



Strengthening Health Research Systems in Central Asia

**A system mapping and consultative
process**

Country experiences:

- **Kazakhstan**
- **Kyrgyzstan**
- **Tajikistan**
- **Uzbekistan**

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ISBN

92-9226-015-4

Keywords

Central Asia, health research systems, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Council on Health Research for Development, COHRED, research for health, health research mapping, national health research, health research priorities, health research policy.

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Executive Summary

National health research systems that are effective, efficient, innovative – and in step with practices around the world – are a critical component of modern health systems.

Rather than consisting of isolated actions, system strengthening efforts should be an inclusive process that builds on existing infrastructure, available resources, accepted practices and local culture. To assist Central Asian countries in their efforts to strengthen their health research systems, COHRED has initiated a series of initiatives. This paper reports on two of these.

The first initiative mapped the national health research systems in Kazakhstan, Kyrgyzstan and Uzbekistan (a Tajik health research map was done in another COHRED project). This paper provides a comparative description of the health research systems of these three countries, and a detailed description of each national health research system. Published here for the first time, this information helps facilitate decision making to strengthen the health research systems in the region.

The second initiative is a regional consultation on health research between health research actors from four Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan). System maps were used to discuss challenges and opportunities for health research in the region. Participants shared experiences and discussed common needs and proposed solutions.

The basic requirements of a national health research system are listed below. The maps provide detailed information on these requirements.

1) Political commitment to health research: research is considered fundamental to health care in the region. All the countries have a history of research (established and developed during the Soviet era), structures in place to manage their research, and have made some financial commitments to research.

2) Health research priorities: Kazakhstan, Kyrgyzstan and Uzbekistan have health

research agendas. It is not clear from the information collected what process is used to set the agenda, who is involved, and how frequently the agendas are revised.

3) Health research policy framework: none of the countries has a health research policy framework. Country teams highlighted this gap during the consultation. They consider a policy framework essential to help outline the organisational structure and financing mechanisms for health research. It also supports creation of the conditions for quality research and innovation to flourish.

4) National research management: the countries in the region have similar health research systems. Central government agencies play a key role in setting regulations for the system, and providing funds for research. In addition to the central government agency on research and the Ministry of Health sub-unit on health research, national attestation commissions and leading medical education institutions of each country are key players in Central Asia's health research systems. Precisely how the different mechanisms relate to each other and coordinate the various activities is not clear.

The countries have all the basic requirements of a national health research system. There appears to be general interest in research and basic governance structures exist. At the same time, each country needs to develop a clear health research policy framework and collect further information on human and financial resources to inform strategic plans on staffing, training and research financing mechanisms.

There is great potential for regional cooperation and networking. The similarities in the national health research systems mean that initiatives in one country can be easily adapted for use in others. Despite considerable disparities in economic development, the Central Asian countries are very similar in terms of the development of their national health research systems.

1. Introduction

1.1 Central Asia

Health care and research systems in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan previously formed part of the Soviet medical and research frameworks. Each of the Soviet republics had an identical health research system at republic level that was supervised by a single national framework operating at the Union level in Moscow. In 1991, after the rupture of the Soviet Union, all Central Asian countries became independent and Moscow's supervision of their economies, including health care and health research frameworks, ceased.

This has led to transformations of the health systems in the Central Asian countries, and has included the streamlining of the health care infrastructure and changes in financing and governance. For example, by 2004 the number of hospital beds halved (to 600 beds per 100, 000 population) making them comparable to EU figures (591 beds per 100, 000 population). The physician to population ratio has also decreased over this period from 35 per 10, 000 population in 1990 to 29 in 2004¹.

All Central Asian countries have young populations, with 32.5% of the population under the age of 14, and only 5.2% of the population aged over 65 (2004). Literacy rates are very high in all of the countries of the region, with the regional average standing at 99% (2003)².

With regard to health outcomes, the countries are experiencing a double burden of disease specific to countries in transition. In addition to infectious diseases such as tuberculosis and HIV/AIDS, non-communicable diseases (cardiovascular, respiratory and cancer conditions) represent major public health challenges (2004)³.

