GBE KOMPAKT

ROBERT KOCH INSTITUT

Facts and Trends from Federal Health Reporting

Health in Europe - Data from the EU Health Monitoring Programme

Key statements

- The first results of the European Health Survey enable comprehensive comparisons of the state of health and health behaviour of the population of the European countries.
- Two thirds of all Germans assess their own state of health as good or very good. Compared with other European countries, Germany is positioned in the midfield.
- The prevalences of diabetes mellitus and asthmatic disorders vary considerably throughout Europe.
- The proportion of older people who are vaccinated against influenza in most European countries does not reach the level of 75 % recommended by the WHO.

Vol. 3, No. 6/ 2012

At first glance, the health situation of the population of the countries of the European Union (EU) has improved significantly in recent years. The steady increase in life expectancy (six years since 1980) and related reduction in premature deaths are evidence of the progress that has been made in improving living conditions, health behaviour and health care (OECD 2010, WHO 2010).

At the same time, Europe's health systems today are facing comparable social and health policy challenges. The demographic development in almost all EU member states has brought about a change in the health situation of the population which is characterised by an increase in chronic degenerative disorders. Even today, the resultant adjustment measures, such as those taken in the field of health care and the range of available nursing offers (Böhm et al. 2009, Nowossadek 2012) constitute important outline conditions for the further development of the German health system.

Studies and indicators as part of European Health Monitoring

To ensure that the European health systems can respond appropriately to the challenges mentioned above, reliable population-representative data on living conditions, state of health, health behaviour and use of the health system by the population resident in the EU member states are required. The results of the first European health survey EHIS (European Health Interview Survey, see box) can contribute towards this.

At the same time, these data are supposed to enable comparisons which allow the EU member states to learn from one another, with the goal of achieving high-quality health care for the entire EU population as part of the welfare state, and enhancing mutual cooperation. In future, it will all come down to harmonising the effects of the demographic change and other influencing factors relevant to health economics (e. g. medical progress) with the sustainable financing of the health systems.

National and international health data are mainly reported today in the form of standardised measured values – so-called health indicators. Europe-wide standardisation of data collection and analysis is the prerequisite for comparability here. As observation instruments of public health and the health system, health indicators permit the reliable observation and evaluation of chronological developments.

A selection of the ECHI (European Community Health Indicators, see box) are presented in this issue. These indicators are based on the results of EHIS (Eurostat 2011a) and the European Survey on Income and Living Conditions (EU-SILC, European Commission 2010). They enable a comparative observa-

European health interview survey (EHIS)

Objectives:	Provision of current data on the state of health, health behaviour and use of health care
Survey method:	Personal interviews, telephone surveys, questionnaires for self-completion
Population:	17 of the 27 EU member states
Random sample:	Total of approx. 190,000 inhabitants aged 15 years and over
Survey period:	2006 and 2009/2010
Restrictions:	As only individual modules of the survey instrument were used in several countries, not all of the data collected in the EHIS are available for all EU countries.

For this reason, the pilot data collected by the RKI within the scope of ECHIM (European Community Health Indicators and Monitoring) pursued the objective of obtaining the corresponding data from the countries that did not participate in EHIS from suitable national surveys or data sources (to the extent possible).
The ECHIM team cooperated here with partners in 34 European countries. EHIS was conducted in Germany as part of the GEDA German Health Update (www.rki.de/geda) and a supplementary telephone interview was conducted by the Robert Koch Institute.

tion of the health situation in the EU member states on the one hand, while creating a conceptual framework on the other which is suitable for national and international health reporting and which is being used more and more often there (OECD 2010, Harbers et al. 2008, Verschuuren 2010).

To illustrate the health situation of the European population, a situation report on subjective health is given initially. This is followed by comparisons of the state of health (chronic diseases, asthmatic disorders, overweight and obesity, diabetes mellitus) and use of the health system (influenza vaccination).

Europeans assess their health status as mainly good

The data of the indicator »self-perceived health« originate from the EU-SILC survey which is mandatory for all EU member states and which is conducted in Germany by the statistical offices of the national and federal state governments (Deckl, Rebeggiani 2012). The indicator shows the percentage of respondents who assess their health status as very good or good.

