Bonds, Bridges and Links: From Communities to Population Health

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The Strength of Social connections

Building strong communities can be good for you and your community
<table>
<thead>
<tr>
<th></th>
<th>Health Care Expenditure per capita in $ PPD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. United States</td>
<td>4095</td>
<td>15. Japan</td>
</tr>
<tr>
<td>2. Switzerland</td>
<td>2611</td>
<td>16. Italy</td>
</tr>
<tr>
<td>3. Germany</td>
<td>2364</td>
<td>17. Finland</td>
</tr>
<tr>
<td>4. Luxembourg</td>
<td>2303</td>
<td>18. United Kingdom</td>
</tr>
<tr>
<td>5. Canada</td>
<td>2175</td>
<td>19. New Zealand</td>
</tr>
<tr>
<td>6. France</td>
<td>2047</td>
<td>20. Ireland</td>
</tr>
<tr>
<td>7. Denmark</td>
<td>2042</td>
<td>21. Greece</td>
</tr>
<tr>
<td>10. Netherlands</td>
<td>1933</td>
<td>24. Czechoslovakia</td>
</tr>
<tr>
<td>11. Australia</td>
<td>1909</td>
<td>25. Korea</td>
</tr>
<tr>
<td>13. Belgium</td>
<td>1768</td>
<td>27. Poland</td>
</tr>
<tr>
<td>14. Sweden</td>
<td>1762</td>
<td>28. Turkey</td>
</tr>
</tbody>
</table>
Life expectancy and wellbeing – Indicator 3.5  International comparison of life expectancy at birth by sex

Life expectancy at birth by sex, Australia and selected countries, 1998

- Japan
- Iceland
- Sweden
- Switzerland
- Australia
- Canada (a)
- Norway
- Italy (a)
- New Zealand
- Netherlands
- United Kingdom
- Spain
- Greece
- France
- Germany
- United States
- Denmark

- Expected life (years) -

- Males
  - Females
Population Health

‘Why do some individuals have hypertension?’

Is quite a different question from:

‘Why do some populations have much hypertension, whilst in others it is rare?’

Source: G. Rose. Sick Individual and Sick Populations, 1985
Population Health

• Is determined by the distribution of risk in the population
• As well as the magnitude of risk
Graphic model of the factors affecting the health of the population in the United States

Note: The Built Environment includes transportation, water and sanitation, housing, and other dimensions of urban planning. Social conditions at the national level include racism, sexism, discrimination, cultural intolerance, and other factors that can have impact on mental (e.g., depression) and physical (e.g., health care access, etc.) health, health outcomes, and general well being. Other conditions at the national level might include major and sometimes sudden socio-political shifts, such as recession, war, governmental collapse, etc. Additionally, policies and systems related to safety and well being (e.g., law enforcement) should be considered in the sets of conditions affecting health at the national, state, and local level.
Socioeconomic factors – Indicator 4.4  Differentials in death rates across socioeconomic quintiles

Graph 1  Death rates for males and females aged 15 to 64 years by socioeconomic quintile (a), Australia, 1985–89 and 1992–95

Graph 2  Percentage difference in mortality between the 5th and 1st quintiles (a), Australia, 1985–89 and 1992–95
# Inequality and Health Report

European standardized mortality rates, by social class, selected causes, men aged 20-64.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>I- Professional</td>
<td>500</td>
<td>373</td>
<td>280</td>
</tr>
<tr>
<td>II- Managerial &amp;</td>
<td>526</td>
<td>425</td>
<td>300</td>
</tr>
<tr>
<td>Technical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III- (N) Skilled</td>
<td>637</td>
<td>522</td>
<td>426</td>
</tr>
<tr>
<td>(Non-manual)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III- (M) Skilled</td>
<td>683</td>
<td>580</td>
<td>493</td>
</tr>
<tr>
<td>(Manual)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV- Partly Skilled</td>
<td>721</td>
<td>639</td>
<td>492</td>
</tr>
<tr>
<td>V- Unskilled</td>
<td>897</td>
<td>910</td>
<td>806</td>
</tr>
</tbody>
</table>
Health behaviours – Indicator 4.7 Proportion of adults who are current smokers

Tobacco use by socioeconomic area: proportion of the population aged 14 years and over, Australia, 1998

- 1st quintile (most disadvantaged)
- 2nd quintile
- 3rd quintile
- 4th quintile
- 5th quintile (least disadvantaged)

- Regular (a)
- Occasional (b)

- % -
Social Connectedness

• Social isolation is linked to higher mortality, morbidity, and lower survival
• Care giving relationships are critical for early childhood development
• Community ties, voluntary associations influence health and health behaviors
Social Network Model

Source: Bolssevain, Jeremy: Friends of Friends, 1974
Social Networks

- Marital status or living with a partner
- ties with relatives
- ties with friends
- group membership & voluntary associations
- religious associations and attendance
Mortality Rate from All Causes by Social Network Index (SNI)
Men and women who were socially isolated were two to three times as likely to die over the 9 year follow-up period as those with many more ties.
It didn’t matter whether you had one specific type of tie or another.

