Dealing with multimorbidity: experiences from different cultures and settings

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*Cambridge English Dictionary* states that culture is, "the way of life, especially the general customs and beliefs, of a particular group of people at a particular time."
Today

• Present the work I have been part of in terms of multimorbidity
• Indicate the importance of socioeconomic status
• Compare and contrast the effects of multimorbidity and socioeconomic status in different healthcare settings
• Discuss how we might best tackle the problems of multimorbidity
Burden of multimorbidity

• International studies and systematic reviews have shown that MM:
  – Increases mortality
  – Increases healthcare utilisation
  – Increases hospital admissions and duration of stay
  – Increases the burden on patients (Rx, financial)
  – Decreases quality of life
The Inverse Care Law

• ‘The provision of good medical care tends to vary inversely with the need for it in the population served.’

• www.juliantudorhart.org
The Inverse Care Law: higher patient need but flat distribution of GP manpower in deprived areas

Age & Sex Standardised Census Health Measures by Greater Glasgow & Clyde

Deprivation Decile

Deprivation Decile

Age-Sex Standardised Ratio

sir64
shr64
smr74

Linear (WTE GPs)
GENERAL PRACTITIONERS AT THE DEEP END

Age & Sex Standardised Census Health Measures by Greater Glasgow & Clyde

Deprivation Decile

0
50
100
150
200
250
1 2 3 4 5 6 7 8 9 10

Deprivation Decile

Age-Sex Standardised Ratio

sir64
shr64
smr74
Linear (WTE GPs)
The NHS still provides universal coverage
But has not tackled the inverse care law
Multimorbidity in Scotland

The Scottish national data shown uses:

– Clinical data from 310 Scottish general practices for 1,754,133 registered patients, and was provided by the Primary Care Clinical Informatics Unit (“PCCIU data”)

– An example of the use of ‘Big Data’
The majority of over-65s have 2 or more conditions, and the majority of over-75s have 3 or more conditions. More people have 2 or more conditions than only have 1.
Most people with any long term condition have multiple conditions in Scotland

<table>
<thead>
<tr>
<th>Condition</th>
<th>This condition only</th>
<th>This condition + 1 other</th>
<th>+ 2 others</th>
<th>+ 3 or more others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart failure</td>
<td>3</td>
<td>9</td>
<td>14</td>
<td>74</td>
</tr>
<tr>
<td>Stroke/TIA</td>
<td>6</td>
<td>14</td>
<td>18</td>
<td>62</td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td>7</td>
<td>13</td>
<td>16</td>
<td>65</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>9</td>
<td>16</td>
<td>19</td>
<td>56</td>
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<tr>
<td>Painful condition</td>
<td>13</td>
<td>21</td>
<td>21</td>
<td>46</td>
</tr>
<tr>
<td>Diabetes</td>
<td>14</td>
<td>20</td>
<td>19</td>
<td>47</td>
</tr>
<tr>
<td>COPD</td>
<td>18</td>
<td>19</td>
<td>17</td>
<td>47</td>
</tr>
<tr>
<td>Hypertension</td>
<td>22</td>
<td>24</td>
<td>19</td>
<td>35</td>
</tr>
<tr>
<td>Cancer</td>
<td>23</td>
<td>21</td>
<td>17</td>
<td>39</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>31</td>
<td>23</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>Asthma</td>
<td></td>
<td></td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Dementia</td>
<td>5</td>
<td>13</td>
<td>18</td>
<td>64</td>
</tr>
<tr>
<td>Anxiety</td>
<td>7</td>
<td>17</td>
<td>20</td>
<td>56</td>
</tr>
<tr>
<td>Schizophrenia/bipolar</td>
<td>13</td>
<td>21</td>
<td>21</td>
<td>46</td>
</tr>
<tr>
<td>Depression</td>
<td>23</td>
<td>22</td>
<td>18</td>
<td>36</td>
</tr>
</tbody>
</table>

People living in more deprived areas in Scotland develop multimorbidity 10 years before those living in the most affluent areas.
Mental health problems are strongly associated with the number of physical conditions that people have, particularly in deprived areas in Scotland.
Multimorbidity is also associated with poorer quality of life, particularly in deprived areas.

