174). In a later publication, Fitzgerald et al (2013, p. 228) included in 'distributed change leadership' in healthcare settings those 'individuals who are willing to engage in change efforts'.

The relationship between those in positions of formal authority - those exercising what Gronn (2009) has called 'focused leadership' - and these practitioners of distributed or dispersed leadership is not likely to be entirely straightforward, but will entail elements of empowerment, enablement and support. Ovretveit (2009, p. xi) reflects on the role of those in authority who wish to bring about improvement in healthcare systems: 'There is some evidence that the actions that are most likely to be successful are to create a social process where those in the service work through the tasks needed by agreeing who does what in a collective way.' Currie and Lockett (2011) suggest that the role of those in authority in the organisation should be to encourage and support team members to emerge as leaders, and that this requires social influence and organising skills on the part of those with formal authority.

In summary, research indicates that in healthcare the analytical techniques of process improvement need the active engagement of clinicians if they are to be effective. Team working approaches are advocated for the delivery of good healthcare services, and for improvement activities. Distributed leadership is related to service improvement in healthcare, and to team working, but there are to date few studies of how distributed leadership can be enacted in healthcare.

### **The case study**

The physiotherapy department in Salford has been fully integrated across community and secondary care since 2004. It serves a population within Salford of about 233,900, and received 11,477 referrals in 2012 from GPs and medical consultants. The musculoskeletal physiotherapy (MSK)

physiotherapy service is hosted by Salford Royal NHS Foundation Trust (SRFT) and is delivered from four locations across city, by 26 staff (20.2 whole time equivalents).

The SRFT is very supportive of change to improve service quality. In March 2010 Sir David Dalton, Chief Executive of SRFT, launched the Salford Royal Way, focusing on four principal priorities that aim to safeguard the highest standards to patients:

- safely reducing costs by 15% over three years
- pursuing Quality Improvement to become the safest hospital in the NHS
- agreeing shared aims, shared goals and shared values
- improving care pathways by integrating with community health services

A dedicated quality improvement team helps front line staff to improve the safety of the care that SRFT provides to patients, and also to improve their experience of that care. There is an emphasis on continuing to learn and to embed a range of quality methods at all levels within the organisation, to create a culture of continuous quality improvement.

A principal driver for making the changes described in this case study was that waiting times were starting to increase to a level that the service manager thought was not acceptable. National survey results (CSP, 2013), indicated that it was not unusual for services to be faced with high levels of demand and pressures on staffing, and that these factors might lead to longer waiting times before patients could access a therapist. Delay in accessing a therapist may prolong individual discomfort, result in a deterioration of the person's condition, and lead to a longer period of time in treatment (CSP, 2009). Commissioners of services monitor waiting times as indicators of quality.

Information about the change was gathered in a number of ways, at a number of different points in time. Information on outcomes was gathered from performance monitoring systems within the department. Information on plans and progress was gathered contemporaneously from September 2012 to August 2014, to aid reflection and retrospective evaluation. All the members of the department who attended a team meeting in June 2013 (16 out of 265 staff) were invited to contribute their comments anonymously on the benefits and challenges of the new system as they perceived them at that time. In August 2014, all members of the department were invited to complete a survey on the perceived benefits and challenges of the system, two years after planning the changes began, and 16 months after the new system was launched. Sixteen responses were received.

### **Making the change**

The main change made by the service was to reorganise the physiotherapists into specialist teams, with considerable devolution of responsibility to each team. The specialist teams were Upper Limb, Spinal, and Lower Limb. New arrangements were made for assessing patients referred to the service, developing a management plan for each patient, and then referring them to the appropriate specialist team for further treatment.

The situation was discussed within the department from September 2012 onwards. The service manager wanted the members of the department to be involved in, and to be responsible for, developing ways of improving the service, and the discussions covered a range of possibilities. Previously, the physiotherapists in the department had worked well with each other, but without

the shared responsibility and greater interdependence that was introduced by the change. When the idea of moving to a team-based way of working was agreed, a great degree of preparation and planning was undertaken before the new teams were launched in April 2013. The months of preparation gave members of the department an opportunity to talk at length about the new approach, decide on how the teams would work together, and experiment with changes to systems as to the timing of appointments, and methods of arranging follow up appointments. The experiments then enabled the department, as a whole team, to decide which approaches seemed best. One key element in this case was the decision to develop standardised assessment and treatment protocols – a method used by quality improvement approaches in healthcare, as elsewhere (Drotz and Poksinska, 2014; Jones and Mitchell, 2006; Mazzocato et al, 2010) – but in making these changes, the service manager and team leaders did not consciously adopt a particular quality improvement methodology, but pragmatically sought means by which they could improve value to patients and reduce waste.