Despite the subjective nature of the question, the indicator has proven to be a reliable predictor for use of the health system as well as mortality (Miilunpalo et al. 1997, DeSalvo et al. 2006). Even though the option of direct quantitative comparisons and their interpretation is restricted with indicators taken from information provided by the respondents themselves, because they are influenced by social and cultural factors, national trend analyses nevertheless permit conclusions on the development in the individual countries.

Accordingly, it can be seen that the majority of the population in all EU member states estimate their health as being good or very good (see chart). The average value for the 27 EU states is 68.5 %. Big differences between the individual countries can be observed here. Whereas 82.9 % of the Irish population perceive their health as good or very good, the same figure for Portugal is only 49.0 %. Germany lies in the lower-middle half of the table with a value of 65.2 %.

In all countries, men perveice their health on average slightly better than women do. A trend analysis for Germany shows that the proportion of people who estimate the state of their own health to be good or very good has increased by around five percentage points since 2005. The equivalent value in the EU has risen by roughly 4 percentage points over the same period (Eurostat 2012a).

Chronic diseases are widespread in Europe

Chronic diseases such as diabetes mellitus, cardiovascular conditions and chronic respiratory disorders make up a significant proportion of the burden of disease in the population of the EU (OECD 2010). They are usually connected with a loss of quality of life for those affected and they incur significant costs for each national economy.

The proportion of women and men who claim to be chronically ill lies at around 36 % in Germany according to the EU-SILC survey from 2010. Among the EU states, Germany ranks fourth after Finland, Estonia and France. There are no substantiated findings on the causes of this prevalence, which is relatively high in European compari-

European Community Health Indicators (ECHI)

The ECHI indicators offer all EU member states the option of using a uniform formula to obtain an overview of important health system indicators and include these in a comparative evaluation (Kramers 2003, 2005).

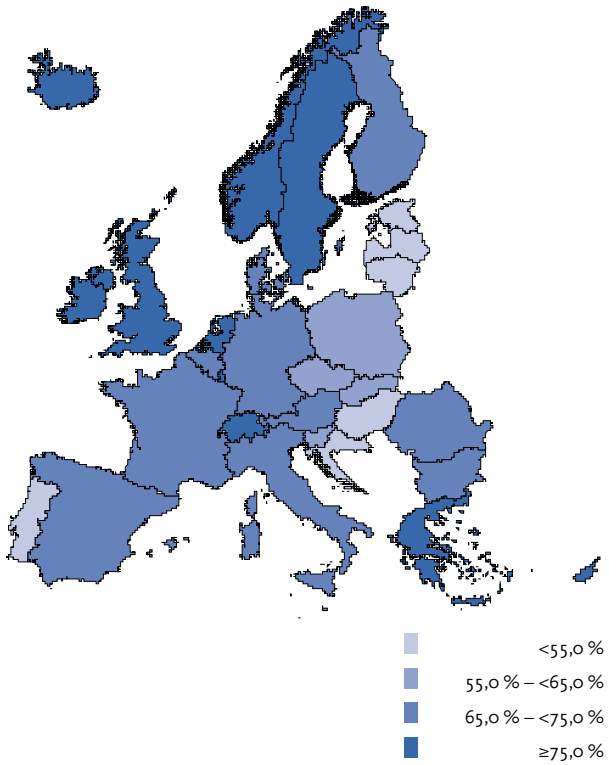
The data for the indicators originate from EU surveys (e. g. EHIS, EU-SILC) and process data from the national health systems (e. g. population statistics, causes of death statistics and many others).

The shortlist currently comprises 88 indicators from the areas:

- Demography
- Socio-economic conditions,
- Health determinants
- Health status
- Health care / health systems

More at www.echim.org

Figure 1
Self-perceived health (very good and good) in EU member states
Data source: EU-SILC



son. A possible explanation could lie in the comparatively high level of use of medical services, as well as improved diagnosis options in Germany. Accordingly, it is possible that diseases are recognised earlier and more frequently than in countries in which the corresponding (diagnostic) performances are not rendered as often.

The European population is frequently affected by asthmatic disorders

Bronchial asthma, a chronic inflammatory disease of the respiratory tract, occurs in different forms (allergic, non-allergic, mixed forms). The available data from EHIS and national health interview surveys do not differentiate between the allergic and non-allergic asthma forms. The prevalences of the various forms are viewed and compared together for this reason.

