Adequately meeting the needs of an ageing population

Rehabilitation

Dr Diarmuid O’Shea
Consultant Geriatrician
St Vincent’s University Hospital

December 2008
Outline

The Background and Rant!!!
Neurorehabilitation
  • Stroke
  • Gait/Falls
The Challenges
The Conclusion
The Background and Rant!!
Previous Reports

The Years Ahead – 1988
The future development of Services for the Elderly in Ireland.
The report emphasized the importance of a continuum of service that:

• Maintain older people in dignity and independence in their own home
• Restore older people who become ill or dependent on independence at home
• Encourage and support the care of older people in their own community by family, neighbours and voluntary bodies

The Kennedy Report – 1991
“The development of properly structured departments of geriatric medicine with appropriate structural links to rehabilitation and long-stay facilities is the vital element in the operation of an effective and efficient service for the elderly at both the primary and secondary care levels. Such services must be planned and developed as an integral part of the acute hospital service.”
(Dublin Hospital Initiative Group – Kennedy Report, 1991)

Report of the National Advisory Committee on Medical Rehabilitation – 1997
Inaugural meeting 1993 – “an important milestone in development of rehabilitation medicine”
“new challenges and opportunities to improve services to people who require rehabilitation”

The Health Strategy, Quality & Fairness – 2001
“Public patients should also have reasonable access to the range of publicly funded services irrespective of where they happen to live”
The Years Ahead - 1988

3.1 rehab beds /1000 of the population

50% in acute hospitals

The rest

Access to rehab in community and nursing homes

Adopted by Government in 1993
Spot Check

Hospital 1 - 18 off site rehab beds – 0.79/1000
Hospital 2 - 40 offsite rehab beds
Hospital 3 - 80 off site rehab beds
Hospital 4 - 66 onsite rehab beds

Range 0.79 – 2.4/1000
In May 2002, 31% of elderly patients in in-patient rehabilitation beds in Ireland were actually awaiting long-term care, while 25% of patients on acute wards were waiting to transfer to a rehabilitation bed!

?2008 figures

No reference to those waiting in the community!
### Good news
Life expectancy at birth

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>1948</th>
<th>1996</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>45</td>
<td>66</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Females</td>
<td>49</td>
<td>70</td>
<td>79</td>
<td>80</td>
</tr>
</tbody>
</table>
Life Expectancy – CSO 2002

<table>
<thead>
<tr>
<th>Age</th>
<th>Life Expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Birth</td>
<td>76 yrs for a man 80 yrs for a woman</td>
</tr>
<tr>
<td>At 60</td>
<td>19 yrs</td>
</tr>
<tr>
<td>At 70</td>
<td>12 yrs</td>
</tr>
<tr>
<td>At 80</td>
<td>7 yrs</td>
</tr>
<tr>
<td>At 90</td>
<td>4 yrs</td>
</tr>
</tbody>
</table>
Central Statistics Office Ireland
2006

Irish Population Projections

<table>
<thead>
<tr>
<th>Year</th>
<th>&gt; 65</th>
<th>&gt; 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>453</td>
<td>107</td>
</tr>
<tr>
<td>2016</td>
<td>585</td>
<td>123</td>
</tr>
<tr>
<td>2026</td>
<td>767</td>
<td>166</td>
</tr>
</tbody>
</table>
If you are 47 or over this graph might interest you!!!
If you are 46 or under it should interest you also!!!
Over 80’s

• Fastest growing segment of the population
• Increased by 25% since 1996
• ? Increase to > 120,000 by 2011
The Future of Medicine:
‘An Ignominious Destiny?’

Extending life becomes feasible, but it may be a life exposed to DEGRADING NEGLECT AS RESOURCES GROW OVERSTRETCHED AND POLITICS TURNS MEAN. What an ignominious destiny if the future of medicine turns into bestowing meagre increments of unenjoyed life.


Prehab or Rehab v Prevention or Cure
THE BOTTOM LINE

The older the age one attains without becoming disabled the shorter the period of dependency to be expected before death. This suggests that for disability in later life, POSTPONEMENT of age of onset would result in PREVENTION of suffering.

In brief, we will spend a longer time living and a shorter time dying.

J Grimley Evans 1997
Health Promotion, Acute Care, Rehabilitation and Community Services
Self-Fulfilling Expectations

Optomist v Pessimist

• If you assume that things cannot be improved, they will not be improved.

