Survey instrument proposal to measure some dimensions of mental health (depression) in the next wave of the European Health Interview Survey

Eurostat Grant 10501.2009.007-2009.890
European Health Interview Survey (EHIS) 1

- The European Health Interview Survey (EHIS) aims at measuring on a harmonised basis and with a high degree of comparability among MS the health status, life style (health determinants) and health care services use of the EU citizens.

- Collection of data needed in the context of
  > The Lisbon and EU-2020 strategies
    - The Structural Indicator Healthy Life Year (HLY)
    - The Open Method of Coordination (OMC) on health and long term care
  > The public health European action plan of DG SANCO of the Commission
    - European Community Health Indicators Monitoring
  > Health inequalities
European Health Interview Survey (EHIS) 2

- EHIS was developed between 2003-2006
- The first wave of the EHIS was implemented during the period 2006-2009 under a gentlemen's agreement. Nineteen countries have carried it out so far (http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes)
- EHIS consists of four modules
  > Health status
  > Health care
  > Health determinants
  > Background variables
- Implemented every five years (managed by Eurostat). From 2014 onward on a legal basis (Regulation EC 1338/2008 on community statistics on public health and on safety at work). Implementation regulation currently under development (adoption by Commission planned by end of 2012)
Measuring mental health in EHIS wave 1 (Psychological well-being and psychological distress)

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

<table>
<thead>
<tr>
<th>Question</th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) did you feel full of life?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>b) have you been very nervous?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>c) have you felt so down in the dumps that nothing could cheer you up?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>d) have you felt calm and peaceful?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>e) did you have a lot of energy?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>f) have you felt downhearted and depressed?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>g) did you feel worn out?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>h) have you been happy?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
<tr>
<td>i) did you feel tired?</td>
<td>○₁</td>
<td>○₂</td>
<td>○₃</td>
<td>○₄</td>
<td>○₅</td>
</tr>
</tbody>
</table>
Problems encountered during EHIS wave 1 (MS experience)

- Analysis and interpretation difficult
- Too many response categories, difficult to distinguish
- Too many dimensions, difficult to distinguish (i.e. „full of life“ / „lot of energy“; „worn out“ / „tired“)
- Cultural-biased conceptual understanding
- Questions repetitive and boring

About half of the MS stated that measuring mental health required improvement in EHIS wave 2
Report on comparability of EHIS results and indicators

- Big variations between countries (Austria, Bulgaria, Cyprus, Czech Republic, Estonia, France, Hungary, Latvia, Malta, and Romania)
- The distribution over the categories seems to be structural different between the countries
- Lack of consistency in distribution of either positive or negative loaded questions between the countries

Results from a sub-contracted project under the Agreement „European Statistical System Network Project on Public Health Statistics, 10501.2009.003-2009.405“
Dimensions of mental health

- **Psychological well-being:**
  Sense of positive mental mood. A state of mental well-being as a related concept is part of the triangular definition of health according to the WHO: „Health is a state of complete physical, mental and social well-being an not merely the absence of disease or infirmity“

- **Psychological distress:**
  Subset of the negative mental health dimension and the counterpart to psychological well-being. Non-specific dimension. Perceived sense of negative mental mood. It does not necessarily involve a mental illness

- **Mental health problems:**
  Subset of negative mental health, comprises specifically defined concepts of mental disorders which can be diagnosed according to diagnostic guidelines (DSM-IV or ICD 10)
Advantages/disadvantages of measurement of the different dimensions

Generic measures

- Concepts of psychological distress or well-being are covered
- No diagnostic assessment
- If positive for psychological distress, not necessarily service from the mental health system is required
- Cultural variations in experiencing and expressing inner feelings and emotions have to be taken into account
- „Subjective“ measurement

Specific measures

- Screening abilities
- Based on diagnostic guidelines
- High validity and specificity
- „Objective“ measurement of specific disorders
- Concept of psychological well-being not covered
### Burden of disease - depression

