NHS Improvement

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HEART

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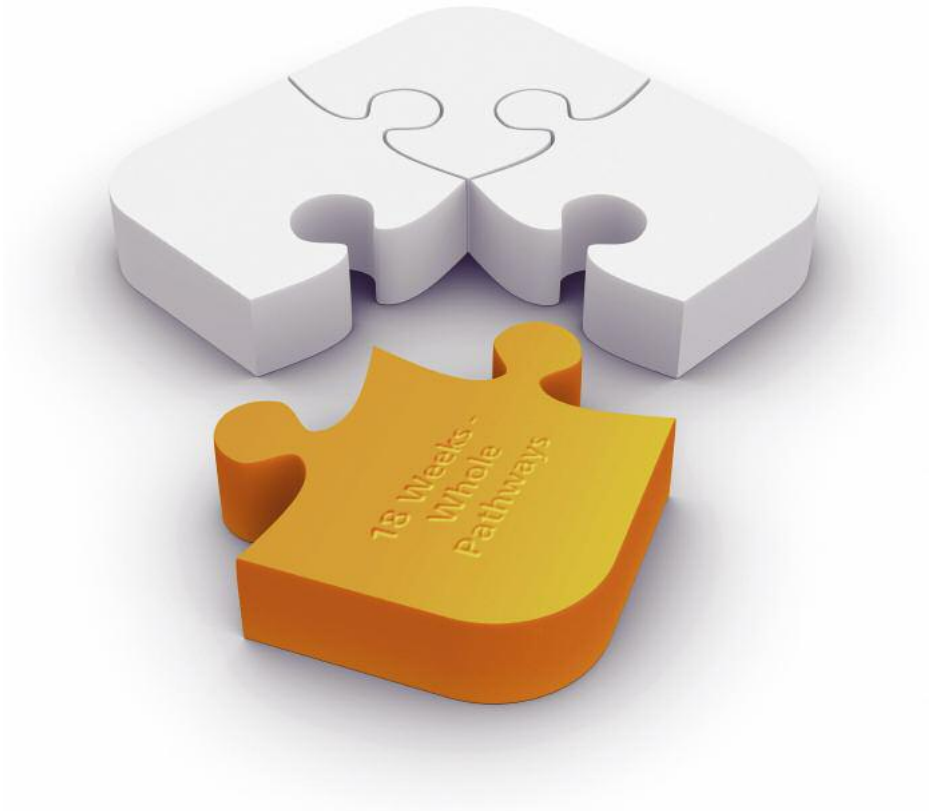
Heart Improvement

18 Weeks Whole Pathways

National Priority Project



Delivering 18 weeks in cardiology was always going to be one of the most challenging areas in the 18 week pathway because it is a many headed beast. You have a number of investigations and diagnostics to perform as well as definitive treatment so it's always going to be difficult. If you can deliver it in cardiology you can deliver it anywhere.

Dr Guy Lloyd,
Consultant Cardiologist, Eastbourne District General Hospital

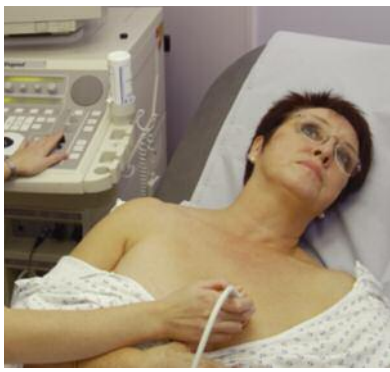














Contents

Introduction

To ensure that by 2008 no one waits more than 18 weeks from GP referral to hospital treatment.

Operating framework 07/08:
Priority 111: Access to services: PSA13

This project has reviewed, identified and supported the practical implementation of ways to reduce the waiting time from GP referral to definitive treatment, exploring in detail what really works. The specific project aims and objectives have been to:

- Work with identified demonstration sites within cardiac networks to capture learning
- Implement a peer support action learning group drawn from members across the demonstration sites to facilitate the sharing of ideas and solutions in order to reduce duplication and to accelerate improvement
- Develop a range of practical resources including demonstration site case studies to assist the wider health communities to achieve required sustainable improvements
- Provide input and advice to the Department of Health (DH) 18 week team based on demonstration site progress regarding issues, challenges and solutions with implementing 18 weeks.

The demonstration sites involve seven cardiac networks and some 25 NHS Trusts (including foundation trusts).

The scope of the project covers the main 18 week bottlenecks/constraints including:

- Outpatients (OPD)
- Diagnostics
- Secondary to tertiary care interface
- Some sites taking a whole pathway approach.

I think that consultant buy-in is absolutely crucial to the success of the 18 week project but not surprisingly consultants vary in their views of the importance of this project. Were not going to get ten more consultants and there is no new money so we'll just have to think of ways to do this better, quicker, slicker and look to how we are actually doing our jobs.

Dr Gordon Murray, Consultant Cardiologist and National Clinical Lead, NHS Heart Improvement Programme

In addition, a number of projects have looked at specific sub process issues particularly in relation to patient data, tracking and the Interprovider Administrative Minimum Data Set (IPTAMDS).

Being part of a national priority project has been good in that its helped people in the organisation feel really motivated. When they achieve something like bringing waiting times down they get a real sense of achievement.

Julie Juden, Service Development Manager, Frimley Park Hospital NHS Foundation Trust

With the project into its 8th month sites are now beginning to demonstrate:

- A significant release of slots and beds into the system
- Reduced whole pathway waiting times (with certain sites showing significant reductions in referral to treatment times (RTT times)
- Streamlined clinical and administrative pathways
- Improved communication between healthcare staff and patients
- The development and testing of information systems to support the collection of IPTAMDS for RTT (including a demonstrator site for web based tracking system)
- More efficient use of OPD and diagnostic clinic slots with corresponding falls in DNAs and clinic cancellations
- Reduction in angiography and PCI waiting times with increased catheter lab efficiency
- Improved patient experience
  - Streamlined pre assessment and post procedure protocols
  - Improved, more responsive patient centred booking processes (diagnostics)
  - Efficiencies created via the introduction of one stop/single assessment clinics and rapid follow up slots processes.
  - Better informed patients particularly with regard to surgery
  - Reductions in bed usage with protocols allowing surgical patients to be admitted on day of procedure
  - Improved equity in terms of waiting times with the removal of urgent, soon and routine classifications.
- Creative approaches to staffing and workforce issues
- Potential for reductions in surgical cancellations through improved multi disciplinary team (MDT) working and consent processes.
- Improved audit, monitoring and internal reporting processes
- Shared learning of the practical implications/ramifications of the improvement initiative as a resource for accelerating change.

In conjunction with the demonstration sites NHS Improvement (which now incorporates the Heart Improvement Programme) has developed a range of products and resources including:

- Pocket clock start/stop cardiac pathway scenarios complete with RTT status code indicators
- An updated online interactive 18 weeks resource and
- An interactive cardiac data dashboard capturing the national data returns for RTT and diagnostic data.

In addition, products produced across the demonstration sites are being collated and catalogued as a resource for sharing with the wider health community. These products complement the established demand and capacity, statistical process control, and patient pathway analyser tools available via the national team. A list of these resources together with a brief summary and the relevant link(s) is available towards the end of this document.

The current projects are phased for completion from March 2008 onwards with work continuing with demonstration sites to ensure delivery solutions are implemented and that sustainability is in place. Consequently, the summaries that follow only capture a proportion of the work to date. The resulting case studies and associated resources (process maps, policies, examples of questionnaires etc) will be available on the NHS Improvement website as the projects are validated.

Key Findings

Our biggest challenges - one was accessing data, our PAS systems across the trust are quite old and we weren't able to put our hands on good 18 week data. **Anonymous**

Key findings

During December 2008 cardiac networks took part in a voluntary audit to survey the national picture of 18 weeks - a cardiac stock take. The aim of the stock take was to raise awareness, demonstrate progress and inform national strategy with regard to implementation of the 18 week initiative. 87% of cardiac networks completed the survey, the results of which acknowledge how complex and challenging 18 weeks is as it seeks to deliver improved patient experiences and outcomes across diverse pathways, healthcare providers, and organisational environments.

Summarising the learning itself becomes a challenge as the subject matter is equally diverse so for the purpose of this document only the headlines have been articulated. The 18 week online resource, developed by the NHS Heart Improvement Programme, provides top tips and more detailed approaches in an interactive resource that runs to over 150 pages so please follow the link at the end of this document.

Experiences gained from within the NHS Heart Improvement Programme, across the demonstration sites and findings from the stock take have summarised critical success factors as being:

- Comprehensive shared strategy and plans for implementation
- Buy-in, understanding, inclusivity and communication
- Robust project management
- IT system architecture and data collection within 18 weeks

Comprehensive shared strategy and plans for implementation as a whole

It became evident in the early stages of the overall priority project that the development of local 18 week strategy hadn't been addressed in any meaningful way. This is demonstrated by the fact that the priority project membership reduced by 40% over the six months to December 2007 with the root cause for this drop off being the lack of an appropriate mandated local strategy and implementation plan.

In this environment many projects or initiatives simply ground to a halt in the face of the myriad of competing pressures, priorities and agenda's with local teams struggling with the size, complexity and time needed to address the tasks presented. Again this echo's the experiences of the cancer waiting time initiatives and the pivotal nature of a comprehensive strategy.

Its interesting to note that where gains have been made that the initial strategic catalyst emanated from a variety of sources whether it be SHA, commissioner, provider or network (top down, bottom up and everything in between). Again this is evidenced from information obtained through the network 18 week stock take; 16% of approaches measured were attributed to network initiatives, 13% to whole health economy, 18% to provider with the remaining 7% being attributed to 'other'.

It's clear that truly inclusive health economy strategies, together with complementary operational plans delivered in time for sustainability to be addressed will remain a challenge for the country as a whole.

Buy in, understanding, inclusivity and communication

18 weeks is such a wide ranging challenge that all staff need to understand what it represents to the organisation, to patients, to customers and of course to themselves.

