Integrating hospital, primary care and community resources for long term compliance

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By definition -

• Cardiac rehabilitation and prevention is a coordinated approach aiming to provide the best possible physical and psychological outcomes for patients ........

.................through sustained health related life habits

• This is a global challenge

• I have no interests to declare
Phases I - IV ..........a continuum

From hospital through primary care to community -

comprehensive programmes -
patient education,
psychological interventions,
exercise programmes and
coronary artery disease risk factor management

- but many patients do not engage
Cardiac Rehabilitation participation

**Barriers**
- Physical (eg transport)
- Social (eg family responsibilities)
- Illness beliefs
- Misconceptions about programme
- Embarrassment
- Perceived limitations

**Facilitators**
- Convenient location
- Culturally sensitive to needs
- Explanation of disease
- Understanding of programme
- Socially sensitive plan
- Individually tailored
Non-participants’ perceptions of Cardiac Rehab

- **Exercise** - limited value for long term health because
  - 'I’m better'
  - 'tablets will control it'
  - 'when it’s your time you’ll go anyway'

- **Daily living activity** is enough
  - more strenuous may ‘strain’ heart
    - ‘make me breathless’

- **Co-morbidity** has greater significance
- **Health professionals** did not encourage
BHF(2010): UK uptake 40% among heart attack survivors

Number and % of programmes which reported policy of not accepting certain diagnoses for phase III rehab

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacemaker</td>
<td>78</td>
<td>28</td>
</tr>
<tr>
<td>Heart failure</td>
<td>67</td>
<td>24</td>
</tr>
<tr>
<td>Implanted cardioverter-defibrillator</td>
<td>54</td>
<td>20</td>
</tr>
<tr>
<td>Angina</td>
<td>63</td>
<td>23</td>
</tr>
<tr>
<td>Acute coronary syndrome</td>
<td>52</td>
<td>19</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>54</td>
<td>20</td>
</tr>
<tr>
<td>Surgical (exc. valve or CABG)</td>
<td>46</td>
<td>17</td>
</tr>
<tr>
<td>PCI</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Valve surgery</td>
<td>18</td>
<td>7</td>
</tr>
</tbody>
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Core components

Lifestyle:
- Physical activity and exercise
- Diet and weight management
- Smoking cessation
- Psycho-social factors

Medical management:
- Cardio-protective therapy
- Implantable devices - Integrated, with patient support & education
Cross-sectional study in primary care

Cuppies et al, BJGP, 2010; 60: 431-435

- Communication gap - between hospital and primary care/general practice, and community
  only information for 78% of patients

- Those who attended CR reported better (p=0.01) quality of life
  - emotional: mean difference 0.44 (95%CI 0.11-0.77)
  - physical: 0.48 (95%CI 0.10-0.85)
  - social functioning: 0.54 (95%CI 0.15-0.94)
## Post-MI patients - Cross-sectional study in primary care cardiac rehabilitation invitation and attendance

<table>
<thead>
<tr>
<th></th>
<th>Invited (n=235)</th>
<th>Not Invited (n=97)</th>
<th>p-value</th>
<th>Attenders (n=160)</th>
<th>Non-Attenders (n=170)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (yrs) Mean (SD)</strong></td>
<td>62.9 (16.2)</td>
<td>68.5 (15.3)</td>
<td>0.004</td>
<td>61.9 (15.4)</td>
<td>67.0 (16.5)</td>
<td>0.003</td>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male (n) (% of M)</td>
<td>171 (72.8%)</td>
<td>64 (27.2%)</td>
<td>0.27</td>
<td>116 (49.4%)</td>
<td>119 (50.6%)</td>
<td>0.70</td>
</tr>
<tr>
<td>Female (n) (% of F)</td>
<td>64 (66%)</td>
<td>33 (34%)</td>
<td></td>
<td>44 (46.3%)</td>
<td>51 (53.7%)</td>
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</tbody>
</table>
The effect of optimal medical therapy on 1-year mortality after acute myocardial infarction


5 drug classes - aspirin, beta-blockers, statins, renin angiotensin system blockers and thienopyridines:

at 1 yr, compared to one drug, total mortality reduced by 74%;

........ 2 to 4 drugs ................................................................by approx 50%

(But less than 50% of patients received OMT)
Effects of adherence to guidelines for the control of major cardiovascular risk factors on outcomes in the Reductions of Atherothrombosis for Continued Health (REACH) Registry Europe

Cacoub P, Zevmer U, Limbourg T, Baumgartner I, Poldermans D, Rother J, Bhatt DL, Steg PG on behalf of the REACH Registry Investigators

- 18 countries in Europe
- 60% participants had good control of risk factors
- good control - fewer events after 3 yrs
- physician profile impact - GP/cardiologist better control
Lancet 2011; 377: 1241-47

Unrestricted randomised use of two new generation drug-eluting coronary stents: 2-year patient-related versus stent-related outcomes from the RESOLUTE All Comers

Silber S, Windecker S, Vranckx P, Serruys PW, on behalf of the RESOLUTE All Comers investigators

- difference in stent-related & patient-related outcomes, greater over time

- importance of optimising medical management
Circulation 2010;121:750-8

Association of Diet, Exercise and Smoking Modification With Risk of Early Cardiovascular Events After Acute Coronary Syndromes


- 41 countries
- 30 day reported adherence to diet, physical activity and smoking cessation
- CV events tracked to 6 months
- suggest behavioural modification should be given priority similar to preventive medications
Adherence to exercise and diet at follow-up (Chow et al, 2010)
The effect of lifestyle interventions in the secondary prevention of coronary heart disease: a systematic review


- RCTs with a lifestyle and/or behaviour change focus, delivered in a primary care or community setting,

- benefits in relation to total mortality
  CV mortality
  non-fatal events
  lifestyle outcomes
There is a need for

- cardiac rehabilitation ongoing after hospital discharge
- comprehensive programmes tailored to patients’ needs - ‘menu driven’
  - education - taking account of language and level of literacy
    - ensuring understanding
    - starting in hospital after acute event
  - integrated information - in discharge letter - for primary care to support physical, psychological and social recovery
Systems of care need attention

? raise profile of CR - integrate with medication prescribing

? integrate CR record with medical notes - not separate

? integrate hospital and primary care records - electronic or patient held

? improve communication between hospital, primary care and community - ongoing feedback
Strategic Objectives

...contribute to......
lifestyle
Key action plans

• Emphasise –
• cardiac rehabilitation is the responsibility of all health care professionals involved in the care of patients,
• and of the patient

• Agree, implement and audit a detailed plan and protocol for identifying, treating and following patients
1987 to 2007:
3180 fewer CVD deaths in NI - causes attributed, using IMPACT Model

John Hughes et al, 2011

- **Risk Factors worse +14%**
  - Diabetes (increase) +8%
  - Physical inactivity (increase) +5%
  - Obesity (increase) +1%

- **Risk Factors better -74%**
  - Population BP fall -28%
  - Smoking -20%
  - Cholesterol (diet) -26%

- **Treatments - 35%**
  - AMI treatments -5%
  - Secondary prevention -15%
  - Heart failure -6%
  - Angina:CABG & PTCA -2%
  - Hypertension therapies -3%
  - Statins (primary prevention) -4%

- **Unexplained - 5%**
“Think like a wise man but communicate in the language of the people”

Education is not the filling of a pail, but the lighting of a fire

WB Yeats
to achieve our goal of integrating hospital, primary care and community resources for long term compliance and for optimal prevention of cardiovascular disease