<table>
<thead>
<tr>
<th>Disease or injury</th>
<th>DALYs (millions)</th>
<th>Per cent of total DALYs</th>
<th>Disease or injury</th>
<th>DALYs (millions)</th>
<th>Per cent of total DALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World</strong></td>
<td></td>
<td></td>
<td><strong>Low-income countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Lower respiratory infections</td>
<td>94.5</td>
<td>6.2</td>
<td>1 Lower respiratory infections</td>
<td>76.9</td>
<td>9.3</td>
</tr>
<tr>
<td>2 Diarrhoeal diseases</td>
<td>72.8</td>
<td>4.8</td>
<td>2 Diarrhoeal diseases</td>
<td>59.2</td>
<td>7.2</td>
</tr>
<tr>
<td>3 Unipolar depressive disorders</td>
<td>65.5</td>
<td>4.3</td>
<td>3 HIV/AIDS</td>
<td>42.9</td>
<td>5.2</td>
</tr>
<tr>
<td>4 Ischaemic heart disease</td>
<td>62.6</td>
<td>4.1</td>
<td>4 Malaria</td>
<td>32.8</td>
<td>4.0</td>
</tr>
<tr>
<td>5 HIV/AIDS</td>
<td>58.5</td>
<td>3.8</td>
<td>5 Prematurity and low birth weight</td>
<td>32.1</td>
<td>3.9</td>
</tr>
<tr>
<td>6 Cerebrovascular disease</td>
<td>46.6</td>
<td>3.1</td>
<td>6 Neonatal infections and other</td>
<td>31.4</td>
<td>3.8</td>
</tr>
<tr>
<td>7 Prematurity and low birth weight</td>
<td>44.3</td>
<td>2.9</td>
<td>7 Birth asphyxia and birth trauma</td>
<td>29.8</td>
<td>3.6</td>
</tr>
<tr>
<td>8 Birth asphyxia and birth trauma</td>
<td>41.7</td>
<td>2.7</td>
<td>8 Unipolar depressive disorders</td>
<td>26.5</td>
<td>3.2</td>
</tr>
<tr>
<td>9 Road traffic accidents</td>
<td>41.2</td>
<td>2.7</td>
<td>9 Ischaemic heart disease</td>
<td>26.0</td>
<td>3.1</td>
</tr>
<tr>
<td>10 Neonatal infections and other</td>
<td>40.4</td>
<td>2.7</td>
<td>10 Tuberculosis</td>
<td>22.4</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Middle-income countries</strong></td>
<td></td>
<td></td>
<td><strong>High-income countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Unipolar depressive disorders</td>
<td>29.0</td>
<td>5.1</td>
<td>1 Unipolar depressive disorders</td>
<td>10.0</td>
<td>8.2</td>
</tr>
<tr>
<td>2 Ischaemic heart disease</td>
<td>28.9</td>
<td>5.0</td>
<td>2 Ischaemic heart disease</td>
<td>7.7</td>
<td>6.3</td>
</tr>
<tr>
<td>3 Cerebrovascular disease</td>
<td>27.5</td>
<td>4.8</td>
<td>3 Cerebrovascular disease</td>
<td>4.8</td>
<td>3.9</td>
</tr>
<tr>
<td>4 Road traffic accidents</td>
<td>21.4</td>
<td>3.7</td>
<td>4 Alzheimer and other dementias</td>
<td>4.4</td>
<td>3.6</td>
</tr>
<tr>
<td>5 Lower respiratory infections</td>
<td>16.3</td>
<td>2.8</td>
<td>5 Alcohol use disorders</td>
<td>4.2</td>
<td>3.4</td>
</tr>
<tr>
<td>6 COPD</td>
<td>16.1</td>
<td>2.8</td>
<td>6 Hearing loss, adult onset</td>
<td>4.2</td>
<td>3.4</td>
</tr>
<tr>
<td>7 HIV/AIDS</td>
<td>15.0</td>
<td>2.6</td>
<td>7 COPD</td>
<td>3.7</td>
<td>3.0</td>
</tr>
<tr>
<td>8 Alcohol use disorders</td>
<td>14.9</td>
<td>2.6</td>
<td>8 Diabetes melitus</td>
<td>3.6</td>
<td>3.0</td>
</tr>
<tr>
<td>9 Refractive errors</td>
<td>13.7</td>
<td>2.4</td>
<td>9 Trachea, bronchus, lung cancers</td>
<td>3.6</td>
<td>3.0</td>
</tr>
<tr>
<td>10 Diarrhoeal diseases</td>
<td>13.1</td>
<td>2.3</td>
<td>10 Road traffic accidents</td>
<td>3.1</td>
<td>2.6</td>
</tr>
</tbody>
</table>
Requirements for an instrument measuring depression

