Healthcare, hospitals and the challenges of an ageing population

Prof David Oliver

Vice President, RCP, London
Past President, British Geriatrics Society
Senior Visiting Fellow, King’s Fund
Consultant in Geriatrics & Internal Medicine
Columnist, British Medical Journal

Hong Kong Hospital Authority Convention
May 16th 2017
<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pop.</td>
<td>7.3m</td>
<td>65m</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>$56,428 (10th)</td>
<td>$44,000 (25th)</td>
</tr>
<tr>
<td>Health $ per capita</td>
<td>$2,200</td>
<td>$4,003</td>
</tr>
<tr>
<td>% Spend private/vol.</td>
<td>53% (higher for hospitals)</td>
<td>18%</td>
</tr>
<tr>
<td>Hospital beds/1000</td>
<td>4.2</td>
<td>2.7 (2.4 England)</td>
</tr>
<tr>
<td>[OECD Average 4.4]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed Occupancy Gen Beds</td>
<td>90% +</td>
<td>93% in 2017)</td>
</tr>
<tr>
<td>[OECD Av 79%]</td>
<td></td>
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<tr>
<td>Mean LOS Gen Hosp</td>
<td>4</td>
<td>7.1</td>
</tr>
<tr>
<td>Doctors/1000</td>
<td>1.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Nurses/1000</td>
<td>6.8</td>
<td>8.3</td>
</tr>
<tr>
<td>% Female Drs</td>
<td>32%</td>
<td>46%</td>
</tr>
<tr>
<td>Geriatricians (2015)</td>
<td>?</td>
<td>1450</td>
</tr>
<tr>
<td>% of Drs are GPs</td>
<td>?</td>
<td>36%</td>
</tr>
</tbody>
</table>
To cover

I: Population ageing

II: Implications for population health – the upside

III: The downside – including frailty

IV: What this means for health services
   • Especially for hospitals

V: How we need to adapt for ageing
I Population ageing

UK and Hong Kong
UK: From “rectangularisation” to “elongation” of survival curve.

Distribution of death England 1841 - 2006

1947 NHS Founded, 48% died before 65. In 2015 its c 12%
Life expectancy rise Hong Kong

The rise in life expectancy in Hong Kong can be seen in the graph, which shows an increase over time for both males and females. The graph indicates that females have generally had a higher life expectancy than males.
By 2030 men aged 65 will live on average to 88 and women to 91.

Workforce Implications

Figure 1. Population estimates and projection for people aged 65 years or over and percentage of total population by age group in Hong Kong (2010 to 2031)
Carers (UK): Parallels Hong Kong?

- 6.4 million carers for person over 65 in UK
- 2 million are over 65
- c. 0.5 million over 80
- Intensity of caring markedly increased in a decade
- 50 hours work not unusual
- Poor mental/physical health, worsened by caring role
- “Most care provided informally by family & friends”
- Carers make c £100bn contribution to economy
- Crucial to keeping older people at home, leaving hospital

[House of Lord’s “ready for ageing” and “Age UK Health & Care of Older People]
II: Implications for population health: The Upside
Ageing a success for preventative & curative medicine & for our longevity

Source: ONS, 2011
11.6. Perceived health status in adults aged 65 years and over, 2013 (or nearest year)

% of population aged 65 years and over reporting to be in good or very good health

Men | Women | Total
---|---|---

OECD Self-rated health status

1. Results not directly comparable with other countries due to methodological differences (resulting in an upward bias).


StatLink http://dx.doi.org/10.1787/888933281398

11.7. Limitations in daily activities in adults aged 65 years and over, European countries, 2013

% of population aged 65 years and over

Limited to some extent | Limited strongly
---|---

Source: Eurostat Database 2015.

StatLink http://dx.doi.org/10.1787/888933281398
Disability-free life expectancy

*Figure 4: The average number of years that people live free of disability at age 65 in England, 2005-07 to 2009-11*

Source: Office for National Statistics (2014a)

Age UK Health & Care for Older People 2015
III: And the downside?
Multimorbidity (Scotland)

(Scottish School of Primary Care Barnett et al Lancet May 2012)
So Single disease services often unfit
Scottish School of Primary Care Study Guthrie BMJ 2012