Successful initiatives have an overall vision to work to and have worked though strategies for creating the required understanding. Detailed communication plans are key to this – with specific methods of communication being developed to mitigate risks (across the full spectrum, individual, team, organisational and stakeholder) and which are threaded into the organisations strategic plan.

Robust project management

This requires highly visible leaders, a can do attitude and a willingness to challenge existing norms.

Involvement with the project has helped us get the DGH and the tertiary centre to understand what's important for each organisation, and get the clinicians together to decide and agree what should be done at each part of the pathway.

Julie Juden, Service Development Manager, Frimley Park Hospital NHS Foundation Trust.

Develop robust project management routines – ensure senior clinical/management involvement and ensure that projects become the business of the board. Ensure that the problem and scope of the project have been well described with data (ditto the goal) and ensure that the 'work before the work' has been completed to assess the do ability of the project.

Develop affective:

- Project teams ensuring appropriate team members with the requisite information to allow them to buy in and commit to the project. Commissioner involvement/ communication and finance involvement has become a prerequisite (particularly with regard to tariff, contract or organisational budget changes). Patient and carer involvement within the project to capture experience encouraging patient led redesign
- Communication and project risk mitigation plans
- Measurement and data collection plans and understand process performance (SPC) and Demand and Capacity measures. Set baselines. Process map and collect Voice of the customer data.
- Ensure that solutions have been subject to pilot testing and have been subject to some form of Failure Mode Effects Analysis[1]
- Introduce process control routines/ dashboards and appoint a process owner whose role it is to ensure that new processes remain in control and that corrective action is taken as appropriate.
- Maintain project visibility – publish learning and successes no matter how small.

Examples of these are available on the NHS Improvement System at www.improvement.nhs.uk/improvementsystem

IT system architecture and data collection within 18 weeks

One of the key success factors of any 18 week piece of work has been to establish good data collection to accurately measure the reality of patient waits. While a great deal of data exists within organisations, this data can be fragmented, un-validated, activity focused and contained on separate, supplemental databases (such as PRISM, TOMCAT) often managed by different departments.

A review of all existing data collection systems and databases with an aim to moving towards a strategy that enables these systems to add greater value by integrating with existing systems should be contemplated as a driver for change. Consideration should be given to who manages these separate data sources; use of a common; user-friendly language across systems; linking and tracking patient episode data across (and within) organisations using unique identifiers (NHS or HES identifier); linking to diagnostic data sources.

PAS system developers should be involved at an early stage to consider additional field requirements or reusing of redundant PAS screens. However, some of the initial and ongoing data collection will require manual intervention and will need to be resourced appropriately. The work will be intensive and require input from all staff groups within and across sites related to the specific pathway of care.

It is important to understand the 'real' demand and capacity (as opposed to just the activity) of a service to enable improved service planning through modelling and gap identification.

Note that significant progress has now been made in the development and roll out of processes and protocols that support information that follows the patient through their pathway. This includes solutions to the Inter Provider Transfer Administrative Minimum Data set together with the transfer of clinical data and diagnostic imaging. Case studies describing these initiatives are currently being worked up and will shortly become available on the Improvement system.

[1]Failure Mode Effects Analysis ensures that processes have been subject to stringent failure and risk mitigation tests

Moving forward

Sustaining 18 week cardiac pathways 2008/09 and beyond

The 18 week stock take[2] conducted across all cardiac networks together with experiences gained from the 18 week priority projects (and cancer 31/62 day waits) has identified sustainability as a major issue in holding 18 weeks post December 2008.

The reasons behind this are complex but for the purpose of this document can be summarised as:

- Lack of cohesive local implementation plans and strategy for 18 weeks
- Lack of any real redesign and a reliance of doing 'more of the same' rather than focussing on redesign across the whole pathway
- Increased operational and/or organisational pressures, especially in light of numerous 'vital signs' identified in the Operational Framework
- Clinical engagement
- Hugely variable IT system, data and patient tracking capability
- Contingent capacity where process efficiency has been optimised.

In response to the factors outlined above the current 18 Week Whole Pathway Priority Project will extend its focus to the approaches required to deliver sustainable cardiac pathways post December 2008. The developing initiative will be supplemented with a spotlight on cardiac surgery (elective and non elective).

The intention will be that experienced members of the 2007/08 Diagnostics Priority Project will join this revised project in order to fully capitalise on the experience and expertise developed through the existing demonstrator sites. Additionally it is anticipated that there will be a requirement to develop a number of new demonstrator sites as existing projects draw to an end.

Collaborative working between NHS Improvement (Heart Improvement Programme) and the DH 18 week team together with other key stakeholders will continue to progress the development of practical sustainability resources that will complement the existing suite of resources found on the NHS Improvement. website.

> The peer support meetings have been extremely valuable for all sorts of reasons. I've been able to help them to a certain extent with my clinical input but equally I have learnt an enormous amount from the projects themselves they have really been excellent and I've been able to take home lots of the ideas and implement them locally and that's been very helpful for me personally and my directorate in moving towards delivery of the 18 week project.
>
> **Dr Gordon Murray**, Consultant Cardiologist and National Clinical Lead, NHS Heart Improvement Programme

[2]Cardiac Network 18 week stock take December 07 – a comprehensive strategic and operational assessment of approaches to the target covering both current and planned activities within 26 Network health economies. For more information follow the link on the NHS Improvement System.

Project Summaries

Redesigning the Whole Patient Pathway for Cardiology Patients
Lancashire Teaching Hospitals NHS Foundation Trust (Royal Preston Hospital and Chorley District General) Lancashire & South Cumbria Cardiac Network

Issues to address
After mapping the various pathways for angiography, cardioversion and pacemaker implantation it was clear that complete redesign of cardiology pathways were needed. Without this patients would not be able to be treated within 18 weeks, particularly for those who were referred on for tertiary care.

Baseline position
- 12 week waits for first cardiology outpatients (OPD)
- Separate waiting list for cardiac diagnostics often commenced after first OPD
- Frequent cancellations of elective cardioversions if no available coronary care unit (CCU) bed or available anaesthetist
- No waiting list for cardioversion existed
- Frequent cancellations on pacemaker lists as all patients required beds on Friday
- Considerable administrative delays for letters and referrals.

Actions taken
- Established one-stop clinics for all four cardiologists
- Redesigned diagnostic pathway
- Located regular venue and anaesthetic sessions for cardioversion
- Changed pacemaker booking from single list to end of angiography list to reduce cancellations due to lack of available beds
- Trained clinical physiologists and receptionists to access Choose and Book and
- Gained agreement from cardiologists for clinical physiologists to pre select diagnostics
- Changed booking system for catheter lab procedures.

Key results/outcomes
- Referral to treatment times down to eight weeks
- All patients seen in one-stop cardiology clinics
- Dedicated sessions created for cardioversion with managed waiting list
- Utilisation of catheter laboratory up 30%
- Diagnostics pre selected by clinical physiologists to ensure results available for first OPD
- Treatment plan given and catheter lab booked at first OPD.

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Angiography 'Fast Works' Rapid Redesign Project
King's Mill Hospital
Trent Cardiac Network

Issues to address
Waiting times for diagnostic angiography were found to be too long, with the waiting times between cardiologists showing high levels of variation.

Additionally, the productivity of the catheter lab was not optimal with significant list size variation between consultants; unused slots during angiography sessions; under-utilised nursing capacity allocated to the catheter lab. Without improved productivity/increased activity in the catheter lab, the wait time would not reach the trust target figure.

Baseline position
Waiting time for a diagnostic angiography took on average five weeks, with a range of 0 weeks to 18 weeks (data for five months March to July 2007).

Productivity of the catheter lab evidenced 75% utilisation over 12 months (May 2006 to May 2007).

The list size of each session showed a variation ranging between one to six angiography procedures per list, with a mean of four.

Based on a target minimum of four patients per session, there were found to be 244 unused slots over 12 months to May 2007 and 44 lost lists over 12 months due to under-utilised nursing capacity allocated to the catheter lab. The throughput of the Lab in May 2007 was on average 12 patients per week, based on four angiography lists per week.

Actions taken
A 'Fast Works' rapid redesign project group was established, comprising representation from clinical and non-clinical staff working within, or supporting the running of, the catheter lab. An independent fast works facilitator and a member of the NHS Heart Improvement Programme led the project group, supported by the Trent Cardiac Network. Nine (two hour) weekly meetings of the group were held, during which 'problems' with the existing part of this patient pathway were identified. A Project Charter was developed by the group which outlines the project in more detail and is available via the Improvement system website. A process map of the existing pathway was developed and agreed and a large amount of data analysis was carried out, presenting evidence of where there was some room for possible service improvements.

A patient survey was also conducted to gather a baseline of the existing angiography service provided at King's Mill Hospital from a patient perspective. A total of 50 patient names were selected at random to be included in the survey, all of who had undergone angiography at King's Mill Hospital within the previous six months. The survey received an 86% response rate and a detailed report produced outlining the findings is available via the Improvement website.

Following the work of the time-limited project group, a two-day event was held inviting colleagues working within the trust, who had involvement in some way with patients requiring angiography. Problems identified by the fast works project group were considered and recommendations/solutions agreed by attendees at the event. At the end of the two days, these recommendations and related actions were presented for approval to a panel, comprising of the Trust Chief Executive, Director of Nursing, Consultant Cardiologist, Cardiology Manager, and the Divisional Manager. A number of recommendations were approved by the panel, which have subsequently led to a number of service improvements.

Key results/outcomes

Several service improvements have been implemented since completion of this project, which have led to a reduction in waiting times for angiography to a maximum of six weeks as at February 2008. Productivity and activity within the catheter lab has also increased, resulting in a minimum of four patients now being booked per list, often having a fifth or sixth patient booked in as emergencies. Finally, the number of lost angiography lists has significantly decreased due to the introduction of 'flexible rotas'. Over a recent six week period, nine out of 12 lists were covered, which would previously have been 'lost slots'. This equates to an additional 36 routine angiography procedures being scheduled during this time period, which prior to the project would not have been carried out.

