

National Cardiovascular Information System (NCIS)

Demographic and Socio-Economic Data
Workshop

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18th April 2005

National Cardiovascular Information System

- To provide information on the background and the development of NCIS
- To provide an overview of the design of NCIS and progress to date

NCIS – Description

A series of integrated cardiology registers collecting data on:

- ◆ Clinical presentation
- ◆ Investigations
- ◆ Treatments – medications, interventions, e.g. PCI, cardiac surgery, electrophysiology treatments
- ◆ Outcomes including complications
- ◆ Follow-up care including cardiac rehabilitation

NCIS – Aim

To develop a fully integrated National Cardiovascular Information System for use in acute hospitals providing cardiac care to patients and to collate and analyse data relevant to cardiac disease in Ireland.

NCIS – Main Purposes

Provide information for both local and national use to :

- Support clinical audit and provide information for healthcare professionals in the context of clinical guidelines relevant to clinical care of cardiac patients
- Study cardiovascular epidemiology in Ireland and to set this information in an international context
- Support service planning and evaluation, to project service needs and associated resource requirements

NCIS – Background 1

- ◆ *'Building Healthier Hearts' (1999)*
recommendation 10.1 'A cardiovascular disease surveillance system should be established'
- ◆ *'Quality and Fairness' (2001)* – a substantial improvement is required in health information systems relevant to cardiovascular health services

NCIS – Background 2

- ◆ National Cardiovascular Information Systems Steering Committee (2001) set up to oversee the pilot of an acute coronary disease registry (CHAIR) by Minister for Health and Children
- ◆ Expansion of role of NCIS SC to advise on the implementation of a comprehensive cardiac surveillance system

NCIS – Data Modules

NCIS SC prioritised the following modules:

- Acute coronary syndromes (ACS)
- Percutaneous coronary intervention (PCI)
- Cardiac surgery
- Electrophysiology – ablation, pacemakers, ICDs
- Heart failure
- Cardiac rehabilitation
- Cardiac diagnostics
- Paediatric cardiology
- Paediatric cardiac surgery

Cardiovascular Information Systems – Others (1)

Central Cardiac Audit Database (CCAD) - UK

- Myocardial infarction (MINAP)
- Percutaneous coronary intervention (BCIS)
- Cardiac pacemakers/ICDs (NPDB –BPEG/ICD)
- Cardiac ablation procedures (EPS-BPEG)
- Adult cardiac surgery (SCTS)
- Heart valve surgery (SCTS/HVR)
- Paediatric cardiac surgery (PAEDS)
- Paediatric cardiovascular intervention (PAEDS)

Cardiovascular Information Systems – Others (2)

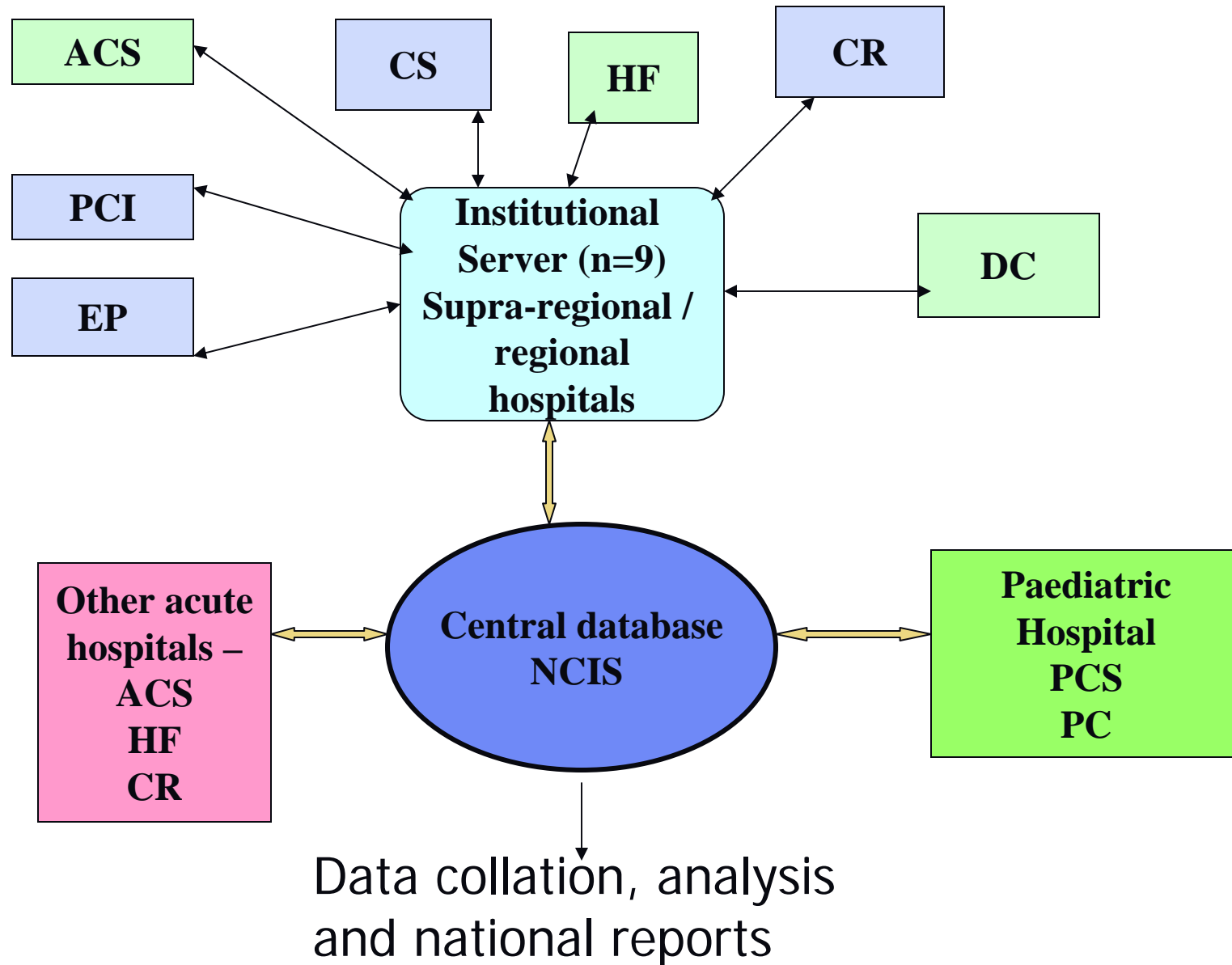
Scottish Cardiac Revascularisation Register