The ECHI indicator reported here is defined as the proportion of respondents who stated that they had a medically diagnosed case of asthma in the last 12 months.

The average prevalence of asthmatic disease in the 19 EU states whose data were included in this comparison is 3.7 %. Men (3.2 %) are affected on average slightly less often than women (4.2 %).

In a country comparison, Denmark has the highest values with a total prevalence of 6.4 % (women 7.3 %, men 5.4 %), followed closely by Germany, Hungary and Malta. The lowest prevalences are reported from Romania (1.6 % total, 1.6 % women, 1.5 % men), and Bulgaria (2.0 % total, 2.4 % women, 1.6 % men).

Substantiated findings on the chronological development of asthma prevalence have only been available up to now from special epidemiological tests and countries with regularly repeated health surveys (Pleis et al. 2009, Anandan et al. 2010). According to these, a further increase in asthma prevalence among adults can still be observed in some countries (UK, Hungary) which is attributable mainly to higher prevalences among young adults. Prevalences are stagnating in other countries (e. g. Sweden, Norway) or even declining (Netherlands).

Overweight and obesity occur frequently all over Europe

Overweight and in particular severe overweight (obesity) are important risk factors for a number of widespread chronic diseases, and they constitute a major public health problem all over Europe. The impairments that come with severe overweight can lead to arthritis, cardiovascular disease, hypertension and metabolic disturbances such as Type II diabetes mellitus.

The percentage of persons over 18 years of age with a body mass index (BMI) greater than or equal to 30 kg/m2 (BMI = body weight / body height squared, WHO 1995) is reported as the ECHI indicator for obesity. As the BMI values presented here are calculated from the information provided by the respondents themselves, they cannot be compared with BMI values obtained by means of measurement. According to the available figures from 21 European countries (see Table 1), roughly 14 % of men and women in the EU over 18 years of age currently have to be classed as obese. Overall, the percentage ranges from 7.9 % in Romania to 20.0 % in Hungary. With a share of

Peculiarities in the comparison of European health data

Irrespective of the progress already made in the harmonisation and standardisation of health data in the EU, it must be emphasised that there are limits to quantitative comparisons of the state of health of the populations in the EU.
The cultural diversity of the peoples of Europe also extends to the variety of European »health cultures« (Jürges 2006). This is reflected, for example, in the cultural differences in the evaluation of a person's own state of health, but it can also be seen in the classification of diseases and causes of death (Mathers et al. 2005).
The different age structures in the EU countries should continue to be given due consideration. Higher prevalences of age-associated diseases such as Type II diabetes mellitus can occur in countries with a high average age.
In addition to this, the results of European health surveys show differences in health care in Europe. These and other influencing factor could possibly explain the consistently high prevalences of many diseases in the central and western European countries compared to the countries of eastern and south-eastern Europe.

Table 1
Percentage of the European population with severe overweight (BMI >=30kg / m²)
Data source: EHIS

	Women 18+	Men 18+	Total 18+	Total 65+
Belgium (2008)	14.4	13.1	13.8	15.6
Bulgaria (2008)*	11.3	11.6	11.5	14.9
Czech Republic (2008)*	18.3	18.4	18.3	26.3
Denmark (2005)	11.1	11.9	11.5	12.2
Germany (2010)	15.6	16.1	15.9	19.5
Estonia (2006)*	20.5	16.0	18.5	25.5
Ireland (2007)	13.0	16.0	15.0	14.0
Greece (2009)*	17.6	17.7	17.6	24.3
Spain (2009)*	14.4	17.0	15.7	23.4
France (2008)	12.8	11.4	12.1	16.8
Italy (2009)	9.3	11.3	10.3	14.4
Cyprus (2008)*	14.5	16.7	15.6	23.1
Latvia (2008)*	20.9	12.0	16.9	27.3
Hungary (2009)*	18.8	21.4	20.0	26.0
Malta (2008)*	21.2	24.7	22.8	29.3
Netherlands (2008)	12.5	9.9	11.2	14.2
Austria (2006)	13.2	12.5	12.9	16.2
Poland (2009)*	17.4	18.8	18.0	24.1
Romania (2008)*	8.0	7.6	7.9	9.4
Slovenia (2007)*	16.3	17.3	16.8	20.7
Slovakia (2009)*	15.7	14.5	15.1	25.8
Switzerland (2007)	8.1	9.0	8.5	11.0

* Data extracted from Eurostat calculations
Blue numbers are unreliable according to Eurostat

15.9 % (women 15.6 %, men 16.1 %), Germany lies mid-table, slightly above the average. As is known from the RKI Health Monitoring studies, there is currently no further rise in the prevalence of overall overweight in Germany, but an increase in the share of people with obesity can be observed (Kurth 2012).