It was decided that the new teams would specialise in treatments to particular parts of the body - Upper Limb, Spinal, and Lower Limb – and would each include a mixture of physiotherapists from each level of seniority – Band 7, Band 6 and Band 5. Rotation between the teams was a planned part of the system, with Band 5s (the most junior level) rotating every four months, Band 6s every six months, and Band 7s every 18 months.

It was decided to retain a single waiting list for new patients. Assessment clinics would be staffed by members from a mixture of the specialist teams: all physiotherapists were expected to be able to assess any presenting MSK condition. Patients would then be referred to one of the three specialist teams.

An aim of the changes was to improve new patient assessment, and to improve the quality of treatment plans; therefore, more time was allocated to each new patient appointment than previously. The assessing physiotherapists used computer-generated notes, with prompts, which helped them to standardise the assessment, and they also used standardised assessment protocols. The thinking was that a better initial assessment would lead to a better treatment plan for that patient, which was likely to reduce unnecessary treatment, and therefore reduce the number of follow up appointments.

There was a large amount of preparatory work to do before the new teams could take up their roles. Part of the long lead up involved changing clinic templates and getting new clinic codes. New processes and patient pathways were designed and agreed. The service manager wrote standard operating procedures for the new structure covering a range of contingencies - for example, what the team should do if a member of staff was absent through sickness. In a range of circumstances, the procedures were designed to cover the new team-based response.

Monthly departmental meetings were largely handed over to the teams to organise, and to continue to develop the team-based way of working, whereas previously they had been led by the service manager. There was more discussion within the teams about individual patients, and senior therapists were expected to provide more structured support and supervision for more junior colleagues within their team than has previously been the case. Overall, there was generally more communication and mutual support within the teams. Senior physiotherapists discussed patients with more junior physiotherapists; team members would look at referrals together before they went

into a new patient clinic, and talk about the assessment beforehand. In the team meetings, individual therapists brought case studies for discussion. In other words, team members took on more leadership responsibilities.

The move to team working meant that there was a more obvious need for the physiotherapists within each team to agree on a standard set of treatments for particular conditions. This was not straightforward, as physiotherapists traditionally see themselves as autonomous practitioners. However, with a team approach and standardised treatments, patients could more easily be treated by different members of the team, and would in such cases be given a consistent message about their treatment and care. In addition to the standardised protocols originally written by the service manager, teams introduced more assessment protocols appropriate to their specialised areas, and within each team more standardised treatment flowcharts were developed and agreed, setting out the patient pathways for treating particular conditions. Protocols were discussed and agreed in team meetings, and then were used to inform the team's in-service training sessions.

For example, one team examined practice in relation to patients with tendonopathies. They reviewed the available research on patients with these conditions, and designed a research-based protocol. The research indicated that these patients commonly showed an improvement in their condition over a period of 12 weeks, so the new protocol indicated that treatment should be spread out over a suitable period of time in order to be more effective. The protocol also standardised the treatment, so that every physiotherapist uses the protocol as the basis of the treatment for all patients with these conditions. The physiotherapist may add other interventions, based on their assessment of the individual patient, but the protocol serves as a good guide, particularly for less experienced staff. As well as more effective treatment, this approach also resulted in fewer follow-up appointments per patient, making more follow-up appointments available for other patients, thus improving patient flow through the department.

Developing and jointly agreeing a protocol is quite a lengthy process: there is a need to spend time examining the research, and ensuring that the treatment and the exercises are the right ones. Teams have been supported in developing and assessing the impact of the treatment protocols by the Quality Improvement team from within the hospital. The Quality Improvement team has also worked with the department on a number of small projects to cut down on waste, to develop benchmarks to improve clinical outcomes in certain problematic conditions, and to improve patient satisfaction.

Further changes in structure were introduced in the department in February 2014, ten months after the team working approach was launched. The service manager had been given executive responsibility for a wider range of services in the hospital, and a new department manager was appointed to take charge of physiotherapy; in addition, a team leader was appointed from within the department for each of the specialised teams. Team leaders were given more formal responsibility for taking decisions on matters affecting the team, such as monitoring waiting times, and solving any problems that arose.

