COOPERATION IN THE FIELD OF ECONOMICS, OF SCIENCE AND MEDICINE IN EUROPE

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The issue of medical cooperation raises many questions current and controversial, which are the focus of interest in socio-political and legal, such as debates on instruments to combat the high costs, the public health system, legislation aimed at ensuring health, tobacco consumption, alcohol, obesity and others. Public health legislation deals with the framework conditions, legal and social aspects of public health, protection and deployment the law of public health on tobacco. The aim of this study is to identify the degree to which economic freedom correlates with indicators of development, health and economic cooperation in medicine field. In this regard, we consider useful to investigate how the correlation indicators of policy Health – 2020 with global and European economic development. Research methods are located in estimating the degree of international cooperation in the medicine field through statistical methods, comparison, graphics, deduction or induction.The results allow to formulate a whole picture regarding international cooperation in the field of medicine, combating different diseases but human vices as obesity, tobacco use, alcohol etc. Facilitation of cooperation in research and innovation is the key to bridging the gap between research and demand in different countries and regions.

Key words: *medical cooperation, medicine and health, tobacco, alcohol, obesity, the public health system, danger of health, law concerning tobacco, research and innovation.*

Problema cooperării medicale evidenţiază multe întrebări actuale, dar şi controversate, ce vizează importante aspecte sociopolitice şi juridice, cum ar fi: dezbateri privind instrumentele pentru combaterea costurilor înalte, sistemul de sănătate publică, legislaţia care vizează asigurarea de sănătate, consumul de tutun, alcoolul, obezitatea etc. Legislaţia din domeniul sănătăţii publice se referă la condiţiile cadru, juridice şi sociale ale sistemului de sănătate publică, la protecţia dreptului public de sănătate, implementarea prevederilor legii cu privire la tutun. Scopul studiului de faţă constă în identificarea gradului în care libertatea economică corelează cu indicatorii dezvoltării, cu sănătatea populaţiei şi cooperarea economică în domeniul medicinii. În acest sens, considerăm utilă investigarea modului în care sunt concepuţi indicatorii de corelare a politicii Sănătatea – 2020 cu dezvoltarea economică mondială şi europeană. Metodele de cercetare sunt focalizate în estimarea gradului de cooperare internaţională în domeniul medicinii prin prisma metodelor statistice, de comparaţie, grafică, deducţiei şi inducţiei. Rezultatele obţinute permit a formula un tablou integru vizând cooperarea internaţională în domeniul medicinii, lupta cu diferite maladii, dar şi cu viciile umane: obezitatea, consumul de tutun, alcoolul etc. Facilitarea activităţilor de cooperare în domeniul cercetării şi inovării este cheia reducerii decalajului dintre cercetare şi cererea din diferite ţări şi regiuni.

Cuvinte-cheie: *cooperare medicală, medicină şi sănătate, tabac, alcool, obezitate, sistem de sănătate publică, pericol de sănătate, dreptul privind tabacul, cercetare şi inovare.*

Актуальность. Медицинское сотрудничество поднимают актуальные текущих проблемы, но и спорные вопросы, находящиеся в центре социально-политического и правового интереса, как-то: обсуждение юридических методов для обуздания расходов, системы здравоохранения, законодательство медицинского страхования и здравоохранения, потребление табака, алкоголя, ожирение и др. законодательство в части государственного здравоохранения имеет дело с

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юридическими и социальными условиями, кадрами системы здравоохранения, правовая защитой здоровья, внедрения на практике закона о табаке. Цель исследования состоит в определении степени экономической либерализации, коррелирующая с показателями развития, здоровья населения и экономического сотрудничества о области медицины. В этой части считаем важным исследование показателей по программе Здоровья – 2020 с развитием мировой и европейской экономики. Методы исследования сфокусированы в оценке степени международного кооперирования в области здравоохранения посредством статистических, сравнительных, графических методов а также индукции и дедукции. Полученные результаты позволяют сформулировать целостностную картину международного сотрудничества в области медицины, борьба с различными заболеваниями, но и последствиями плохих привычек и слабостей человеческих, как курение, алкоголь, тучность и др. Поддержание процесса сотрудничества в области исследования и инноваций – как ключика к сокращению разрыва между исследованиями и спроса разных стран и регионов.