Frequency of diabetes mellitus varies distinctly in the EU member states

The EHIS data and comparable figures from national health surveys are available for 21 EU countries and Switzerland (see Table 2). The ECHI indicator is defined as being the percentage of respondents who state that they have been medically diagnosed with diabetes mellitus in the last 12 months. For self-reported diabetes (Types I and II), the indicator shows a prevalence of 5.2 % for women and 5.1 % for men. The frequency of self-reported diabetes varies in the group of 15 to 64-year-olds between 1.9 % in Romania and 5 % in Hungary. On average, around 3 % of the population has contracted diabetes in this group. Prevalence in this age group in Germany lies at 4.1 %.

A sharp increase in the frequency of diabetes mellitus is to be observed at an advanced age. Accordingly, the average diabetes prevalence among people aged over 65 in the 22 countries is 14.3 %. In a country comparison, Greece (20.4 %) and Slovakia (24.1 %) have the highest prevalences. The prevalence of 17.5 % recorded for Germany lies in the upper third of the country comparison. The lowest rates were reported from Ireland (6 %) and Romania (8.7 %).

Diabetes mellitus is a disease which occurs frequently among the older population. Where the prevalence rates of diabetes mellitus are concerned in this population group,

Tabelle 2
Prevalence of diabetes mellitus in Europe
Data source: EHIS and others

	Women 15+ years	Men 15+ years	Total 15–64 years	Total 65+ years
Belgium (2008)	4.3	4.0	2.5	10.7
Bulgaria (2008)*	5.0	3.4	2.5	10.8
Czech Republic (2008)*	6.4	5.8	4.0	18.0
Denmark (2005)	3.4	4.4	2.6	8.9
Germany (2010)#	7.1	7.6	4.1	17.5
Estonia (2006)*	3.8	3.0	2.2	8.7
Ireland (2007)	2.0	3.0	n. a.	6.0
Greece (2009)*	8.2	7.2	4.2	20.4
Spain (2009)*	5.8	6.0	3.0	17.7
France (2008)	3.8	4.7	2.7	10.9
Italy (2005)	5.0	4.7	2.3	13.7
Cyprus (2008)*	4.6	6.6	3.2	19.3
Latvia (2008)*	4.6	2.7	2.1	10.2
Hungary (2009)*	7.9	8.0	5.0	19.5
Malta (2008)*	6.1	7.7	4.4	17.5
Netherlands (2008)	4.5	5.5	3.2	12.9
Austria (2006)	5.9	5.2	2.7	17.1
Poland (2009)*	6.8	5.6	3.7	16.3
Romania (2008)*	3.6	2.5	1.9	8.7
Slovenia (2007)*	7.0	5.7	4.0	16.7
Slovakia (2009)*	6.9	5.1	3.0	24.1
Switzerland (2007)	2.1	3.0	1.3	9.0

* Data extracted from Eurostat calculations (June 2011)
# age = 18+ years

it has to be taken into account that physicians are consulted and routine blood sugar tests are conducted more frequently. This can contribute to the higher rate observed.

Despite increased diagnostic efforts, Type II diabetes mellitus can remain undetected initially. Estimations of the proportion of non-diagnosed diabetes cases are only available for certain countries. Within the scope of the German Health Interview and Examination Survey for Adults (DEGS1) conducted by the RKI, the laboratory parameters of glycated haemoglobin (HbA1c) and serum glucose which indicate diabetes mellitus were examined. According to the first estimates, the prevalence range of non-diagnosed diabetes lies between 0.7 % and 2.1 % (Kurth 2012).

In addition to prevalence estimates, connections between various diseases as well as diseases and determinants can be described with the EHIS data. The latter include ecological connections, an example of which is shown in Figure 2 for obesity and diabetes mellitus.

