The Future of Cardiac Nursing

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No Conflict of interest
PREDICTIONS FROM HISTORY

• “X-rays will prove to be a hoax.” Lord Kelvin, President of the Royal Society, 1883

• “Louis Pasteur’s theory of germs is ridiculous fiction.” Pierre Pachet, Professor of Physiology at Toulouse, 1872.

• “The abdomen, the chest, and the brain will forever be shut from the intrusion of the wise and humane surgeon.” -Sir John Eric Ericksen, British surgeon, appointed Surgeon-Extraordinary to Queen Victoria, 1873.
Death rates from CHD, stroke and all other diseases of the circulatory system, people aged under 75, 1969 to 2005, England, with "Our Healthier Nation" milestone and target.

Notes: Data are three year moving averages plotted against middle year. ICD9 data have been adjusted to be comparable with ICD10 data. Data from 1984-1992 have been adjusted due to the effects of coding medical enquiries and WHO Rule 3.

Source: Data from Office for National Statistics; analysis by Central Health Monitoring Unit, Department of Health.
### Prevalence of CHD, stroke and CHD or stroke by sex and age, 1994, 1998 and 2003, England

<table>
<thead>
<tr>
<th>Condition</th>
<th>Year</th>
<th>Total</th>
<th>16-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEN</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CHD</td>
<td>1994</td>
<td>6.0</td>
<td>-</td>
<td>0.3</td>
<td>0.5</td>
<td>3.0</td>
<td>10.3</td>
<td>21.0</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>1998</td>
<td>7.1</td>
<td>0.1</td>
<td>0.4</td>
<td>0.9</td>
<td>4.3</td>
<td>13.6</td>
<td>20.2</td>
<td>23.4</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>7.4</td>
<td>-</td>
<td>-</td>
<td>0.9</td>
<td>3.5</td>
<td>11.1</td>
<td>21.5</td>
<td>26.4</td>
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<tr>
<td>WOMEN</td>
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<td></td>
</tr>
<tr>
<td>CHD</td>
<td>1994</td>
<td>4.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.3</td>
<td>2.3</td>
<td>5.9</td>
<td>10.5</td>
<td>15.9</td>
</tr>
<tr>
<td></td>
<td>1998</td>
<td>4.6</td>
<td>0.3</td>
<td>0.8</td>
<td>1.6</td>
<td>6.3</td>
<td>12.5</td>
<td>18.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>4.5</td>
<td>0.2</td>
<td>-</td>
<td>0.4</td>
<td>2.0</td>
<td>5.9</td>
<td>9.7</td>
<td>18.4</td>
</tr>
</tbody>
</table>

**Notes:** Adults aged 16 and over.
Unweighted data for all years.

PREVENTION & EARLY IDENTIFICATION

- Public Health
- Risk assessment
- Early identification (RACPC)
- Facilitating risk factor reduction
- Familial screening
- Political lobbying (BANCC)
- Policy development
- Research to support nursing intervention
PRIMARY PCI & STEMI

• National Infarct Angioplasty Project (2008)
• Thrombolysis will continue to be the primary reperfusion strategy for the foreseeable future
• Treat & return or treat and discharge
• Cardiac rehabilitation
• Research to support nursing intervention
Non ST ELEVATION ACS

• Non STEMI increasing  (Kleiman NS & White HD 2005)

• New ACC/AHA ESC Guidelines  (Bassand et al 2007)

• All ACS patients should be considered for CCU  (Jones 2003)

• Risk Stratification – GRACE  (Granger et al 2003) or TIMI  (Antman et al 2000)

• Research to support nursing intervention
ARRHYTHMIA

• Not known how many deaths are due to arrhythmia
• Improved histopathology
• Improved screening for patients with collapse
• AF with an ageing population
• More ICDs (MOSS 1996) & Support for patients
• Ejection Fraction <30% (9 patients to save 1 life in 4 years)
• Genetic screening & Pedigree
• Research for nursing intervention
HEART FAILURE

- Cost of heart failure admissions
# HOSPITAL COST OF HEART FAILURE

Hospital admissions related to heart failure, 2000/01, England and estimates of hospital admissions and their cost to the NHS, 2000, UK

<table>
<thead>
<tr>
<th></th>
<th>England</th>
<th>UK</th>
<th>Cost (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ordinary inpatient admissions</strong></td>
<td>74,441</td>
<td>84,151</td>
<td>378.60</td>
</tr>
<tr>
<td><strong>Day cases</strong></td>
<td>1,725</td>
<td>1,950</td>
<td>0.45</td>
</tr>
<tr>
<td><strong>All hospital admissions</strong></td>
<td>76,166</td>
<td>86,101</td>
<td>379.05</td>
</tr>
</tbody>
</table>

**Notes:** The cost includes any interventions undertaken on an inpatient basis.

**Sources:**

[www.heartstats.org](http://www.heartstats.org)
HEART FAILURE

• Cost of heart failure admissions
• Combined with long term conditions and managed in the community
• Medical management
• Research to support nursing intervention
• Palliative Care (links with Macmillan)
Survival after initial diagnosis of heart failure, around 2002, London