Ключевые слова: *медицинское сотрудничество, медицина и здоровье, табак, алкоголь, ожирение, система здравоохранения, опасность здоровья, закон о табаке, исследования и инновации.*

JEL Clasification: A14; O38; P26.

Introduction. Health economics (which is known as medical economics or health economics) forming appearance independently as a vital application to express the concern demonstrated by economists to investigate from their perspective all aspects of social life, the Government, managers and doctors to estimate results and efforts to streamline the health care system overall.

The aim of this study is to identify the degree to which economic freedom correlates with indicators of development and health. In this regard, we consider useful description of the way in which indicators are in correlation with the policy *Health – 2020* and the global and European economic development.

Human Development Indicator (HDI) is calculated to highlight trends in the quality of people's lives. It includes a three-pronged approach covering landmarks such as life expectancy, literacy and per capita real GDP. Highlighting developments in three areas it is based on related indicators, namely life expectancy index, education index and GDP index. Although the European region is consistently oriented towards meeting the target value of the policy *Health – 2020* policy to reduce premature mortality, there are many problems that need solving that will reduce major risk factors [2].

The European Region is moving steadily towards the target value of reducing premature deaths from cardiovascular diseases, cancer, chronic respiratory diseases and diabetes. The achieved progress tends mostly toward improving the situation in the region regarding the highest premature mortality. However, we distinguish an alarming state regarding high level of key risk factors for premature mortality as: alcohol and tobacco, obesity and overweight (Figure 1).

The use of alcohol – 11 litres of pure alcohol per person during a year

The overweight and the obesity – 59% of population are suffering of overweight or obesity

30% of population are using tobacco

Fig. 1. The main 3 risk factors of early mortality in the European region
Source: World Health Organization Report, 2014.

European region has the highest consumption of alcohol and tobacco in the world, with the prevalence of overweight and obesity, only slightly lagging region of American countries, where stands the highest levels of these indicators. The prevalence of overweight and obesity in European countries is 45-67% (Figure 2).

From May 31, 1987 it is organized international action against smoking – World No Tobacco Day. Laws aimed at restricting smoking in public places were introduced in Austria – July 1, 2010, Belgium – January 1, 2007, Bulgaria – January 1, 2005, Belgium in 2006 and 2007, Brazil – May 8, 2009, UK – February 1, 2006, Germany – September 1, 2010, Greece – September 1, 2010, Denmark – August 1, 2007, Egypt – September 1, 2010, India – October 1, 2008, Spain – January 2, 2011, Ireland – March 1, 2004, Italy – January 10, 2005, China – May 1, 2008, Cuba – February 1, 2005, Latvia – January 1, 2008, Moldova – July 1, 2004, Monaco – November 1, 2008 Netherlands – July 1, 2008, Norway – June 1, 2004, UAE – 2007, Poland – November 15, 2010, Portugal – January 1, 2008, DR Congo – May 31, 2013 Russia – 2001, USA – January 1, 2010, San Marino – July 2008, Singapore – July 2006, Syria – August 2005, Slovenia – August 2007, Turkmenistan – December 25, 2013 Turkey – May 2008, Uzbekistan – April 2008, Ukraine – July 1, 2006, Philippines – 2008, Finland – 1976 (the trend is that in 2040 Finland will become a non-smoking country), France – February 2007, Montenegro – February 2005, Sweden – June 1, 2005 Estonia – June 2007, Japan – March 24, 2009.

