A CURRENT GLOBAL PERSPECTIVE ON THE EPIDEMIOLOGY AND NATURE OF THE DEMENTIAS, THEIR GLOBAL IMPACT, PRESSING CHALLENGES AND WHAT IT WOULD MEAN IF DEMENTIA WERE A MAJOR PUBLIC HEALTH PRIORITY

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we need to know much more about dementia
Numbers of papers on Alzheimer’s Disease by decade

- 1960s: 0
- 1970s: 290
- 1980s: 3,000
- 1990s: 17,000
- 2000s: 39,000
Disorders of the brain and mind are leading contributors to disability and dependence

<table>
<thead>
<tr>
<th>Health condition/impairment</th>
<th>Mean population attributable fraction (Dependence)</th>
<th>Mean population attributable fraction (Disability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dementia</td>
<td>36.0%</td>
<td>25.1%</td>
</tr>
<tr>
<td>2. Limb paralysis/weakness</td>
<td>11.9%</td>
<td>10.5%</td>
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<tr>
<td>3. Stroke</td>
<td>8.7%</td>
<td>11.4%</td>
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<tr>
<td>4. Depression</td>
<td>6.5%</td>
<td>8.3%</td>
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<tr>
<td>5. Visual impairment</td>
<td>5.4%</td>
<td>6.8%</td>
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<tr>
<td>6. Arthritis</td>
<td>2.6%</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

Sousa et al, Lancet, 2009; BMC Geriatrics 2010
Growth of numbers of people with dementia


- 35.6 million people living with dementia worldwide in 2010
- Increasing to 65.7 million by 2030
- 115.4 million by 2050
Numbers of people with dementia by world region (2015-2050)

<table>
<thead>
<tr>
<th>Region</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe Western</td>
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<tr>
<td>North America</td>
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<tr>
<td>Latin America &amp; Caribbean</td>
<td>14.78</td>
<td>18.78</td>
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<tr>
<td>Africa and the Middle East</td>
<td>4.66</td>
<td>3.04</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Asia (high income)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Asia (low and middle income)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World</td>
<td>47.47</td>
<td>135.46</td>
<td>19.62</td>
<td>63.16</td>
<td>8.68</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of people with dementia by world region (2015-2050):
Future projections

The number of people in the UK with dementia will double in the next 40 years.

800,000 people with dementia in 2012

1,000,000 people with dementia in 2021

1,700,000 people with dementia in 2051
The societal cost of dementia is already enormous.

Dementia is already significantly affecting every health and social care system in the world.

The economic impact on families is insufficiently appreciated.

The total estimated worldwide costs of dementia are US$604 billion in 2010.

These costs are around 1% of the world’s GDP

- 0.24% in low income
- 1.24% in high income
The World Alzheimer Report (2010) estimated that:

If dementia care were a country, it would be the world’s 18th largest economy.
Cost of illness per year (£billion)

- Dementia: £23 billion
- Cancer: £12 billion
- Heart disease: £7 billion
- Stroke: £4 billion
Ich hab mich verloren

Dr Alois Alzheimer
1864 - 1915

Mrs Auguste Deter
1850 - 1906
Amyloid cascade hypothesis

Environment

Genes
The Changing Brain in Alzheimer’s Disease

Pet Scan of Normal Brain

Pet Scan of brain in Alzheimer’s Disease
improving public and professional attitudes and understanding
National dementia strategies

France
Wales
Scotland
Australia
Germany
Japan
South Korea
India
England
...

Living well with dementia: A National Dementia Strategy

Putting People First
Dr. Margaret Chan, Director General, WHO

“I call upon all stakeholders to make health and social care systems informed and responsive to this impending threat”
“So I am determined that we will go further and faster on dementia – making life better for people with dementia and their carers, and supporting the research that will ultimately help us slow, stop and even prevent the condition”
Dismantling the barriers to care: improving public and professional attitudes and understanding

- Stigma of dementia prevents discussion
- Inactivity in seeking and offering help
- False belief: normal part of ageing
- False belief: nothing can be done
Many people suffer from memory loss as they get older. But if it starts to happen on a regular basis, it could be the early signs of dementia.

If you’re worried, see your doctor
Change the word – Japan, we need to change the beliefs

In 2004, the Japanese Government modified the Japanese terminology for "Dementia"
we need earlier and better diagnosis of dementia
Only around 48% of people with dementia receive any specialist health care assessment or diagnosis. When they do, it is:

- Late in the illness
- Too late to enable choice
- At a time of crisis
- Too late to prevent harm and crises
The goal

70-80% of people with dementia receive accurate assessment and diagnosis

When they do, it is:

- Early in the illness
- Early enough to enable choice
- In time to prevent harm
- In time to prevent crises
Services for early diagnosis and intervention in dementia for all – markers of quality

Working for the whole population of people with dementia
  - Has the capacity to see all new cases of dementia in their population

Working in a way that is complementary to existing services
  - About doing work that is not being done by anybody

Service content
  - Make diagnosis well
  - Break diagnosis well
  - Provide immediate support and care immediately from diagnosis

95% acceptance rate

94% appropriate referrals

18% minority ethnic groups

19% under 65 years of age

Banerjee et al 2007, IJGP
Early intervention for dementia is clinically and cost effective – “spend to save”

215,000 people with dementia in care homes -- £400 per week

Spend on dementia in care homes pa
  • £7 billion pa

22% decrease in care home use with early community based care

28% decrease in care home use with carer support (median 558 days less)

Quality – older people want to stay at home, higher qol at home

Take an additional 220 million pa

Delayed benefit by 5-10 years
  • Strategic head needed

Model published by DH

20% releases £250 million pa y6
What do we mean by early diagnosis?

