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Strengthening national health research systems: implementation of the Action Plan to Strengthen the Use of Evidence, Information and Research for Policy-making in the WHO European Region

Report of the first multicountry meeting on research for health

15–17 November 2017, Sofia, Bulgaria

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Foreword

Reflections by the Chair

As a member of the European Advisory Committee on Health Research and Chair of its Implementation Research subgroup, I am committed to the Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region (resolution EUR/RC66/R12), which highlights the use of research in policy and practice across the European Region. I was honoured to chair this meeting, which resulted in rich and constructive discussions on health research system strengthening among participants; the Sofia Declaration, which reaffirmed commitment to the Action plan; and establishment of the European Health Research Network under the umbrella of the European Health Information Initiative.

I am struck by the common challenges discussed among participants in coordinating the efforts of multiple agencies and actors, improving the capacity of the researchers, and ensuring that research evidence is used for developing public health policy. These challenges are also found in advanced national health research systems and the meeting highlighted the huge potential for learning across countries.

I look forward to seeing strong and fruitful collaboration across the whole European Region through the European Health Research Network and the European Health Information Initiative.

Professor Catherine Law

Member of European Advisory Committee for Health Research

Professor of Public Health and Epidemiology and Deputy Director, UCL Great Ormond Street Institute of Child Health, London, United Kingdom

Abbreviations

COHRED	Council of Health Research and Development
EACHR	European Advisory Committee on Health Research
EHII	European Health Information Initiative
EHRN	European Health Research Network
ENHR	essential national health research
EVIPNet	Evidence-informed Policy Network
HEN	Health Evidence Network
MoH	Ministry of Health
NHRS	national health research system(s)
TDR	Special Programme for Research and Training in Tropical Diseases

Executive summary

Participants from Armenia, Bulgaria, Estonia, Georgia and Kyrgyzstan met on 15–17 November 2017 in Sofia, Bulgaria to explore country-driven and systems approaches to advancing national health research and evidence-informed policy-making. The meeting was an important capacity-building activity of the European Health Information Initiative (EHII) and marks a milestone in implementing resolution EUR/RC66/R12: Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region.

Key areas covered during the meeting were:

- the rationale for applying the systems approach to health research system strengthening in the WHO European Region;
- the current status, opportunities and challenges of existing national health research in participating Member States;
- resources for mapping and profiling national health research systems (NHRS; provided by the Council on Health Research for Development (COHRED)) and for developing a national research strategy (provided by Brunel University, United Kingdom); and
- the planning and drafting of action plans for national health research strategies.

The Regional Action plan emphasizes a systems approach to health research, which involves aligning research agendas with public health priorities; facilitating multisectoral, interdisciplinary health research practices; and fostering the systematic and transparent use of research in local health decision-making.

In discussions, participants described the ongoing efforts in health research in their respective countries, while highlighting the need to strengthen the role of ministries of health (MoHs) and engage with various other stakeholders, such as those involved in education, science and innovation at national, regional and global levels, and to further strengthen mechanisms to incorporate health research into decision-making.

Participants reviewed the feasibility and relevance of existing mapping and profiling tools, and agreed that they are useful and appropriate to apply in their respective country settings. They also supported WHO's ongoing effort to develop a practical tool for assisting Member States to develop a comprehensive health research

strategy that provides a systematic approach to managing health research and leads to evidence-informed policy-making.

The meeting concluded with adoption of the Sofia Declaration, which reaffirmed commitment to the Action Plan, and the establishment of the European Health Research Network under the umbrella of EHII. In addition, participants identified concrete actions that they will take following the meeting, which includes engaging with other national health research stakeholders to jointly advance health research in their countries and strengthen local decision-making informed by local knowledge.

1. Background to the meeting

Information, research and evidence are the foundations of, and indispensable instruments for ensuring, quality health policies. WHO promotes health policies and practices which are grounded in the best available evidence *(1–4)* and recognizes the need for improved research quality, strengthened national capacity for research, an increased impact of research on population health and inclusiveness in the research process *(5,6)*.

In September 2016, the 53 Member States of the WHO European Region adopted the Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region (resolution EUR/RC66/R12), which affirms the commitment to "consolidate, strengthen and promote the generation and use of multidisciplinary and intersectoral sources of evidence for health policy-making with the health related United Nations Sustainable Development Goals and the Health 2020 policy framework" *(7–9)*. The plan highlights the best available evidence in two complementary areas: health information and health research. Knowledge translation provides a dynamic interface between these areas, and is thus a critical element of evidence-informed policy-making. One of the action areas of the Action plan is to establish and promote national health research institutes and systems, underscoring the importance of local, context-specific evidence for local decision-making.

EHII is a WHO network committed to improving the information that underpins health policies in the European Region through fostering international cooperation to exchange experience, build capacity and harmonize data collection *(10)*. EHII functions as the platform for implementing the Action plan *(10)* and this meeting on strengthening NHRS was an important capacity-building activity of EHII and the first milestone towards "moving in a concrete way to support countries in national research and research strategies in health" *(11)*.

2. Meeting outline

2.1. Introduction to the meeting

The Division of Information, Evidence, Research and Innovation at the WHO Regional Office for Europe and the Special Programme for Research and Training in Tropical Diseases (TDR) *(12)* at WHO headquarters co-organized this meeting aimed at strengthening NHRS, held on 15–17 November 2017 in Sofia, Bulgaria.

Dr Skender Syla, WHO Representative and Head of the Country Office in Bulgaria, and Dr Boyko Penkov, the Deputy Minister of Health, welcomed participants from five Member States: Armenia, Bulgaria, Estonia, Georgia and Kyrgyzstan. On behalf of Ms Zsuzsanna Jakab, the WHO Regional Director for Europe, Dr Claudia Stein, Director of the Division of Information, Evidence, Research and Innovation, thanked the Bulgarian Minister and Deputy Minister of Health for hosting the meeting and for their commitment to this important area of work.

Professor Catherine Law, Member of European Advisory Committee for Health Research, Professor of Public Health and Epidemiology, and Deputy Director of the Great Ormond Street Institute of Child Health at University College London in the United Kingdom, was appointed chair of the meeting. Ms Ekaterina Bogatyreva, Senior Executive Officer at the University of Oslo, was appointed rapporteur of the meeting. Participants were invited to declare any conflicts of interest; none were declared. The proposed programme was accepted (see Annex 1). A list of participants and their affiliations can be found in Annex 2.

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The meeting comprised three key sections: (i) describing the country situation in terms of current NHRS and challenges (section 4); (ii) introducing tools and resources to help assess the NHRS and build towards a national health research strategy (section 5); and, finally, (iii) creating action points to address some of the challenges and opportunities highlighted in the first stage of the meeting (section 6).

2.2. Objectives

The objectives of the meeting were to:

- establish mutual understanding about the importance of public health and health systems research in supporting evidence-informed health policy-making;
- enable participants to gain robust knowledge of the systems approach to national health research and the need for a health research strategy;
- introduce tools and approaches for assessing NHRS and developing or enhancing a national health research strategy;
- facilitate the exchange of experiences in developing and strengthening NHRS at the national and regional levels; and
- identify clear next actions to strengthen national health research in participating countries through strategy development.

2.3. Expected outcomes

The expected outcomes of the meeting were that participants should:

- gain a solid understanding of evidence-informed policy-making and NHRS strengthening;
- gain the knowledge and skills required to conduct an NHRS assessment and develop a strategy;
- strengthen contacts and interactions with representatives from participating countries and technical experts in health research;
- create an action plan to develop a national health research strategy as well as a vision and mission for building a NHRS; and
- establish a formal network for national health research strengthening under the umbrella of the EHII.

