

Cardiac Rehabilitation Information Systems (CRIS)

[D Lavin, D Hevey, H McGee, D De La Harpe, M Kiernan and E Shelley]

M. Rachel Flynn

Royal College of Surgeons in Ireland

April 2005

Background

- Cardiovascular Health Strategy- “Building Healthier Hearts” (1999) proposed professional audit become an integral part of CR (R 9.5)
- Irish Association of Cardiac Rehabilitation (IACR)- Health Service Research Centre, RCSI
- CRIS
 - 2002 – 2004
 - A set of reliable, valid and sensitive assessment and outcome measures for CR
 - Clinical care, clinical audit and service planning

What is Cardiac Rehabilitation (CR)?

“the sum of activities required to influence the underlying cause of the disease as well as to ensure patients the best possible physical, mental and social conditions so that they may, by their own efforts, preserve or resume when lost, as normal a place as possible in the life of the community”

(WHO Needs and action priorities in cardiac rehabilitation Geneva 1993)

Who is involved?

- Multidisciplinary approach
 - Consultant Cardiologist
 - Cardiac Rehabilitation Co-ordinator
 - Nurse Specialist
 - Physiotherapist
 - Dietician
 - Psychologist
 - OT
 - Pharmacist
 - Social worker
 - Health Promotion Officers
 - PHN Nurse

CR Programme – Phase I-IV

Phase I

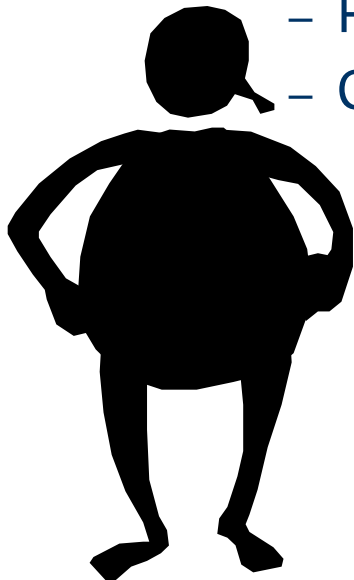
- CCU/ITU/Cardiac Ward
- Clinical Assessment
- Support and Information
- Involve relatives
- Inform re phase II and III



CR Programme

Phase II

- 4-6 weeks post discharge
- Telephone follow-up
- Education sessions
- PHN
- Community services (smoking cessation)



CR Programme

Phase III

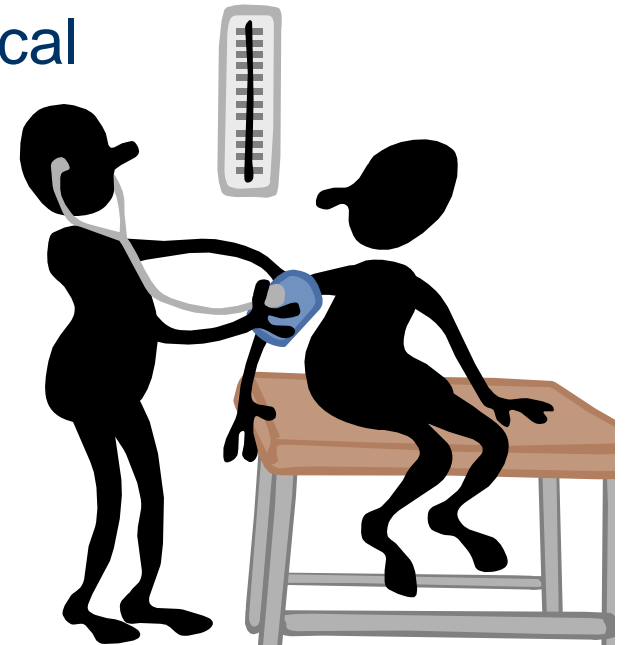
- Post discharge phase (6-8 weeks duration)
 - Education sessions- individual/group
 - Risk factors
 - Exercise
 - Nutrition
 - Medication
 - Stress management
 - Psychological advice
 - Vocational counselling
 - Sexual counselling
 - Exercise sessions



CR Programme

Phase IV

- Long term maintenance phase
- In association with primary care team
- Monitoring of risk factors and clinical status
- Cardiac support group sessions



CRIS - Methods

- Key data items were identified
 - National and international clinical guidelines
 - Existing systems
 - Data standards (CARDS)
- 50 stakeholders -1 day consensus conference
- Data standards were piloted in 14 centres to test feasibility
- European Society of Cardiology Working Group on CR and Exercise Physiology agreed on a core European data set based on CRIS

CRIS Results

- Patient summary assessment form (153 DV)
 - Demographic and socio-economic
 - Cardiac history
 - Initiating event
 - Phase I CR (23 DV)
 - Phase II CR (2 DV)
 - Pre and post phase III profile (82 DV)
 - Onward Referral (1 DV)
 - Follow – up (1 year after initiating event) – (36 DV)
- Collected on all patients referred to CR

CRIS Results

- Programme Summary Assessment (219 DV)
 - Programme structure
 - Programme staff
 - Education content of phase I
 - Education content of phase II
 - Education and exercise content of phase III
 - Staff training
 - Resources (housing, equipment, education materials)
 - Annual patient throughput
- Collected once a year

Current Data Collection (36 hospitals)

- CRIS paper based system (3 X A4)
- CRIS MS Access database
 - Not integrated with Patient Administration System (PAS)
 - Combination of paper and direct data entry
- Clinical management system (6 centres)
 - TOMCAT and PATS
 - Integrated with PAS
 - Combination of paper and direct data entry
- NCIS – accredited clinical management systems

Piloting Demographic and Socio-economic data standards

- MS Access systems
- Data will be collected by the CRC
 - Phase I – paper form in the CCU
 - Phase II & III – direct data entry
- CRIS demographic and socio-economic group indicators
 - Date of birth
 - Sex
 - Marital status
 - Age left full time education
 - GMS card MS Access systems
- Socio-economic status and ethnic group (items excluded following CRIS pilot)

Potential Problems

- Time
 - CCU busy environment difficult to ask large number of questions
 - Already collecting 24 data items in phase I – (5 D&SE)
 - Increased number of referrals to CR
 - Questions will need to be intuitive – there is little time to look up tables or help files to code data items
- Environment: CCU
 - Patient upset/sick may not want to answer questions
 - Patient may not see the relevance of questions to hospital admission i.e. age left full time education.

Conclusion

Demographic and Socio-economic data standards

- Be acceptable to patients and staff
- Be suitable for use in a busy clinical setting
- Provide clinical useful information
- Intuitive and easy to code for end-user of system