Figure 1: Timeline of disease progression

- **Onset of neuropathology**
- **Reliably predictive biomarkers**
- **Onset of cognitive decline**
- **Onset of disability**
- **Subjective impairment/ helpseeking**

- **T1** Earliest possible diagnosis in the event that we develop reliably predictive biomarkers
- **T2** Earliest possible diagnosis using currently available technology
- **T3** 'Timely' diagnosis, responding to patient and carer concerns rather than proactively screening for the disease
- **T4** Current 'late-stage' diagnosis
Where are we in diagnostics?

- A simple quick diagnostic test that tells us if we have dementia ✗
- A simple efficient screening test that would work in populations to identify those with high likelihood of dementia ✗
- Accurate diagnosis by careful clinical assessment with multi-disciplinary synthesis of history, examination and investigation ✔
- Tests to help make decisions about diagnosis and sub-diagnosis ✔
- Tests to make that diagnosis for us ✗

**BE WARY OF THE DIFFERENCE BETWEEN RESEARCH AND PRACTICE**
‘Dementia map’: how diagnosis rates vary across England

The Health Secretary’s “dementia map” of England shows that in some areas, fewer than four in every 10 sufferers have their condition recognised by the NHS.

How dementia diagnosis rates vary across England

<table>
<thead>
<tr>
<th>Best and worst: Percentage of dementia patients diagnosed by doctors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top 10</strong></td>
</tr>
<tr>
<td>Corby</td>
</tr>
<tr>
<td>South Tyneside</td>
</tr>
<tr>
<td>Sheffield</td>
</tr>
<tr>
<td>Bradford Districts</td>
</tr>
<tr>
<td>Birmingham South and Central</td>
</tr>
<tr>
<td>Portsmouth</td>
</tr>
<tr>
<td>Islington</td>
</tr>
<tr>
<td>Nottingham West</td>
</tr>
<tr>
<td>Bradford City</td>
</tr>
<tr>
<td>Bolton</td>
</tr>
<tr>
<td><strong>Bottom 10</strong></td>
</tr>
<tr>
<td>Herefordshire</td>
</tr>
<tr>
<td>Harrow</td>
</tr>
<tr>
<td>Thanet</td>
</tr>
<tr>
<td>West Norfolk</td>
</tr>
<tr>
<td>Herts valleys</td>
</tr>
<tr>
<td>North East Essex</td>
</tr>
<tr>
<td>Stafford and surrounds</td>
</tr>
<tr>
<td>Wiltshire</td>
</tr>
<tr>
<td>Walsall</td>
</tr>
<tr>
<td>Hillingdon</td>
</tr>
</tbody>
</table>

London boroughs

351,000
Estimated number of dementia sufferers that have not been diagnosed

Source: Department of Health
Mapping the Dementia Gap 2012

- 2011 - 41%
- 2012 - 44%
- 2013 - 48%
"scientia potestas est" Meditationes Sacrae (1597)

Francis Bacon
  ◦ 1561 to 1626

Founder of empiricism and the scientific method

knowledge is power
What is diagnosis for? Production of health and wellbeing in dementia

- How we turn people with worrying symptoms into people who know what is going on
- How we turn toxic uncertainty into empowered understanding
- How we enable choice, self-efficacy and quality of life and quality of care
we need better prevention and treatment of dementia from diagnosis to end of life
Improving quality of care

- Improved home care
- Improving support for carers
- Improved quality of care for dementia in general hospitals
- Improved intermediate care for people with dementia
- Housing support and telecare
- Living well with dementia in care homes
- Improved end of life care for people with dementia
The acute end of the dementia pathway

70% hospital beds occupied by older people, half of them have dementia

Dementia is a predictor of increased LOS, poorer outcomes and institutionalisation

30% of elderly patients with dementia, admitted into acute hospitals from their own homes are discharged into care homes
Evaluation RAID model – effect of geriatric psychiatric liaison services in a general hospital

- Saving 12m - 12,951 bed days
  - 35 beds per day - £3m pa
- 8% increase admission prevention
  - 6 beds per day
- Discharge home
  - Before 34% - after 67%
- Readmission rates
  - Before 19% - after 5%

- Reducing Length of Stay
- Increasing rates of discharge at MAU
- A&E diversion
- More home discharges
- Reducing rates of re-admissions

- Total savings: £3.55 million to NHS
- Money value Cost: return = £1:£4
- At least 44 beds/day
- £60,000/week to social care cost
Reduced use of antipsychotic medication
Ministerial review of use of antipsychotics in dementia – simple actionable messages from research

Published November 2009

Estimates for the report

◦ 25% people with dementia receiving an antipsychotic
◦ 180,000 people with dementia receiving an antipsychotic

For UK

◦ 1,800 deaths per year
◦ 1,620 severe CVAEs per year

Use quality improvement mechanisms

Improve skills in primary and social care

Provision of specialist input

An independent report commissioned and funded by the Department of Health
National Audit of antipsychotics in dementia
“The future is unwritten”
Joe Strummer
Thank you!