3. Rationale for a systems approach to health research

3.1. Historical developments in health research

Considerable advances in health research have been made since the milestone Alma Ata conference in 1978, which called for primary health care to reflect and be based on sound scientific research *(13)*. Just over a decade later, in 1990, the Commission on Health Research for Development produced a landmark publication entitled Health research: essential link to equity in development, which made the recommendation to invest in research and strengthen research capacity efforts *(14)*.

In 2001, a conceptual framework of the systems approach to national health research was developed at an international workshop on NHRS in Cha-am, Thailand, organized by WHO *(15)*. This conceptual framework defined the underlying values and primary aims of NHRS and summarized the key functions necessary to achieve these aims (Box 1).

Box 1. Four functions and nine operational components of a health research system *(15)*

Stewardship:

1. define and articulate a vision for a NHRS;
2. identify appropriate health research priorities and coordinate adherence to them;
3. set and monitor ethical standards for health research and research partnerships; and
4. monitor and evaluate the health research system.

Financing:

5. secure research funds and allocate them accountably.

Creating and sustaining resources:

6. build, strengthen and sustain the human and physical capacity to conduct and absorb health research.

Producing and using research:

7. produce scientifically validated research outputs;
8. translate and communicate research to inform health policy, health practice, and public opinion; and
9. promote the use of research to develop drugs, vaccines, devices and other applications to improve health.

Following the 2004 Ministerial Summit on Health Research in Mexico City, which stressed the importance of evidence-informed policy-making *(2)*, the 2008 Bamako Call to Action on Research for Health *(16)* urged countries to prioritize the development of research and innovation for health and to reinforce the systems approach to health research, in particular, by establishing strong institutions and capacity for research. The WHO strategy on research for health reaffirmed commitment to the Bamako Call to Action by underscoring the importance of strengthening national health research capacity, noting that "active national health research systems speed up the achievement of health goals" *(5)*. The World Health Report 2013: Research for Universal Health Coverage called on Member States to continue their commitment and make ongoing efforts to strengthen national health research and stated that "research is likely to be most productive when it is conducted within a supportive national research system" *(17)*. In 2016, the 53 Member States of the WHO European Region adopted resolution EUR/RC66/R12: Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region *(7)*.

When tracing the historical developments since the late 1970s, a shift in focus was made from **health research** to **research for health**. The latter integrates the notions that improving health and health equity requires inclusive research processes that include multiple sectors and disciplines. Health research is generally mandated and enacted from within the health sector, whereas, in fact, it is the responsibility of any sector which has processes, influences and contributions to health *(5)*.

3.2. National Health Research Systems

Health research may include biomedical, epidemiological, health systems and health policy research activities within health systems, but also refers to research in, but not limited to, economics, engineering and technology that aims to improve safety and financial schemes for health services. Therefore, a NHRS exists within both the health system and the broader research system (Fig. 1) *(18)*.
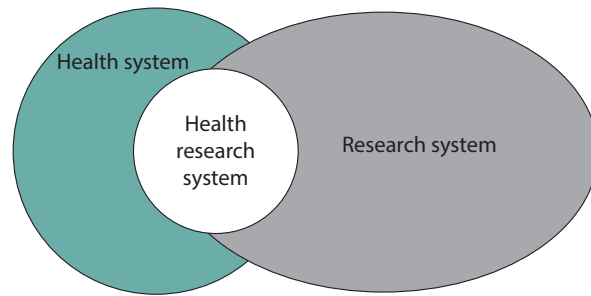
Fig. 1. The health research system is located at the intersection of the health system and the research system *(18)*.

A NHRS is defined as "[t]he people, institutions, and activities whose primary purpose is to generate high quality knowledge that can be used to promote, restore, and or maintain the health status of populations. It can include the mechanisms adopted to encourage the utilization of research" *(15)*.

Stakeholders of NHRS are not limited to the health and health research sectors, but extend to any actor, institution or discipline that contributes to health, such as science, technology or development systems, including international and private.

The primary stakeholders of NHRS include:

- **researchers:**
    - national health research governance institutions (e.g. research councils);
    - research and development organizations (e.g. universities); and
    - private sectors, international health and research organizations;
- **research users:**
    - public sector health institutions (MoHs, health managers, etc.);
    - public/nongovernmental organization providers/international health and research organizations; and
    - community/civic groups and the general public;
- **research funders:**
    - national health research governance institutions (e.g. research councils);
    - funding organizations; and
    - international health and research organizations.

4. Pre-meeting review: current national health research activities in the WHO European Region

To understand the current status of national health research in the WHO European Region, an overview of the existing progress, opportunities and challenges in the Region and in participating countries (Armenia, Bulgaria, Estonia, Georgia and Kyrgyzstan) was presented.

4.1. Overview of NHRS activities in the WHO European Region

The WHO European Region is made up of 53 Member States, covering a vast geographical area from the Atlantic to the Pacific Ocean. The Region is not only culturally and economically diverse but also heterogeneous in terms of the level of health research capacity and political commitment to health research. The Division of Information, Evidence, Research and Innovation (DIR) at the WHO Regional Office for Europe conducted an informal desk review of existing strategies for national health research and of national health research literature published in English and Russian, the latter being a predominant language in the Region.

4.1.1. Strategies for national health research

The review of national documents[1] available on websites of various ministries and research institutes in the Region identified 13 national strategies for health research: 10 of these were in English or Russian (from Croatia, Estonia, Finland, Germany, Iceland, Ireland, Malta, Norway, the Russian Federation and the United Kingdom) and three were in other languages (from Czechia, Italy and Latvia). Institutional and disease-specific health research strategies were also identified (in Denmark, Ireland, Sweden and the United Kingdom; see Fig. 2).

[1] The following search terms were included:
document type: English – strategy, plan, strategic plan, policy, framework, roadmap, action plan, act, research development plan; Russian – стратегия, план, план действий, политика, закон, концепция, акт, стратегия развития; and
subject area: English – national health research, public health research, research, research system, health system; Russian – национальные научные исследования, здоровье населения, исследования, системы исследования, система здравоохранения.

Legend:
- Croatia
- Estonia
- Finland
- Germany
- Iceland
- Ireland 🟢🔴
- Malta
- Norway
- Russian Federation
- United Kingdom 🟢🔴
- Czechia
- Latvia
- Italy 🟢🔴
- Denmark 🟢

- ◀ NHRS in English/Russian
- ◀ NHRS in another language
- 🟢 Institutional strategy
- 🔴 Disease-focused strategy
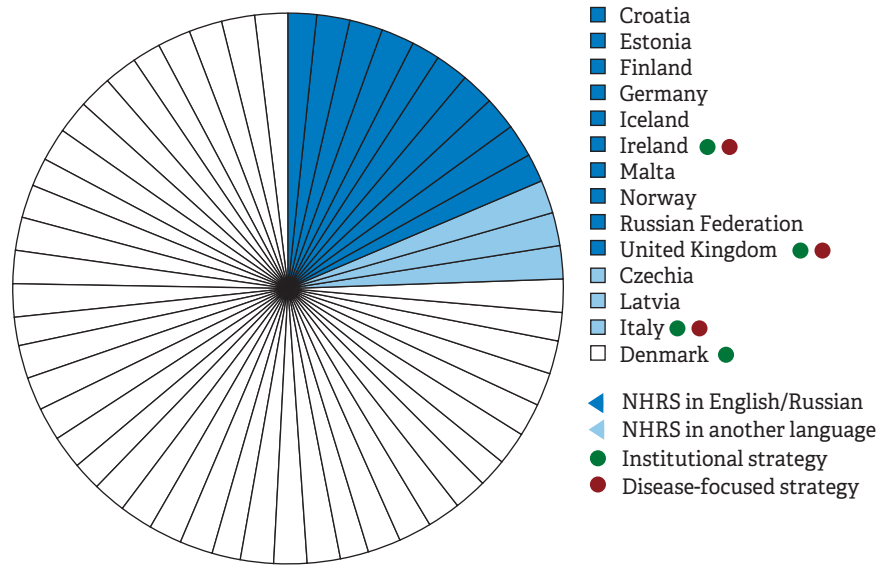
Fig. 2. Health research strategies in the 53 Member States of the WHO European Region.