- Cardiac Surgery → SCTS NACSD
- PCI
- Cardiac Diagnostics

Follow-up of above patients possible –
Community Health Index (CHI) number

- ACS – pilot phase in five areas

NCIS Diagrammatic Representation



NCIS – Scale of Project

ACS	HF	CR	EP	PCI	CS	PCS	PC	N
								4
								5
								1
								26
								1
								1
37	36	36	10	9	4	1	1	38

NCIS – Main Components

- ◆ Clinical data sets for each module
- ◆ System Design
- ◆ Computer hardware infrastructure – Health Research Board grant
- ◆ Software applications
- ◆ Phased development and implementation

Cardiac Audit and Registration Data Standards (CARDS)

Collaborative project between: -

- ◆ DoHC
- ◆ European Society of Cardiology (ESC)
- ◆ Irish Cardiac Society

And with support from the European Union

Data standards developed and agreed – ACS,
PCI and EP (ablation, pacemakers and
implantable cardioverter defibrillators)

NCIS – Availability of Data Standards

1. Acute coronary syndromes - CARDS
2. Percutaneous coronary intervention – CARDS
3. Electrophysiology - CARDS
4. Cardiac rehabilitation – CRIS (Cardiac Rehabilitation Information System) – ESC has adopted as standard
5. Cardiac surgery – SCTS NACSD (UK) – EU and USA
6. Paediatric cardiac surgery – EACTS congenital cardiac surgery database

NCIS – Other datasets

Datasets to be developed:

- ◆ Paediatric cardiology – in consultation with paediatric cardiologists
- ◆ Heart failure – Many hospitals are using datasets to suit the needs of their units, e.g. MMUH, SVUH, SJH and in hospitals of the NEHB, based on that of SVUH. Plan to develop national HF data standards.
- ◆ Cardiac diagnostics – coronary angiography (similar to PCI) – also echocardiography and stress tests

NCIS – Version 1 Software

As a result of a restrictive tender process Version [1] Software was appointed in September 2004 to:

- ◆ *Design an integrated national cardiovascular information system for use in acute hospitals in Ireland and to support the procurement of the necessary components to implement Phase 1 of the system*

NCIS – System Design

- ◆ Design documents
- ◆ Accreditation process
- ◆ Accreditation of existing systems
- ◆ Hospitals to have input to choice of accredited software companies
- ◆ Preparation of Requirement for Tender (RFT) for central server

NCIS – Phase 1

- ◆ Phase 1 will include:
 1. Development of overall design – computer hardware infrastructure, IT requirements, integration between modules and with hospital patient administration systems
 2. Provision of PCs and printers in acute hospitals – identified by cardiovascular hardware inventory 2003 (updated 2005)
 3. Develop and implement priority modules – PCI, cardiac surgery, electrophysiology and cardiac rehabilitation

