The rollout of the primary percutaneous coronary intervention programme has helped to transform cardiac care and reduce mortality for first-time heart attacks.

Transforming emergency cardiac treatment

In this article...
- How a network of PPCI centres was set up
- Improvements in treatment for MI
- Patients’ health information needs

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Abstract
NHS Improvement led the rollout of a network of primary percutaneous coronary intervention centres around the country, to treat patients with ST-segment elevation myocardial infarction. This article discusses the background, implementation and outcomes.

Establishing a new PPCI network
The National Infarct Angioplasty Project (NIAP), a feasibility study sponsored by the British Cardiovascular Society and Department of Health, was the driving force behind the scheme. Its 2008 report showed a PPCI strategy would dramatically improve emergency heart treatment (DH, 2008).

Until this time patients with STEMI were more likely to receive thrombolysis, usually pre-hospital and administered by ambulance paramedics. The report concluded that PPCI was associated with fewer complications, a lower recurrence rate of heart attack, low incidence of stroke and lower hospital mortality rate (DH, 2008).

Although it acknowledged that PPCI was more labour intensive and expensive than thrombolysis, the report determined that a PPCI strategy was preferable in England as it was both clinically and cost effective when delivered within 120 minutes of a patient calling for medical services. However, longer times to treatment occurred if patients were first assessed in an accident and emergency department or at a local non-PPCI hospital. The DH (2008) stated the ambition should be to create a network of specialist PPCI centres around the country, open 24 hours a day, seven days a week.

NHS Improvement’s role
Following the NIAP report, NHS Improvement had to facilitate the rollout of PPCI treatment to cover 95% of the population in England by December 2011 and coordinating implementation of the overall strategy across the 28 cardiac and stroke networks in England. NHS Improvement’s strength and expertise lies in practical service development and working with the DH, trusts, clinical networks, health sector partners, professional bodies and charities to test, implement and spread quantifiable improvements in NHS services.

Implementing the strategy
Leading implementation of the new PPCI strategy was an immense task. Doctors, nursing staff, ambulance services, hospitals and commissioners had to be brought together in each area. For many, embracing the new 24/7 ethos of a specialist PPCI centre demanded a radical approach to clinical delivery, out-of-hours and on-call practices. There were concerns about the impact of
been transferred to London. Because of this, patients needing emergency care had historically been transferred to the local Cardiac Network, for example, patients were transferred from Kent to a PPCI unit in London. In Kent there were no local treatment centres at all. In others there were existing services across the country also providing daytime PPCI. In others there were existing services across the country also providing daytime PPCI. In Kent, where a new dedicated centre was commissioned, the change was almost revolutionary.

Improving cardiac rehabilitation

The changes in clinical practice have identified new challenges for clinical leads and nursing teams. While PPCI is a major step forward, the speed of treatment can leave patients confused about what has happened. A Leeds University research project highlighted the extent of these issues and illustrated the vital role of nurses and wider medical teams in addressing concerns (Astin et al, 2008).

Further work showed patients treated with PPCI have short stays in hospital, often characterised by transfers across clinical settings (NHS Improvement, 2011). An unintended consequence of this is less time for health professionals to give patients and families information and psychological support. Researchers from Leeds University found patients and their families may:

- Develop misconceptions about heart attack;
- Believe treatment has fixed the problem;
- Fail to fully appreciate the need for behaviour modification.

To counteract these issues, health professionals should provide information as soon as patients enter the healthcare system – when calling 999, or when presenting to a local emergency department (NHS Improvement, 2011). At the point of treatment, health information should be tailored to individual needs, establishing what patients already know to ensure they can be most fully informed.

Priority topics for patients and carers have been identified as:

- Heart function;
- Recurrence of symptoms;
- Causes and preventive measures;
- Medication;
- Family support; and
- Aftercare.

Our publication provides guidance for health professionals on producing effective, taking into account factors including the patient journey, the need for a consistent message, supporting a positive outlook and ensuring patient commitment to taking prescribed medication and adopting lifestyle changes (NHS Improvement, 2011). It is clear that all members of the multidisciplinary team have a role to play throughout patients’ treatment and aftercare.

Outcomes and impact

The work of the range of health professionals and commissioning bodies involved in this complex, extensive and almost revolutionary exercise means that, at the end of the programme, objectives have not only been met but exceeded. Figures for the third quarter of 2008, around the time of the NIAP report, show that 54% of patients with STEMI were treated with thrombolysis in hospital or pre-hospital, with 46% receiving PPCI; by the second quarter of 2011, 94% were being treated with PPCI (NHS Improvement, 2012).

Mortality data from the NHS Central Register by the Central Cardiac Audit Database (CCAD) shows mortality for first-time heart attack fell by 3.8% between 2003–2004 and 2010–2011; the switch to PPCI is likely to have been a major factor (MINAP, 2011).

The rollout

To roll out the new PPCI programme, NHS Improvement had to work with each local cardiacl and stroke network to devise an individual implementation plan; these plans adopted a different pace of change according to individual circumstances. In places like Kent, where a new dedicated centre was commissioned, the change was significant but relatively quick; in the East Midlands, consultation exercises with all the constituency health groups had to be undertaken about services in each of the different localities. As a result, the East Midlands strategy, which began in 2008, was realised in the second quarter of 2011.

Each implementation plan was tailored to the area’s pre-existing infrastructure and, while plans were highly individual, some issues were common to all networks:

- Developing pathways for patient referral and transfer to ensure the shortest possible call-to-balloon and door-to-balloon time;
- Resolving local issues around 24/7 staffing for doctors, nurses, cardiac physiologists and radiographers;
- Reaching agreement with their non-PPCI hospitals about whether patients treated by PPCI should remain in the PPCI centre or be transferred to their local hospital afterwards.

Even though they faced many of the same problems, each network reached different conclusions about services.

To ensure the best outcomes for local people and clinical teams, NHS Improvement ensured professionals were always given the opportunity to share ideas by:

- Hosting bi-annual meetings so clinical leads from each network could share expertise and experience;
- Publishing documents to aid networks in developing their different strategies (NHS Improvement, 2009); and
- Providing bespoke advice and expert opinion to support the development of local plans and resolve both general and specific issues.

References


NHS Improvement (2011) Primary Angioplasty and Health Information Provision. tinyurl.com/NHSI-PCI.