What mattered was whether you had several different types of ties
## Handling and Aging in Rats

Mean (±SEM) Basal Corticosterone Levels (µl/dl) in Handled and Nonhandled Female Rats (n=12/group) Sampled at Various Ages

<table>
<thead>
<tr>
<th>Age</th>
<th>Handled</th>
<th>Nonhandled</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Months</td>
<td>9.1 ± 2.0</td>
<td>8.8 ± 0.8</td>
</tr>
<tr>
<td>8 Months</td>
<td>8.8 ± 1.1</td>
<td>11.4 ± 1.1</td>
</tr>
<tr>
<td>16 Months</td>
<td>11.9 ± 0.6</td>
<td>15.0 ± 0.9*</td>
</tr>
<tr>
<td>24 Months</td>
<td>11.7 ± 1.1</td>
<td>17.8 ± 1.0*</td>
</tr>
</tbody>
</table>

*Indicates a value that is significantly (p<0.05) different from same-aged H animals

## Handling and Aging in Rats

Mean (±SEM) Swimming Distance to Find Platform

<table>
<thead>
<tr>
<th>Age</th>
<th>Handled</th>
<th>Nonhandled</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Month-old</td>
<td>4.3 ± 1.1</td>
<td>5.5 ± 2.9</td>
</tr>
<tr>
<td>12 Month-old</td>
<td>5.1 ± 1.0</td>
<td>9.0 ± 2.5*</td>
</tr>
<tr>
<td>24 Month-old</td>
<td>5.0 ± 1.3</td>
<td>11.2 ± 2.2*</td>
</tr>
</tbody>
</table>

*Significantly different from 6 month-old nonhandled animals and all H animals (p<0.05)

Social engagement is defined as the maintenance of many social connections and a high level of participation in social activities.

In a study of 2,812 older men and women, those who were least socially engaged were 2.3 times as likely to decline cognitively as those who were more engaged independently of education, race, disability, impairments, depression, cardiovascular profile, smoking, alcohol use or level of physical activity.

What is Social Capital?

• The sum of resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable social network (Bourdieu)

• Social capital facilitates actions of individuals in the social structure

• Investment in social relations with expected returns in the marketplace. (Lin)
The relationship between age-adjusted mortality rates and lack of social trust.

Percent Responding: “Most people would try to take advantage of you if they got the chance.”

Source: Kawachi et al., AJPH, 1997
Most people would try to take advantage of you they got the chance.

Source: Kawachi et al., AJPH, 1997
Number of people who volunteer (as a % of population), by age group for selected types of organisations (a), Australia, 2000

<table>
<thead>
<tr>
<th>Selected type of organisation</th>
<th>18-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport/recreation</td>
<td>40.0</td>
<td>37.5</td>
<td>42.5</td>
<td>36.1</td>
<td>22.0</td>
<td>15.3</td>
</tr>
<tr>
<td>Education/youth</td>
<td>16.8</td>
<td>32.7</td>
<td>46.4</td>
<td>27.5</td>
<td>13.7</td>
<td>6.7</td>
</tr>
<tr>
<td>Health</td>
<td>6.4</td>
<td>8.3</td>
<td>4.8</td>
<td>7.8</td>
<td>10.5</td>
<td>11.4</td>
</tr>
<tr>
<td>Community/welfare</td>
<td>21.3</td>
<td>23.7</td>
<td>27.7</td>
<td>34.5</td>
<td>52.9</td>
<td>64.3</td>
</tr>
</tbody>
</table>

(a) As people may volunteer for more than one organisation type, figures for individual categories may not add to 100%, and some over-reporting may occur. No significant changes were seen from 1995 survey.

Community Capacity – Indicator 4.6  Voluntary work participation rates

Median weekly hours of voluntary work, by age group and sex, Australia, 1995 and 2000
Can Social Capital be harmful?

• How can something that “facilitates collective action for mutual benefit” be bad?

• 1. It could be coercive (interlocking ties)
• 2. It can “sink” fragile networks
• 3. It can inhibit free expression
• 4. It can distribute resources to a few
Bonding,
Bridging,
and linking
The strength of strong ties

• Bonding networks help those that are within the group.
• Characterized by intensity, reciprocity, intimacy, acknowledged obligations, density.
• People in bonded networks are often very similar to each other
The strength of weak ties: Bridging

- Bridges are ties between two networks
- People who do not share the same characteristics may have access to new resources and information
- People often find jobs from “weak ties” those that bridge across different groups
- Bridges are important for instrumental action and resources
Links

• Links are institutional ties between two or more networks.
• Resources embedded in several networks become accessible across networks.
• Bridges and links move individual groups to a socially cohesive society, beyond acting in each group’s self-interest
Community Organizations have the power to improve population health

And..

In this case, what’s good for community is good for you