Further analysis makes it possible to show connections between the occurrence of diseases and social influencing factors (e. g. social status).

An example of this is shown in Figure 3 for the spread of diabetes mellitus depending on education level. Accordingly, a higher diabetes prevalence is to be observed in the low education group than in the medium and high education group. Differences in education levels in relation to the occurrence of diabetes mellitus have already been established in a large number of social epidemiological studies (Agardh et al. 2011, Sacerdote et al. 2012).

International health care: the example of influenza vaccination

The ECHI indicators also cover the area of health care and the health systems. Consequently, they can also be used as benchmarking indicators against the background of the further development of national health systems (Habers et al. 2008). This means, for example, that services provided by the health systems in the area of prevention can be compared and examined for their effectiveness. As an example for the health care area, the ECHI indicator for the use of seasonal influenza virus vaccination (flu vaccination) among persons aged over 65 years is presented below. Considerable differences in the use of this preventive measure between the European countries can be derived from the results. Vaccination is recommended in Germany for people aged 60 and over and for certain risk groups (RKI 2011). The objective is to reduce the number of serious and deadly cases of seasonal influenza. The World Health Organization recommends a flu vaccination rate of 75 % among older people (WHO 2003).

The vaccination rate shown in Figure 4 for seasonal flu vaccination for people aged 65 and over shows a considerable range from 1.7 % of the elderly vaccinated in Estonia to 75 % of the same age group in the Netherlands. The average value for all 20 countries for which data were reported is 35.1 %. There is no recognisable gender-specific trend; the average rate for men of 35.9 % is only slightly higher than that for women of 34.6 %. The pattern that

Figure 2
Ecological connection between the prevalence of obesity (age group 18 - 64) and diabetes mellitus (Type I and II; age group 65 +) in the EU
Data source: own research based on EHIS

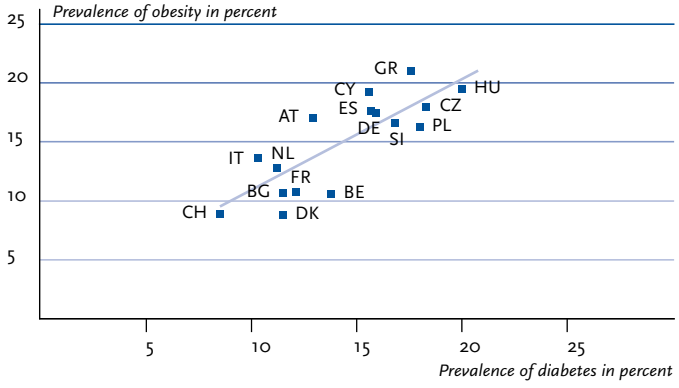


Figure 3
Prevalence diabetes (Type I and II) by education (low, medium, high education level) in the EU
Data source: EHIS

