Socioeconomic Differences in Health Expectancy
New Estimates from the Netherlands

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Socioeconomic Status

Education rather than occupation or income, because it is:

- Closely related to long-term economic position (Smith & Kingston, 1997)
- Stable over time
- Less susceptible to reverse causation
- Less problematic in use with older people
- Widely used in health inequality research
Educational level

4 categories, approximating ISCED-levels (UNESCO, 1997)

1. Primary education (ISCED-level 1)
2. Lower secondary education (ISCED-level 2)
3. Upper secondary education (ISCED-level 3)
4. Post-secondary and tertiary education (ISCED-levels 4-6)
Data Sources

Continuous Survey of Living Conditions
1997 – 2005
90,812 participants in total
Response-rates per year: 55 – 62%

Labour Force Survey
1997 – 2005
1,251,902 participants in total
Response-rates per year: 55 – 70%

Municipal Population Register
Information on deaths
Methods

Prevalences

• Calculated from the Continuous Survey of Living Conditions
• Stratified by gender, age and educational attainment

❖ Perceived unhealthiness
   How is your health in general?

❖ Physical disabilities
   OECD-questions on disability (#1,2,4,5,9,10,12)

❖ Longstanding Illnesses
   asthma/copd, heart disease, stroke, HBP, stomach ulcer, diabetes, back disorder, arthritis, migraine, cancer
Health inequalities

Provisional results – please do not publish without consent of the author
Health inequalities

Physical disabilities

Source: Statistics Netherlands

Provisional results – please do not publish without consent of the author
Health inequalities

Provisional results – please do not publish without consent of the author
Methods ctd.

Mortality rates

- Educational attainment from LFS
- Individual respondents on Labour Force Survey coupled with the Municipal Population Registration
- Administrative follow-up until death
- 33,392 cases of death in 9 years
Health expectancy

Calculated using Sullivan’s method for each definition of health and stratified by gender and socioeconomic group

Delta-method used for calculating variances in LE and HE
HE at birth
Men

Primary
72,2 50,2 70%

Lower second.
74,6 59,6 80%

Upper second.
77,1 63,7 83%

Post-sec. + tert
79,1 69,0 87%

Primary education
Lower secondary education
Upper secondary education
Post-secondary and tertiary education

Life years
HE at birth - Men
in good perceived health
without physical disabilities
without longstanding illnesses

Provisional results – please do not publish without consent of the author
Health expectancy at birth - Women

<table>
<thead>
<tr>
<th>HE at birth Women</th>
<th>LE</th>
<th>HLE</th>
<th>%HLE LE</th>
<th>DFLE</th>
<th>%DFLE LE</th>
<th>MFLE</th>
<th>%MFLE LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>78,1</td>
<td>52,8</td>
<td>68%</td>
<td>60,5</td>
<td>77%</td>
<td>44,1</td>
<td>56%</td>
</tr>
<tr>
<td>Lower second.</td>
<td>81,1</td>
<td>61,3</td>
<td>76%</td>
<td>68,5</td>
<td>84%</td>
<td>45,1</td>
<td>56%</td>
</tr>
<tr>
<td>Upper second.</td>
<td>83,7</td>
<td>65,6</td>
<td>78%</td>
<td>71,8</td>
<td>86%</td>
<td>46,6</td>
<td>56%</td>
</tr>
<tr>
<td>Post-sec. + tert</td>
<td>83,8</td>
<td>69,2</td>
<td>83%</td>
<td>74,3</td>
<td>89%</td>
<td>49,2</td>
<td>59%</td>
</tr>
</tbody>
</table>

Provisional results – please do not publish without consent of the author
### HE at 30 Men

<table>
<thead>
<tr>
<th>HE at 30</th>
<th>LE</th>
<th>HLE</th>
<th>%HLE</th>
<th>DFLE</th>
<th>%DFLE</th>
<th>MFLE</th>
<th>%MFLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>43,8</td>
<td>26,3</td>
<td>60%</td>
<td>34,2</td>
<td>78%</td>
<td>22,5</td>
<td>51%</td>
</tr>
<tr>
<td>Lower sec.</td>
<td>45,9</td>
<td>33,3</td>
<td>73%</td>
<td>39,1</td>
<td>85%</td>
<td>25,3</td>
<td>55%</td>
</tr>
<tr>
<td>Upper sec.</td>
<td>48,0</td>
<td>36,6</td>
<td>76%</td>
<td>41,9</td>
<td>87%</td>
<td>26,5</td>
<td>55%</td>
</tr>
<tr>
<td>Post-sec. + tert</td>
<td>49,9</td>
<td>41,3</td>
<td>83%</td>
<td>45,5</td>
<td>91%</td>
<td>29,5</td>
<td>59%</td>
</tr>
</tbody>
</table>