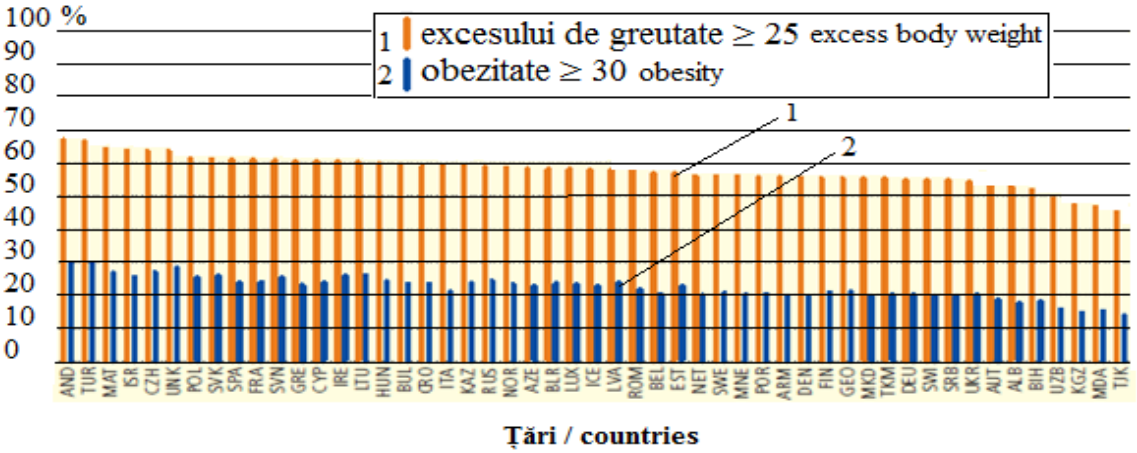


Fig. 2. The spread of obesity among people from different countries, aged 16 years, 2014
Source: World Health Organization report on non-communicable diseases in the world, 2014

***Legendă**: ALB – Albania, AND – Andora, ARM – Armenia, AUT – Austria, AZE – Azerbaijan, BH –Bosnia and Herzegovina, BLR – Belarus, BEL – Belgium, BUL – Bulgaria, CRO – Croatia, CYP – Cyprus, CZH – the Czech Republic, DEN – Danmark, DEU – Germany, EST – Estonia, FIN – Finland, FRA – France, GEO – Georgia, GRE – Greece, HUN – Hungary, ICE – Iceland, IRE – Ireland, ISR – Israel, ITA – Italy, KAZ – Kazakhstan, KGZ – Kyrgystan, LTU – Lithuania, LUX – Luxembourg, LVA – Latvia, MAT – Malta, MDA – Repablic of Moldova, MKD – Macedonia (ex-Yu.), MNE – Montenegro, NET – the Netherlands NOR – Norway, POL – Poland, POR – Portugal, ROM – Romania, RUS – Russia, SPA – Spain, SRB – Serbia, SVK – Slovakia, SVN – Slovenia, SWE – Sweden, SWI – Switzerland, TJK – Tajikistan, TKM – Turkmenistan, TUR –Turkey, UKR – Ukraine, UNK – Great Britain, UZB – Uzbekistan.*

Law no. 278 from 14.12.2007 from Republic of Moldova regarding tobacco and tobacco products ban smoking in enclosed public places. To these concerns: state institutions, cinemas, theatres, circuses, concert halls, exhibition halls, museums, libraries, waiting rooms, bus terminals, portable terminals, railway stations, public transport, areas of agreement and leisure.

Recognizing acute problems, countries have made progress in the implementation of strategies to overcome these risk factors, which led to a steady decline in the consumption of tobacco and alcohol in Europe. However, for most of the countries achieving reduction of tobacco consumption is not sufficient to diminish the value of this indicator by 30% in 2025, according to the Global Monitoring system for non-communicable diseases [8]. Comparison with other regions, WHO emphasizes that a further reduction in all of the key risk factors carries a significant potential for improving results regarding health.

Few countries provides to WHO a regular information on risk factors, so that European health report 2015 [1], uses data on tobacco consumption, overweight and obesity. Moreover, in recent years, only a limited number of countries provided WHO mortality database. This affects the reliability of premature mortality values. The accuracy of any index depends on compliance with the quality requirements regarding codification causes of deaths. All these constraints must be taken into account when interpreting the data on premature mortality targets. Dealing with the data it will optimize to monitor the policy *Health – 2020* and will improve the evidence base for health policy.