One of the features of the team-based approach is that the department manager provides teams with a monthly report on their statistics, showing how many patients they have seen, how many treatments have been provided for different patients, and the team can use this information to make decisions. Team discussions include physiotherapists presenting their reasoning about why a



patient might need more treatment sessions, whilst colleagues may suggest alternative courses of action or therapy.

Additional work to bring about improvement included introducing different methods of booking follow-up appointment, and the use of text messages to remind patients of appointments. The changes introduced in April 2013 also led to an increase in productivity, with team members working harder than before.

## **Outcomes**

Early results of the changes were very good. At the beginning of June 2013, waiting times for routine new patient appointments had fallen to 3.6 weeks, from a high of 5.3 weeks in November 2012, an improvement of 32%. The service manager said: 'I expected what we got now, but maybe in four months' time.' A further fall in waiting times from February 2014 was linked by the department with the appointment of the team leaders: it further improved ~~furthe~~r waiting times against the equivalent month in 2013. Results of the changes in terms of patient waiting times continue to be very positive (see Figure 1). Referrals have increased over this period, but not significantly. Patient satisfaction with the care provided by the MSK service, as measured by patient surveys, have remained high. In a recent monthly survey 515 out of 547 respondents (94%) said that they were extremely likely or likely to recommend the service to family or friends, with only 10 respondents (2%) saying they were unlikely or extremely unlikely to do so.

## **Insert Figure 1 about here**

Structured information was sought from team members in a meeting in June 2013, after the new system had been in place for two months, and through a survey in August 2014. In both cases, 16 team members contributed information. In the June 2013 meeting, team members were invited to provide comments anonymously on sticky notes about what they liked about the new system, and what they thought needed to change, and the notes were collated and themed. In the August 2014 survey, a web-based questionnaire was used, where respondents were invited to indicate whether they agreed or disagreed with a number of statements, using a five-point Likert scale. On both occasions, themes in the information provided were that:

- The team working approach was welcomed: it was seen as providing a more supportive ethos and attitude than the previous way of organising the department
- Specialisation was welcomed for creating greater clarity and focus
- There were clear benefits of reduced waiting times

All respondents to the 2014 survey agreed or strongly agreed with the statements:

- We are providing a good service to patients
- We are able to develop good treatment plans for new patients at the first appointment
- We support each other in ideas for new and improved ways of working

All but two respondents to the survey agreed or strongly agreed with the statements:

- We are able to work effectively with the treatment plans in follow up appointments
- The team working arrangements provide big advantages in how we deliver services
- In our clinics, we work supportively together to get the job done
- We can safely discuss errors and mistakes in our team
- In our team, we have lively discussions about how best to do the work

Asked about further changes that they would like to see made, a theme at the June 2013 event was the need for more time allocated for administrative tasks (such as completing patient notes, writing to GPs, liaising with consultants). This was mentioned again in the 2014 survey by two respondents. Four respondents to the 2014 survey hoped for an improvement in the quality of in-team training.

The changes made to the department, and the ways in which it delivers services, have produced sustained improved waiting times, with no reduction in the high level of patient satisfaction with the care they receive. Overall, staff satisfaction with the changes is high, an indication of future sustainability. There are continuing projects – decided on within each team - to apply the best available research to activities within the department, and to develop relevant expertise for the benefit of patients. The teams are helped in this by being more aware of the challenges they are facing, and can therefore be more proactive in identifying and prioritising issues they should tackle. This should, in time, improve in-team training.

## **Discussion**

Quality improvement in healthcare is complex (Mazzocato et al, 2010): when several changes are made to interrelated systems it is very difficult to measure the effects of any one change. In this case, the department improved its services by introducing a number of changes, including new standard operating procedures, assessment tools and treatment plans, and changing systems for making follow-up appointments, to reduce waste and to improve value – interventions that would be recognised by process improvement and Lean practitioners.

A central element of the changes was to move the department from a traditional culture of autonomous professionals working independently to an approach where staff joined together in what West and Lyubovnikova (2013) would call ‘real teams’: teams working together in a coordinated way, with shared common objectives, and meeting regularly to review performance and adapt future care processes accordingly. The specialised teams, and the improvement in team working activities, were central to the achievement of improvements. As Ezziene et al (2012) argued elsewhere, in this case improved teamwork was central to delivering improved access to high value health care.

A crucial part of the new team-based approach has been the greater distribution of leadership responsibilities to the teams, providing authority to those ‘individuals who are willing to engage in change efforts’ (Fitzgerald et al, 2013).