Short profile of Central Asian region

Central Asia is a landlocked region of Asia. Although different definitions of Central Asia exist, the most common definition includes five countries that formerly formed part of the Soviet Union – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. They have a combined population of approximately 60 million.

Geographically, Central Asia expands over almost four million square kilometres south of Russia, west of China, north of Afghanistan and Iran and east of the Caucasus and Caspian Sea.

The region lies at the crossroads of the ancient Silk Road that connected east and west for many centuries. The local culture is an amalgam of Turkish and Persian cultures. Conquests of the region by Arabs in the 8th century and Mongols in the 13th century had a significant impact on the local culture both through the introduction of Islam as the dominant religion and assimilation of local and invading ethnicities. Starting in the late 19th century, the region was gradually incorporated into the Russian empire. Following the October Revolution, it became part of the Soviet Union. This defined another turning point in the history of the region.

Since then until the early 1990's the regional politics, economics and social infrastructure was shaped in line with the transformations throughout the Soviet Union, and led to the similar development of all of the countries of the region.

¹ European health for all database www.euro.who.int/hfad, WHO/Europe, June 2006 update

² European health for all database www.euro.who.int/hfad, WHO/Europe, June 2006 update

³ European health for all database www.euro.who.int/hfad, WHO/Europe, June 2006 update

1.2. Health Research and Health Research Systems mapping in Central Asia

Advances in science and technology, combined with political stability and transparency, have helped shape the developed countries into what they are today. Research and access to information on health issues are vital to the well-being of nations and contribute to economic and human development. Many transition economies are well placed to reap the broader benefits of these initiatives.

Although former Soviet countries have made significant progress to align their economic framework with internationally acceptable benchmarks, they have failed to do so in fields that do not yield immediate economic benefits. Health research is one such field; it has drawn insufficient attention over the years despite its place as an important factor for development.

Advanced economies continuously enhance their health research systems to encourage and diffuse innovation, but the countries of Central Asia have not kept pace with this process.

Very little information is available on health research systems in Central Asian countries, so that informed decision- and policy-making about how best to strengthen the systems is difficult. Furthermore, most of the available resources are not specific to health research systems, but cover more general health-related fields. To “catch up” with international trends in health research, specific efforts are needed to facilitate review of the countries’ health research frameworks.

To start filling in this information gap, and to initiate a discussion on how best to strengthen the health research systems in the region, COHRED facilitated a health research mapping project in three countries of the region (Kazakhstan, Kyrgyzstan and Uzbekistan), followed by a regional consultation with participants from four countries (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan). The project aimed to strengthen the health research systems in Central Asian countries by building local interest and capacity in health research systems evaluation and change.

This working paper presents a comparative analysis of the health research systems in the region, and provides detailed national health research maps of three countries.

2. Methods and processes

The project was divided into three parts. (1) National Health Research System (NHRS) maps were prepared for Kazakhstan, Kyrgyzstan and Uzbekistan⁴; (2) a regional consultation involving participants from four Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan) was held in October, 2006 in Almaty; and (3) this working paper was developed.

Based on the maps produced and the consultation meeting, this working paper is meant to facilitate further discussion between

national, regional and international partners on strengthening national health research systems in Central Asia.

2.1. National Health Research System maps

The NHRS maps form the basis of this working paper. An NHRS map template, developed by COHRED and used in other countries and regions, was used as guidance for the mapping processes⁵.

⁴ The national health research map for Tajikistan was developed earlier and is available on the COHRED website (See: *Research for Health in Tajikistan: Strengthening the National Health Research System*. COHRED Record Paper 4, 2006).

⁵ See for more information on the tools used: *Building and strengthening national health research systems. A manager's guide to developing and managing effective health research systems*. COHRED, 2007. (in preparation)

The objectives were:

- The maps would bring together key country level health research system information into a single, publicly accessible document;
- Mapping would facilitate discussion among national stakeholders on gaps, challenges and opportunities for strengthening their health research systems;
- Mapping would facilitate learning among countries within the region. Such regional exchange of information has lessened since the countries became independent.