<table>
<thead>
<tr>
<th>Condition</th>
<th>% of patients with this condition</th>
<th>% who also have this condition (as % of all patients with the condition)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary heart disease</td>
<td>52</td>
<td>14 13 22 13 8 24 17 9 71</td>
</tr>
<tr>
<td>Hypertension</td>
<td>52</td>
<td>10 18 8 7 19 14 9 14</td>
</tr>
<tr>
<td>Heart failure</td>
<td>57</td>
<td>16 23 9 23 17 4 4 81</td>
</tr>
<tr>
<td>Stroke/TIA</td>
<td>61</td>
<td>8 19 8 22 21 5 5 63</td>
</tr>
<tr>
<td>Diabetes</td>
<td>54</td>
<td>9 6 8 21 18 2 2 63</td>
</tr>
<tr>
<td>COPD</td>
<td>54</td>
<td>9 6 8 21 18 2 2 63</td>
</tr>
<tr>
<td>Cancer</td>
<td>52</td>
<td>13 10 8 19 14 2 2 70</td>
</tr>
<tr>
<td>Painful condition</td>
<td>35</td>
<td>10 5 13 10 7 31 2 70</td>
</tr>
<tr>
<td>Depression</td>
<td>34</td>
<td>9 5 9 7 4 27 4 64</td>
</tr>
<tr>
<td>Schizophrenia or bipolar</td>
<td>35</td>
<td>9 4 9 6 3 15 4 75</td>
</tr>
<tr>
<td>Dementia</td>
<td>41</td>
<td>18 13 9 8 19 92 3 83</td>
</tr>
<tr>
<td>Any other condition</td>
<td>21</td>
<td>13 9 8 17</td>
</tr>
<tr>
<td>Any other condition</td>
<td>11</td>
<td>9 7 5 5 17 17</td>
</tr>
</tbody>
</table>
11.10. Age-specific prevalence of dementia across all OECD countries, 2015

Source: OECD analysis of data from Prince et al. (2013) and the United Nations.

StatLink: http://dx.doi.org/10.1787/888933281401

11.11. Estimated number of people with dementia in all OECD countries, by age, 1995, 2015 and 2035

Source: OECD analysis of data from Prince et al. (2013) and the United Nations.

StatLink: http://dx.doi.org/10.1787/888933281401

Information on data for Israel: http://oe.cd/israel-disclaimer
Distribution of Electronic Frailty Index Codes (England) pop. C 227,000 >65
Clegg, Young et al Age Ageing 2016
**Electronic Frailty Index (England) n = c 227,648 (Clegg et al Age Ageing 2016)**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mild frailty (HR, 95% CI)</th>
<th>Moderate frailty (HR, 95% CI)</th>
<th>Severe frailty (HR, 95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yr care home admission</td>
<td>2.00 (1.68 to 2.39)</td>
<td>2.70 (2.41 to 3.04)</td>
<td>5.94 (4.61 to 7.64)</td>
</tr>
<tr>
<td>3 yr care home admission</td>
<td>1.52 (1.37 to 1.69)</td>
<td>2.70 (2.41 to 3.04)</td>
<td>3.42 (2.84 to 4.12)</td>
</tr>
<tr>
<td>5 yr care home admission</td>
<td>1.56 (1.43 to 1.70)</td>
<td>2.34 (2.10 to 2.61)</td>
<td>3.00 (2.42 to 3.70)</td>
</tr>
<tr>
<td>1 yr hospitalisation</td>
<td>1.85 (1.81 to 1.88)</td>
<td>2.96 (2.90 to 3.02)</td>
<td>4.62 (4.50 to 4.74)</td>
</tr>
<tr>
<td>3 yr hospitalisation</td>
<td>1.71 (1.69 to 1.73)</td>
<td>2.54 (2.51 to 2.58)</td>
<td>3.64 (3.57 to 3.70)</td>
</tr>
<tr>
<td>5 yr hospitalisation</td>
<td>1.63 (1.61 to 1.64)</td>
<td>2.43 (2.40 to 2.46)</td>
<td>3.59 (3.54 to 3.65)</td>
</tr>
<tr>
<td>1 yr mortality</td>
<td>1.91 (1.78 to 2.04)</td>
<td>3.39 (3.15 to 3.65)</td>
<td>5.23 (4.73 to 5.79)</td>
</tr>
<tr>
<td>3 yr mortality</td>
<td>1.74 (1.68 to 1.81)</td>
<td>3.02 (2.90 to 3.14)</td>
<td>4.56 (4.29 to 4.84)</td>
</tr>
<tr>
<td>5 yr mortality</td>
<td>1.66 (1.62 to 1.71)</td>
<td>2.73 (2.64 to 2.81)</td>
<td>3.88 (3.68 to 4.09)</td>
</tr>
</tbody>
</table>
Figure 1: Vulnerability of frail elderly people to a sudden change in functional status after a minor illness.
Frailty Syndromes (how people with frailty present to services).

*Clegg A et al at Lancet*

- “Non-specific”
  - E.g. fatigue, weight loss, recurrent infection
- Falls/Collapse
- Immobility/worsening mobility
- Delirium ("acute confusion")
- Incontinence (new or worsening)
- Fluctuating disability
- Increased susceptibility to medication side effects
  - E.g. Hypotension, Delirium
IV: Ageing and frailty and hospitals

And why hospitals aren’t islands but depend on rest of health and care system
Following the money.