The distributed leadership achieved in this case study would be described by Currie and Lockett (2011) as a ‘shared leadership’ variant of distributed leadership. It was initiated by the service manager, but was shaped through discussion within the department over a period of several months before the new arrangements were launched. The nature of the active distributed leadership has then developed over time as the teams have explored the extent to which they can make decisions.

The current situation is what Gronn (2009) has described as a 'hybrid leadership configuration', with some leadership responsibilities retained by the department manager, but other leadership responsibilities distributed to a much greater degree than before among the teams.

Currie and Lockett (2011) noted that there were only a limited number of studies of how distributed leadership has been enacted in practice in healthcare: they argued that the complexity of the professional and policy institutions in healthcare may render attempts to enact distributed leadership difficult. In this case study, six factors appear to have enabled the effective enactment of distributed leadership.

First, there was a recognised problem that needed to be addressed – the lengthening waiting times – which prompted a consideration of change.

Second, the relatively narrow clinical focus of the change, within one profession, which is likely to be less challenging to distributed leadership than a setting occupied by multiple professions (Currie and Lockett, 2011; Drotz and Poksinska, 2014).

Third, the active engagement of staff in the changes, deemed advisable in other healthcare studies (Gollop et al, 2004; Powell et al, 2009) and their positive attitude towards the change. This was facilitated in this case by the service manager taking a participative approach to deciding how to address the problem.

Fourth, the long deliberation and planning period before the teams were launched allowed for engagement of the staff and for thorough discussion of options and alternatives. This period also gave time for the service manager to develop the fifth factor – the initial framework of standard operating procedures that supported the new approach. These standardised procedures were necessary to enable the department to move from an individualised model of working to one that was team-based.

A sixth factor is ~~was~~ that the specialised teams were given certain responsibilities and resources: they were (and still are) expected to develop their own ways of working, and are ~~were~~ given time for team discussions, and timely information on key aspects of the delivery of services, to enable them to make decisions. This includes the expectation that the teams will continue to examine their practice and continue to plan and to implement changes to improve their services. This has given the teams an active leadership role. The support for this, provided both from within the department and from within the wider organisation – including the supportive IT systems within the hospital – has been very helpful in this respect.

## **Conclusions**

In this case study, performance of a physiotherapy service has been improved by the introduction of specialist teams, the development of a team working ethos and the systems to support it, and the distribution of leadership responsibilities more widely within the department.

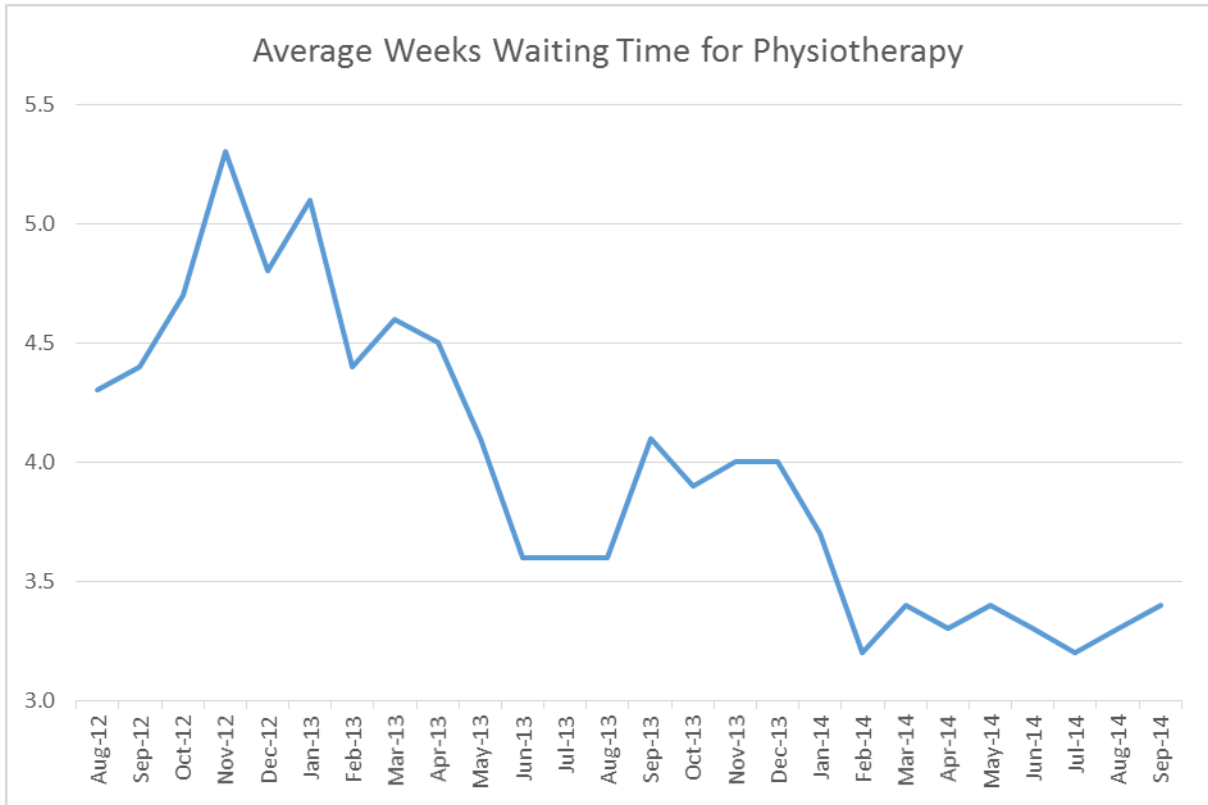
We have suggested the principal factors that have enabled the success of the initiative in this case. It would be particularly interesting to evaluate whether these factors are present in other cases of the development of this kind of distributed leadership in healthcare.