Since 1990, the infant mortality rate in countries with the highest values of this indicator decreased, which resulted in reducing the gap between countries in the region (Figure 3).

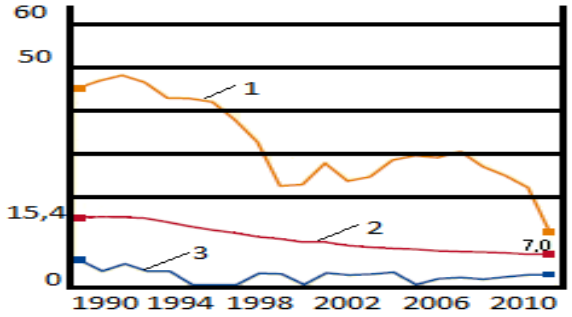
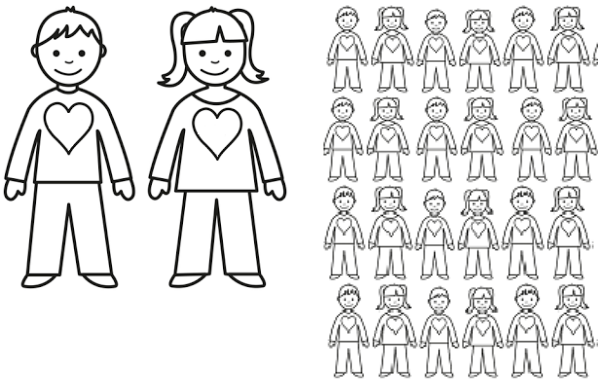


Fig. 3. The rate of mortality among new born

Source: European database "Health for All", 2014.

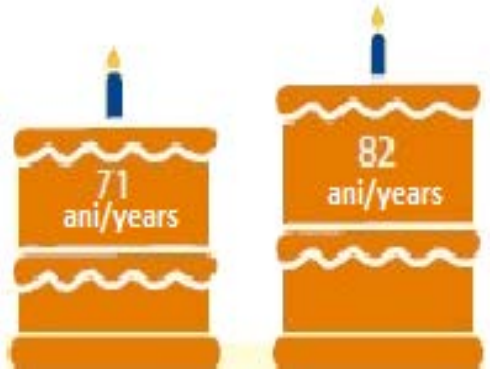
Although this trend persists and after 2010 – a starting point for the policy *Health – 2020* is the data received in recent years that does not offer sufficient coverage, which would allow to make reliable conclusions. The differences between countries in terms of life expectancy at birth is gradually diminished, but providing such data and in recent years has been limited. Despite the positive trends, absolute differences between countries are still significant. This refers not only to infant mortality and life expectancy, but also, and other indicators of the policy *Health – 2020* regarding social determinants of the health (Figure 4-7).



2 death at 1000 new born – the lowest level in the region

22 deaths at 1000 new born – the highest level in the region

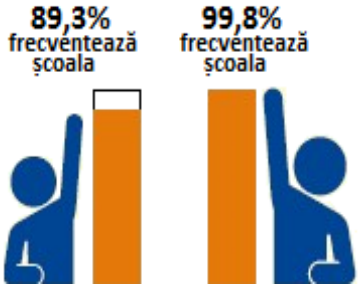
Fig. 4. Uneven difference in the indicator of infant mortality in European region



The lowest level of life expectancy in the region

The highest average life expectancy value

Fig. 5. Uneven differences in the values of life expectancy of population within the European region

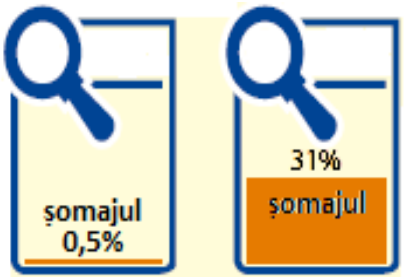


89.3% are going to school – The lowest level in the region

99.8% are going to school – The highest level in the region

Fig. 6. Uneven differences in the enrollment of children in the school in the European region

Source: Rapport UNESCO, 2014



0.5% unemployed – The lowest level in the region

31% unemployed – The highest level in the region

Fig. 7. Uneven differences in the level of unemployment in the European region

Source: European database "Health for All"

The share of countries that have adopted specific strategies to reduce social inequalities in health, increased from 58% in 2010 to 67% in 2013. For these countries, expanded enforcement strategy, includes: in 2010 the most common measures focus on improving the health status of vulnerable segments

of the population and in ensuring a healthy start in life for children in 2013, the number of strategies and combating poverty and improving the physical environment of living.