A summary of the changes that have resulted in these developments so far are:

- All angiographies are now fully booked from OP clinic appointment
- Introduction of 'partial pooled lists' for angiographies, which has reduced patient waiting times and decreased the variation in waiting times between cardiologists (NB To ensure continuity of care, the treatment plan remains under the patient's main consultant, it is purely the angiography procedure that is pooled)
- An enhanced post angiography process means that, wherever possible, all results are discussed with the patient on the same day as the angiography (with their main consultant) and next steps agreed
- Pre-assessment, including gaining of patient consent, is now carried out during the patients' OP clinic appointment, meaning patients are available to fill slots at short notice (e.g. cancellations or additional clinics), which has led to minimised lost slots
- Improved and standardised referral process, with enhanced referral forms. Proposal for all referrals for angiographies to be centrally coordinated by the Central Waiting List Office
- Development of new patient information leaflet
- Introduction of a 'catheter lab coordinator' role to ensure communication is optimised within the lab, allocate daily responsibilities, ensure things run to time etc
- Increased turnaround times within the catheter lab due to new pre-assessment process, flexible working patterns of staff, improved communication within the lab, improved audit systems
- Introduction of 'flexible rotas', resulting in catheter lab slots being utilised to maximum capacity, with on-calls and leave covered by consultant colleagues wherever possible
- Development and introduction of a written competency based training package for cardiac nurses has increased the skill mix of nursing staff within the catheter lab, enabling cross-cover and increasing utilisation of nursing capacity within the lab.

Further examples detailing the 'Fast Works' approach to rapid redesign project involving Thames Valley Cardiac Network angiography and booking waits, and Leicestershire, Northamptonshire and Rutland Cardiac Network reductions in unnecessary follow ups project can be found via the Improvement System.

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Leicester Northamptonshire and Rutland Cardiac Network and University Hospitals Leicester 18 Week Whole Pathway Project

University Hospitals of Leicester (3 sites)

Leicester Northamptonshire and Rutland Cardiac Network

Issues to address

The time taken between original GP referral to date of procedure in cardiac surgery exceeded a year, for patients being treated within cardiology by PCI the journey time was around 28 weeks. This extensive wait was similar whether the patient had their entire journey within the tertiary centre or if the patient was initially investigated at a secondary centre and then referred onwards.

Baseline position

A retrospective baseline audit took place in June 2006 looking at 50 sets of patient notes including all treatment options and referral sources and repeated in October 2007. The common bottle necks were identified as:

- The administration time between actions, which progress the patients pathway took an average of four weeks. For example, awaiting typing and acceptance of referral letters or receiving diagnostic reports.
- A 12 week wait for clinic with only a proportion of diagnostics being pre ordered. Poor co-ordination of diagnostic being completed before the first outpatient appointment and results being made available on time.
- Diagnostics wait of 17 weeks (max) which didn't always include the reporting time.
- A high percentage of patients were going around the outpatient and diagnostics loop two to three times before the correct information was assembled for clinical staff to make a diagnosis and progress to treating the patient. This translated in some cases to a delay of as much as three to six months from original referral to initial diagnosis and a treatment plan being agreed.
- The capacity to admit patients for treatment was stretched in addition initiatives were used to meet reductions of waiting time targets.

Actions taken

The project was launched by raising awareness of the current bottlenecks and demonstrating the current actual referral to treatment times (RTT), in comparison with the target. In addition raising awareness of 18 week wait measurement and associated rules. This was implemented through posters, meetings and contact with key staff culminating in a well attended multidisciplinary event on 28 September 2006 where members agreed how to progress towards an 18 week wait.

Process mapping took place along with demand and capacity calculations for each individual area of delivery along all of the cardio respiratory patient's pathways. This information quantified which bottlenecks would have the highest impact on delivering 18 weeks and indicated the order in which 18 week wait changes should be addressed.

The work was then divided into manageable stages and staff assigned to working groups, with clinical, service improvement and a managerial lead. These groups looked at the:

- Primary care interface
- Outpatients and diagnostics
- Chest pain and valve treatment
- Arrhythmia treatment
- Paediatric and congenital
- Respiratory
- Thoracic pathways.

To ensure continuity and cohesive working between the groups a steering group formed to oversee progress chaired by the directorate general manager.

Each group set specific goals, the example described in more detail here is the highest impact area, identified as the outpatient and diagnostics portion of the patient pathway. The aim was to deliver - referral to decision to treat (or other outcome), inclusive of the outpatient appointment and basic cardiac diagnostic testing in less than four weeks.

This deliverable was further quantified as:

- Wait for an outpatient appointment of less than four weeks
- Deliver the majority of same day diagnostic testing with a maximum wait of two weeks
- Electronic diagnostic test management and shared cross site waiting lists
- Single assessment clinics
- Reduce the number of follow-up patients to release outpatient capacity
- Partially book follow-up patients to reduce outpatient wastage
- Protected capacity for a minimum of four weeks through a clinical annual leave policy
- Deliver preadmission in clinic on day of decision to treat including fully booking the admission date.

> For the network as a whole the different trusts are now looking at pre planning tests as much as they possibly can.
>
> **Elaine Kemp**, Cardiac Service Development Manager, Leics, Northants & Rutland Cardiac Network

Initially the changes would be implemented in adult cardiology because of the large patient base and then tailored where necessary and rolled out to other specialties and sites.

Key results/outcomes

The clinical annual and study leave policy was updated and re established with clear processes and monitoring. This meant that delivery areas were able to plan and protect capacity for the next four weeks without change and the associated delays or rescheduling.

The waiting time for diagnostics has been reduced to six weeks through waiting list initiatives, validation, demand management and recruitment drives. The reduction is continuing down to two weeks, supported by ongoing demand and capacity work. The network has trained operational staff to calculate demand and capacity within their own areas. Tests are booked upon request reducing the administrative workload and providing patients with a planned date.

A partial booking of follow-ups system has been developed using the example of the Sherwood Forest Hospital pilot (outlined on page 22 - *Partial Bookings of Follow-ups*. Implementation was delayed due to trust wide 18 week wait planning but will be delivered in May 2008. It is expected to reduce the number of wasted appointments which will release capacity for the single assessment clinics.

A change to the diagnostics IT system is under way; this will enable more staff to access diagnostics information about appointments and results. It will deliver better co-ordination between tests and outpatient appointments but also allow the diagnostics waiting lists to be shared across the three delivery sites. This reduces the waiting times and improves equity of access.

Preadmission services have been redesigned to deliver medical preadmission on the day of the patient's outpatient appointment. With the option of further psychological support and information either on the same day or later before admission. This means patients are prepared earlier for admission reducing cancellations. It is planned to fully book admissions once the preadmission changes have been embedded.

Single assessment clinics have been trialed over 17 clinical sessions with 84 new and 230 follow-up patients. Most tests were pre planned however on the day 54 patients were put forward for an additional 63 diagnostics; echo, ETT and Tapes. All patients were given the opportunity to stay and have tests on the day or return at a later date, only one patient declined.

40 out of the 63 diagnostics were completed on the day; those not done were due to the timing of the diagnostics working day compared to clinic appointments which can be resolved. 16 out of the 54 patients using the single assessment clinic were discharged and five patients were given a decision to treat of admission. Single assessment clinics will deliver a reduced waiting time for patients, less visits to the hospital and additional capacity in clinic.

Implementation of all the above changes will deliver the aim of a four week wait, the project unfortunately has overrun due to operational pressures and several changes in the trust management team. It is projected that single assessment clinics, preadmission changes and partial booking will be implemented before June 2008.

The less quantifiable change which will help deliver 18 weeks is the move from a culture in diagnostics and other delivery areas, of using waiting lists to flex the amount of work delivered to match the capacity which is available. Now the capacity is being flexed to match the amount of work required to deliver the waiting time on a shorter pathway.

The changes at Leicester are being supported through the cardiac network by sharing learning from trusts such as Kettering, who have implemented outpatient and diagnostics changes, Sherwood Forest with their successful partial booking and in turn the learning at Leicester will help support the Northampton team in developing their single assessment pilot.

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18 Weeks Whole Pathway - Sussex
Eastbourne District General Hospital, Royal Sussex County Hospital (part of Brighton and Sussex University Hospitals NHS Trust), Hailsham Practice Based Commissioning (PBC) Cluster
Sussex Cardiac Network

Issues to address
- Need to achieve 18 week target for cardiology and cardiac surgery patients from the Eastbourne area. Delays and bottlenecks were contributing to the target not being met.
- Need to demand manage referrals from primary care to sustain 18 week target when achieved.
- Waiting times had hidden elements in them as GP to acceptance on waiting list was not being recorded.

Baseline position
At July 2007:
- Maximum wait for new outpatient appointment was 11 weeks
- Maximum wait for diagnostic echo was 26 weeks
- Maximum wait for angiogram was 19 weeks.

Actions taken
- Extra activity to address backlog
- Following an assessment of demand and capacity extra investment was made into equipment for 24 hour testing
- Development of a triage clinic in secondary care to triage referrals from primary care. Aim is to reduce unnecessary consultant outpatient appointment, facilitate direct access to diagnostic investigations e.g. angiography and refer patients back to GP with a management plan if no intervention required
- Develop a proposal for a community cardiology service in one area of Eastbourne. Service to be run by a GP with an interest in cardiology and clinical governance arrangements support from secondary care. Aim is to for all cardiac referrals to be sent to the service and following assessment, the GP will either refer on to secondary care immediately or undertake some diagnostics tests in community and then refer back to original GP with a management plan or refer onto secondary care.
- Process mapped the referral pathway for cardiac surgery. A new pathway was developed. All referrals are now faxed or emailed the same day as the diagnostic investigation. Referral is actioned on receipt by the waiting list office and an OPA made within 48 hours and occurring within two weeks.

Key results/outcomes
- At EDGH 85% of all patients are being referred and treated within 18 weeks
- New referral pathway has been rolled out to other referring DGH's.