A two-member team from Kazakhstan and Uzbekistan conducted the work. The team worked closely with a researcher from the Health Policy Analysis Project (Kyrgyzstan) and a COHRED project officer from Tajikistan. COHRED staff based in Geneva (Switzerland) provided technical support for the entire project.

The project started with a briefing of the team in Geneva which allowed for a detailed review and discussion of the NHRS map template, assessment of its applicability to the Central Asian context, and discussion of experiences from other countries/regions where the map has been used.

The map development process was different for each of the three countries and primarily consisted of a review of available data (legislative documents, reports) and open interviews with relevant officials.

On completion of the country maps, the first draft of the working paper was produced and translated into Russian to facilitate feedback from the regional consultation participants. These comments are included in this working paper.

2.2. Regional Consultation

The outcomes of the regional consultation, held in Almaty in October 2006, form the second part of this working paper. The round table was organised jointly by the Kazakhstan School of Public Health and COHRED, and facilitated by the project team. The objectives pursued by the consultation were three-fold:

- To discuss the status of health research in countries of the region and discuss needs, opportunities and mechanisms for strengthening national health research systems;
- To explore opportunities for partnerships and collaboration between countries in the region with international agencies;
- To define possible roles COHRED can play in supporting and strengthening national health research systems and research initiatives in the countries of the region.

The mapping process, and discussions held with national stakeholders, facilitated the identification of key people to be invited to the consultation. Participants included policy makers from the ministries of health and representatives from medical and public health institutions (see Annex 1 for a list of participants). The consultative meeting was scheduled at the time the COHRED board held its annual meeting in Almaty, facilitating international networking and exchange of experiences beyond the region. Annex 2 provides the agenda of the consultation.

3. National health research systems in Central Asia

This section of the paper provides a comparative description of the national health research systems (NHRSs) in three Central Asian countries (Kazakhstan, Kyrgyzstan and Uzbekistan) based on NHRS maps produced for these countries. It is followed by detailed maps of each of these countries⁶.

3.1. NHRSs in Central Asia – a three-country perspective

The content of this section is based on information from the maps (which are presented in full in sections 3.2. – 3.4) and provides a comparison of the NHRSs with regard to key research system elements including governance of health research systems; health and health research policies and priorities; communication/dissemination and utilisation of research; and routine health information systems.

3.1.1 NHRS Governance

The central government is a major stakeholder in the NHRS in each of the countries. The state provides research funding through a centrally earmarked budget. Each of the countries has a central government organisation that performs a governing function. In Kazakhstan, this function is performed by the Higher Science Commission (led by the Prime Minister) and the Scientific Committee of the Ministry of Education and Science; in Kyrgyzstan, it is performed by the State Committee on Science of the Ministry of Education and Science; and in Uzbekistan by the Committee on Science and Technology Development within the

Cabinet of Ministers. In Kazakhstan and Kyrgyzstan the science committees within the Ministry of Education have a dedicated person working on health research related issues. In

Uzbekistan, the science committee under the Cabinet of Ministers has two health officials representing the health sector.

Research is considered fundamental to health care in the region. All Ministries of Health have special health research departments and a health research degree is required for most policy and decision-making positions. The Medical Science Council of the Ministry of Health in Kyrgyzstan has a primarily technical function since financial matters are dealt with by the State Committee on Science. In Uzbekistan, the day-to-day management of health research is the responsibility of the Unit of Health Research Coordination within the Ministry of Health. The Kazakh Ministry of Health has a Department of Medical Education, Research and International Collaboration, which is responsible for defining priorities in research, conducting applied research and financing research programs.

Ministries of Finance in the region tend not to have a special department for health research. Health research funding is dealt with by departments on social issues. In Uzbekistan, it is handled by a Department for Financing Social Affairs and Sciences, while in Kyrgyzstan it falls under the Social Expenditures Policies Division.

In addition, in all three countries, national attestation commissions set standards and benchmarks for the quality of research conducted for scientific degrees and they are becoming important entities in the governance of national research systems.