<table>
<thead>
<tr>
<th>Survival Time</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>All with initial diagnosis of heart failure</td>
<td>552</td>
<td>100%</td>
</tr>
<tr>
<td>Survive for at least 1 month</td>
<td>462</td>
<td>84%</td>
</tr>
<tr>
<td>Survive for at least 3 months</td>
<td>432</td>
<td>74%</td>
</tr>
<tr>
<td>Survive for at least 6 months</td>
<td>411</td>
<td>69%</td>
</tr>
<tr>
<td>Survive until end of first year</td>
<td>380</td>
<td>62%</td>
</tr>
<tr>
<td>Survive until the end of second year</td>
<td>332</td>
<td>60%</td>
</tr>
<tr>
<td>Survive until the end of third year</td>
<td>282</td>
<td>51%</td>
</tr>
<tr>
<td>Survive until the end of fourth year</td>
<td>239</td>
<td>43%</td>
</tr>
<tr>
<td>Survive until the end of fifth year</td>
<td>104</td>
<td>39%</td>
</tr>
</tbody>
</table>

Source: London Heart Failure Study (2005) personal communication.

www.heartstats.org
ADULT CONGENITAL HEART DISEASE

• Increasing number of people surviving to adulthood with congenital disease
Data from the USA suggest that around 85% (Perloff JK and Warnes CA (2001) of patients with congenital heart disease will survive till adulthood. Challenges posed by adults with repaired congenital heart disease. Circulation; 103: 2637-43).
## Estimates of the number of people with congenital heart disease (simple and complex), 2000 and 2010, United Kingdom

<table>
<thead>
<tr>
<th>Date of birth</th>
<th>Number of births in the UK</th>
<th>Number born with congenital heart disease</th>
<th>First year survival rate</th>
<th>Survivors at 12 months</th>
<th>18 year survival rate</th>
<th>Survivors at 19 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Complex congenital heart disease</strong>&lt;br&gt;(Incidence - 1.5/1,000 births)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1940-1960</td>
<td>16,620,000</td>
<td>24,930†</td>
<td>20%</td>
<td>4,986‡</td>
<td>10%</td>
<td>2,493</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>11,555 in year 2000</td>
</tr>
<tr>
<td>1960-1980</td>
<td>17,260,000</td>
<td>25,890†</td>
<td>50%</td>
<td>12,945‡</td>
<td>35%</td>
<td>9,062</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>17,218 in year 2010</td>
</tr>
<tr>
<td>1980-1990</td>
<td>7,550,000</td>
<td>11,325†</td>
<td>70%</td>
<td>7,928‡</td>
<td>50%</td>
<td>5,663</td>
</tr>
<tr>
<td><strong>Simple congenital heart disease</strong>&lt;br&gt;(Incidence - 4.5/1,000 births)</td>
<td></td>
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<tr>
<td>1940-1960</td>
<td>16,620,000</td>
<td>74,790†</td>
<td>90%</td>
<td>67,311‡</td>
<td>90%</td>
<td>67,311</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>137,223 in year 2000</td>
</tr>
<tr>
<td>1960-1980</td>
<td>17,260,000</td>
<td>77,680†</td>
<td>90%</td>
<td>69,912‡</td>
<td>90%</td>
<td>69,912</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>167,805 in year 2010</td>
</tr>
<tr>
<td>1980-1990</td>
<td>7,550,000</td>
<td>33,980†</td>
<td>90%</td>
<td>30,582‡</td>
<td>90%</td>
<td>30,582</td>
</tr>
<tr>
<td><strong>All congenital heart disease</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>148,778</td>
<td></td>
<td></td>
<td>118,023 in year 2000</td>
<td>185,023 in year 2010</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

The incidence of complex congenital heart disease is assumed to be 1.5 per 1,000 live births, and simple congenital heart disease 4.5 per 1,000 live births. For details of conditions considered to be complex with special risks and complications see source.

These calculations are by AG Stuart and are based on the methods used to calculate the same population for the USA, at the 32nd Bethesda Conference "Care of the adult survivor with congenital heart disease, October 2000.

• Increasing number of people surviving to adulthood with congenital disease
• Patent Foramen Ovale (percutaneous closure)
• Research to support nursing intervention
CARDIAC REHAB

- National Audit of Cardiac rehab (Lewin-York)
- Community based (post thrombolysis)
- Less Exercise equipment (long term model)
- More individualised
- Wider participation by other groups (ethnic groups, heart failure etc)
- Research to support nursing intervention
CARDIAC NURSE STATUS

- University of Salford/BHF/BANCC Course
- BANCC competency statements
- BHF Education Pathway
- BHF PhD sponsorship
- More research needed to support nursing intervention
MULTI-PROFESSIONAL EDUCATION

• Practitioners with special interests (BCS)
• Non Medical Prescribing
• Generic Catheter lab worker
• 54% of Cath labs have vacancies \( \text{(Henderson 2007)} \)
• MSc Advanced Practice
THE FUTURE ROLE OF THE CARDIOVASCULAR NURSE

• Prevention & early identification (RACPC)
• All ACS care
• Cath Lab Leaders
• Heart Failure
• Arrhythmia clinics
• Adult congenital heart care
• Managing patients with long term conditions in the community
• Palliative care
• Cardiac rehabilitation
• Stroke Care
• Research to support nursing intervention
REFERENCES


• Jones I (2003) Coronary Care Units should care for all at risk cardiac patients. Professional Nurse 18(5): 287