To ensure that research evidence effectively informs complex health system issues, an interdisciplinary approach to health research is needed, including contributions from agriculture, economics, epidemiology and social sciences. The review of existing national strategies shows, however, their common focus is clinical research. It was apparent that knowledge translation practices were rarely discussed. MoHs were often responsible for stewardship and involved in strategy development, and non-health sectors were included in the implementation plan. All strategies were developed based on the findings from a situation analysis including a detailed assessment of stakeholders and processes. Structures and elements of the strategies varied, indicating that they were developed without the use of a framework for NHRS.

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4.1.2. Capacity for health research

According to the four bibliometric studies that assessed the number of health research publications among countries in the Region and beyond, the countries with limited health research were in eastern Europe and central Asia *(19–21)*. This geographical group comprises Russian-speaking countries, which often publish research in Russian in local, non-English journals *(22)*. To further uncover the national health research capacity in this part of the Region, a search was performed to identify health research literature containing the term "health" in the title and/or abstract and published by a first author from one of the 11 Russian-speaking countries,[2] in English or Russian, between 1994 and 2017 (preliminary findings are shown in Table 1). Two databases were searched: elibrary,[3] an electronic database of scientific literature in Russian, and MEDLINE/PubMed.[4]

Table 1. Health research published by a first author from one of the 11 Russian-speaking countries, in English or Russian, 1994–2017

Country	PubMed		eLIBRARY	Per million[a]
	English	Russian	Russian	
Armenia	9	0	12	4.0
Azerbaijan	1	0	7	0.7
Belarus	6	1	>30[b]	1.4
Kazakhstan	13	0	>30[b]	1.7
Kyrgyzstan	4	0	0	0.0
Republic of Moldova	3	0	6	1.4
Russian Federation	86	43	>30[b]	1.4
Tajikistan	1	0	11	1.3
Turkmenistan	0	0	0	0.0
Ukraine	38	2	>30[b]	0.7
Uzbekistan	7	0	9	0.3

[a]   Number of publications per million population.
[b]   In the first 10 pages of results.

[2]   Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan

[3]   eLIBRARY.RU Scientific Electronic Library [website]. Moscow: Russian Academy of Sciences; 2018 (https://elibrary.ru/defaultx.asp?, accessed 25 January 2018).

[4]   Selected because this database was the only one that enabled consistent searches (i.e. use of the same keywords and Boolean operators) in both English and Russian publications; that included scientific articles published by researchers from all 11 Russian-speaking Member States of the WHO European Region; and in which a search based on the first author's home country affiliation was possible.

Searches for publications in Russian yielded only 1775 articles from PubMed, compared with 29 777 articles (17 times more) in eLIBRARY. No publications by researchers from Turkmenistan were identified in either English or Russian. Kazakhstan, the Russian Federation and Ukraine had the highest volumes of scientific publications. When the population size was taken into account, Armenia had the largest number of publications in Russian. More publications were available in Russian than in English for every country, except for Kyrgyzstan (see Table 1).

The findings of low health research capacity in this geographical group were consistent with previous bibliometric studies, while revealing a substantially increased number of publications in Russian. This suggests a need for tailored searches in Russian in non-English, local or subregional databases and for ensuring that publications are translated into English and made available in international journals.

4.2. At a glance: current status, opportunities and challenges in countries

Prior to the meeting, participants undertook a rapid review of the national health research situation in their country. Participants presented the current activities according to four fundamental functions of NHRS (see Box 1), as well as the overarching opportunities and challenges.

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Rapid review findings are summarized according to the NHRS functions in Table 2. Key themes which emerged as the opportunities for strengthening their NHRS included:

- **stewardship:**
  - existing legislative frameworks and strategic documents supporting NHRS;
- **financing:**
  - support from international organizations;
- **creating and sustaining resources:**
  - programmes for career development;
  - human resource capacity;
  - participation in international networks; and
  - availability of population-based health information;
- **producing and using research:**
  - use of evidence in creating clinical guidelines and protocols; and
  - local and international research publishing capacity.

Participants identified insufficient funding (from both national and private sources) and the lack of health research priority as key challenges of their NHRS. Lack of investment in health research and health research systems had led to low salaries for research staff, outdated equipment and infrastructure, and fragmentation of resources. Inadequate research capacity training and career development programmes in health research were also frequently mentioned.

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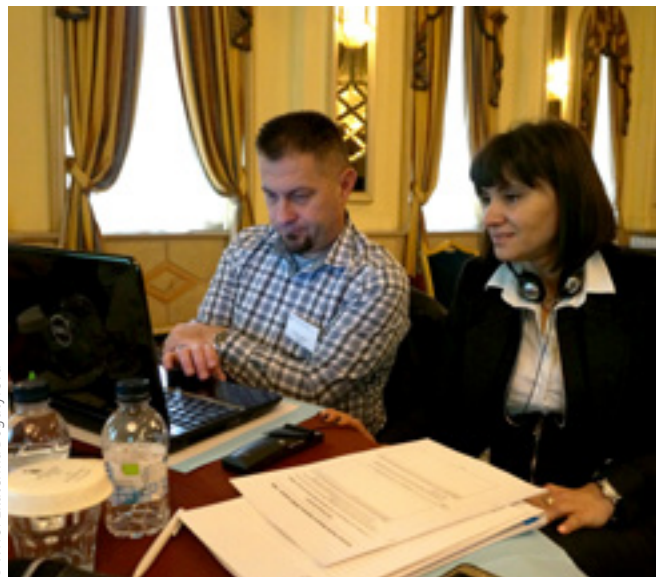
Use of research was the function least reported by participants. While some indicated the use of research in developing clinical guidelines and protocols, participants did not report on explicit mechanisms for knowledge translation. Four of the five participating countries are, however, members of the Evidence-Informed Policy Network (EVIPNet) Europe, a WHO Regional Office for Europe initiative on developing country capacity in knowledge translation (see section 5.4.2 for more information).

Table 2. Summary findings of rapid reviews of NHRS

Function	Armenia	Bulgaria	Estonia	Georgia	Kyrgyzstan
Stewardship					
Strategy for health research			✓		
Strategy for research	✓	✓	✓	✓	✓
Key actors involved in health research	Ministries of: Health Education and Science Agriculture Ecology Defence Emergency Situations State Science Committee	Ministries of: Health Education and Science Academy of Sciences; Medical universities	Ministries of: Social Affairs Education and Research Research Council	Ministries of: Labour, Health and Social Affairs Education and Science National Center for Disease Control and Public Health	Ministries of: Health Education and Science Higher Attestation Commission Academy of Sciences Research institutes and universities
Funding					
Public	✓	✓	✓		✓
Other	NA	NA	Horizon2020	International development partners, including UN agencies Shoçta Rustaveli – national science foundation	International development partners including UN agencies
Producing and using research					
Research areas	Applied research is dominant	NA	NA	NA	Applied biomedical R&D and public health research.
Collaboration at national, regional and global levels	Interdisciplinary programs developed and implemented, including international scientific conferences and seminars.	Participation in international meetings and seminars; Collaboration with EU and other research institutions.	Strong collaboration with both national and international partners.	NA	Collaboration occurs mainly at the national level, but is insufficient at the regional and global levels.
Research output	1500–2000 publications per year	Periodical scientific journals; Internet publications; reports to funding bodies	~500 publications per year	NA	2016 (Scopus) – 34 publications

NA: not available.