Cardiac surgery waits are reducing and they now include the hidden waits.

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Cardiac Surgery: Referral To Treatment in 12 Weeks (Average)
Frimley Park Hospital
St George's Hospital
South West London Cardiac Network

Issues to address

According to an 18 week pilot study conducted at St George's Hospital in 2006 by the South West London Cardiac Network, patients (n=5) referred from Frimley Park Hospital waited up to 54 weeks from initial referral (18 week clock start) until treatment at St George's Hospital (clock stop). Data collected since the project started indicated that average referral to treatment (RTT) times was about 30 weeks on average (n=24).

In addition, anecdotal reports of poor communication between the two organisations, one indication of which was the poor performance in terms of sending discharge summaries to the secondary centre after patients had completed their course of treatment at the tertiary centre. Also, there were problems in terms of administrative process delays (with patients sometimes being 'lost' in the system), and moving patients to the next stage of treatment.

Actions taken

The project started officially on the 20 March 2007 at the first steering group meeting and is due to end on the 31 March 2008. Below is a selection of improvements made to date.

From March 2007 demand and capacity analyses were undertaken at Frimley Park Hospital and strategies were identified to reduce the backlog of patients waiting for diagnostic tests, outpatient appointments and inpatient admissions. Work was also done to ensure cross-cover by staff at critical steps in the pathway, and to identify the flow of patients and time requirements for each component of the pathway.

At the first steering group meeting an elective cardiac referral form was devised and agreed. Frimley Park Hospital started using the form in May 2007 and it has since been through several modifications, most recently to reflect the publication of DSCN 44/2007 in December 2007.

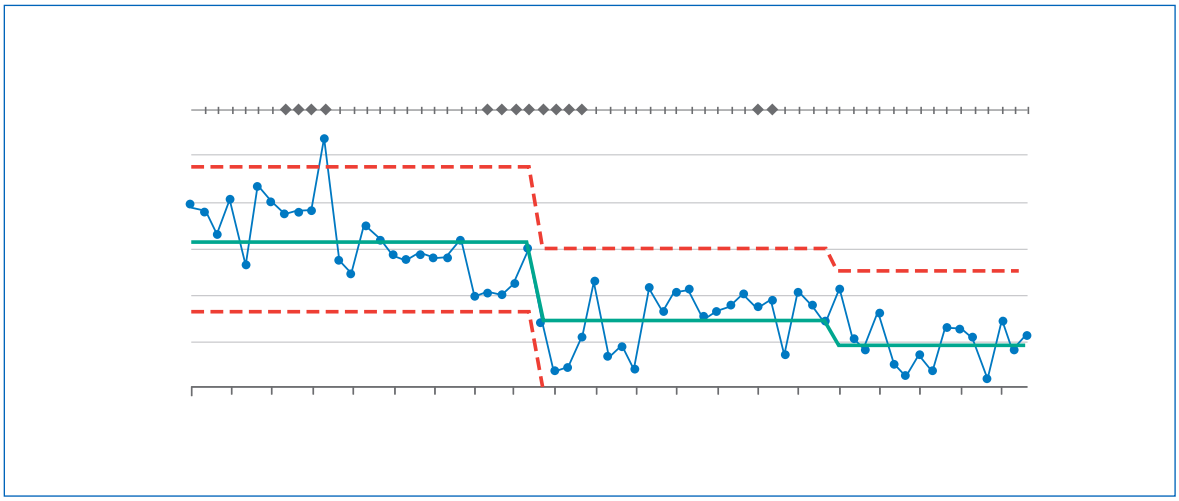
A comprehensive cardiology redesign workshop was held at Frimley Park Hospital in June 2007. As a result the following changes were made:

(1) Direct booking for angiography and pre-assessment from outpatient clinics was instigated
(2) Rapid follow-up slots and more one-stop clinics were introduced
(3) The trust admissions team was made responsible for booking all diagnostic tests and procedures (treatments) in the catheter laboratory
(4) An induction to cardiology was introduced for junior doctors at each rotation
(5) Diagnostic waiting times are monitored on a weekly basis
(6) The multidisciplinary team (MDT) meeting was redesigned so that all necessary diagnostic tests are performed before the patient is seen jointly by the cardiologist and surgeon. Test results and treatment options are discussed and a treatment plan agreed with the patient. A dedicated administrator is responsible for ensuring the efficient coordination of the joint cardiac clinic and handling onward referrals to the tertiary centre.

Mapping of clinical and administrative processes has taken place at St George's Hospital over the lifetime of the project, and systems put in place to facilitate the reliable transfer of referral data and early booking of patient appointments.

The cardiac network decided to do a joint project between two main hospitals to look at the cardiac surgery pathway. We started off from a baseline of 32 weeks on average, that's the time from when the patient is referred by the GP until they actually have their surgery in a tertiary hospital.

Adrianne van Heerden, Service Improvement Manager, South West London Cardiac and Stroke Network



Plans have been initiated to pre-assess all cardiac surgery patients so that they can be admitted on the day of surgery rather than the day before. An 18 weeks training workshop was held for cardiac secretaries at St George's Hospital, and a process will be trialled where they will email discharge summaries and 18 week referral forms (with clock stop dates, where appropriate) back to the referring organisations.

Key results/outcomes

Patients are having their initial contact with a consultant much sooner than before the project started (now within four weeks), and the diagnostic tests required are now sometimes done on the same day, or at most within a few weeks of request. (The internal target set is two weeks for diagnostic tests. This is being achieved in most instances, and plans are being put in place to ensure these waiting times can be sustained.) This allows the clinician to make a diagnosis much sooner and develop a treatment plan with the patient. Patients are better informed about the surgery pathway and the number of visits they need to make to St George's Hospital has been reduced by redesigning the multidisciplinary team meeting at Frimley Park Hospital. We believe this has resulted in a better patient experience and we will give patients the opportunity to feed back by means of a patient questionnaire in the near future.

The redesign work has also benefited the NHS organisations involved. St George's Hospital is moving to a position where all cardiac surgery patients attend pre-assessment. This will enable the trust to admit patients on the day of their procedure, rather than the day before, thereby saving valuable bed days.

St George's Hospital performs around 1,150 cardiac surgery procedures per year, and could therefore potentially save this number of bed days per year. As patients are better worked up at the secondary centre in advance of transfer for surgery, we expect the number of surgery cancellations to decline, as patients unfit for surgery will not be transferred.

Since tertiary care clinicians can access diagnostic images at the secondary centre directly via NHS extranet, extra slots for echos, angiograms and dopplers will become available at the tertiary centre as the need for repeat diagnostic tests are reduced in number.

Both Frimley Park Hospital and St George's Hospital are aiming to complete their part of the cardiac surgery pathway in an average of six weeks, giving a total journey time of 12 weeks (on average). Data analysis to date suggests that the average referral to treatment (RTT) time has reduced from 32 weeks (on average) to 9.4 weeks (on average) since the project started. This has had a positive effect on staff morale, as they can see the results of their hard work and experience the satisfaction of providing an improved patient experience.

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Derby Hospitals Angioplasty Pathway Project
Derby Hospitals NHS Foundation Trust
Trent Cardiac Network

Issues to address
The trust 18 week steering group collected data to determine the high priority areas to focus on with regards to ensuring compliance with the 18 weeks initiative. The angioplasty pathway was identified as one of these key areas, having a comparatively low achievement rate in respect of the 18 week target.

After initially process mapping the patient pathway, it was identified that activity relating to referrals to or from the catheter lab was one of the key areas for concern.

Baseline position
Catheter lab waits peaked at a maximum during early August 2007, around the beginning of the project, with patients waiting up to 17 weeks for angiography and up to a further 15 weeks for their angioplasty procedure.

As at January 2007, 44% of angioplasty (PCI) patients were recorded as receiving treatment within 18 weeks of initial referral*. This instigated the establishment of this project.

Actions taken
A planning workshop, followed by two further workshops, was held with attendance from cardiologists, cardiac clinicians and other clinical and non-clinical colleagues working in or alongside the catheter lab. The workshops were led by the Trent Cardiac Network and resulted in the development of a robust action plan, which was taken forward and implemented by all relevant members of the cardiology team working in the trust.

To support the progress of implementing the action plan, ad hoc meetings were held as necessary to focus on moving specific issues forward. This included meetings with IT, cardiology secretaries, cardiology managers, attending the cardiologists' monthly meeting etc. The cardiac network maintained a regular record of progress against the action plan throughout the project period.

In addition, at the start of the project nine sets of patient notes were scrutinised to map actual patient pathways. Findings from this work reflected the issues raised during the process mapping exercise, highlighting key areas for improvement. A further 12 sets of patient notes were again scrutinised at the end of the project to provide a robust comparison of where service improvements to the patient pathway had been made.

Key results/outcomes
- Several service improvements have been implemented since completion of this project, which have led to a reduction in waiting times for angiography and PCI procedures, consequently reducing the overall length of pathway for this set of patients
- As at the beginning of March 2008, the maximum wait time for angiography from date of listing had reduced to six weeks, with five weeks being the maximum for PCI. The percentage of patients being treated by PCI within 18 weeks of initial referral increased to 65%

* Using most accurate data available at the time, acknowledging limitations of existing IT systems in recording and reporting 18 week clock statuses.