There is some evidence in terms of subjective well-being in European countries; however, to improve monitoring is required extra effort measurement parameters wealth and its cultural contexts.

The welfare state is subjectively individual level. However, it also can be described using a number of objective indicators such as: population, education, income and housing conditions [1]. *The media value of the gradual marking of life satisfaction* is a measure of subjective well-being, ranging between 7.8 – 4.2 in European countries, where 10 – is the best, and 0 – the worst, according to respondents, conditions living etc. (Figure 8).

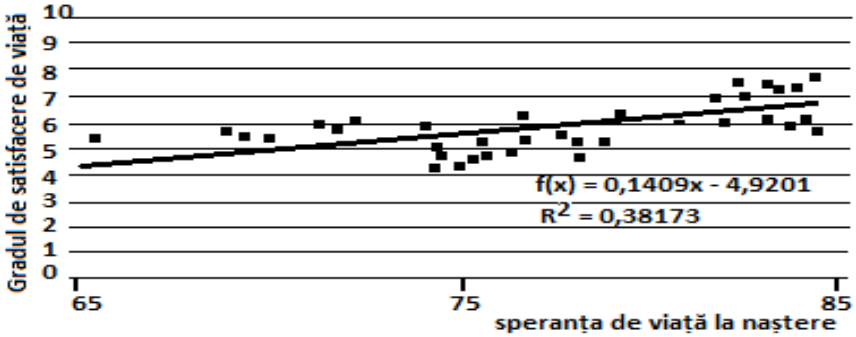


Fig. 8. The expected life longevity the correlation with life satisfaction
Source: European database "Health for All", The survey Gallup, National Human Development Report.

The monitoring system of the politics *Health – 2020* includes indicators of life satisfaction, but the Monitoring System *Health – 2020* include indicator of life satisfaction, but not among the indicators that require systematic collection of data, so the report of the health in Europe 2015 [7], uses collected data and published in an order planned by competition of other interested bodies.

In a globalized world, solving many key health challenges requires cooperation and collaboration between countries. To achieve this objective, it needs transnational cooperation.

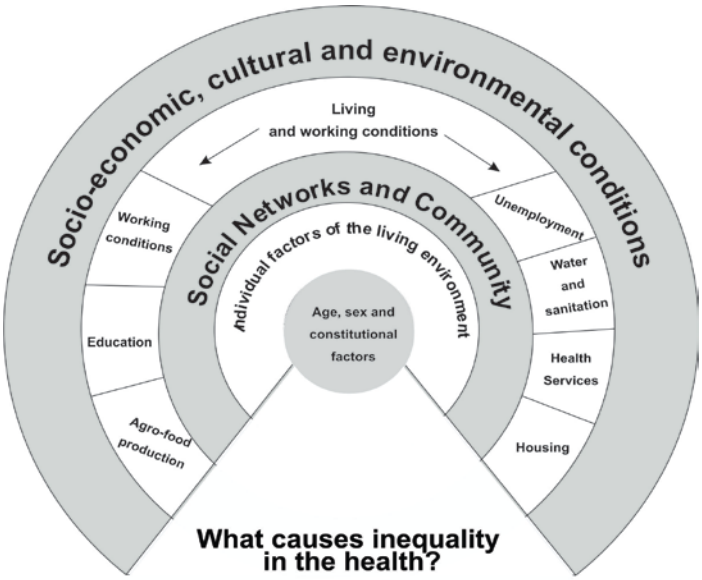


Fig. 9. The factors that cause inequalities in health, worldwide
Source: G. Dahlgren, Whitehead M.