5. Tools for building a NHRS: from initiation to planning

Descriptions of existing Regional and national health research activities point to the need for enhanced governance and management systems and for clear strategic directions for national health research. A strategy for national health research ensures that the various functions and operational components of health research system are aligned, coordinated and managed, thus facilitating links between research evidence, health policies and public health improvements.

To develop and improve an effective NHRS, initial steps include to establish the scope of a NHRS and to analyse the structures, processes, actors and performance of the current health research system and then to develop a national strategy for health research.

5.1. Scope of a NHRS

A NHRS will have different focus areas and complexity depending on the resources available, priorities, and political and social goals. Four frameworks for health research systems were presented: these ranged from having a narrow focus on health sector research to a broader focus encompassing research for social and economic development (see Annex 3). Based on the findings of the rapid review, meeting participants explored which of the four frameworks best suited the current NHRS environment. The findings of this exercise are summarized in Table 3.

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Framework	Key features	Country/participant selection
Health sector	• Narrow • health sector research • MoH as the central and main stakeholder	**Georgia** –needs to understand the situation and map actors at the MoH before expanding; **Kyrgyzstan** – currently, health research actors are fragmented; the country needs to map out the actors within a narrow scope and first focus on research conducted by the health sector
Multisectoral	• Health- and non-health sectors • research is coordinated by multiple public sectors including the ministries of education, agriculture, science and technology, and mining	**Armenia** – interested in mapping health and other sectors and promoting an inclusive multisectoral approach; **Bulgaria** – needs to define the roles of all current stakeholders, their expectations and communication between sectors
Research for health	• Includes public and private organizations (for profit non-profit-making nongovernmental organizations) • includes research that may not be primarily aimed at improving health outcomes influences health	Not selected
Research & innovation for health	• Expands the concept of health research as a driver of national economic and social development • health research aimed not only at improving health but also at serving other social and economic agenda	**Estonia** – chose to work towards expanding the system that might serve the social and economic agenda of the country in line with the Research, development and innovation strategy for the Estonian health system 2015–2020 *(23)*

5.2. Situation analysis: NHRS mapping and profiling

The COHRED tools for mapping and profiling NHRS were presented as a means of analysing current NHRS structures and processes *(24,25)*: the mapping tool is used to define the components of the system, including frameworks, institutions, structures and mechanisms; and the profiling tool is used to assess the system capacity to commission, produce and use research.

Both the COHRED NHRS assessment mapping questionnaire *(24)* and research producer questionnaire *(25)* consist of a series of questions to structure and guide the description of a NHRS in four sections:

- actors involved in governance and management of the NHRS;
- institutions engaged in research for health;
- key stakeholders involved in research for health; and
- available literature and a data review on research for health.

The questionnaires systematically approach NHRS assessment by creating a virtual map of the current health research environment in the country: *who* the actors are, *what* their role(s) are in health

research and policy formation; *how* they operate; and *what* resources are available and how well they are performing. The standardized assessment tool can also be used to initiate discussions with the MoH, as well as comparing NHRS in neighbouring countries.

The questionnaires were used in the first interactive exercise. The aim was not to complete the questionnaires, but rather that participants from each Member State should adapt the questionnaires for use in their country. That is, participants were asked to review the questionnaire itself and add any relevant information or questions required for the effective analysis of the NHRS in their country.

All participants found the tools useful and have affirmed that they would like to use them in their NHRS assessment. Modifications to the questionnaires included adding different cadres of academic titles into the analysis (e.g. postdoctoral researchers, research candidates, research fellows) or questions to assess aspects of health innovation related to the fourth conceptual framework from the previous exercise (i.e. research and innovation for health). Not all questions could be answered due to the fragmentation or narrow function of the current NHRS; however, all participants agreed that all questions should remain because they are useful discussion points towards future development.

5.3. Developing a national strategy for health research

The findings derived from NHRS mapping and profiling will inform the development of a national strategy for health research. Dr Subhash Pokhrel from Brunel University, London outlined the principles, practical considerations and steps involved in developing a NHRS strategy.

Although there maybe variations in the names used for such documents (e.g. act, reform, roadmap, strategic plan) and the level of detail covered, we will use the term **national strategy for health research** to refer to a document which is designed to align, coordinate and manage a system for health research at a national level. The document sets out a clear vision, mission and strategic directions to comprehensively address current challenges and build on the opportunities identified to enhance the volume, management and use of research for health.

Dr Pokhrel presented the underlying principles of a national strategy for health research, including the following:

- **evidence-informed:** a strategy should be based on an analysis of the current profiles and performance of a NHRS;
- **comprehensive application of a systems approach:** a strategy should consider all four functions of a NHRS;
- **inclusive:** a strategy should include all non-health sectors and non-state sectors relevant to the scope of the research system for health (see section 5.1); and
- **sustainable:** a strategy should put in place structures, resources and favourable environments for sustaining the NHRS.

The proposed key steps in developing a national health research strategy are to:

- develop and agree on a vision and mission;
- perform a NHRS assessment to describing existing structures, stakeholders and performance, as well as a gap analysis to identify problems and their underlying causes;
- develop country-specific objectives which address the identified problems;
- identify strategic reforms, policies and actions to meet the objectives;
- describe a realistic approach for implementing the strategy; and
- describe an approach for monitoring and evaluating progress contributing to the strategy.

To apply some of the principles and start thinking about what a strategy should look like in their own country context, participants reviewed several examples of visions of health research systems from various countries. After brainstorming a vision for their own country, participants emphasized the need for their vision to include elements such as collaboration between national stakeholders, building an evidence base and using evidence to form public health priorities and decisions. The need for a vision to be unambiguous and realistic was also highlighted. The participants also discussed which of the nine functions of a NHRS described by Sombié et al. in 2013 were most feasible and likely to be achieved most quickly within their country (see Box 1) *(26)*. Most participants agreed that the most feasible functions related to stewardship, including defining the vision and mission and setting health research priorities. Other functions that participants flagged as early priorities were (i) producing and using health research to develop tools and improve health and (ii) securing finances.

To support Member States in generating a national health research strategy, a draft tool is currently under development by DIR. The tool aims to provide an overview of the objectives, principles and roles of a strategy and describes the practical considerations and steps for developing a strategy and approaches to contextualize these generic steps to a particular country context. The tool is informed by the Health Evidence Network (HEN) synthesis report summarizing the evidence on effective policies, interventions and tools for establishing and/or strengthening NHRS in both academic and grey literature (see section 5.4.1 for more details).

The tool will delineate each step by outlining *who* is going to take the necessary actions; *how* each step will be implemented, in terms of potential interventions, activities and timescales; and *what* resources are required to implement the actions.

Participants agreed that the tool will be a useful guide for NHRS assessment. To ensure that the tool is practical and relevant, participants could be involved in peer-review and piloting the tool to finalize its development.

5.4. Review of policies, interventions and mechanisms to build and strengthen NHRS

5.4.1. Preliminary findings of the HEN synthesis report

DIR commissioned Brunel University in London to conduct an HEN evidence synthesis of the policies, interventions and tools used to strengthen and establish NHRS. Dr Subhash Pokhrel presented the preliminary results from the ongoing review.