- The changes that supported and influenced the improvement of the angioplasty pathway at Derby include:
  - Clinical and non-clinical engagement from the outset, including consultant cardiologists, managers, nurses and admin/ clerical staff. All members took ownership of relevant issues / actions which strongly supported the success of the project.
  - Equity for patients requiring angiography (removed inappropriate use of 'urgent' from RACPC and individual consultants, which resulted in more appointments becoming available for the 'routine' referrals and, therefore, these could be seen more quickly)
  - Admin delays removed for 'discussion patients' wherever possible when interventionalist on site. Most cases are now discussed and treatment plans agreed directly with the interventionalist working on that particular day, rather than awaiting a monthly meeting or writing to a specific consultant for opinion
  - Improved post angio process – patient letter template developed for those patients whose treatment plan cannot be agreed on day of angiography. Removes the need to bring the patient back for follow-up outpatient appointment just to inform them of the outcome (reduces length of patient pathway and frees up follow-up outpatient appointments)
  - Raising registrars' awareness of 18 weeks has led to improved efficiency in reviewing of diagnostic results process - now checked a minimum of twice a week as opposed to previously checking once a month
  - Retraining of staff (both internal and external to the trust) to ensure that new referrals for OP and/or diagnostics are correctly addressed and delivered, consequently reducing administrative delays
  - Exercise tolerance test (ETT) request forms updated – enable direct referral for angio following positive ETT (removes the need for patients to attend outpatient appointment, again reducing the length of patient pathway and freeing up outpatient appointments)
  - Introduction of outcome forms in the catheter lab, recognising that clocks could potentially start, stop or keep ticking at point of angiography. This supports more accurate recording of RTT data
  - Robust audit, monitoring and internal reporting processes re waiting lists.

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Tertiary Referrals Pilot Project for Cardiac Services
King's Mill Hospital
Nottingham University Hospitals
Trent Cardiac Network

Issues to address

The national Inter Provider Transfer Admin Minimum Data Set (IPTAMDS) was developed to support the efficient management of patients whose pathways involved an inter-provider transfer, in particular facilitating the transfer of the necessary data to enable receiving providers to meet their mandatory Referral to Treatment (RTT) reporting requirements. Trusts were advised that implementation of the MDS would be mandatory from 1 January 2008.

Locally, it was recognised that preliminary work needed to take place in order to ensure sufficient and accurate collection, recording and transfer of the MDS information. Work needed to take place to identify:

- Where the relevant RTT data could be found
- The ease of this data collection
- Who would be best placed to complete the MDS forms/receive completed MDS forms
- How they would be best transferred across sites, for example, electronically, by post, fax etc.

The trusts would also need to move away from focusing on the previous 'stages of treatment' and individual hospital responsibilities, working together to provide one smooth patient focused pathway of care.

Baseline position

Prior to the publication of the MDS, there was no standard referral information specified for inter-provider referrals between these hospital sites, particularly with regards to data relating to the 18 week whole patient journey. The individual trusts and hospital sites worked towards their specific targets for their individual stage(s) of treatment and did not provide any related waiting time or complete pathway referral data when transferring to another provider.

Because the above data was not being provided across sites, specific 18 week pathway information could not be monitored for this set of patients. Also, existing IT systems did not provide the facility to enable such information to be recorded accurately. Trusts were capturing as

'accurate as possible' information using the data available on the existing PAS electronic database or manually looking through patient notes.

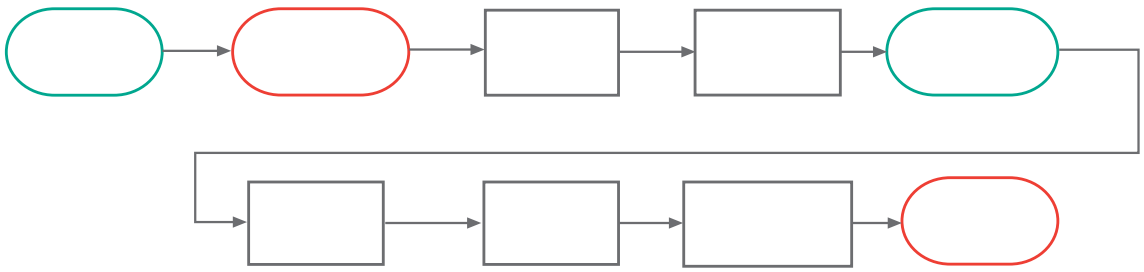
Actions taken

A specific time-limited project group was established, with representation from Sherwood Forest Hospitals NHS Foundation Trust (SFHFT), Nottingham University Hospitals (NUH) and Trent Cardiac Network. Members of the group agreed project aims and objectives including how the MDS data would be collected transferred and by whom, along with the key outcomes to be monitored and reported on at the end of the project. Data monitoring commenced on 1 October 2007 for two months, with a final review process in December 2007. Regular communication was maintained and project group meetings continued throughout the project period.

The project focused solely on those patients being referred from King's Mill Hospital (KMH) (acute trust) for tertiary cardiac care at Nottingham University Hospitals (NUH) (Tertiary Centre). All referrals were captured via the catheter lab at KMH following angiography and included only those being referred on for selected treatment, namely angioplasty (PCI) or surgery (CABG). Patients referred to the tertiary centre for diagnostics were not included in this project.

The pilot focused on the specific stage within the patient pathway, when the patient's care was transferred from the secondary to tertiary care centre. It was agreed that any issues

Example of an 18 week pathway



identified at either side of this should be addressed locally by the relevant trust outside the project group.

In addition, members of the project group acknowledged the local commissioning targets that were hoping to be achieved by March 2008 and, with this in mind, the information collected throughout the project was used to trace and manually plot care pathways for all patients included within the pilot project, identifying time taken between each stage of treatment and any related delays.

Throughout the two-month project period, 27 patient pathways were monitored, with respective MDS forms completed and electronically transferred from KMH to NUH.

Key results/outcomes

This project enabled data completeness of the MDS forms to be monitored, highlighting which data requirements were difficult, or even not available at the time of the project, for collection (e.g. due to awaiting implementation of PAS v20). A list of concerns / problems was recorded and all issues were fed back to the relevant trust for them to locally agree next steps and action points, in order to address the problems and ensure pathways were reduced to the shortest clinically appropriate.

A series of recommendations was also produced, learning from any difficulties encountered as part of the project. These mainly related to ensuring efficient and effective preparation and communication prior to implementation of the MDS, selecting the most appropriate method of transfer of the MDS and clinical referral information, method of collection of robust RTT data, dealing with referrals for diagnostics, and 'roll-out' to other specialties or trusts.

The actual lengths of patient pathways, from referral to treatment, were accurately captured by manually scrutinising patient notes. This enabled key areas for any breaches to the 18 week target to be identified and reasons for these delays to be addressed. Using the actual patient journeys that were mapped, example pathways could be developed to help provide clarification around clock starts and stops.

A full report detailing the project approach, issues, findings, recommendations and 'roll out' have been produced following this project and shared across Trent Cardiac Network. Example pathways, developed as a result of plotting real patient journeys, have also been shared across the network.

As a result of the work carried out within this project, both trusts are able to use the findings to support implementation of the MDS across all specialties. The project outcome also identifies key areas for further service development work within cardiac services, both locally and working across provider sites, in order to achieve the 18 week initiative. Other trusts within the network are also now using the project report to support their implementation of the MDS.

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Reducing Waits for Cardiac Diagnostics
Sherwood Forest Hospitals NHS Foundation Trust
Trent Cardiac Network

Issues to address
The maximum waiting time for some of the high volume cardiac diagnostics was found to be too long. In order to improve patient experience, and for patients to realistically achieve an 18 week care pathway, these waiting times needed to be reduced in line with Trust targets, which aimed for a maximum wait of four weeks for any diagnostic test by March 2008.

Baseline position
In September 2007, echocardiography waits were at around nine weeks, with doctor led ETT maximising at 10 weeks and other high volume cardiac diagnostics not far behind.

NB. Dobutamine Stress Echo's (DSEs) were recognised to be of comparatively low volume in relation to the number of referrals received for other diagnostics and, although waits for this test were also too long, it was agreed that this area would be picked up as a separate project (currently making significant progress).

Actions taken
Data was collected from within the cardio respiratory department for the five high volume diagnostics (i.e. those receiving the most referrals), which were 24hr BP, 24hr ECG, event recorders, echo and exercise tolerance testing (ETT). This data demonstrated that an average of around four weeks wait for patients was actually being achieved for many of these diagnostics, but evidenced a huge variation with many patients waiting up to two months or more from referral, particularly for echo. A workshop was held with all available members of the cardio respiratory team, using this data as a baseline. During the workshop a process map, reflecting the current referral to diagnostic process, was produced, following which problem areas were identified and suggestions for improvement made. As a result of the workshop an action plan was developed.

In addition, the cardio respiratory manager worked closely with the Information Services Department to ensure relevant referral and waiting time data was received on a weekly basis. This enabled the department to move to a more 'demand led' service, which historically had been more 'staff led'.

Significant work was carried out during December 2007 to clear any backlog within the system. All staff training for that month was cancelled and clinical time maximised across the department. Use of all diagnostic slots was maximised, with the administration team ensuring that all efforts were made to fill cancellations as soon as they became apparent. Any available slots in one service that had a minimal waiting list would be converted to accommodate another e.g. additional echo slots if trained staff available.

Key results/outcomes
The maximum wait time for any cardiac diagnostic (excluding DSEs) as at the beginning of February 2008 had reduced to three weeks, which was actually less than the Trust target of four weeks.

Due to the changes made within the department, and the cardio respiratory manager and team adapting to a new way of working, it is anticipated that this short wait time will continue to be sustainable for the future. The new systems will ensure that clinical time continues to be maximised and that the department continues to run as a 'demand led' service. Information Services now provide data on a weekly basis, which enables the department to continue to be 'demand led'.

More flexible working within the department and smarter working patterns enables capacity to be maximised, with all team members now being aware of waiting times and targets.

Cancellations continue to be filled wherever possible by the administration staff and compressed hours of some of the clinical staff are worked to advantage the department, by providing additional slots at the beginning and end of the day for additional patients, or for analysis and reporting work to be carried out.

In addition, the two trainee staff have very recently qualified which has enabled capacity to be extended. The more senior staff, who would previously have worked to support the trainees, are able to see patients separately whilst the newly qualified staff can work without supervision. The cardio respiratory assistant role has also been expanded to provide additional capacity within the department.

Patients are now seen much quicker following referral for cardiac diagnostics. This means patients, and their carers, have less time to become anxious and are able to reach a diagnosis much sooner than before.

