Cardiology Department

Clinical Governance
Cardiology department has a high throughput of emergency and elective patients.

Two acute sites – CAH and DHH.

Cardiac investigation department provides a comprehensive service across Trust.

Demand continues to increase.

GPs have rapid access to a number of services:

- Rapid Access Chest Pain Clinic
- Direct Access Echocardiograms
- Direct Access Exercise Stress Testing
Craigavon Catheterisation Lab activity (does not include 1.5 RVH sessions)

- Coronary Angiogram
- PCI (stent)
- Pacemaker/EP

- Permanent Facility
- Modular Lab
- Mobile Cath Lab
Cardiology Governance Areas

- Cardiology Clinical Governance Committee: MDT meeting 6 weekly. Medical, nursing, technical, pharmacy, research staff. Minuted. Feedback to Medicine and Unscheduled Care Governance Committee.
- Medicines Management Meeting (Pharmacy). (Ward Manager represents)
- Research Governance Committee (Lead Clinician represents)
- Patient Safety Programme – AMI and Cardiac Arrest Bundles
- Cardiac Catheterisation Lab – Central Cardiac Audit Database
- Cardiac Catheterisation Lab M and M meeting (MDT monthly)
- Cardiac Catheterisation Lab – Radiation protection and quality assurance (Superintendent Radiographer, Cath Lab)
- Risk Register
**Myocardial Infarction Audit**

- Institute of Healthcare Improvement (IHI) is a US organisation leading the US Patient Safety Programme.
- IHI works in partnership with various UK bodies including NI Safety Forum, Scottish Patient Safety Programme, Wales 1,000 Lives Campaign and the UK Safer Patients Initiative.
- Priorities for action (PFA) initiative by DHSSPS
- Southern Trust is only Trust in NI participating in Acute Myocardial Infarction (AMI) bundle.
- Commenced August 2007 - ongoing
- All heart attacks Trust wide: Compliance bundle of seven quality indicators
- Audit forms collected – electronic submission to extranet
- Monthly summary of results disseminated (dashboard)
- MDT action – patient safety manager – ward manager
**AMI Patient Safety Dashboard January 2010**

**Aim:** To achieve 95% compliance with Bundle Elements

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<td>Beta-blocker on Discharge</td>
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<td>ACE-inhibitor or ARB at Discharge</td>
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<td>Thrombolitics within 30 mins or</td>
<td>91</td>
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<td>91</td>
<td>89</td>
<td>83</td>
<td>91</td>
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<td>90</td>
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<td>PCI within 90 mins</td>
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<td>Overall Bundle Compliance</td>
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**AMI Yearly Percentage Mortality Rates**

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<tr>
<th>YEAR</th>
<th>2003***</th>
<th>2004</th>
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<th>2007</th>
<th>2008</th>
<th>2009**</th>
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<td>RATE</td>
<td>8.52</td>
<td>7.06</td>
<td>9.01</td>
<td>5.72</td>
<td>5.87</td>
<td>8.36</td>
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**Bundle Compliance Key:**
- **Red**: 0 – 50% Work done but limited progress
- **Amber**: 51% - 94% Target partly achieved
- **Green**: 95% - 100% Target fully achieved

*** Excludes January – March 2003
** Based on activity clinically coded as of 19/02/10 & may be subject to change

- Example of AMI dashboard results summary
- Aim is to achieve 95% of bundle measures
- Note bundle compliance key
Large heart attacks are treated by opening the blocked artery as soon as possible.

There are two approaches – PCI (stent insertion) or thrombolysis (clot dissolving drug). PCI has superior outcome with much less chance of stroke.

In both cases prompt treatment is essential.

International guidelines indicate target times for delivery of these treatments after arrival at hospital.
Primary PCI/thrombolysis activity 2009/2010

- Primary PCI is available at CAH Monday to Friday 9-5pm.
- Otherwise thrombolysis is administered
- 81 ST elevation MI were admitted in year end March 2010

- 42 patients received PPCI. (40 at CAH and 2 transferred to Belfast)
  - Target time <90 minutes from door to balloon
  - Median time: 62 minutes (range 23-208 minutes)
  - 77% received timely reperfusion