The evidence synthesis included 76 publications in English identified via Scopus and the grey literature. The records were diverse with respect to the type of publications (articles, reports, official documents and editorials), the type of work published (empirical studies, frameworks and official reports) and the current status of health research (ranging from non-existent (Malaita in the Solomon Islands) to a highly developed NHRS (United Kingdom)). Although there has been increasing commitment to NHRS development since 2003, many countries still appear to have few or no policies on health research (e.g. 51% in Africa, only a few in the former Soviet Union), and only six European Union countries have an explicit NHRS.

The evidence synthesis found considerable benefits of using the systems approach to manage health research. Collaboration and partnership is increasingly shown to be valuable, especially in low-resource settings. Collaborative work with key organizations such as COHRED, the West African Health Organization and WHO has resulted in successful policy and strategy development and the subsequent publication of improved NHRS. Other collaborations include formal partnerships with countries which already have a developed NHRS or collaboration between neighbouring nations.

The systems approach appears to be vital for progression. More progress was made in countries that had built their health research systems on their strengths and focused on improving capacity and equity following a detailed analysis and stakeholder consultation. Although other countries have existing policies, they are either not implementing them or lack state funding and a strategic national direction. Interestingly, an analysis of former Soviet Union countries revealed that the wealthiest nations are not always the biggest drivers of national health research: more progress was made by countries with established institutional arrangements, international relationships and a scientific tradition.

Policy implications that have proven successful for NHRS development in other WHO regions (e.g. Africa or South-East Asia) include a strong leadership role for the MoH. In European Union countries, health research is often funded by the Ministry of Science or science councils, which could have a strong research focus but may not align with health care needs. Other options include independent health research councils or intersectoral leadership, which can provide a wider support base.

These analyses, due to be published in early 2018, will help in creating the strategy development tool for assisting countries at various stages of NHRS development to use evidence to improve their health research and research priorities.

5.4.2. Mechanisms supporting NHRS in the Division of Information, Evidence, Research and Innovation

DIR works with and for Member States and partners to facilitate the generation, dissemination and use of health information and research evidence as a corporate function of WHO. DIR gathers and analyses health data and evidence and turns them into customized policy tools for Member States to use to improve citizen's health. It focuses on:

- monitoring and analysing health information;
- translating research evidence into health policies;
- managing and sharing knowledge; and
- leveraging e-health and innovation.

DIR functions as the WHO Secretariat to support, coordinate and monitor the implementation of the Regional Action plan on strengthen the use of evidence, information and research for policy-making in the WHO European Region. Key mechanisms and initiatives hosted in DIR with an aim to strengthen NHRS are outlined below.

European Advisory Committee on Health Research

The European Advisory Committee on Health Research (EACHR) promotes and strengthens the use of research evidence for public health decision-making and to inform policies for developing health research in the Region. EACHR directly reports to the WHO Regional Director for Europe and advises her on the formulation of policies for the development of research for health in the Region, reviews the scientific basis of selected programmes of the WHO Regional Office for Europe; advises the Regional Director on new findings on priority public health issues and evidence-based strategies and policies to address them; and facilitates the exchange of information related to research agendas and evidence gaps in priority areas. EACHR held its eighth formal meeting in May 2017, where it discussed how the Regional Office can further incorporate implementation studies into the work of the Regional Office and agreed to establish a subcommittee on implementation research. DIR serves as the WHO Secretariat of EACHR. The Chair of this meeting, Professor Catherine Law, will be leading this area of work.

European Health Information Initiative

EHII is a WHO network committed to improving the information that underpins health policies in the European Region. Its mission is to improve the quality of information that underpins health policy through fostering international cooperation to exchange experience, build capacity and harmonize data collection *(10)*. EHII provides an overarching framework for health information activities for the WHO European Region within six key areas:

1. gathering and analysing information that deepens the understanding of health and well-being, with a focus on indicators;

2. enhancing access to and dissemination of health information;
3. building capacity;
4. strengthening health information networks;
5. supporting the development of health information strategies; and
6. communication and advocacy.

At the time of the meeting, EHII members included 35 Member States, WHO Collaborating centres, health information networks, academic institutions and organizations such as the European Commission, the Organisation for Economic Co-operation and Development (OECD) and the Wellcome Trust. It continues to expand and progress. EVIPNet Europe and HEN (described below) are active pillars of the EHII.

Evidence-informed Policy Network

The mission of EVIPNet is to promote a network of partners at national, regional and global levels among health system policy-makers, researchers and civil society. Since 2005, regional EVIPNet networks have been established in the Americas, Asia, the Eastern Mediterranean and sub-Saharan Africa. EVIPNet Europe was launched in 2012 under the umbrella of EHII to support implementation of the Health 2020 European policy framework *(9)* and the Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region *(7,27)*. As one of capacity building pillars of EHII, EVIPNet Europe works to improve the systematic use of the best available scientific evidence by strengthening the capacity of countries to develop evidence-informed policies on health system priorities, and aims to establish sustainable knowledge translation structures at the country level.

Since its launch and at the time of the meeting, EVIPNet Europe has expanded to include 19 member countries, and includes four of the five participants of this meeting: Albania, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Lithuania, Poland, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia, Slovenia, Tajikistan, Turkmenistan, the former Yugoslav Republic of Macedonia and Ukraine.

HEN synthesis reports

HEN contributes to one of the pillars of EHII: enhanced access to and dissemination of health information. The HEN synthesis report series summarizes the best available evidence to support public

health decision-makers to use evidence in their policy-making, and aims to link evidence, health policies and improvements in public health. Based on the synthesized evidence, HEN reports outline policy considerations to support policy-makers formulate their own recommendations and policies within their own national context.

HEN reports are peer-reviewed and recognized as core evidence for policy-making. The reports are indexed in Bookshelf, a free online resource provided by the United States National Center for Biotechnology Information, and made available via PubMed. To date, 74 synthesis reports have been published on various topics including migration, maternal health, mental health, knowledge translation and health information systems. A HEN report has been used as a mechanism to synthesize the relevant evidence on NHRS strengthening.

5.4.3. Global activities at WHO headquarters

The Special Programme for Research and Training in Tropical Diseases

TDR is cosponsored by the United Nations Children's Fund, the United Nations Development Programme, WHO (the executing agency) and the World Bank *(12)*. TDR acts as a catalyst and facilitator of health research and an advisor in the global health research debate. Its vision is that "the power of research and innovation will improve the health and well-being of those burdened by infectious diseases of poverty". TDR aims to foster an effective global research effort on infectious diseases of poverty and promote the translation of innovation to health impact in disease-endemic countries. Since being set up in 1974, TDR has provided research evidence to five major elimination campaigns for neglected diseases, aided the development of 12 new drugs, and established the effectiveness of insecticide-treated bed nets and artemisinin combination therapy (now the mainstay of malaria control and treatment). It has also trained thousands of researchers in almost every low- and middle-income country, and many of these are now scientific leaders and policy-makers. TDR strategy 2018–2023 *(28)* focuses on research for increased implementation and access, and graphically displays the impact pathway. It describes how the TDR integrates three core areas (research, research capacity strengthening and global engagement), along with the principles, partnerships, governance and management practices behind the strategy and its implementation.