This improvement has increased efficiency within the cardio respiratory department and has led to significantly reduced waiting times supporting the trust's achievement of the 18 week initiative. These reduced waits at King's Mill Hospital have also provided the opportunity and additional resource to progress towards achieving similar results in relation to cardiac diagnostic waits at the Newark Hospital site.

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Partial Booking of Follow Ups
Sherwood Forest Hospitals NHS Foundation Trust
Trent Cardiac Network

Issues to address

Trent Project 'Cardiac Service Improvement' ('CSI') was established as an initial response to the 18 week wait target, which brought together team members from Sherwood Forest Hospitals NHS Trust, the Trent Cardiac Network and the National Heart Improvement Programme. The project aimed to deliver improvements that would make a contribution towards achieving the target within cardiology and one of the key problem areas identified was the system for booking follow up outpatient appointments.

The booking process for follow up patients was found to be inefficient, with patients being "fully" booked too far in advance (3, 6 or 12 months). This led to high DNA and cancellation rates, as well as to lots of rescheduling every time an outpatient clinic was cancelled or reduced. The service was driven by the demand for new patient appointments, leading to follow up patient capacity being 'squeezed'. This could result in patients being seen long after their ideal review date, often further delayed by having appointments moved forward due to clinics cancelled or patients forgetting their advance appointment and therefore not attending.

As a consequence, consultants were unable to follow up patients in a timely fashion according to clinical need. The management of these follow-up patients was not optimal and the follow up to new ratio did not use resources to the maximum efficiency.

Baseline position

Between 1 December 2004 and 30 November 2005 there were 5397 cancellation events within the cardiology outpatient service. 4092 of these cancellation events occurred more than six weeks before the appointment date. 1305 of these cancellations occurred less than six weeks before the appointment date.

The follow up ratio was at 1 new to 2.57 (including RACPC) follow ups, with a range of between 1:2.7 and 1:5.75.

There were found to be 1081 DNAs over the same period, from 1 December 2004 and 30 November 2005, with 82% of all DNAs occurring from follow ups.

Planned clinic capacity was running at 64% utilisation prior to the project.

Actions taken

An analysis was undertaken of the reasons for cancellations occurring more than six weeks before the appointment date. Most were due to the unavailability of medical staff due to annual leave, study leave or on-call commitments. A new trust leave policy was consequently introduced, stating that a minimum of six weeks notice was required. In line with this, clinic rotas and on call rotas were scheduled only six weeks in advance, rather than for several months, enabling capacity to be more flexibly planned to ensure clinics were always covered and, therefore, removing the need for cancellation or rescheduling of clinics.

A 'go live' date was set and publicity campaign launched via local hospitals and media. Initially, almost 3000 appointments were cancelled, which had been scheduled for patients in advance of six weeks. Each patient was sent a letter explaining why their appointment had been cancelled and informing them of the process via which their next appointment would be booked. A leaflet explaining and highlighting the benefits of the new partial booking process was included. This process resulted in less than 10 patient complaints.

The partial booking system worked by patients requiring follow up more than six weeks in the future being partially booked and given a Partial Booking Information leaflet. These patients were added to a review list on PAS and allocated a review date. Six to eight weeks before the review date a letter was sent to the patient, inviting them to telephone to arrange an appointment. Non-responders were telephoned and if no contact was made the case was referred back to the consultant for them to decide whether to discharge the patient or refer them back to their GP.

Multidisciplinary slot management meetings were held every two weeks, which contributed significantly to monitoring and improving the efficiency of the booking process. Related policies and procedures were reviewed and updated accordingly throughout the pilot period. An electronic outpatient request form was also introduced.

Key results/outcomes

Demand management for clinic appointments is now driven by the total demand in the system, not just new patients. Those requiring a follow up appointment within six weeks are generally the first call on resources, with the second call being for follow ups coming up to review date (agreed boundaries are in place on what is an acceptable variance to review date, + or –). Finally, the remaining capacity is pooled on choose and book as new patient slots, with a conversion ratio of two follow up equivalent slots to one new patient. This system of slot management now avoids under booking of clinics due to unfilled new slots, as could have happened with the previous system.

The key results and outcomes from this project include:

- A dramatic reduction in cancelled appointments (hospital and patient driven) – no follow up events cancelled more than 6 weeks before appointment as this is no longer possible. Cancellation rates also reduced for new appointments, from 13% in November 2005 to 2% in September 2006.
- An increase in patient choice with regards to time / date of appointment
- A 50% improvement in DNA rates was demonstrated by the end of the project, thought to be directly attributed to partial booking for follow-ups
- The ability to flexibly plan capacity, with follow up demand being the driver
- Improved cost efficiency, with the reduction in volume of staff resource required to cancel / change clinics - the introduction of an electronic outpatient request form reduced phone calls by 80 per month
- By January 2007, waiting times fell despite increased referrals, indicating more efficient use of clinic capacity
- There was the potential risk that follow-up ratios would increase with easier access, but this was not the case
- Although the percentage utilisation of clinic slots had not changed by the end of the project (remaining at 64% utilisation), the underpinning organisation of clinics was improved with over bookings no longer occurring, a reduction in DNAs evident and fewer patients having appointments rearranged. The clinic volumes are more predictable and so run more smoothly.

The project anticipated a further positive result in that all follow up patients would be able to be seen when clinically appropriate and in broad chronological order by the end of the project, which would then be sustainable. Unfortunately, due to numbers of patients exceeding the existing maximum overall clinic capacity and the pressures for new patients to be seen without delay, there is currently insufficient space in clinics to ensure that this is always the case and, therefore, the number of follow ups outstanding is higher than desired as at March 2008. However, the way that these follow ups are being monitored and managed has dramatically improved as a result of the project, enabling this issue to be highlighted as a priority area and providing evidence for a solution to be identified and implemented by the trust as a matter of relevant urgency.

To date, the project has brought many benefits to both patients and staff working within the trust. Patients have an improved experience with no cancellation of appointments and improved choice of follow up date, making them feel more involved and less likely to forget about their appointment. Better use of resources means patients should no longer have to wait as long as before. The clinical management of patients with follow up has improved, with many of them now being seen at a clinically appropriate time (although recognising the current issue outlined above).

Every six weeks the service has a ‘clean sheet’ in terms of clinic bookings and flexible use of capacity enables the service to be more responsive to the demands and be less bound by previous clinic booking rules. Decisions are made about how to allocate resources in a more realistic time frame.

Reduced DNAs has led to increased capacity in the service. Partial booking means that the majority of patients, who would previously DNA, do not respond to partial booking, hence no longer take up an appointment slot and consequently leave this available for another patient to occupy. This also leads to reduced overall waiting times.

Since completion of this project, partial booking has been introduced for many more specialties across the hospital trust, benefiting significantly more patients and supporting the trust with its work to achieve the 18 week target.

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Achieving 18 Week Referral To Treatment Pathways by March 2008

James Paget University Hospital NHS Foundation Trust (JPUH), Papworth Hospital NHS Foundation Trust, Norfolk and Norwich University Hospital NHS Trust (NNUH), Great Yarmouth and Waveney Primary Care Trust, Anglia Cardiac Network

We set an admissions target for the team, achieving two week, one stop-clinics. We will spread this practice across our other specialties.

Adrian Pennington, Chief Executive, James Paget University Hospital NHS Foundation Trust

Issues to address

The JPUH is a small district general hospital situated on the East Norfolk coast. It has a population catchment area of 220,000 and there are high levels of deprivation.

The NNUH, a neighbouring DGH offers an angiography and pacemaker service to the JPUH and percutaneous coronary intervention (PCI) to a specific group of patients. The majority of patients however have to travel to Papworth, a cardiac tertiary provider which is a 190 mile round trip.

Cardiologists:

There is one full time cardiologist, one part-time cardiologist (outpatient work only), one locum and one vacancy. There is insufficient outpatient capacity with the staffing levels as they are to reduce the outpatient wait to anything less than two to three weeks.

The JPUH has a non-invasive cardiac diagnostic department which means that the following diagnostics are available: ambulatory monitoring, echo, exercise tests, TOEs, Tilts etc. This department has been very dynamic over the last few years in that the manager has applied for funding from the SHA to take on a student every year for the last six years, she has implemented an in house echo training programme and with additional service redesign has sustained all diagnostic waiting times at <2 weeks for over eighteen months. Our challenge of implementing one stop diagnostics was therefore not reducing diagnostic waits but reducing outpatient waits. The Trust could not afford to waste diagnostic capacity so we were unable to implement one stop diagnostics until the outpatient wait almost matched the diagnostic wait.

Reducing the outpatient wait was a major aspect of this project and a demand and capacity study at the beginning of the project revealed the size of what lay ahead.

Each consultant had:

- Different start and finish times
- Saw a varying number of patients
- Where middle grades were present they often only saw a couple of patients
- New slots were frequently closed to accommodate follow ups
- There was so much wasted capacity both from poor utilisation of appointments and high DNA rates that it was clear a more efficient service was required urgently.

A follow up audit undertaken to find out the reasons why patients were being booked to return to clinic for a follow up appointment revealed:

- Inappropriate follow up practice
- Incorrect booking of patients who should have been new not a follow up
- A high number of patients were being asked to return to discuss results of tests and then discharged requiring no further intervention or medical treatment. This was adding a considerable delay in the pathway (i.e. you can't stop the clock until the result is shared with the patient and the outcome agreed).

Our primary objective is to have the fastest improving health system in England. This project is a fantastic example as to how service improvement techniques can help us to achieve this.

Mike Stonnard, Chief Executive, Great Yarmouth and Waveney PCT

It was apparent that processes such as (i) receiving a referral letter from a GP to the stage of offering the patient an appointment and (ii) dictating, typing, signing and posting a referral letter to our tertiary colleagues were both taking too long. These two processes combined could take up to four weeks out of an eighteen week pathway.

Clinical pathways varied depending upon which clinician the patient saw and one of the biggest challenges early on was actually measuring every pathway. As patients initially seen at the JPUH were often referred to tertiary for diagnostics and or treatment, the length of individual pathways needed to be established. The PAS system was old and only able to record very minimal 18 week information.