- Thrombolysis was administered to 39 patients
  - Target time is <30 minutes from door to needle
  - Median time: 30 minutes
  - Range: 10-101 minutes
  - 58% received timely reperfusion
- Thrombolysis was administered to 39 patients (year end March 2010)
- Target time is <30 minutes from door to needle
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Thrombolysis was administered to 39 patients (Year end March 2010)
Target time is <30 minutes from door to needle
Median time: 30 minutes (Range: 10-101 minutes)
58% received timely reperfusion

UK benchmark – Myocardial infarction national audit project (MINAP)

www.rcplondon.ac.uk/clinical-standards/organisation/partnership/Pages/MINAP-.aspx
Cardiac catheterisation laboratory: investigations and therapies

- Cardiac catheterisation (angiogram/dye test)
- Percutaneous coronary intervention (PCI)(stent procedure)
- Electrophysiological procedures and device implantation (pacemaker implant)
Catheterisation Laboratory

- BCIS (British Cardiac Intervention Society) site visit and inspection prior to commencing PCI 2006.
- Details of all angiographic procedures (angiogram/stent) electronically submitted to Central Cardiac Audit Database (CCAD) managed by BCIS.
- CCAD maintained by NHS Information Centre (www.ic.nhs.uk)
- Audit results reported at annual BCIS meeting
- Published in annual national audit of angioplasty procedures.
- Monthly MDT cath lab M & M meeting – cases presented. Minuted and actioned.
- Data also presented at Medical M & M.
BCIS Audit Returns
Adult Interventional Procedures

Jan 2008 to Dec 2008

Peter F Ludman
BCIS National Audit Lead
On behalf of British Cardiovascular Intervention Society

Bournemouth October 2009

Procedure Specific Analysis
Participation in CCAD

<table>
<thead>
<tr>
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<th>Total No. of Centres</th>
<th>Data to CCAD</th>
<th>Participation</th>
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<td></td>
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<td>NHS</td>
<td>75</td>
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<td>Private</td>
<td>16</td>
<td>5</td>
<td>31%</td>
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<tr>
<td>Wales</td>
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<td>2</td>
<td>100%</td>
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<td>N Ireland</td>
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<td>1</td>
<td>33%</td>
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<tr>
<td>Scotland</td>
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<tr>
<td>NHS</td>
<td>7</td>
<td>7 via link</td>
<td>100%</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
<td>0</td>
<td>0%</td>
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- UK PCI audit data presented at annual meeting of BCIS (bcis.org.uk)
- Published in Annual Report prepared by NHS Information Centre (nhs.ic.uk)
Example of quality indicator: Door to balloon time for Primary PCI (2008 data)
Data on all interventional procedures (PCI) are submitted electronically.
Of the three interventional centres in NI, only CAH submits data to CCAD.
CRG – Craigavon Area Hospital.

Mean (all centres) 82%
Target >75%
Year end March 2010 data for CAH -
Target time <90 minutes from door to balloon
Median time: 62 minutes (range 23-208 minutes)
77% received timely reperfusion
Figure 9
Risk adjusted major adverse cardiac and cerebrovascular events (MACCE) for each UK unit with data in CCAD (2007 and 2008)

Proportion with MAACE

Number of PCI procedures

Adverse outcomes in catheterisation lab – risk adjusted mortality
CCU mortality

Patient deceases

- Diagnosis in doubt
- Circumstances of death uncertain
- Medicine or procedure related

If yes, Contact Coroner (may request statement/Post Mortem/Inquest)

If no, Ask next of kin to permit limited cardiac post mortem

Issue death certificate
Case is presented at Medical M and M
Catheterisation lab mortality

Patient deceases during or after procedure

Contact Coroner
(may request statement/Post Mortem/Inquest)

Ask next of kin to permit limited cardiac post mortem

Issue death certificate
Case presented at Cath Lab M and M, then medical M and M
Catheterisation Laboratory – Radiation Protection

- Personal radiation dose monitoring
- X ray equipment quality assurance
- Southern Trust radiation protection committee
- Monitored by RQAI

- Applicable legislation:
  - National Radiation Protection Board
  - HSE regulations,
  - IRMER 2009
The future: Myocardial Infarction
National Audit Project (MINAP)

- Audits management of myocardial infarction at national level
- Standards set by National Service Framework for Coronary Heart Disease
- Currently operational in Belfast Trust only
- Business case for nurse and IT support (data collection and data entry) submitted (c. £30K)
- Data will be similar (but more comprehensive) to IHI AMI dashboard currently in use
Changing patterns of treatment for STEMI. MINAP 2008 data.