

Risk Factors (Health Determinants): Hypertension Module

Rationale

The hypertension module constitutes part of a broader module comprising several health determinants including Height and weight, Tobacco use, Alcohol use, Consumption of Fruits and Vegetables, and Physical Activity.

Chronic diseases such as hypertension are a main public health concern which are expensive to treat—and inexpensive to prevent. Measuring the extent of hypertension in the population, and its variation between different population groups, is a useful indicator in the overall evaluation of health status (see EHIS Methodological manual)... it is also useful for assessing the functioning of health care systems in terms of policy formulation and planning health services.

Experience and evidence

Experience

- EHIS measures...
- Who else, and how?

Evidence

- From a public health perspective and for policy making it is more informative to have data on prevalence in the past 12 months (kept in EHIS wave 2) than on the “ever” prevalence.
- The NCHS excludes:
 - pregnant women from numerator and denominator
 - those who report taking high blood pressure medicine
- Is hypertension/high blood pressure defined as: mean systolic blood pressure (SBP) \geq or over 140 mm Hg or mean diastolic blood pressure (DBP) \geq or over 90 mm Hg? (GRL and NCHS say \geq , EHIS says ‘over’)
- Due to variation in measurement (biological variation and due to human and apparatus error), three blood pressure readings should be taken to compute the ‘mean’ systolic and diastolic values
- Conventional measurement method is with a mercury sphygmomanometer, but now they are largely automated with improved accuracy and reliability (note: procedures for blood pressure measurement are described in NHANES)
- Age adjustment procedures must be based on a standard procedure, either standardizing based on household members, or more likely, referring to a standard population such as the WHO Global population or the European Standard Population ask somnath what they had in mind for see SAGE

Core modules

Main indicator

- 1) The Global Reference List (GRL), draft for partner review (12 August 2014) proposes one core indicator:
 - Prevalence of raised blood pressure among adults (%)

It is defined as: "Age-standardized prevalence of raised blood pressure among persons aged 18+ years and mean systolic blood pressure \geq *Should be 'consistently over' as EHIS* 140 mm Hg and/or mean diastolic blood pressure *Should be 'consistently over' as EHIS* \geq 90 mm Hg among adults aged 18+ years."

Numerator: Number of adults with raised blood pressure (systolic and/or diastolic)

Denominator: Number of adults age 18+

- 2) This is also an indicator in the 'Health Indicators Warehouse' in the National Center for Health Statistics. Note that the NCHS excludes pregnant women from numerator and denominator

The 'Health Indicators Warehouse' of the National Center for Health Statistics¹ monitors the following indicators related to blood pressure:

- Blood pressure control: adults with hypertension (percent) HDS-12
- Blood pressure screening: adults (percent) HDS-4
- Blood pressure under control: adults with diabetes (percent) D-7
- High blood pressure: adults 18+ (percent) (Source: BRFSS)
- Hypertension admission rate (per 100,000 beneficiaries)
- Hypertension medication compliance (percent) HDS-11
- Hypertension: adults (percent) HDS-5.1
- Hypertension: adults with chronic kidney disease (percent) CKD-6.1
- Hypertension: children 8-17 years (percent)

Additional indicators

Note: salt intake is an additional indicator that is in the NCD action plan and could be measured in urine

Example modules

- 1) The European Health Interview Survey (EHIS) wave 2 consists of three modules: health status (9), health care use (5), and health determinants (7). The modules respond to policy needs set out by DG SANCO, in the European Core Health Indicators (ECHI).

European Health Interview Survey (EHIS wave 2), methodological manual http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-13-018/EN/KS-RA-13-018-EN.PDF

Example 1. European Health Status Module (EHSM)

Minimum European Health Module – Chronic disease

| Question code | Question, answer categories and instructions |
|---------------|--|
| EHSM | European Health Status Module |

¹ <http://www.healthindicators.gov/Indicators/Selection>

| CD | Diseases and chronic conditions |
|-----------------|--|
| Introduction CD | Here is a list of chronic diseases or conditions. |
| CD1 | <p>During the past 12 months, have you had any of the following diseases or conditions?</p> <p>1. Yes 2. No</p> <p>INTERVIEWER INSTRUCTION: Tick 'Yes' or 'No' for each chronic disease.</p> |
| | A. Asthma (allergic asthma included) |
| | B. Chronic bronchitis, chronic obstructive pulmonary disease, emphysema |
| | C. Myocardial infarction (heart attack) or chronic consequences of myocardial infarction |
| | D. Coronary heart disease or angina pectoris |
| | E. High blood pressure (hypertension) |
| | F. Stroke (cerebral haemorrhage, cerebral thrombosis) or chronic consequences of stroke |
| | G. Arthrosis (arthritis excluded) |
| | H. Low back disorder or other chronic back defect |
| | I. Neck disorder or other chronic neck defect |
| | J. Diabetes |
| | K. Allergy, such as rhinitis, hay fever, eye inflammation, dermatitis, food allergy or other allergy (allergic asthma excluded) |
| | L. Cirrhosis of the liver |
| | M. Urinary incontinence, problems in controlling the bladder |
| | N. Kidney problems |
| | O. Depression |

Source: EHIS Wave 2 model questionnaire

http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-13-018/EN/KS-RA-13-018-EN.PDF

Has high comparability with EHIS wave 1.

Showcards are recommended to show respondent during a face-to-face interview:

- A list of diseases and chronic conditions

2) 2005-2006 and 2007-2008 National Health and Nutrition Examination Survey:

Have you ever been told by a doctor or other health professional that you had hypertension, also called high blood pressure?

- (1) Yes
- (2) No
- (3) Refused
- (4) Don't know

Because of your high blood pressure/hypertension, have you ever been told by a doctor or other health professional to take prescribed medication?

- (1) Yes
- (2) No
- (3) Refused
- (4) Don't know

Are you now taking prescribed medication?

- (1) Yes
- (2) No
- (3) Refused
- (4) Don't know

This Indicator uses Age-Adjustment Groups:

- Total: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Sex: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Race/Ethnicity: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Educational Attainment: 25-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Family Income: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Country of Birth: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Disability Status: 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Health Insurance Status: 18-29, 30-39, 40-49, 50-59, 60-64
- Marital Status: 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Veteran Status: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+
- Obesity Status: 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+

Source: http://www.healthindicators.gov/Indicators/Hypertension-adults-percent_897/Profile

3) DHS ?

4) Other ?

Core Module

A review of the modules that have been/are employed should guide us to arrive at the proposed core module. Note that there seems to be a lot of discussion and consensus around the EHIS module.

Indicator definitions

Main indicator

Additional indicators