Department of Information, Evidence and Research

The Department of Information, Evidence and Research at WHO headquarters is located in the cluster of Health Metrics and Measurement, and aims to strengthen the availability, accessibility, quality, reliability and use of health information and public health research among Member States and health development partners. The core functions are to strengthen evidence-informed policy-making by enhancing public health research related to health systems and programme implementation. Its role is to strengthen the health research systems of countries, with a focus on translating research evidence for decision-making and implementing research; monitoring global research practices; exploring new ways to build evidence through systematic reviews; and setting standards for guidelines and research within and outside of WHO. The core functions of the Research, Ethics and Knowledge Uptake unit are to strengthen evidence-informed policy-making by enhancing public health research related to health systems and programme implementation. Its role is to strengthen the health research systems of countries, with a focus on translating research evidence for decision-making and implementing research; monitoring global research practices; exploring new ways to build evidence through systematic reviews; and setting standards for guidelines and research within and outside of WHO. The work of the unit also includes reviewing and clearing WHO guidelines, ensuring that ethical standards are adhered to in all WHO-sponsored research and supporting the ethical conduct of public health initiatives and policies.

6. Follow-up actions

6.1. Action plans

The first two days of the meeting covered health research systems in depth, including introducing the systems approach; the current context and status of health research at national and regional levels; and practical tools and existing mechanisms for NHRS assessment, national strategy development and NHRS strengthening.

On the last day, the participants reflected on the value of a systems approach to health research in their country context, what considerations should be given and what next steps can be taken by them to implement and/or advance a systems approach in their respective countries. To facilitate this reflection and formulate concrete action points, each participant first considered what potential actions they could take to:

- prospect for new ideas, opportunities and resources;
- consult knowledgeable informants;
- solicit and/or maintain the support from the senior level;
- assess and (re)design services, systems and procedures;
- receive feedback from relevant stakeholders;
- share their best wisdom with the world;
- take action to remain innovative; and
- engage in organizational reflection *(29)*.

To build on this, each participant formulated an action plan outlining a series of activities to be undertaken to advance discussions within their own country towards developing a national health research strategy. The action plan consisted of specific activities, the responsible parties and collaborators, and timelines and milestones.

The proposed action plan reflected the current challenges to building and strengthening the NHRS in each country context. Many participants planned to engage key actors related both directly and indirectly to health research, including MoH as well as ministries of science, education, research, finance, agriculture, ecology, mining, emergencies, defence and foreign affairs. They also planned to perform a comprehensive situation analysis of the current health research system. Other important action points included establishing a working group to lead the development of a national strategy for health research, sharing resources and tools for strengthening NHRS with policy-makers and decision-makers; holding national and international meetings with key actors and stakeholders (with WHO participation) to continue the process of strengthening the NHRS; and identifying health research priorities. Most action plans (three out of five) covered a series of key steps results in the final governmental approval of the national health research strategy.

6.2. Launch of a WHO Regional Office for Europe network for strengthening national health research

Dr Stein outlined the added value of Member States operating within a network, based on the experiences of existing networks such as EVIPNet and the European Burden of Disease Network in providing platforms for exchange and mutual support; identifying and making efforts towards joint priorities; joint capacity-building; promoting closer alignment with international standards and better coordination with international partners; and synergizing efforts and alliances to bring issues to wider audience.

DIR will provide technical and strategic support through, for example, providing tools and resources, coordinating skill-building workshops and organizing face-to-face network meetings. WHO involvement could range from giving hands-on assistance with coordination and steering to acting as an observer and assisting only when requested, as deemed necessary by the network itself. Three general network models were presented to participants for consideration:

- **a basic model** that allows participants to exchange views and support to set up and strengthen their NHRS, identify joint priorities and organize joint events;
- **an intermediate model** that builds on the basic model, but includes further collaborative tools such as joint web-based platforms for reporting indicators; and

- **an advanced model** that includes more advanced collaboration opportunities such as joint capacity-building, specialized training events, and joint strategy development, communication and advocacy.

The selected network model may be based on a combination of these three models or on a new alternative approach.

After discussing the options for the network structure, all participating countries agreed on the benefits of collaboration and sharing experiences as a network. They chose the basic model, with the direction of the network to be decided later in 2018. Full support was requested from WHO for all stages of establishing the network.

Dr Stein congratulated the participants and confirmed the collective decision to launch a network for health research in the Region. She proposed a working title for the network: the European Health Research Network (EHRN).

The next actions needed to establish the network were identified as: engaging with national stakeholders and proposing the network to their respective MoHs; setting up the steering group, including nominating a chair and a country representative for each Member State; creating the terms of reference of the network; and expanding the network to include other Member States in the European Region.

6.3. Next steps

On the last day of the meeting, the newly established EHRN adopted the Sofia Declaration (see Box 2) to affirm its commitment to the Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region *(7)*. This collective commitment sets out the goals and principles for research for health, as discussed throughout the meeting. Establishment of EHRN and adoption of the Sofia Declaration signify the participants' engagement and commitment to pioneering and leading research for health in the WHO European Region.

Dr Claudia Stein emphasized that DIR will continue to support Member States as requested by participants, in particular by acting upon specific proposals. These include:

- finalizing the tool to support development of a national strategy for health research;
- publishing the HEN synthesis report on national health research systems strengthening;
- assisting with coordination to support formation of the EHRN;
- providing technical support to Member States to conduct NHRS assessment and support the development of national strategies;
- actively engaging in EHRN expansion; and
- organizing the first EHRN meeting in 2018.

Participants expressed their commitment to implementing the personal action plans (see section 6) and proposed meeting again in 2018 to report on the progress made towards strengthening NHRS in their respective countries.

Box 2. Sofia Declaration

We, the members of European health research system and strategy network, emphasize the importance and value of enhancing research systems and strategies for health through this, the Sofia Declaration:

Affirming commitment towards strengthening health research systems in the European Region in light of Sustainable development agenda 2030 and in full alignment with Health 2020: the European policy for health and well-being;

Mindful of resolution EUR/RC66/R12 – Action plan to strengthen the use of evidence, information and research for

policy-making in the WHO European Region – we, the participants of the network, request the WHO Regional Office for Europe to:

- *continue to support the EHII as a fundamental basis for strengthening evidence, information and research in the WHO European Region;*
- *support the building of sustainable capacity, structures and resources in research systems and strategies for health in Member States;*
- *encourage Member States to strengthen research systems and strategies for health to support decision-making;*

- *support Member States in strengthening the systematic use of research evidence in policy and practice, and closely interlink the Network activities with the work of EVIPNet Europe;*
- *encourage Member States to share best practices and experiences on research systems and strategies for health;*
- *advocate for the Network to increase its membership; and*
- *encourage similar initiatives in other WHO regions.*

7. Concluding remarks

Dr Skender Syla and Dr Claudia Stein thanked the participants for their active participation in the three-day meeting. Dr Syla emphasized the importance of continuing their work and commitment towards the Sofia Declaration and establishing the EHRN.

The commitment to the Sofia Declaration, made on the last day of the meeting, paves the way for countries to work together as part of the EHRN on improving health research and integrating research evidence into policy. These commitments, along with tools (both existing and under development) to assist in NHRS strengthening, will no doubt create positive ripple effects to strengthen NHRS in the WHO European Region and worldwide.

The meeting's success was highlighted by the overall positive meeting evaluation (Annex 4) and the clearly expressed intention of participants to continue working with DIR, and their requests for future meetings to support the NHRS development process, both nationally and as part of the newly-founded network.

In closing, Dr Stein thanked all participants, the Deputy Minister for opening the event and demonstrating commitment towards moving the country forward, and Professor Catherine Law for her excellent chairing.