The WHO exchanged the paradigm shift from public health emphasizing from problems of morbidity and diseases to the improvement of the health status and increased welfare. For the information regarding health state it is important to pay attention to subjective and qualitative indicators, the degree of satisfaction of life. According to scientific research findings, data regarding welfare have a reliability and value at local and national level, as indicators of the health.

However, remain questions about the compatibility welfare parameters, in particular is very important about the impact of these parameters in appropriate cultural context. In this area, it needs more research, which is particularly important for the cultural diversity of the European region. Further WHO reports on well-being should be included as an essential component of reliable data on subjective well-being. In January 2015 under the auspices of the WHO Regional Office held a meeting of the expert group for the development of priority areas for further work in this area. The Expert Group recommended that, in order to improve reporting on health and well-being indicators in the European region to consider non-traditional sources of health information.

Table 1

The rating of life prosperity in some European countries

Rank	Countries	Economy	Entrepre-neurship	Governance	Education	Health	Security	Personal freedom	Social Capital
1	Norway	4	5	8	5	4	8	3	2
2	Switzerland	2	3	1	18	3	13	11	9
3	Denmark	9	2	3	3	16	7	8	3
5	Sweden	7	1	4	17	12	5	7	8
8	Netherlands	10	13	12	4	5	19	13	7
9	Finland	33	8	5	7	13	3	18	5
10	Ireland	18	18	14	8	17	4	6	10
11	USA	11	11	11	9	1	33	15	11
13	Luxembourg	6	9	6	43	2	10	4	24
14	Germany	5	16	16	12	6	21	17	16
15	United Kingdom	19	6	9	25	20	23	12	12
16	Austria	22	7	15	24	9	16	19	18
17	Singapore	1	12	13	15	14	12	38	25
18	Belgium	23	24	17	21	10	20	20	20
19	Japan	25	22	19	28	7	22	33	29
22	France	30	19	20	26	8	31	21	53
23	Malta	27	20	21	42	25	29	23	19
24	Spain	37	30	27	19	24	25	22	23
25	Slovenia	58	25	33	11	27	14	25	40
26	Czech Rep.	26	29	34	13	26	24	45	66
27	Portugal	62	31	32	46	31	18	16	47
29	Poland	34	36	39	33	33	26	29	34
31	Estonia	35	26	23	39	40	36	61	30
35	Slovakia	36	34	46	14	30	32	63	58
37	Italy	44	41	42	47	22	39	48	42
39	Cyprus	84	39	26	38	35	45	46	86
40	Latvia	48	38	41	35	47	40	73	83
41	Lithuania	63	45	40	30	44	30	97	64
45	Hungary	52	50	38	34	36	37	99	98
49	Greece	102	46	49	32	29	27	108	100
50	Romania	69	48	63	61	69	46	37	109
51	Bulgaria	79	43	81	44	48	42	96	67
52	China	3	59	67	63	56	100	120	28
58	Russia	55	42	106	29	42	91	111	50
63	Belarus	89	54	121	31	38	53	128	37
92	**Republic of Moldova**	**128**	**68**	**101**	**72**	**83**	**69**	**113**	**106**

Source: The Legatum Institute: The Legatum Prosperity Index 2015.

These may include cultural evidence such as historical records and anthropological observation, quantitative and qualitative data and analytical descriptions of practice examples. Following the meeting, the Regional Office will develop an action plan aimed at developing a more extensive set of tools and methodologies for reporting data on welfare. Implementation of Health – 2020 is gaining momentum, but

requires greater monitoring to establish truly beneficial effect, including features such as stability of local communities from adverse external influences, empowerment citizens and awareness of social belonging.

Increased the share of countries where national policies are built in accordance with the principles of Health – 2020 (from 58% in 2010 to 75% in 2013, Figure10).