We therefore did not know where the blockages in the system were, whether there were any hidden waits and the size of the problem that we were dealing with. A small sample of case notes were reviewed early on but it was not possible to continue to review notes throughout the project due to the time factor. An IT tracking system was therefore developed to solve this problem.

Baseline position

Waiting times:

Long outpatient waits - 9 weeks+
Diagnostic waits -14 weeks in 2006

Outpatients:

High DNA rates - new (7%) and
follow ups (13%)
New: Follow up ratios (varied between 1.8 - 3.3)

Whole pathway journey times:

There was no data available to identify the length of pathways as many patients crossed secondary to tertiary care boundaries. A few case note audits revealed very lengthy pathways but there was only a small number of notes reviewed due to time constraints.

MIBI waits - 13 weeks
Surgery – 11 weeks
Angiography – 6-7 weeks
PCI – 9-11 weeks

Actions taken

In view of the complexity of what has been described above, the project board agreed that work streams would need to be established to tackle each area, i.e. outpatients and diagnostics, clinical pathways and IT.

Outpatients and diagnostics:

- Clinic templates – revised to streamline start and finish times, number/type of patients in each clinic
- Utilisation of clinics – weekly reports were produced detailing every available slot in the following month's clinics. The report was circulated to the appointments team, secretaries and consultants to ensure every appointment was utilised
- A follow up protocol has been drafted. All follow ups have to be signed off by the consultants so if there is a middle grade in clinic, the consultant has to agree to the booking of the follow up
- As the wait has reduced, the majority of new patients are contacted by telephone to arrange their appointment rather than posting a letter
- Implemented a one stop heart failure clinic
- Planned echocardiography one stop although clinical measurements are able to do 'on the spot' echo tests if required
- Some exercise tests are one stop, although there is limited capacity for this at the moment as we rely on a consultant led service. We plan for a technician led service by the summer at which point we should be able to perform all ETTs as one stop (amalgamate Rapid Access Chest Pain Clinic at this point)
- The referral process for receiving a GP referral to booking of appointment was process mapped and redesigned. All referrals are now triaged and booked within 24-48 hours of receipt.

From a national priority project point of view, having other members of projects, working on very similar objectives, having them in one room every six weeks and having the national team there has been very useful. We've been able to help each other and take ideas away.

Donna Lorne, Service Improvement Lead, Anglia Cardiac Network

Clinical pathways:

- Regular meetings with clinicians – case note reviews to raise awareness of current practice and agree ways to improve/streamline pathways
- Due to the distance between Papworth and JPUH and the amount of time clinicians would have to spend travelling, Papworth and JPUH consultants participated in a videoconference session to discuss pathway issues. This was a very efficient way of getting clinicians together. Exploring the possibility of arranging future meetings and also using video-conference as a way of running education sessions.
- Implemented new referral forms for angiography and MIBIS. These are completed and faxed across on the same day as to decision to refer (DTR). Patients are put on the waiting list within 24 hours of DTR instead of up to 14 days later.
- A second gamma camera was up and running in January, this has reduced the wait to five weeks for a MIBI scan. A MIBI protocol was implemented and policing of referrals is underway to monitor demand on the service.
- Monthly reporting of new: follow up ratios, outpatient activity (number of new and follow ups seen by each clinician) and DNA rates.

A web based IT tracking system (funded by the NHS Heart Improvement Programme) was developed and implemented by end of February 2008. This was updated in March by the patient pathway coordinators in each of the three Trusts. The project has reliable data detailing progress towards the delivery of 18 week pathways. The data has been invaluable to highlighting specific problems in pathways and is providing a rich source of information for future improvement and redesign work. In addition the communication link between the three Trusts has improved considerably as a result of this.

Key results and outcomes

- The diagnostic wait has been sustained at < 2 weeks for eighteen months.
- The outpatient wait has been sustained at two to three weeks since January 2008.
- A one stop heart failure clinic has been implemented.
- All echocardiography is performed as one stop i.e. with the 1st outpatient appointment.
- Some patients are offered one stop exercise testing; this will increase to 100% by the summer of 2008.
- New: FUP ratio has reduced to 1.8 and is still reducing.
- DNAs are reducing, new DNA rate is 5%, follow ups 8.8%. There are plans to implement a new process to reduce this even further.

Current Pathway Waits		NNUH	Papworth
Angiography		2-3 weeks	<6 weeks
PCI		10 weeks	<11 weeks
Pacing		3-5 weeks	N/A
Surgery	CABG	N/A	<11 weeks
	Valves	N/A	<16 weeks
MIBI		N/A	<5 weeks

- 100% pathways for patients seen and treated at the JPUH are <18 weeks.
- Of completed pathways involving tertiary centre services, 80% <18 weeks, 20% >18 weeks.
- A cardiac tracking system has been fully implemented; all patients are now tracked between three trust sites.

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18 Weeks Whole Patient Pathway Data Capture Project
Norfolk and Norwich University Hospital NHS Trust (NNUH)
Anglia Cardiac Network

Issues to address

The NNUH is a large acute hospital for a tertiary catchment area of up to 822,500 people. Every year we treat more than 600,000 people from Norfolk, from neighbouring counties and from further a field. Our patients are referred to us by around 100 local GP practices but, also from other acute hospitals and other primary care trusts.

The NNUH has a dedicated 18 week data capture workstream which is chaired by the head of planning and performance and members include the data quality manager, business support managers, divisional operational managers, administration managers, IT leads and a PCT representative. The workstream is a robust platform for discussion, decision making, actioning and escalation. The whole team work in collaboration to ensure best practice and support mechanism.

The workstream is very much focused on:

- Engagement and communication – clinical and non clinical and other stakeholders
- Resources
- Workforce – changes to working practice/skill mixing
- IT – data capture/training/PTs
- Capacity and demand
- Operational implementation of measurement
- Process mapping – clinical pathways and administrative pathways
- Policies and procedures.

Obviously once the workstream had drafted a methodology to support the trust in capturing the 18 week RTT data, it was very clear that there were going to be some very big challenges ahead!

Baseline position
Examples of problems:

- **Lack of awareness**
  - Clinicians
  - Administration
  - PCTs
  - Patients
  - Other stakeholders
- **Patient Access System (PAS)**
  - Additional fields required to capture RTT outcome codes, start clocks and pathway IDs
- **Capacity and demand**
  - Reducing wait times impacting on capacity at all SoT, outpatients, diagnostics and admissions
  - Lack of robust peer review of referrals
- **Workforce**
  - Changes required in working practice – clinically/non clinical
  - Staff shortages
- **Operational implementation of measuring/capturing data**
- **New policies and procedures required.**

Actions taken

The trust established an 18 week RTT data capture workstream which has provided the trust with a very focused and committed team driving change and helping service redesign. It is a credit to all the staff within the trust that the team has been able to reach such levels so far, there is still much to be done, milestones to reach and boundaries to cross but, sharing the load, using best practice and communicating effectively will assist the way forward.

Key results and outcomes

Examples of solutions

- **Improving awareness**
  - 18 week RTT powerpoint presentations across the trust
  - OPD letters to incorporate 18 week patient information
  - Divisional 18 week meetings
  - Hospital Intranet webpage/Pulse Magazine
  - PCT representatives to progress awareness still further within the GP practices – leaflets and posters.

- **IT/PAS hospital system**
  - Close IT working with McKesson build team to provide new fields and local RTT codes mapped to national codes requested by 18 week workstream
  - Business object reports written to provide ward clerks with a tool to manage the 18 week data for elective admissions
  - Patient Target Lists (PTL) designed to link with all SoT targets and 18 week target giving managers/waiting list co-ordinators etc a robust management tool
  - Electronic word templates and digital dictation roll out have provided modernised ways of working to ensure where possible electronic delivery of correspondence to GPs and digital dictation providing a letter management tool i.e. alerting/flagging urgent letters.

- **Capacity and demand review**
  - All specialties looking at ways of making better use of existing capacity e.g. clinic template review, DNA rates, change in working day
  - Referral review
  - DNA rates – expanding/introducing text messaging reminders, letter reminders
  - Process mapping – clinical and administrative pathways.

- **Workforce/resource**
  - Dedicated IT 18 week RTT training packages for all relevant staff
  - Modernising job roles – skill mixing, New Ways of Working
  - Generic working
  - Flexibility of shift patterns
  - Introducing admin relief teams
  - Managers investment in time with teams to aid understanding and support
  - Improve on ESR turnaround times to ensure reduced delays in advertising new vacancies.

- **Operational implementation of measuring/capturing data**
  - Generic outcome proforma's incorporating – demographics, 31 and 62 day cancer patient target dates, general opd outcomes, 18 week RTT – start clock, target date, pathway ID, RTT codes, waiting list section, investigations, comments, signature and date.
  - 18 week RTT cribsheets – designed with clinicians providing a tool to assist assigning correct RTT outcome codes used in OPD areas and secretarial/consultant offices. Ward clerks also have a specially designed cribsheet and business objects report to use as working tools
  - A new patient tracking tool currently being designed especially for secretaries and managers to assist with the 18 week pathways.
  - 18 week RTT outcome code reports designed by IT to enable managers to feedback to clinicians
  - Generic email 'i n-boxes' for secretaries to receive referrals and radiological results.

- **Patient access policy**
  - The trusts patient access policy has been released to incorporate the 18 week policies and procedure to assist staff in implementing the rules especially around DNA, patient cancellations and the 18 week pause rule.
  - Administration leads ensuring the patient access policy is understood and giving staff dedicated time to read and ask questions.

The 18 week RTT data capture workstream is currently working on the 18 week validation process ensuring completeness of the completed admitted pathways. This process has clearly shown that collaborative working is the way forward to provide support for each other across boundaries.