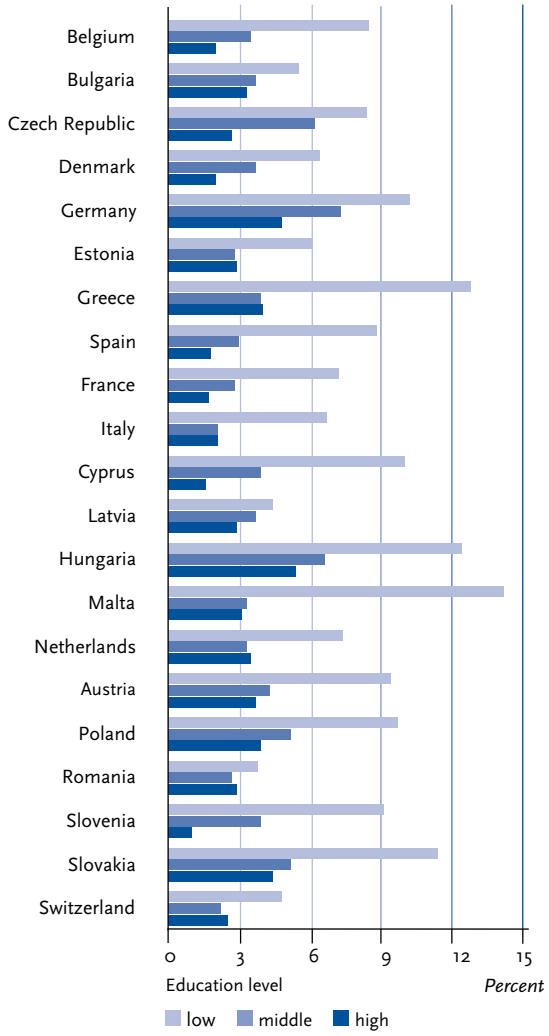
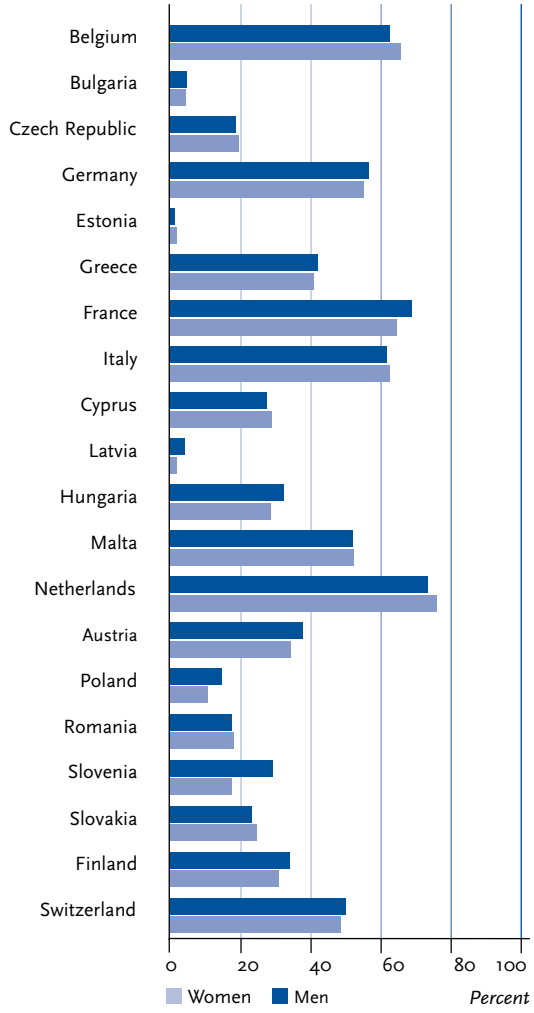


Figure 4
Vaccination rate for seasonal influenza for people aged 65 years and over
Data source: EHIS



is revealed when the influenza vaccination rates of the »old« EU member states are compared with those of the »new« states is conspicuous. Eastern and south-eastern European countries such as Estonia, Latvia and Bulgaria have single-figure vaccination rates while countries such as Poland, Romania and the Czech Republic have rates of between 10 % and 20 %.

In the older EU member countries, vaccination rates, such as the 30 % for Austria and Finland, are significantly higher. The top value of 75 % for seasonal flu vaccination is reported from the Netherlands. With a vaccination rate of 56.2 %, Germany lies in fourth place behind France and Italy.

Where vaccination rates are concerned, the different supply and demand structures (e. g. physician density, access channels, availability of vaccines) and differences in the organisation and implementation of preventive measures in the countries of the EU also have a decisive influence.

Outlook

For several years now, the joint ECHIM campaign has been pursuing the goal of establishing a standard for health monitoring and health reporting in the EU based on uniform indicators (Kilpeläinen et al. 2008). The ECHI indicators presented here are based mainly on the results of the first European Health Interview Survey (EHIS), which was conducted on a voluntary basis within the scope of the European statistical system and coordinated by the European statistics authority Eurostat. The national surveys with a uniform questionnaire were conducted between 2006 and 2009 (Eurostat 2011b). Data from other EU countries which were not involved in the EHIS survey were collected by the RKI within the scope of ECHI pilot data collection.

The ECHI indicators presented here constitute the results of European health monitoring selected by way of example and based on mutually developed standards. The added value of these developments can be seen in the fact that these standards have already been used in several European countries (e. g. Cyprus and Malta) for the set-up of a population-related health monitoring system. In addition to this, the ECHI indicators have already been used in several countries (France, Netherlands) for the preparation of so-called benchmarking reports. In national government health reporting, the ECHI indicators constitute a valuable source for making international comparisons.