Provisional results – please do not publish without consent of the author
## Health expectancy at 30 - Women

Provisional results – please do not publish without consent of the author

<table>
<thead>
<tr>
<th>HE at 30 Women</th>
<th>LE</th>
<th>HLE</th>
<th>%HLE LE</th>
<th>DFLE</th>
<th>%DFLE LE</th>
<th>MFLE</th>
<th>%MFLE LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>49.3</td>
<td>26.8</td>
<td>54%</td>
<td>32.8</td>
<td>67%</td>
<td>19.6</td>
<td>40%</td>
</tr>
<tr>
<td>Lower second.</td>
<td>52.1</td>
<td>35.9</td>
<td>69%</td>
<td>40.1</td>
<td>77%</td>
<td>22.6</td>
<td>43%</td>
</tr>
<tr>
<td>Upper second.</td>
<td>54.3</td>
<td>38.9</td>
<td>72%</td>
<td>42.9</td>
<td>79%</td>
<td>23.4</td>
<td>43%</td>
</tr>
<tr>
<td>Post-sec. + tert</td>
<td>54.3</td>
<td>41.9</td>
<td>77%</td>
<td>45.0</td>
<td>83%</td>
<td>25.0</td>
<td>46%</td>
</tr>
</tbody>
</table>
### Health Expectancy at 65 - Men

<table>
<thead>
<tr>
<th></th>
<th>LE</th>
<th>HLE</th>
<th>%HLE LE</th>
<th>DFLE</th>
<th>%DFLE LE</th>
<th>MFLE</th>
<th>%MFLE LE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
<td>13,9</td>
<td>7,2</td>
<td>52%</td>
<td>9,3</td>
<td>67%</td>
<td>5,3</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Lower second.</strong></td>
<td>15,0</td>
<td>9,2</td>
<td>62%</td>
<td>11,0</td>
<td>73%</td>
<td>6,0</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Upper second.</strong></td>
<td>16,3</td>
<td>10,2</td>
<td>63%</td>
<td>12,4</td>
<td>76%</td>
<td>6,3</td>
<td>39%</td>
</tr>
<tr>
<td><strong>Post-sec. + tert</strong></td>
<td>17,5</td>
<td>12,8</td>
<td>73%</td>
<td>14,4</td>
<td>82%</td>
<td>7,1</td>
<td>40%</td>
</tr>
</tbody>
</table>

Provisional results – please do not publish without consent of the author.
### Health expectancy at 65 - Women

<table>
<thead>
<tr>
<th>HE at 65 Women</th>
<th>LE</th>
<th>HLE</th>
<th>%HLE LE</th>
<th>DFLE</th>
<th>%DFLE LE</th>
<th>MFLE</th>
<th>%MFLE LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>18,2</td>
<td>8,1</td>
<td>45%</td>
<td>9,0</td>
<td>49%</td>
<td>5,0</td>
<td>27%</td>
</tr>
<tr>
<td>Lower second.</td>
<td>20,1</td>
<td>11,4</td>
<td>57%</td>
<td>12,1</td>
<td>60%</td>
<td>5,5</td>
<td>28%</td>
</tr>
<tr>
<td>Upper second.</td>
<td>21,8</td>
<td>13,1</td>
<td>60%</td>
<td>13,5</td>
<td>62%</td>
<td>6,0</td>
<td>28%</td>
</tr>
<tr>
<td>Post-sec. + tert</td>
<td>21,4</td>
<td>14,4</td>
<td>67%</td>
<td>14,1</td>
<td>66%</td>
<td>6,4</td>
<td>30%</td>
</tr>
</tbody>
</table>

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Conclusions

• women on average live longer than men, but a smaller percentage of their lives is lived in good health

• people with lower educational attainment live for a shorter time. Moreover, they spend a larger percentage of their lives being unhealthy

• The socioeconomic gap in HE ranges from around 8 (longstanding illnesses) almost 20 (perceived health) years at birth between the lowest and highest educational groups
Limitations

- Relatively large numbers of non-respondents
- Institutionalised population excluded
- Compulsory education
  - greater homogeneity of educational level for younger generation
- Short follow-up period for mortality
  - estimates will become more precise over time, which will make time series possible
- Children’s educational level unknown
  - parents’ level as proxy
Future Research

• monitor socioeconomic inequalities in HE using time series

• expand research by investigating influence of behavioral and lifestyle factors, such as smoking, on LE and HE

• use health and mortality data from a single sample by coupling HIS and municipal population register
Thank you!

Mind the gap

Socioeconomic status exerts a considerable influence on health and life expectancy