## References

- Adler, P.S., Riley, P., Kwon, S-W., Signer, J. & Lee, B. (2003), "Performance Improvement Capability", *California Management Review*, Vol. 45 No. 2, pp. 12-33.
- Aveling, E-L., Martin, G., Armstrong, N., Banerjee, J. & Dixon-Woods, M. (2012), "Quality improvement through clinical communities: eight lessons for practice", *Journal of Health Organization and Management*, Vol. 26 No. 2, pp. 158-174.
- Batalden, P.B. & Davidoff, F. (2007), "What is 'quality improvement' and how can it transform healthcare?" *Quality & Safety in Health Care*, Vol. 16 No. 1, pp. 2-3.
- Batalden, P., Davidoff, F., Marshall, M., Bibby, J. & Pink, C. (2011), "So what? Now what? Exploring, understanding and using the epistemologies that inform the improvement of healthcare", *BMJ Quality and Safety*, Vol. 20, pp. i99-i105.
- Bolden R. (2011), "Distributed Leadership in Organizations: A Review of Theory and Research" *International Journal of Management Reviews*, Vol. 13, pp. 251-269.
- CSP (2013) *Physiotherapy outpatient services survey 2012*, Chartered Society of Physiotherapy, London, available from [www.csp.org.uk](http://www.csp.org.uk) (accessed 16 October 2014).
- CSP (2009) *Self Referral: Implementation Tools*, Chartered Society of Physiotherapy, London.
- Currie, G. and Lockett, A. (2011) "Distributing Leadership in Health and Social Care: Concertive, Conjoint or Collective?" *International Journal of Management Reviews*, Vol. 13, pp. 286-300.
- Day, D.V., Gronn, P. and Salas, E. (2004) "Leadership capacity in teams", *The Leadership Quarterly* Vol. 15 857-880.
- Department of Health (2000). *The NHS plan*. Department of Health, London.
- Drotz, E. & Poksinska, B. (2014), "Lean in health care from employees' perspectives" *Journal of Health Organization and Management*, Vol. 28 No. 2, pp. 177-195.
- Ezziane, Z., Maruthappu, M., Gawn, L., Thompson, E.A., Athanasiou, T. & Warren, O.J. (2012) "Building effective clinical teams in healthcare" *Journal of Health Organization and Management* Vol. 26 No. 4, pp. 428-436.
- Fitzgerald, L., Ferlie, E., McGivern, G., & Buchanan, D. (2013). "Distributed leadership patterns and service improvement: Evidence and argument from English healthcare". *The Leadership Quarterly*, Vol. 24 No. 1), pp. 227-239.
- Fitzgerald, L., Lilley, C., Ferlie, E., Addicott, R., McGivern, G. & Buchanan, D. (2006) *Managing Change and Role Enactment in the Professionalised Organisation*. NCCSDO, London.
- General Medical Council (2012) *Leadership and Management for all Doctors*, General Medical Council, London.