EHIS and other surveys, which should ideally be repeated at periodic intervals, are necessary to ensure that European health monitoring enables the examination of the health of the population and efficiency of the health systems as a continuous system. For this reason, a uniform legal basis is to be created for the second EHIS survey, which is to be conducted between 2013 and 2015. Only in this way can the necessary harmonisation of the survey instruments and methods be guaranteed. With the existing health monitoring system at the RKI, Germany already has the instruments required for this purpose.

The latest ECHI-compatible indicators for Germany are to be provided via the Federal Statistical Office's information system (www.gbe-bund.de). The data from the ECHIM pilot data collection are to be integrated into a new European Commission health information system at the end of 2012 and used to prepare new European health information. In addition to this, the data are also to flow into the European edition of the OECD health report (OECD 2012). The report on the results of the joint ECHIM campaign are available through the project's website (www.echim.org).

Jürgen Thelen, Dr. Nils Kirsch, Jens Hoebel
Robert Koch Institute
Department for Epidemiology and Health Monitoring

Bibliography

Agardh E, Allebeck P, Hallqvist J, Moradi T, Sidorchuk A (2011) Type 2 diabetes incidence and socio-economic position: a systematic review and meta-analysis. Int J Epidemiol 40(3): 804–818

Anandan C, Nurmatov U, van Schayck O C P, Sheikh A (2010) Is the prevalence of asthma declining? Systematic review of epidemiological studies. Allergy 2010; 65(2): 152–167

Böhm K, Tesch-Römer C, Ziese, T (2009) Gesundheit und Krankheit im Alter. Beiträge zur Gesundheitsberichterstattung des Bundes: Berlin, Robert Koch-Institut
http://www.rki.de/gbe (last revised: 03.12.2012)

Deckl S, Rebeggiani L(2012) LEBEN IN EUROPA/ EU-SILC 2010. Bundesergebnisse für Sozialindikatoren über Einkommen, Armut und Lebensbedingungen – Deutschland im Vergleich zur Europäischen Union. In: Wirtschaft und Statistik, Heft 2: 152 ff.

DeSalvo KB, Bloser N, Reynolds K et al. (2006) Mortality prediction with a single general self-rated health question. A meta-analysis. J Gen Intern Med 21: 267–275

EUGLOREH (2007) European Health Report: EUGLOREH - The status of health in the European Union: Towards a healthier Europe, Chapter 5.9 Asthma and allergic rhinitis
http://www.eugloreh.it (last revised: 03.12.2012)

Eurostat (2011a) Synthesis report on EHIS quality assessment criteria, Department of Health Information and Research, Malta

Eurostat (2011b) European health interview survey (EHIS) – collection round 2008, Reference Metadata in Euro SDMX Metadata Structure
http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/hlth_ehis_esms.htm (last revised: 03.12.2012)

Eurostat (2012a) Selbstwahrgenommene Gesundheit nach Geschlecht, Altersklasse und Beschäftigungsstatus
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_silc_01&lang=de (last revised: 03.12.2012)

Eurostat (2012b) Overweight and Obesity – BMI statistics
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Overweight_and_obesity_-_BMI_statistics (last revised: 03.12.2012)

European Commission (2007) A Strategy for Europe on nutrition, overweight and obesity related health issues. White Paper, COM 279 final
http://ec.europa.eu/health/archive/ph_determinants/life_style/nutrition/documents/nutrition_wp_en.pdf (last revised: 03.12.2012)

European Commission (2010) Income and living conditions in Europe. Atkinson AB, Marlier E (Eds.). Publications Office of the European Union, Luxembourg
http://bookshop.europa.eu/en/income-and-living-conditions-in-europe-pbKS3110555/ (last revised: 03.12.2012)

Harbers MM, Van der Wilk EA, Kramers PGN, Kuunders MMAP, Verschuuren M, Eliyahu H, Achterberg P (2008) Dare to Compare! Benchmarking Dutch health with the European Community Health Indicators (ECHI). RIVM report number 270051011. Bohn Stafleu Van Loghum, Houten
http://www.rivm.nl/en/Library/Scientific/Reports/2008/november/ (last revised: 03.12.2012)