• If you assume that things can be improved (a healthy old age with access to the necessary services when you need them (non-means tested) there’s a good chance they will be improved.
Adequately meeting the needs of an ageing population requires a mind shift change

Out With

‘misplaced patients’
‘inappropriately delayed discharge’
‘bed-blockers’

In With

Adequately resourced and organized
Acute care — adapted to meet the needs of ageing population
On Site Rehabilitation
Community Services
Long-Term Care Services.
Move away from
a service that is fragmented and under resourced
Move Towards
a service that is Cohesive, Seamless and Modern

Community
  HSE
  Subspecialty clinics
  GP
  Nurse Specialists
  Acute Hospitals
  EAMU

A&E
  Rehabilitation
  Nursing home
  Consultants
  Managers
  AHCP
  ED Liaison

Day Hospital / ADCU
  MDT assessment

“Respond not React”

“Adaptation”
Rehabilitation
Rehabilitation

• Neuro
  – Any Acute Illness
  – Stroke
  – Gait / Falls / Ortho
  – Dementia / Delerium
  – Parkinson’s Disease
  – Head Injury
  – Others
Disability due to some Neurological Disease for a population of 250,000

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incidence</th>
<th>Population</th>
<th>Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parkinson’s Disease</td>
<td>45</td>
<td>400</td>
<td>342</td>
</tr>
<tr>
<td>Multiple Sclerosis</td>
<td>10</td>
<td>250</td>
<td>125</td>
</tr>
<tr>
<td>Motor Neurone Disease</td>
<td>5</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>175</td>
<td>3900</td>
<td>1300</td>
</tr>
<tr>
<td><strong>Stroke</strong></td>
<td><strong>550</strong></td>
<td><strong>1500</strong></td>
<td><strong>900</strong></td>
</tr>
<tr>
<td>Head Injury</td>
<td>500</td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>Cerebral Tumour</td>
<td>40</td>
<td>113</td>
<td>40</td>
</tr>
<tr>
<td>Guillan-Barre Syndrome</td>
<td>3</td>
<td>60</td>
<td>12</td>
</tr>
<tr>
<td>Freidreich Ataxia</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Huntington Chorea</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Myasthenia Gravis</td>
<td>1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Spinal Injury</td>
<td>3</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

1997 Report of National Advisory Committee on Medical Rehabilitation
Stroke in Oxford
OCSP (1981-84) to OXVASC (2002-04)

• Incidence expected to rise by 28%

• Incidence actually fell by 29%

Rothwell et al, The Lancet 2004
BACKGROUND

10,000 new strokes in Ireland

- 20% mortality within 30 days
- 30% IADL in 3/52
- ↑ 50% 6/12
- 5% to ENC
Irish National Stroke Audit - 2008

30,000 Stroke survivors – often the forgotten

75% of hemiparetic stroke patients have shoulder pain
48% have disability including hemiparesis
22% inability to walk
24 - 53% need help with ADL’s
32% depression
33% cognitive impairment
Irish National Stroke Audit - 2008

Motor recovery plateaus 3 – 6 months after stroke
Functional recovery can continue for years
Approx 50% of stroke survivors will have a functional disability at 6 months
Speech and language may continue to slowly recover over years

Stroke subtypes
• Patients who have suffered a stroke are at risk of developing a wide range of complications secondary to their stroke.

• Previous studies have shown that medical complications are both common and related to a poor outcome. (Davenport, 1996)
MOST FREQUENT COMPLICATIONS AT 4 YEARS FOLLOW-UP IN ENC

Figure 2
Timing of complications during recovery

Cumulative proportion (%) of patients experiencing complication

Time (weeks) from index stroke

Pain
Falls
Depression
Chest infection
UTI
Pressure sore
Stroke progression
Recurrent stroke
Seizures
DVT (clinical)

Langhorne et al 2000
THERAPISTS INPUT OVER 4 YEAR PERIOD IN ENC

<table>
<thead>
<tr>
<th>Profession</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSIO</td>
<td>57%</td>
</tr>
<tr>
<td>SALT</td>
<td>19%</td>
</tr>
<tr>
<td>OT</td>
<td>4.8%</td>
</tr>
<tr>
<td>DIETICIAN</td>
<td>14.3%</td>
</tr>
</tbody>
</table>
Conclusion

- This data confirms the high mortality associated with stroke, high disability, particularly in more dependent patients discharged to HBENC.

- Survivors experience a wide spectrum of complications, which require coordinated medical, nursing and therapy input (according to agreed protocols and guidelines).

- Rehabilitation needs to be thought of as an “ongoing process” from time of admission to end of life – improves outcome and quality of life.
Falls post stroke

Falls are common among elderly community dwelling hospital patients accounting for approximately 40% of all hospital accidents.