- Gijo, E.V., Antony, J., Hernandez, J. & Scaria, J. (2013), "Reducing patient waiting time in a pathology department using the Six Sigma methodology", *Leadership in Health Services*, Vol. 26 No. 4, pp. 253-267.
- Gollop, R., Whitby, E., Buchanan, D. & Ketley, D. (2004), "Influencing sceptical staff to become supporters of service improvement: a qualitative study of doctors' and managers' views" *Quality & Safety in Health Care*, Vol. 13, pp.108–114.
- Gronn, P. (2002), "Distributed leadership as a unit of analysis", *Leadership Quarterly*, Vol. 13, pp. 423–451.
- Gronn, P. (2009), "Leadership Configurations", *Leadership* Vol. 5 No. 3, pp. 381-394.
- Health Foundation (2013), *Improving Patient Flow*, The Health Foundation, London.
- Jones D. & Mitchell, A. (2006) *Lean thinking for the NHS*, NHS Confederation, London.
- Joosten, T., Bongers, I. & Janssen, R. (2009), "Application of lean thinking to health care: issues and observations", *International Journal for Quality in Health Care*, Vol. 21 No. 5, pp. 341–347.
- King's Fund (2011) *The Future of Leadership and Management in the NHS: No more heroes*, King's Fund, London.
- Locock, L. (2003), "Healthcare redesign: meaning, origins and application", *Quality and Safety in Health Care*, Vol. 12, pp. 53-57.
- Mazzocato, P., Savage, C., Brommels, M., Aronsson, H. & Thor, J. (2010), "Lean thinking in healthcare: a realist review of the literature", *Journal of Quality and Safety in Health Care*, 19, pp. 376-382.
- Millar, R. (2013) "Framing quality improvement tools and techniques in healthcare: The case of Improvement Leadership Guides", *Journal of Health Organization and Management*, Vol. 27 No. 2, 209–224.
- Morrow, E., Robert, G. & Maben, J. (2014) "Exploring the nature and impact of leadership on the local Implementation of The Productive Ward Releasing Time to Care", *Journal of Health Organization and Management* Vol. 28 No. 2, pp. 154-176.
- NHS III (2005) *Process mapping, analysis and redesign*, NHS Institute for Innovation and Improvement, Coventry.
- Ovretveit, J. (2009) *Leading improvement effectively*, The Health Foundation, London.
- Pearce, C.L. and Conger, J.A. (2003), *Shared Leadership: Reframing the Hows and Whys of Leadership*, Sage, Thousand Oaks, CA.
- Powell, A.E., Rushmer, R.K. and Davies, H.T.O. (2009) *A systematic narrative review of quality improvement models in health care*, NHS Quality Improvement Scotland, Edinburgh.

- Radnor, Z.J., Holweg, M. & Waring, J. (2012) "Lean in healthcare: The unfilled promise?" *Social Science & Medicine*, 74, pp. 364-371.
- Sanders, T., Ong, B.N., Sowden, G. & Foster, N. (2014) "Implementing change in physiotherapy: professions, contexts and interventions", *Journal of Health Organization and Management*, Vol. 28 No. 1, pp. 96-114.
- Storey, John and Holti, Richard (2013). *Possibilities and pitfalls for clinical leadership in improving service quality, innovation and productivity. Final report*. NIHR Service Delivery and Organisation programme, HMSO, London.
- Thorpe, R., Gold, J. & Lawler, J. (2011) "Locating Distributed Leadership" *International Journal of Management Reviews*, Vol. 13, pp. 239–250.
- Walshe, K. (2009), "Pseudoinnovation: the development and spread of healthcare quality improvement methodologies", *International Journal for Quality in Health Care*, Vol. 21 No. 3, pp. 153–159.
- Waring, J.J. and Bishop, S. (2010) "Lean healthcare: Rhetoric, ritual and resistance", *Social Science & Medicine*, Vol. 71, pp. 1332-1340.
- West, M.A. and Lyubovnikova, J. (2013) "Illusions of team working in health care" *Journal of Health Organization and Management*, Vol. 27 No. 1, pp. 134-142.
- Williams, I., Dickinson, H., Robinson, S. & Allen, C. (2009), "Clinical microsystems and the NHS: A sustainable method for improvement?" *Journal of Health Organization and Management*, Vol. 23 No. 1, pp. 119-132.
- Womack, J.P. and Jones, D.T. (1996) *Lean thinking: banish waste and create wealth in your corporation*, Simon & Schuster, New York.
- World Health Organization (2009) *The European health report 2009: health and health systems*, WHO, Geneva.
- World Health Organization (2012) *Health in the Americas*, WHO, Geneva.
- Yukl, G. (2010) *Leadership in Organizations*, Pearson, New Jersey.



**Fig 1: Waiting times for new routine appointments (weeks)**