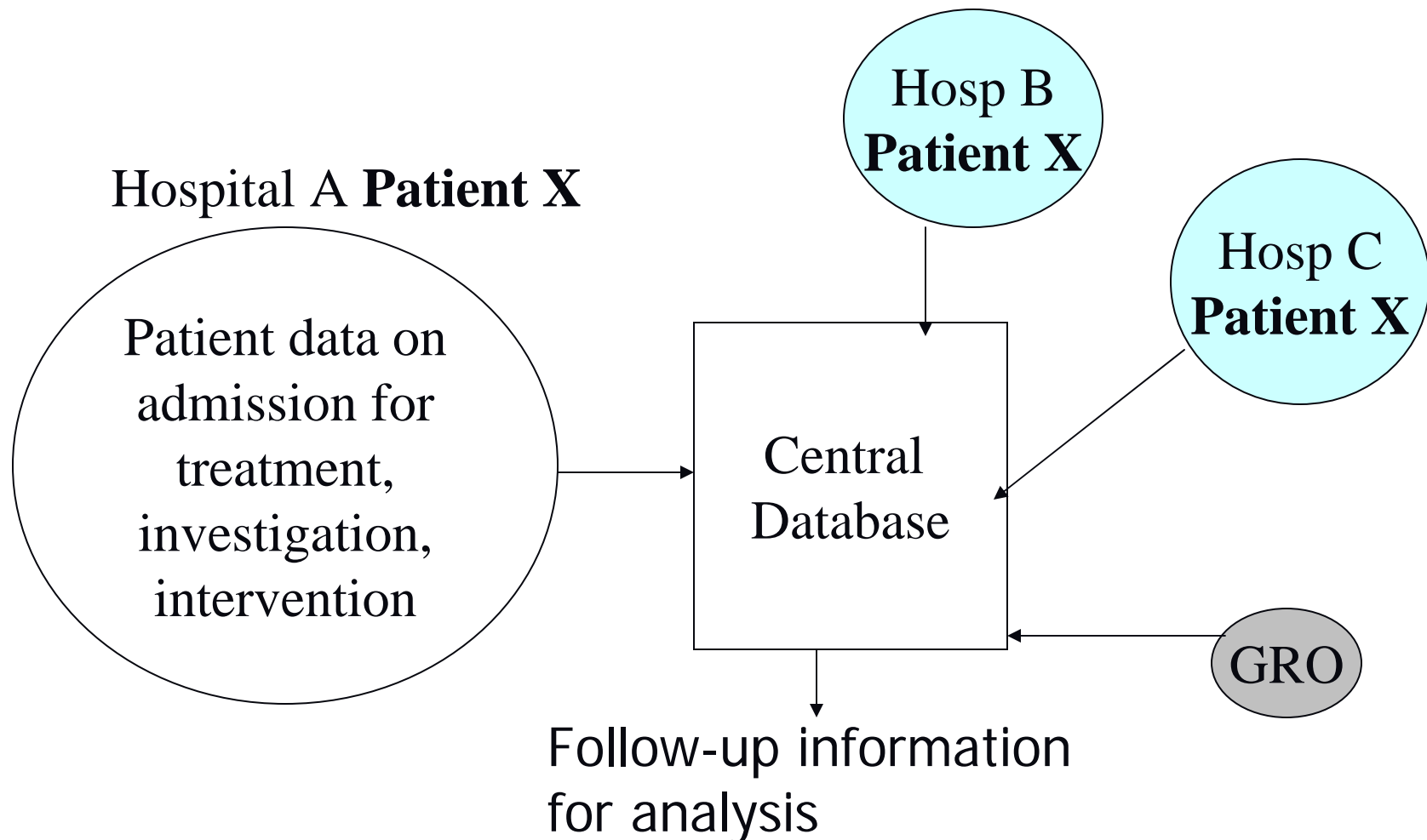
NCIS – Phase 2

- ◆ Phase 2 will include the development and implementation of the remaining four modules
 1. Acute coronary syndromes
 2. Heart failure
 3. Paediatric cardiology
 4. Paediatric cardiac surgery

NCIS – Phase 3

- ◆ Phase 3 will include the development and implementation of the fully live NCIS with communication between NCIS registered hospitals and the central NCIS database.

NCIS – Future Developments and Follow-up



NCIS - acknowledgements

- NCIS Steering Committee
- Directors of Information Systems, IT personnel
- Cardiovascular Disease Managers
- DoHC – Health Promotion Unit, Health Services Systems, Terence Woulffe Flanagan
- Irish Heart Foundation
- Existing datasets - CHAIR

NCIS - contacts

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