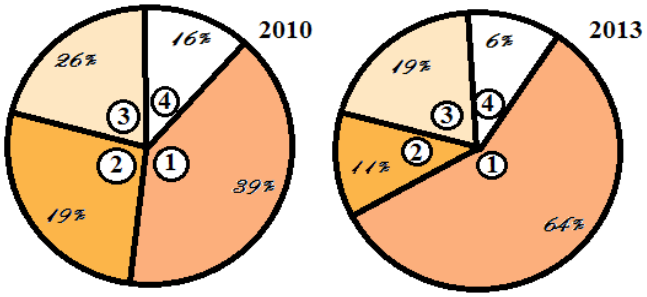


Fig.10. The share of countries in which strategies and policies are adopted according to the *Health – 2020* program

Source: Qualitative indicators for monitoring the policy Health – 2020.

It also increased the number of countries with the plans for implementation and accountability mechanisms in relation to these strategies. Thus, within a few years the developments of Health – 2020 a growing number of countries take measures to adopt and implement its principles and approaches to improve the health and welfare of its citizens.

Monitoring the Health – 2020 system includes a standard set of quantitative and qualitative indicators (described above) that characterize the processes of policy formulation and implementation. Health – 2020 Policy includes many of the key concepts that have not been subject to systematic assessment so that coverage and optimize their monitoring is necessary to extend the common theme. Some examples of these concepts: transparency; stability (viability) local communities; supporting medium; supportive environment; social sense of belonging; sense of control of the situation; principle for the participation of the whole society; responsible management; responsibility; the principle of including all stages of life; empowerment; man-centred health system; health systems that fulfil their purpose; adaptation strategies.

Methodologies and indicators to characterize these concepts can be determined based on existing knowledge and further exploration process. To facilitate evaluation of the implementation should be used appropriate types of existing data without excessive overburdening the requests to the country for the provision of new details. This should include information from other disciplines, especially the quantitative and descriptive study results. WHO Regional Office for Europe is currently drafting proposals to member states on the mechanism and roadmap for monitoring all the concepts contained in the *Health – 2020*.The international cooperation is essential for the implementation of research agenda and information development in health care and of efforts to generate information and evidence on health for XXI century. To optimize the monitoring the program *Health – 2020* at the next steps it is necessary the cooperation to solve both current data collection and meet the need for new information and factual information. Population characteristics are changing and appear new concepts in the field of public health that need to be modified in the strategies.

Information systems concerning health should be adapted to these social changes. To meet the needs of XXI century in terms of information and evidence required powerful systems, comprehensive information to ensure timely flow effectively and systematically statistical data on health and health maintenance. At the same time, these systems must be flexible enough to adapt to new strategic needs and include innovative approaches to information and the actual data in health. Tasks in the field of health information which is facing the European region can be resolved successfully and reliably only within broad international cooperation: it is necessary to harmonize cooperation and exchange of knowledge, experience and best practices. To this end, under the auspices of the European Regional Office, WHO was established European Initiative for Health Information (EIIZ) – an established network of countries, bringing together several partners, which aims to help improve the health of the region by improving information that are at the base of the policy. EIIZ supports the development of a single European health information in accordance with the Joint Declaration adopted by the WHO Regional Office for Europe and the European Commission in 2010 [5].

In this regard have been taken a number of important steps in which the EIIZ members had a concrete contribution. European Commission and the Organisation for Economic Co-operation and Development (OECD) supports EIIZ, their representatives took part in the first meeting of the Coordination Network, which took place in March 2015, the activity rate EIIZ increases, but further strengthening networks and capacity building to enhance its activities in the field of health information and its consistency over the six key areas of activity requires the involvement of new members, Figure 11.