Research funded outside the state budget does not have unified standards or governance structures because these are set up by the funding agencies and institutions themselves.

Although there are some developments towards incorporating an ethical framework into health research regionally, and there is some international interest in supporting ethics initiatives, overall ethics in health research is still in its early stages in the three countries.

⁶ The NHRS map of Tajikistan is provided in a separate document (see footnote 1) – the analysis in this paper is based on three countries only, as the Tajik mapping followed a slightly different approach and was therefore not entirely comparable with the data collected for Kazakhstan, Kyrgyzstan and Uzbekistan. Input from Tajikistan was received during the regional consultation and is included in section 4 (regional consultation).

Table 1 Overview of main structures for health research governance

	Kazakhstan	Kyrgyzstan	Uzbekistan
Central government level	Higher Science Commission (headed by Prime Minister)	State Committee on Science (Ministry of Education and Science)	Committee on Science and Technology Development (within Cabinet of Ministers)
Ministry of health level	Scientific Council and Department of Medical Education, Research and International Collaboration	Medical Science Council	Unit of Health Research Coordination

3.1.2 Health and Health Research Policies and Priorities

Currently, none of the countries has legislation dealing specifically with health research. Although specific health research policy documents are not available for Kyrgyzstan and Uzbekistan, issues related to health research are covered in other documents on science or health care. In Kyrgyzstan and Uzbekistan, general research-related documents⁷ indicate that the research system should aim to facilitate scientific-technological progress; align scientific potential with government priorities; contribute to the nation’s economic-social development; and raise research efficiency, effectiveness, quality and utilisation of research outputs in the country. Kazakhstan has developed a draft concept (still to be approved and adopted) for reforming medical sciences. One of the main aims of the suggested reform is to modernise medical science through the implementation of innovative management that raises the quality of national research to come more in line with international research standards. While this aspiration to raise locally conducted research to international standards is shared by all three countries, Kazakhstan states it most explicitly.

Health priorities are formulated in Kyrgyzstan and Kazakhstan. In Kyrgyzstan the National Health Sector Reform program has defined five health sector reform aims, as well as five priority health conditions. In Kazakhstan the State Program on Health Care Reform defined thirteen conditions and disease groupings as health priorities. For both Kyrgyzstan and Kazakhstan the process that was used to define the priorities is not clear. No active list of health priorities was available for Uzbekistan.

Although only two of the three countries have an agenda for health, all three countries do have an agenda for health research. Again, the process followed to define these priorities is not clear. In addition, the priority areas tend to be wide in scope, covering whole medical fields (eg. paediatrics, social conditions) without attempting to define more narrow areas for priority research.

⁷ For details of references see sections 3.3. and 3.4

Table 2 Existence of (health) research legislation and priorities

	Kazakhstan	Kyrgyzstan	Uzbekistan
research legislation	Scientific Act (2001)	Law on Science (in development)	not available
health research legislation	draft Concept of Reforming Medical Sciences (to be adopted)	not available, general research strategy documents address also health research	not available, general research strategy documents address also health research
health priorities	Defined in State Program on Health Care Reform	Defined in National Health Sector Reform Program	Defined in National Public Health Strategy (in development)
health research priorities	Defined by Scientific Council, Ministry of Health (2006)	Defined in report of State Agency on Science and Intellectual Property (2005)	Defined by Ministry of Health

3.1.3 Communication, Dissemination and Utilisation of Research

Regionally, there are no planned mechanisms to regularly disseminate research findings to the relevant stakeholders. However, isolated attempts to disseminate information are occurring in each of the three countries, exemplified by the launch of evidence-based medicine centres and schools of public health.

In Kyrgyzstan and Uzbekistan there are no specific mechanisms or frameworks to ensure that policymakers are regularly informed of advances in health services and medical research. Whether and how policymakers keep up to date with recent advances in health services and medicine depends upon their personal decisions and opportunities. Participation in professional meetings (seminars, conferences) and self-learning are the approaches most commonly adopted by policymakers who wish to stay informed. In Kazakhstan, the recently re-organized Institute of Health Care Development aims to regularly inform policy makers of health services and medical advances. This institute also conducts impact evaluations of health policies that focus primarily on health status. The reports of the evaluations are delivered to relevant departments of the Ministry of Health. However, how this influences the policy/decision-making loop is not clear.