**Consequences for the patients may include:**

- loss of confidence
- fear of falling
- An increased risk of fracture resulting in increased length of stay
- An increased risk of discharge to extended nursing care.
Higher level gait disorders

An important stroke syndrome
and cause of Falls
• 14% of >65 year olds have gait dysfunction

• Almost 50% of >85 year olds have gait dysfunction

• Associated with falls, institutionalisation and death

Cerebrovascular disease:

• classic “stroke”

• dementia

• strategic location  \(\rightarrow\) higher level gait disorder
Normal balance and gait

• Sensory input – vision, vestibular system, proprioception

• Central processing
  - Override tonic postural control
  - Turn off antagonistic muscle groups
  - Initiation / cessation - timing and sequencing

• Motor output
Gait disorder levels
Nutt et al, 1993

• Lower level (sensory input): neuropathy, arthritis, visual or vestibular disturbance. Patient compensates with other systems.

• Middle level (Central processing): Hemiplegia, dystonia, cerebellar ataxia

• Higher level (Motor output):
  Frontal disequilibrium  Frontal gait disorder
  Subcortical disequilibrium  Isolated gait ignition failure
  Cautious gait
Treatment

- Modify vascular risk factors
- Stop any offending medications
- (Consider trial of appropriate medications)
- Gait retraining
Gait retraining

- Tai-chi
- Gait training
- Treadmill retraining
- External cueing
Treadmill retraining

- Targets central pattern generators in spinal cord
- Post hemiplegic stroke – probably beneficial
- Parkinson’s disease – limited reports of benefit
- Single study: Mickelborough, Liston and Tallis Small groups, no advantage over gait training
The Challenge
The Challenge - embracing the heterogeneity and complexity – dealing with this spectrum

• Healthy older persons
  – Primary medical care, Health assessment/promotion/prevention

• Early frail/low risk/chronic disease
  – Primary medical care, Chronic disease management, detection of vulnerability, preventive home visits

• Medium risk/mild-moderate disability
  – Primary medical care and home care, chronic disease management. Specialized Geriatric care

• ↑ Disability and “complex” systems of integrated care

• End of life care
The Shifting Face of Health Care

• ↑ Complexity

• ↑ Interdependency

• ↑ Uncertainty

• Increasing preoccupation with costs and performance leading to increased government intervention/control/reform

• Continuous Change
The Shifting Face of Health Care

• From acute to chronic disease

• From institutions to networks of care; from a single site (hospital, nursing home) to many sites: home, assisted living, supportive housing, physician’s office, community clinics, ambulatory care centers, community hospitals, academic health centers, On and off site rehabilitation facilities, nursing homes, palliative care centers

• From a single professional, generally a physician to many health care professionals: family doctors, specialists, nurses, physical therapists, nutritionists, social workers, psychologists, etc - to trans-disciplinary care.

• Expectations/knowledge/Involvement of patients and family
Confusing and Vague Terminology

Get rid of terms like

- Step Down Care, Step Up Care
- Intermediate Care
- Indeterminate Care
- Post acute Rehab Care

Fail to clearly define service needs
Will lead to inappropriate and varying standards of care

Use terms like

- Acute Care
- Onsite Rehab care in the acute hospital
- Community Services, Offsite Rehab
  - clearly identified and resourced
- Nursing Home Care

Will define service needs
Move away from

a service that is fragmented and under resourced

Stroke  GP  ANP  ADCU
Community  Nursing Homes  Acute Hospital  Managers
AHCP  Rehab  HSE  Bed Blockers
Geriatricians  A&E
Move Towards
a service that is Cohesive, Seamless and Modern

Community  
HSE  
Subspecialty clinics  
GP  
Nurse Specialists  
Acute Hospitals  
EAMU

A&E  
Rehabilitation  
Nursing home  
Consultants  
Managers  
AHCP  
ED Liaison

Day Hospital / ADCU  
MDT assessment

“Respond not React”  
“Adaptation”
The Conclusion
Inappropriate terminology

Make Rehabilitation a corner stone – across the spectrum – preventative and after illness

Need better methods of recording when ready for discharge

Process of discharge to home and NH must be correct

Challenge to provide quality with limited resources
THE GOOD NEWS FROM DUBLIN

EIGHTY IS THE NEW SIXTY

Professor Ian Robertson
Institute of Neuroscience TCD
Times 11th Nov 2005
Mandatory Changes needed to ensure the future of Rehabilitation for our Ageing Population

This is not Resource Neutral!!