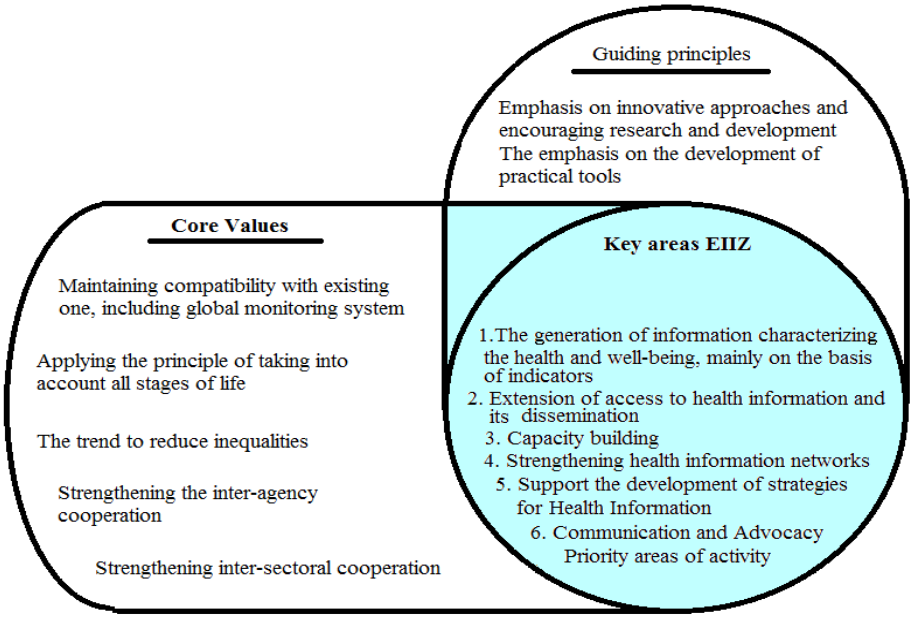


Fig. 11. Vector orientation of the strategies implementation concerning health
Source: Qualitative indicators for monitoring the policy Health – 2020.

Only through joint efforts can be improved the region's health information, in an effective, sustainable and consistency way meant to redress the socio-economic and employment status and of the nation.

Main findings. The European region is moving steadily towards achieving the targets of *Health – 2020*, but much remains to be done to further improvement of health and to reduce social injustice. For full information support of the implementation of the Health – 2020 policy it's needed to strengthen data collection mechanisms and to develop new approaches to health monitoring. These include the use of non-traditional sources of information, such as quality data and descriptive study. Strengthening international cooperation is the key to the further development of research and development in the field of health information in the region.

REFERENCES

1. GOROBIEVSCHI, Svetlana. Evoluţia conceptului şi metodelor de evaluare a calităţii vieţii = Development concepts and methods of assessing the quality of life. In: Economica. 2013, nr. 1, pp. 7-24.
2. WORLD HEALTH ORGANIZATION. *Noncommunicable diseases country profiles.* Geneva, Switzerland, 2014. 210 p. ISBN 978 92 4 150750 9 [accesat 10 august 2015]. Disponibil: http://www.who.int/nmh/publications/ncd-profiles-2014/en/
3. WORLD HEALTH ORGANIZATION. Qualitative indicators for monitoring Health 2020 policy targets. 2014 [accesat 10 august 2015]. Disponibil: http://www.euro.who.int/__data/assets/pdf_file/0004/259582/Qualitative-indicators-for-monitoring-Health-2020-policy-targets-Eng.pdf
4. LEGATUM INSTITUTE. The Legatum Prosperity Index™. 2015 [accesat 10 august 2015]. Disponibil: http://www.li.com/activities/publications/2015-legatum-prosperity-index
5. DAHLGREN, G., WHITEHEAD, M. *Policies and Strategies to Promote Social Equity in Health. Stockholm, Sweden: Institute for Futures Studies.* 1991
6. GUVERNUL REPUBLICII MOLDOVA, ORGANIZAŢIA NAŢIUNILOR UNITE. *Evaluarea comună de ţară.* Chişinău, 2005. 84 p. [accesat 10 august 2015]. Disponibil: www.un.md/publicdocget/110/
7. WORLD HEALTH ORGANIZATION. European Health for All Database (HFA-DB). Copenhagen, 2014. 23 p. [accesat 10 august 2015]. Disponibil: www.euro.who.int/.../databases/european-health.
8. WORLD HEALTH ORGANIZATION. *Global tuberculosis: report.* 2014. ISBN 978 92 4 156480 9 [accesat 14 septembrie 2015]. Disponibil: http://apps.who.int/iris/bitstream/10665/137094/ 1/9789241564809_eng.pdf

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