*NHS Constitution Technical Annexe 2013*

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**Figure 13** - Chart showing indexed costs for each 5 year age bracket as a proportion of cost for those aged 85+ (General and Acute)
Figure 3: Population ageing increases healthcare services consumption – Average number of in-patients in HA hospitals by age (2010)

Source: Hospital Authority Administration System, 2010
Image 1: Distribution of long-term conditions by age of A&E attendee 2012/13, Focus on A&E attendances, QualityWatch

Figure 4.3: Distribution of long-term conditions (LTCs) by age of A&E attendee, 2012/13

Source: Nuffield Trust and Health Foundation (2014)
Functional decline in acutely admitted patients > 75

So post acute rehab in and out of hospital Core

Figure 1. Percentage of study participants (n = 615) requiring human assistance in each activities of daily living, at baseline, hospital admission, and hospital discharge.
Modern Hospital Case mix

- Family Caregivers also crucial to many
- Older people suffer most poorly co-ordinated care
- Multiple care transitions poor communication & information-sharing
- Potential benefits from integration
V: How we need to adapt to be fit for ageing
Older people with complex needs/frailty as “core business” in modern healthcare

- Any practitioner training 2015 with the youngest case-mix they’ll ever see
- Have they realised?
- Our values, priorities & “prestige hierarchy” haven’t caught up with ageing population
- Training, workforce planning, skills likewise
- Research priorities

Most of all, services & systems need to be geared up to the people who actually use them
10 key components of care

1. Age well and stay well
2. Live well with one or more long-term conditions
3. Support for complex co-morbidities/frailty
4. Accessible, effective support in crisis
5. High-quality, person-centred acute care
6. Good discharge planning and post-discharge support
7. Effective rehabilitation and re-ablement
8. Person-centred, dignified long term care
9. Support, control and choice at end of life
10. Shift to prevention and pro-active care
Interventions *outside* hospital

- Patients with complex needs identified, care planning & care co-ordination “anticipatory care”
- Support for carers
- End of life care planning and support
- Rapid access multidisciplinary ambulatory care models
- Medical support in nursing homes to prevent admission
- Rapid crisis assessment & multidisciplinary support at home
- Intermediate care (home or community hospital)
- “Discharge-to-assess” and community “in-reach”
- Joint working with ambulance practitioners to prevent conveyance to hospital (e.g. for falls)
# Care of Older People in Hospital Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Involving older people: “What and who matters to me”</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Maintaining patient dignity and privacy</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Decision-making, consent and capacity</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>Initial assessment on admission to hospital</td>
<td>15</td>
</tr>
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<td>5</td>
<td>Comprehensive geriatric assessment</td>
<td>17</td>
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<td>6</td>
<td>Pharmaceutical care</td>
<td>19</td>
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<td>7</td>
<td>Assessment and prevention of decline in cognition</td>
<td>21</td>
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<td>8</td>
<td>Delirium</td>
<td>23</td>
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<td>9</td>
<td>Dementia</td>
<td>25</td>
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<tr>
<td>10</td>
<td>Depression</td>
<td>27</td>
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<td>11</td>
<td>Falls prevention management</td>
<td>29</td>
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<tr>
<td>12</td>
<td>Rehabilitation</td>
<td>31</td>
</tr>
<tr>
<td>13</td>
<td>Pre-discharge planning</td>
<td>33</td>
</tr>
<tr>
<td>14</td>
<td>Care transitions</td>
<td>35</td>
</tr>
<tr>
<td>15</td>
<td>Patient pathway and flow</td>
<td>37</td>
</tr>
<tr>
<td>16</td>
<td>Skills mix and staffing levels</td>
<td>39</td>
</tr>
</tbody>
</table>
1. Develop multi-disciplinary integrated elderly services across the continuum of HA care.

2. Promote patient-centred care and engage patients and their carers as active partners in their healthcare.

3. Greater collaboration with partners involved in elderly care outside of HA.

4. Enhance HA workforce capacity and engage staff.

5. Develop quality, outcomes-driven HA elderly services.
Comprehensive Geriatric Assessment.


- 22 trials, 10,315 participants, 6 countries
- Older adults admitted to hospital
- Those undergoing CGA
- Median follow up 12 months
- **More likely to be alive OR 1.16 (1.05, 1.28)**
- Median follow up 6 months
- **More likely to be in own home OR 1.25 (1.11, 1.42)**
- **Less likely to be in residential care OR 0.78 (0.69, 0.78)**
- **Less likely to die OR 0.76 0.64, 0.90)**
- Ward based team outperformed mobile teams
Working together..
Thankyou. And questions/comments?

D.oliver@kingsfund.org.uk
David.Oliver@royalberkshire.nhs.uk
President@bgs.org.uk
@mancunianmedic