- Short
- Validated
- Specific
- Screening instrument for current depression
- Estimating the severity of current depression
- Feasible for population-based surveys
- Comparable (in different countries and different cultural settings)
- Based on diagnostic guidelines
- Covering the subjective feeling of being depressed as well as the "somatic" symptoms of depression (because of cultural variations in expressing inner feelings)
- No license required
### Patient Health Questionnaire on depression (8-item scale) PHQ-8

Over the last 2 weeks, how often have you been bothered by any of the following problems?

*Use “✓” to indicate your answer*

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Indicators to be calculated (based on PHQ-8)

Overview of recommended outcome indicators for PHQ-8
Depressive syndrome assigned on the basis of PHQ-8

Item study population:
Men and women, 18 years and older

Indicator specification:
(1) Depressive syndrome prevalence percentages, 95% CI:
   (A) Major depressive syndrome
   (B) Other depressive syndrome
   (C) Any depressive syndrome

(2) Prevalence percentage of depressive symptom severity
   (in five categories):
   (A) None
   (B) Mild
   (C) Moderate
   (D) Moderately severe
   (E) Severe depression
Experience of field testing (FT)

- FT results revealed similar distributions of PHQ-8 current depression syndrome estimates as reported by CDC for the US [http://www.cdc.gov/mmwr/pdf/wk/mm5938.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm5938.pdf)
- Depression estimates are higher among women than men, increase with declining educational level, higher among unemployed than employed
- Data analyses guidelines were easy to follow for both concepts of analysis (‘current depression syndrome’, ‘depressive symptom severity’)
- Item response rate amounted to 98 %
- Majority of respondents reported that the questions were “(very) easy to grasp” (98 % in Germany CATI, 91 % in Germany PAPI, 96 % in Belgium, 88 % in Estonia)
Linkage of depression information (EHIS)

Self-reported depression during the past 12 month

Current depression (PHQ-8)

Use of prescribed/non-prescribed medicines for depression during the past two weeks

Visit a psychologist or psychotherapist during the past 12 month
# Set of proposed standardized instruments on mental health for EHIS

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Final proposal on mental health for EHIS Wave 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mandatory</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **PHQ-8 (1): 8-item depression scale from the Patent Health Questionnaire (PHQ)** | ▪ Screening instrument for current depressive symptoms  
▪ Validated in the population-based studies, clinical settings and various cultural settings  
▪ Based on DSM-IV & ICD10 classifications |
| **OSS-3 (2): Oslo-3 Social Support Scale (Part of the environmental health section)** | ▪ Important associated measure of mental health  
▪ Recommended from MINDFUL project for the ECHI short list  
▪ Should be kept in the section on environmental health |
| **Optional**                              |                                                                                                               |
| **MHI-5/EVI (3): Mental health Index and Energy and Vitality Index** | ▪ Captures important generic dimensions of mental health such as psychological distress and well-being (not covered by PHQ-8)  
▪ Possibility of comparison with EHIS-1 data  
▪ Cross-national cognitive testing revealed the feasibility of combining MHI-5/EVI with PHQ-8 |
PHQ-8 screener provides comparable results across countries as it is based on DSM-IV criteria of depressive symptoms.

PHQ-8 provides a comprehensive picture of depression including somatic criteria such as sleeping and eating symptoms etc.

PHQ depression screeners have been used and validated in different countries and cultural settings.

Screener shows good sensitivity and specificity for major depression.

Outcome indicators are simple and easy to understand.
Summary (2/2)

- Screener can be used for multi-mode assessment strategies (self-completion, PAPI, CATI)
- The feasibility of using the PHQ-8 in large-scale population studies has been proven in the context of the *Behavior Risk Factor Surveillance System* (BRFSS)
- Linkage between screening results and other information assessed on depression in EHIS (depression during the past 12 months, use of medical treatment and health care service for depression) makes it possible to draw a complete picture on how the leading cause of disability in Europe is dealt with
Literature