General population and lowest and highest deprivation quintiles

Reduction in PW_HRQoL score

- General population
  - N= 1,875
  - N=822
  - N=420

- SIMD 1 - least deprived
  - N= 319
  - N=89
  - N=38

- SIMD1 - most deprived
  - N= 309
  - N=188
  - N=116

- 1 condition
- 2 conditions
- 3+ conditions

Health inequalities in Scotland

- Mortality <75
- Limiting long-term illness
- Not good' general health

Deprivation decile

0 20 40 60 80 100 120 140 160 180

1 2 3 4 5 6 7 8 9 10
People with multimorbidity are much more likely to have emergency and potentially preventable admissions to acute hospitals...
...and this is driven by deprivation and mental illness as well as by the number of physical conditions they have.
A different country, a different culture, and a different healthcare system...
Epidemiology of multimorbidity in China and implications for the healthcare system: cross-sectional survey among 162,464 community household residents in southern China

Harry HX Wang¹,², Jia Ji Wang³, Samuel YS Wong¹, Martin CS Wong¹, Fang Jian Li³, Pei Xi Wang³, Zhi Heng Zhou³, Chun Yan Zhu³, Sian M Griffiths¹ and Stewart W Mercer²* (†Corresponding author).

Wang et al. BMC Medicine 2014, 12:188
http://www.biomedcentral.com/1741-7015/12/188

Methods

- **Survey study** design to collect self-report data combined with paper-based medical reports
- A large cross-sectional survey among approximately 5% (N = 162,464) of the resident population in three prefectures in **Guangdong province, southern China in 2011**
- Prefectures chosen have characteristics similar to the **national average** in terms of population demographics, urbanisation rate (40.11 versus 34.71) and CHCs per unit population ratio (6.97 versus 5.74).
- A multistage, stratified **random sampling**.
The number of morbidities and the proportion of people with multimorbidity increased substantially with age.

By age 55 years, half of the population had at least one morbidity, and by age 70 years, the majority was multimorbid.
Deprivation and multimorbidity in China

Logistic regression analysis with multimorbidity as the outcome showed that in addition to age, the factors most strongly and independently associated with multimorbidity were:

- female gender
- low education
- Unemployment
- lack of medical insurance
- lifestyle factors (smoking, alcohol drinking, salty diet and physical inactivity)
The dominance of Secondary care in China

• **Secondary care** was more likely, and primary care less likely, to be used as usual source of healthcare among people with multiple chronic conditions, compared to those with no multimorbidity.

• Although China is encouraging the utilisation of **primary care** by giving insured patients preferential rates, those uninsured or with a higher income, as shown in our study, appear to preferentially seek services directly at secondary care.
The essential role of primary care

- Decades of experience tell us that primary health care is the best route to universal access, the best way to ensure sustainable improvements in health outcomes, and the best guarantee that access to care will be fair.

Chan 2007, Opening address at the International Conference on Health for Development
Pulling together the story....

- Multimorbidity is the norm not the exception
- It is socially patterned, being more common and occurring at a younger age in people of lower SES
- Thus multimorbidity contributes to health inequalities
- Primary care and universal coverage are central to the effective management of multimorbidity
  - In-patient admissions are the most expensive part of healthcare budgets
Effects of the inverse care law in Scotland?
Hospital admission by multimorbidity level and deprivation
Effects of the inverse care law in China?
Hospital admission by multimorbidity level and deprivation

![Graph showing the predicted probability of hospital admission by number of chronic conditions and income grade, comparing patients with and without medical insurance.](image)
And what about Hong Kong?
The challenge of universal coverage
The essential role of primary care

- Decades of experience tell us that primary health care is the best route to universal access, the best way to ensure sustainable improvements in health outcomes, and the best guarantee that access to care will be fair.

Chan 2007, Opening address at the International Conference on Health for Development
But we need more than primary care...
Integration of services

Horizontal
- Between GPs and GP practices
- Between multidisciplinary teams
- Between primary health care and statutory social care services
- With and between the ‘third secto’

Vertical
- Better links between primary care and secondary care
- Better transitions especially discharge
- More generalists in secondary care
- Designated care coordinators
Primary Care as the Hub

INTEGRATED CARE DEPENDS ON MULTIPLE RELATIONSHIPS
TOO MANY HUBS
I’VE JUST INVENTED A MACHINE THAT DOES THE WORK OF TWO MEN.

UNFORTUNATELY, IT TAKES THREE MEN TO WORK IT

SPIKE MILLIGAN
Thank you