

By: Tristan Godfrey, Research Officer to the Health Overview and Scrutiny Committee

To: Health Overview and Scrutiny Committee – 26 November 2010

Subject: Primary Angioplasty – Update.

1. Background

- (a) As part of the Next Stage Review, Lord Darzi asked the Strategic Health Authorities (SHAs) to produce a regional vision.¹ *Health People Excellent Care, A Vision for the South East Coast* was the report from NHS South East Coast. This was published on 2 June 2008, and made the following pledge:

“By 2010, strokes, heart attacks and major injuries will always be treated in specialist centres.”²

2. Cardiac Care

- (a) Coronary Heart Disease (CHD) is the biggest cause of death in the country, killing more than 70,000 people in England each year, with 110,000 having a heart attack.³
- (b) The National Service Framework (NSF) for Coronary Heart Disease (CHD) was published by the Department of Health in March 2000⁴ and set out a strategy to modernise CHD services over a ten year period. Chapter Three dealt specifically with “Heart attacks and other acute coronary syndromes.” At the time this document was produced, around 300,000 people suffered a heart attack (or acute myocardial infarction) each year in the United Kingdom, of whom 140,000 died. Between a third and two-thirds of these deaths occurred outside a hospital, often within the first few minutes of the onset of symptoms.
- (c) The NSF set out a number of standards to ensure access to the most appropriate care as soon as possible, including use of a defibrillator by an appropriately trained person within 8 minutes, and thrombolysis within 60 minutes of calling for professional help (‘call-to-needle time’;

¹ London had a slightly different process to the other nine SHAs.

² NHS South East Coast, *Healthier People, Excellent Care. A Vision for the South East Coast*, June 2008, p.6, <http://www.southeastcoast.nhs.uk/Downloads/HPEC/Full%20report%20-%20Healthier%20people%20excellent%20care.pdf>

³ Department of Health website, *Coronary Heart Disease*, <http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Healthcare/Longtermconditions/Vascular/Coronaryheartdisease/index.htm>

⁴ Department of Health, *National Service Framework for Coronary Heart Disease*, March 2000, http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275

see next page for further key terms)⁵. Thrombolysis is a clot dissolving drug, and at the time the NSF was produced, only a third of A+E departments were able to offer it⁶.

- (d) The treatment of heart attack patients was monitored and in the Seventh Public Report of the Myocardial Ischaemia National Audit Project (MINAP), published in June 2008, it was reported that 71% of patients were receiving thrombolytic treatment (the national target was 68%)⁷. The report also reported on the increasing use of pre-hospital thrombolytics and primary angioplasty (also referred to as primary percutaneous coronary intervention or PPCI).
- (e) "Coronary angioplasty is a technique for unblocking arteries carrying blood to the heart muscle. A small balloon at the tip of a catheter tube is inserted via an artery in the groin or arm and guided to the blocked heart artery. It is then inflated and removed, leaving in place a 'stent' - a rigid support which squashes the fatty deposit blocking the artery, allowing blood to flow more easily. Primary angioplasty uses this technique as the main or first treatment for patients suffering a heart attack."⁸
- (f) The Department of Health, in collaboration with the British Cardiovascular Society and British Cardiovascular Intervention Society set up the National Infarct Angioplasty Project (NIAP) to examine the feasibility of setting up a primary angioplasty service across the country.
- (g) This began work in 2005 and the final report was published by the Department of Health in October 2008 as *Treatment of Heart Attack Overall Guidance*. The following are the overall conclusions of this report:
 - "National roll-out of PPCI is feasible over the next three years but may be logistically challenging in some parts of the country.
 - Times to treatment within 120 minutes are achievable but a PPCI service needs to achieve these reliably regardless of the time of day or day of the week.
 - Hybrid services offering daytime PPCI and out-of-hours thrombolysis are not satisfactory.

⁵ Ibid., Chapter Three, p.2.

⁶ Ibid., Chapter Three, p.4.

⁷ MINAP Steering Group, *MINAP Seventh Public Annual Report*, June 2008, p.ix, <http://www.rcplondon.ac.uk/clinical-standards/organisation/partnership/Documents/Minap-2008.pdf>

⁸ Department of Health website, *Thrombolysis and primary angioplasty*, <http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Healthcare/Longtermconditions/Vascular/Coronaryheartdisease/Thrombolysisandprimaryangioplasty/index.htm>

- A PPCI service needs to be 24/7 and carried out in centres with a sufficiently high overall volume of cases to maintain and develop skills.
 - If an acceptable PPCI service cannot be established, pre-hospital thrombolysis is preferable to in-hospital thrombolysis. Forthcoming European guidelines are likely to recommend subsequent referral for coronary angiography for anyone having thrombolysis.”⁹
- (h) This report also provides the following definitions of some key terms used:

“Call-to-balloon (CTB) time: the time from the patient calling for medical help to the time when an angioplasty balloon is first inflated, or coronary reperfusion is confirmed on angiography.”

“Call-to-needle (CTN) time: the time from the patient calling for medical help to the time when intravenous thrombolysis is given.”

“Door-to-balloon (DTB) time: the time from the patient arriving in hospital (whether this be a PPCI centre or a non-PPCI centre) to the time when an angioplasty balloon is first inflated or coronary reperfusion is confirmed on angiography.”

“Door-to-needle (DTN) time: the time from the patient arriving in hospital to the time when intravenous thrombolysis is given.”

“Reperfusion: the restoration of blood flow to an organ or tissue, for example after a heart attack. An immediate goal is quickly to open a blocked artery and reperfuse the affected heart muscle. Early reperfusion minimises the extent of heart muscle damage and preserves the pumping function of the heart.”¹⁰

⁹ Department of Health, *Treatment of Heart Attack Overall Guidance Final Report of the NIAP*, October 2008, p.5,
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalassets/dh_089454.pdf

¹⁰ Ibid., pp.31-33.