Jürges H (2006) True health vs. response styles: Exploring cross-country differences in self-reported health. DIW, Discussion Paper, Berlin

Kilpeläinen K, Aromaa A and the ECHIM Core Group (Hrsg) (2008) European Health Indicators: Development and initial implementation. Final Report of the ECHIM Project. National Public Health Institute Finland, Helsinki
http://www.echim.org/finalreport.html (last revised: 03.12.2012)

Kramers P (2003) The ECHI Project. Health Indicators for the European Community. Eur J Public Health 13:101–6

Kramers P (2005) (Ed.) Public health indicators for the European Union: context, selection, definition. Final report by the ECHI project phase II. National Institute for Public Health and the Environment, Centre for Public Health Forecasting, Bilthoven

Kurth B-M (2012) Erste Ergebnisse aus der »Studie zur Gesundheit Erwachsener in Deutschland« (DEGS). Bundesgesundheitsbl 55:980–990
http://www.degs-studie.de (last revised: 03.12.2012)

Mathers C, Ma Fat D, Inoue M, et al. (2005) Counting the dead and what they died from: an assessment of the global status of cause of death data. Bull World Health Organ 83:171–7

Miilunpalo S et al. (1997) Self-rated health status as a health measure: the predictive value of self-reported health status on the use of physician services and on mortality in the working-age population. J Clin Epidemiol 50: 90–93

Nowossadeck E (2012)Demografische Alterung und Folgen für das Gesundheitswesen. Hrsg. Robert Koch-Institut Berlin, GBE kompakt 3(2)
http://www.rki.de/gbe-kompakt (last revised: 03.12.2012)

OECD (2012) Health at a Glance: Europe 2012. OECD Publishing
http://ec.europa.eu/health/reports/docs/health_glance_2012_en.pdf (last revised: 03.12.2012)

Pleis JR, Lucas JW, Ward BW (2009) Summary health statistics for U.S. adults: National Health Interview Survey. National Center for Health Statistics. Vital Health Stat 10 (242)

RKI - Robert Koch-Institut (Hrsg) (2012) Daten und Fakten: Ergebnisse der Studie »Gesundheit in Deutschland aktuell 2010«. Beiträge zur Gesundheitsberichterstattung des Bundes. RKI, Berlin
http://www.rki.de/gbe (last revised: 03.12.2012)

RKI - Robert Koch-Institut (Hrsg.) (2011) Epidemiologisches Bulletin, 1. August 2011/Nr.30
http://www.rki.de (last revised: 03.12.2012)

Sacerdote C, Ricceri F, Rolandsson O, et al. (2012) Lower educational level is a predictor of incident type 2 diabetes in European countries: The EPIC-InterAct study. Int J Epidemiol 41(4): 1162–1173

Verschuuren M, Kramers P, Gudfinnsdottir G, Aromaa A (2010) Providing a solid evidence base for policy makers: ECHI initiative. Eurohealth 2010, 16: 4–7

WHO - World Health Organisation (1995) Physical status: The use and interpretation of anthropometry. WHO Technical Report Series 854: 9

WHO - World Health Organisation (2003) Resolution of the World Health Assembly (WHA 56.19). Prevention and control of influenza pandemics and annual epidemics. WHA 10th plenary meeting 28.05.2003

WHO - World Health Organisation (2010) Der Europäische Gesundheitsbericht 2009. Gesundheit und Gesundheitssysteme, WHO/Europa, Kopenhagen

Imprint
GBE kompakt

Publisher
Robert Koch Institute
Nordufer 20
13353 Berlin

Editors
Martina Rabenberg, Dr. Livia Ryl
Robert Koch Institute
Department of Epidemiology and Health Monitoring
General-Pape-Straße 62
12101 Berlin
Tel.: 030-18754-3400
E-Mail: gbe@rki.de
www.rki.de/gbe

Citation method
Thelen J, Kirsch N, Hoebel J (2012)
Health in Europe -
Data from the EU Health Monitoring Programme.
Published by Robert Koch Institute Berlin.
GBE kompakt 3(6)
www.rki.de/gbe-kompakt (last revised: 17.12.2012)

ISSN 2191-4974

The Robert Koch Institute is a federal institute within
the portfolio of the Federal Ministry of Health