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Annex 1. Meeting programme

Wednesday, 15 November 2017	
08:30–09:00	Registration
09:00–09:30	Welcome and opening
09:30–09:50	Session 1. Introduction to evidence-informed policy-making in the WHO European Region *Claudia Stein*
09:50–10:10	Session 2. A systems approach to health research *Ryoko Takahashi*
10:10–10:30	Coffee break and group photo
10:30–11:00	Session 3. A regional panoramic view of the national health research activities *Ryoko Takahashi*
11:00–11:30	Session 4. TDR's new strategy 2018–2023 and engagement in the WHO European Region *Garry Aslanyan*
11:30–12:00	*Session 5.* The value of research in the context of national health policy-making: a perspective from WHO headquarters *Vasee Moorthy*
12:00–13:30	Lunch break
13:30–14:55	Session 6. Countries at a glance: results from a rapid review of NHRS *Participants*
14:55–15:15	Coffee break
15:15–16:30	Continuation of session 6 *Participants*
16:30–16:45	Recap of Day 1 and an outlook to Day 2 *Rapporteur/WHO Secretariat*
18:30	Social dinner

Thursday, 16 November 2017	
09:00–09:10	Setting the scene for Day 2 *WHO Secretariat*
09:10–11:15	Session 7. A pathway to building a NHRS: mapping and profiling NHRS (skill-building session) *Carel IJsselmuiden*
11:15–11:30	Coffee break
11:30–12:00	Session 8. Interactive session on mapping and profiling NHRS (skill-building session) *Carel IJsselmuiden*
12:00–13:30	Lunch
13:30–15:00	Session 9. A pathway to building a NHRS: a strategy development (skill-building session) *Subhash Pokhrel*
15:00–15:45	Session 10. Building and strengthening NHRS: current actions, initiatives and real-life examples *Subhash Pokhrel, Ryoko Takahashi*
15:45–16:00	Coffee break
16:00–17:00	Session 11. Country vision and statement: the first steps towards a national health research strategy (group work)
17:00–17:15	Recap of Day 2 and an outlook to the final day *Rapporteur/WHO Secretariat*

Friday, 17 November 2017	
09:00–09:10	Setting the scene for the final day *Chair*
09:10–10:30	Session 12. National action plan to develop a health research strategy: planning for next steps (group work)
10:30–10:40	Coffee Break
10:40–12:00	Session 13. Next steps towards building NHRS *Participants*
12:00–12:45	Session 14. Launch of a network on national health research strengthening under the auspices of EHII *Claudia Stein*
12:45–13:00	Closing remarks *WHO Secretariat*
13:00–13:15	Meeting evaluation
13:15–13:15	Networking lunch

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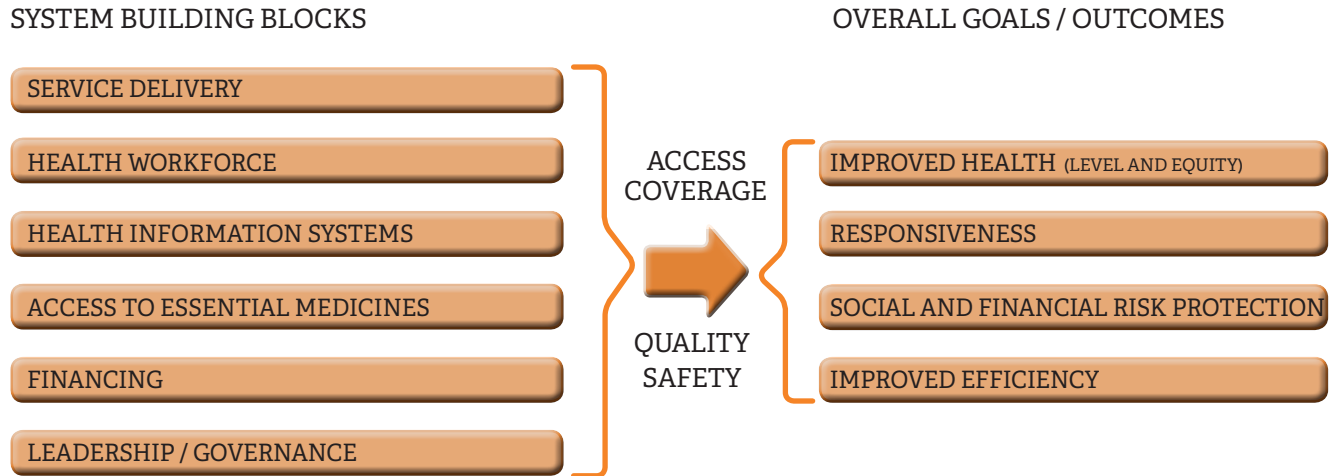Division of Information, Evidence, Research and Innovation
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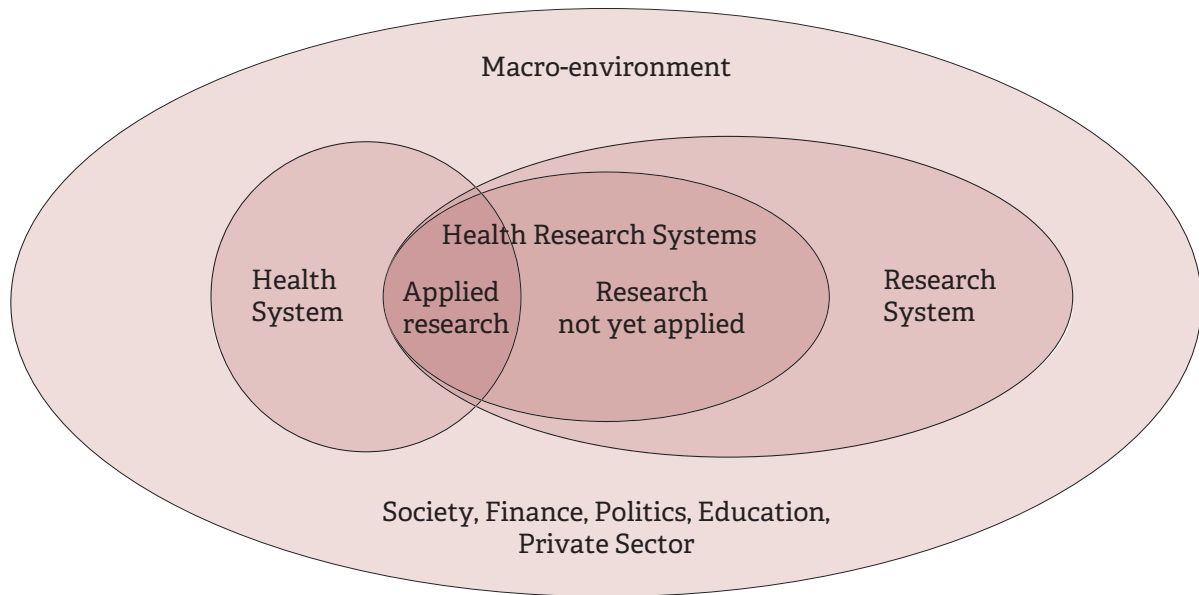
Annex 3. Conceptual frameworks for NHRS

1. Health sector

SYSTEM BUILDING BLOCKS

OVERALL GOALS / OUTCOMES

SERVICE DELIVERY

HEALTH WORKFORCE

HEALTH INFORMATION SYSTEMS

ACCESS TO ESSENTIAL MEDICINES

FINANCING

LEADERSHIP / GOVERNANCE

ACCESS
COVERAGE

QUALITY
SAFETY

IMPROVED HEALTH (LEVEL AND EQUITY)