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Resources and Project Team Membership

Resources

NHS Improvement Website
The website acts as a portal to information, news and updates covering cardiac, cancer, stroke and diagnostics.
www.improvement.nhs.uk

Improvement System
NHS Improvement System is a comprehensive online resource to support quality improvement in NHS services. It contains service improvement tools and resources, practical guidance, case studies and useful signposting and links.
www.improvement.nhs.uk/improvementsystem

As part of its project functionality, the system:

- Acts as a central repository for project plans, reports etc
- Provides a place to store any measures and analysis used within the project
- Provides a place to record and share within the team project development and logs.
- Has the ability to share both locally and nationally and within and across multiple organisations, as the work progresses, any wider service improvement ideas and stories
- Has tools to create and analyse measures, data and return on investment using a variety of charts and tables.
- Provides a suite of tools to aid service improvement
- Provides a document store to capture project resources, processes, policies and procedures.

A brief overview of the relevant tool modules from the NHS Improvement System are shown in the table below.

Module	Description
Demand and Capacity Module	Record demand and activity over time to produce detailed analysis of your service
SPC Charting	Record and manage variation with the use of SPC
Patient Pathway Analyser	View patient start/stop data in an easy to read graphical format
Return on Investment (ROI)	Record your improvements to monitor ROI
Project Management	Manage your projects online so all the team can input
Sharing Improvement Stories	Share your improvement stories/case studies with your network/nationally

Demonstrations of the above modules can be found on the improvement system website at www.improvement.nhs.uk/improvementsystem

The Improvement System focuses on Cardiac, Cancer, Stroke and Diagnostics, and is available free of charge to all NHS organisations in England.

For more information contact support@improvement.nhs.uk

The Patient Pathway Analyser

- is a unique tool that enables you to use local data to visually represent a section of, or a whole 18 week patient pathway;
- is flexible, user-defined and interactive;
- helps you quickly identify bottlenecks along an 18 week patient pathway;
- uses integrated SPC tools to help you identify variation;
- helps you focus service improvement resources towards the area of most need;
- any excel based data from any system can be used;
- enables you to compare similar pathway steps from multiple patient pathways;
- uses patient level data.

www.improvement.nhs.uk/improvementsystem/Module18Week.aspx?FROM=MainMenuandMODE=new

The Demand and Capacity Module

- allows you to record demand, activity, backlog and capacity data;
- can be used daily or weekly as an operational or retrospective tool;
- provides a visual and dynamic interactive dashboard monitoring tool;
- enables you to view a weekly summary of all departmental procedures and activities;
- provides a backlog monitoring and management tool;
- uses integrated SPC tools and a variety of other charting features to help you identify variation;
- automatically calculates the recommended capacity levels;
- helps you monitor your lost appointments
- can be used by a novice and expert with the online support;
- is fully complementary with other service improvement methodologies.

www.improvement.nhs.uk/improvementsystem/ListDandC.aspx

Statistical Process Control Tool (SPC)

To monitor, control, and improve process performance over time by studying variation and its source.

How does the tool help?

- Focuses attention on detecting and monitoring process variation over time
- Distinguishes special from common causes of variation as a guide to management action
- Provides a tool for the ongoing monitoring and control of a process
- Helps improve a process to perform consistently and predictably for higher quality , lower cost and higher effective capacity
- Provides a common language for discussing process performance.

The inherent strength of the SPC chart is that they provide a visual representation of the performance of a process by establishing data comparisons against calculated limits (known as upper and lower "natural process" or "control" limits).These limits, which are a function of the data (often known as the voice of the process), give an indication (via signals or chart interpretation rules) as to whether the process exhibits either "common cause" variation or "special cause" variation. The charts also show the inherent width or spread of the variation being generated within any given process. Charts commonly (although not exclusively) require 20–25 data points to provide meaningful information.

In simple terms improvement efforts would firstly seek to remove special cause variation in order to create a stable "in control" process followed by efforts to reduce the spread (or width) of the common cause variation. Processes that are in control provide natural process limits that can be compared to specifications , targets or standards (often known as the voice of the customer or voice of the business) with corrective action being taken as required. Comparisons between specification limits and process performance enables the calculation of system capability; the ability of the process to meet customer and business requirements. Information of this type is fundamental in guiding process improvement strategy.

www.improvement.nhs.uk/improvementsystem/AddMeasure.aspx?From=Menu

Data Dashboards

Interactive Data Dashboard showing 18 week Referral to Treatment and data completeness measures together with diagnostic performance analyzed by Commissioner, SHA, and Network and Provider. Note that this is a developing resource which will link 18 week data to improvement stories ensuring its value added and complementing rather than duplicating information available via NHS Comparators.

www.improvement.nhs.uk/improvementsystem/DocumentArchive/DashboardDownload.aspx

Visual Pathway Tool

A number of cardiac clock scenarios have been developed by NHS Improvement (Heart Improvement) in conjunction with the demonstrator sites. The aim of these pathways is to illustrate common queries emanating from the cardiac community participating within the project. These pathways also include reference to the Referral to Treatment status (RTT) codes.
www.improvement.nhs.uk/improvementsystem

Link to 18 week stock take document

www.improvement.nhs.uk/improvementsystem

Heart Improvement Programme 18 Week Online Resource

This interactive online resource has been developed with the aim to help individuals and organisations to improve their current cardiac patient pathways. It is based on a generic 18 week cardiac pathway that allows the user to 'interact' at each pathway step in order to gain a background of suggestions and tried and tested service improvements relating to a particular pathway step (but also the whole pathway), and to access a host of external resource links and idea prompts as redesign work progresses.

While all of the suggestions, ideas, tools, techniques and improvements within this resource are cardiac focused, a large proportion can easily be adapted for generic use within other specialty areas.

What this resource can offer:

- A generic 18 week cardiac pathway to help define improvement work.
- A number of prompts and suggestions along each pathway step to help focus and prioritise work.
- Service improvement ideas along each pathway step and suggestions for further work.
- A number of suggestions and ideas to help understand the data required to effectively measure 18 week pathways and also information on data analysis and measurement for improvement.
- Links to external resources around 18 Weeks such as the NHS Institute 'No Delays' Patient Analyser and Department of Health 18 Week website.
- Links to service improvement tools and techniques such as demand and capacity and statistical process control.

- A link to the NHS Improvement System which will allows for:
  - Access tried and tested improvement stories;
  - Record your own project work on the project management module;
  - Share your work nationally with others;
  - Record, analyse and chart your data using a variety of features;
  - Be part of a national network of networks dedicated to the improvement of cardiac services;
  - Access a host of presentations and documents related to 18 weeks through the systems national document store.
- A Frequently Asked Questions (FAQ) section that allows for further related information and examples.
- Service improvement case studies

www.heart.nhs.uk/18weeks

Link to presentations from the National One Stop event January 2008

The delivery of 18 week sustainable pathways is a challenge for all organisations across the country. An emerging theme towards the delivery of 18 weeks is to develop one stop models of care at the start of these pathways, encompassing outpatient clinics and diagnostics. The link below allows you to access presentations from speakers at the one stop event currently developing or sustaining one stop models of care:

www.heart.nhs.uk/heart/Resources/EventPresentations/tabid/69/Default.aspx

Useful links

Cancer Waits Resources (31 and 62 day waits)
www.improvement.nhs.uk/cancer

The challenge of implementing sustainable improvement in cancer services (2006) lessons from demo sites.
www.improvement.nhs.uk/cancer

www.improvement.nhs.uk/diagnostics

Choose and Book

This website is designed for both patients and NHS staff and provides information to help understand and use the choose and book system.
www.chooseandbook.nhs.uk

Department of Health 18 Weeks

This website is home to the official guidance and information to help NHS health professionals achieve and sustain 18 weeks
www.18weeks.nhs.uk

Department of Health 18 Weeks Specialty Focused Areas

Within this area of the DH 18 weeks website there is an area for cardiology which contains several commissioning pathways, supporting case studies, documentation and guidance relevant to it.

Cardiology
www.18weeks.nhs.uk/content.aspx?path=/achieve-and-sustain/Specialty-focussed-areas/Cardiology

The following cardiac commissioning pathways can be accessed via the DH 18 weeks cardiology specialty focussed area, as above.

- **Chest pain (angina)**
- **Breathlessness (heart failure)**
- **Palpitations (Atrial fibrillation)**

Questions to ask: getting the most out of your appointment

This leaflet published by the Department of Health is aimed at helping everyone get the best out of their appointment. It contains recommended questions for patients to ask during appointments. The questions and tips in "Questions to ask" were developed through an extensive consultation which gathered the views of more than 200 patients and professionals. They were asked about the content, style and format, and their views shaped the final version of "Questions to ask".
www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_079531

The Information Centre

The IC is a Special NHS Health Authority created to collect, analyse and distribute facts and figures for health and social care communities in England. They have developed NHS Comparators a national resource comprising a range of functionality:

- Practice Based Commissioning
- Provider Comparators
- Suite of 18 week comparators

www.ic.nhs.uk

NHS Institute for Innovation and Improvement

The No Delays team at the Institute have developed a range of products aimed at helping organisations to achieve the 18 week pathway to find out more click on the link below:
www.institute.nhs.uk

Commissioning for no delays

A practical guide has been developed to support commissioners in their role in delivering and sustaining the 18 week pathway.
www.institute.nhs.uk/no_delays/introduction/commissioning_for_no_delays.html

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NHS

NHS Improvement

CANCER

DIAGNOSTICS

HEART

STROKE

NHS Improvement

NHS Improvement is a newly formed national improvement programme working with clinical networks and NHS organisations to transform, deliver and sustain improvements across the entire pathway of care in cancer, cardiac, diagnostics and stroke services.

Formed in April 2008, NHS Improvement brings together the Cancer Services Collaborative 'Improvement Partnership', Diagnostics Service Improvement, NHS Heart Improvement Programme and Stroke Improvement into one improvement programme. With over eight years practical service improvement experience in cancer, diagnostics and heart, NHS Improvement aims to achieve sustainable effective pathways and systems, share improvement resources and learning, increase impact and ensure value for money to improve the efficiency and quality of NHS services.

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