RESPONSIVENESS

SOCIAL AND FINANCIAL RISK PROTECTION

IMPROVED EFFICIENCY

THE SIX BUILDING BLOCKS OF A HEALTH SYSTEM: AIMS AND DESIRABLE ATTRIBUTES

Source: WHO Western Pacific Region (2010) *(1).*

2. Other sectors

Macro-environment

Health Research Systems

Health
System

Applied
research

Research
not yet applied

Research
System

Society, Finance, Politics, Education,
Private Sector

Source: World Health Organization (2004) *(2).*

3. Research for health
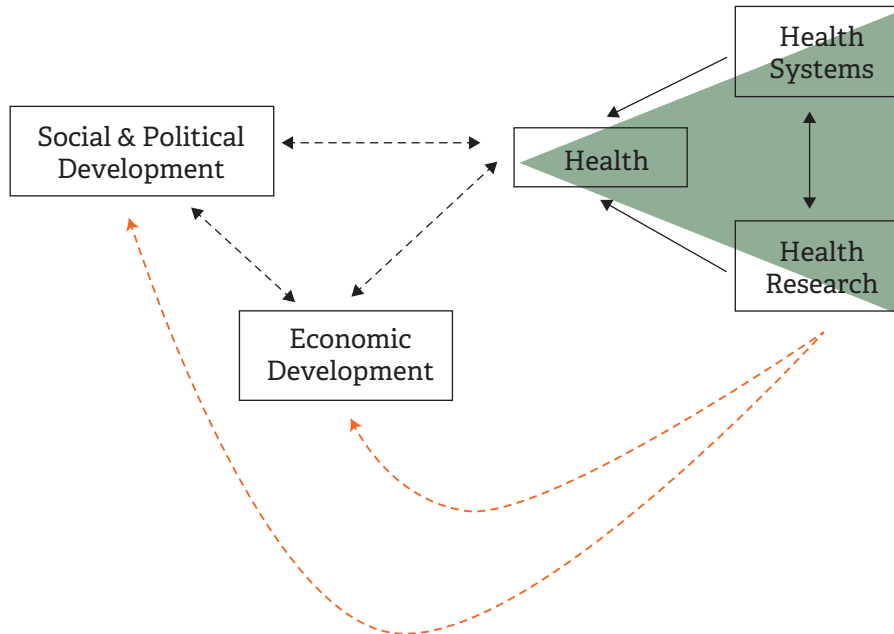

International Research Community

HEALTH SYSTEM

EDUCATION SYSTEM

HEALTH RESEARCH SYSTEM

Geographical factors
Historical context

Political climate
Socioeconomic factors
Cultural influences

SCIENCE AND TECHNOLOGY SYSTEM
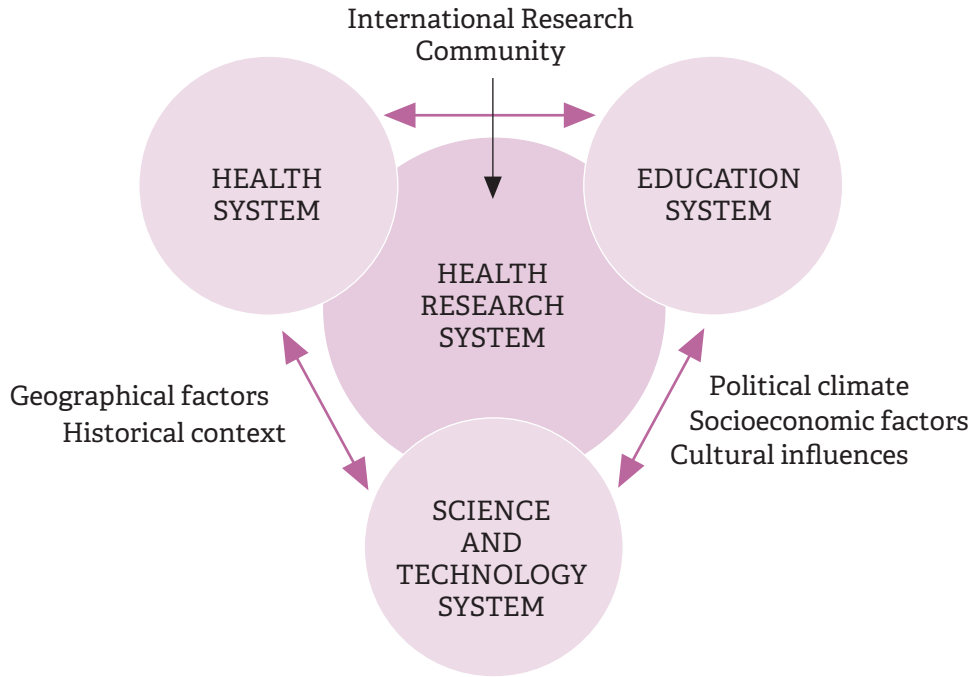
Source: WHO (2001) *(3).*

4. Research and innovation

Health Systems

Social & Political Development

Health

Economic Development

Health Research

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References

(1) Health systems: Key components of a well functioning health system [fact sheet]. Manila: WHO Western Pacific Region; 2010 (http://www.wpro.who.int/mediacentre/factsheets/fs_201005_health_systems/en/, accessed 25 January 2018).

(2) World report on knowledge for better health. Geneva: World Health Organization; 2004 (http://www.who.int/rpc/meetings/en/world_report_on_knowledge_for_better_health2.pdf, accessed 25 January 2018).

(3) National health research systems : report of an international workshop. Geneva: World Health Organization; 2001 (http://www.who.int/rpc/summit/documents/en/national_health_research_systems.pdf, accessed 25 January 2018).

Annex 4. Meeting evaluation

How satisfied are you with	Scores[a]						Average score
	A	B	C	D	E	F	
The overall quality of the meeting	5	5	5	5	5	5	5
Gaining an understanding of proposed actions to implement the Action Plan on Evidence-Informed Policy-making in the WHO European Region	4	4	5	5	4	5	4.5
Gaining an understanding of the systems approach to national health research	4	5	5	5	4	5	4.7
Gaining knowledge of the tools and approaches for assessing NHRS	4	4	5	5	4	4	4.3
Gaining an understanding of the objectives and steps for developing a health research strategy using a systems approach	5	5	5	5	4	4	4.7
Engagement and networking with other meeting participants	4	5	5	4	5	5	4.7
The extent to which the meeting met your expectations	5	5	5	4	5	5	4.8
The quality of presentations and sessions	5	5	5	5		5	5
The quality and facilitation of group discussions	5	4	5	4	5	5	4.7
Overall meeting organization	5	5	5	5	5	5	5
Communication/responsiveness of the WHO Regional Office for Europe	5	5	5	5	5	5	5

Scores: 1 = poor; 2 = fair; 3 = good; 4 = very good; 5 = excellent
[a] Six sets of scores were returned, designated A–F.

Participants most enjoyed about the meeting:
- the ability to speak freely and share personal opinions;
- the opportunity to meet new people and share experiences between countries;
- the content and information on strengthening NHRS provided at the meeting;
- the interactive exercises, including drafting an action plan for the next steps;
- the electronic hand-outs and meeting materials;
- establishing the EHRN;
- adopting the Sofia Declaration; and
- the excellent and informative presentations by WHO and meeting participants.

Technical guidance and resources requested to implement the planned actions towards strengthening NHRS included:
- examples of success stories from other WHO countries in implementing the national health research strategy;
- support from WHO in preparing and communicating with policy-makers;
- assistance with organizing seminars and meetings;
- technical support for bilateral cooperation activities;
- open communication and consultation with WHO when needed;
- provision of WHO resources and information; and
- WHO participation in national meetings.

The WHO Regional
Office for Europe

The World Health Organization (WHO) is a specialized
agency of the United Nations created in 1948 with the
primary responsibility for international health matters
and public health. The WHO Regional Office for Europe
is one of six regional offices throughout the world, each
with its own programme geared to the particular health
conditions of the countries it serves.

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