Challenges to effective dissemination of research findings occur with both passive and active approaches. Passive dissemination

involves frameworks that make local and international research findings accessible to the public and health professionals. These frameworks comprise a network of medical libraries that maintain updated registries of locally produced research and provide access to internationally produced research through medical periodicals. The local journals in Central Asia usually depend for their financing on the authors of the articles. This constitutes a conflict of interest, resulting in poor quality articles being published. While rapidly increasing internet access makes international research outcomes more and more accessible to the public, language and search skills remain major barriers both for the public and health professionals.

There is no apparent framework in the region that actively disseminates research findings (both local and international) to the public. Generally, in Central Asian countries, the media does not play a major role in shaping the research agenda or in disseminating research outputs to the public. Health related media is mostly oriented towards expert opinions rather than presenting and interpreting research outputs directly to the public.

3.1.4 Routine Health Information Systems

Health-related data collection systems in the three Central Asian countries are built around data collection schemes used during the Soviet Union period. Currently, three major data

collection systems are observed in all three countries:

1) The state statistical agency in each country pools selected health related information such as mortality and morbidity related data through its regional and district branches.

2) The second system involves the Ministries of Health and is divided into two data collection components. The information centre at the national level collects data through its regional and district branches. The responsible agencies are the Institute of Health in Uzbekistan, MedInform in Kazakhstan, and the Republican Medical Information Centre in Kyrgyzstan. All three institutions perform similar functions. The second component is the state sanitary epidemiology (SES) system, where data related to infectious conditions is pooled. Although both data collection functions are performed through the Ministry of Health, these two components tend to be independent from each other and the information they gather is generally pooled only at the national level. With regard to the private health sector, in Kyrgyzstan the data is collected by regional information centres and passed on to national level, but in Uzbekistan the private sector is left out of the Ministry of Health data collection mechanisms. There was no available information on Kazakhstan at the time of writing.

3) The third data collection system is the program-specific mechanism, where major health programs and projects (for example on HIV/AIDS or tuberculosis) develop their own data collection systems. The extent to which program-specific mechanisms merge with official collection mechanisms varies among countries and programs.

In addition to the above, Uzbekistan and Kyrgyzstan seem to have separate data collection systems in place for parallel health systems employed by the National Security Services, the military and some other large state agencies and enterprises.

All of the mechanisms described above tend to be independent from each other. Actual data collected varies among countries and is defined by the respective agencies.

3.2. Kazakh Health Research System Map

3.2.1. Governance of the Health Research System

The governance of health research in Kazakhstan takes place at several levels (see also figure 1):

Governmental (national)

The Higher Scientific Technical Commission (HSTC) acts directly under the Government of the Republic of Kazakhstan. Since 2006, the Prime Minister has been head of the Commission. The HSTC is an advisory body, which defines state priorities for development of fundamental and applied research, and develops recommendations for forming and improving governmental scientific policies. The Commission reports to the President about all developments in science and technology once every three years. An International Council of Experts (ICE) will be created in 2007 at the HSTC. The mission of ICE will be to analyse world trends in science and capacity for research.

Intra-sectoral

In July 2006, a Scientific Committee was created at the Ministry of Education and Science. The Scientific Committee (SC) should become the administrator for all studies, including fundamental sciences programs at the state level. The SC is an executive part of the HSTC. A step-by-step transition is foreseen, moving financing of all studies conducted by different ministries through the SC by 2010. The Ministry of Education and Science also plays a role in the provision of scientific and technical expertise to scientific programs, and in the accreditation and attestation of research organisations. The Committee on Attestation and Supervision of Human Resources in Science plays an active role in the process of research quality assurance and has defined requirements for thesis and dissertations in scientific degrees. These roles are defined in the Scientific Act (9 July 2001, № 225-II, www.zakon.kz).

Sectoral

The Ministry of Health provides scientific and medical expertise to programs, defines

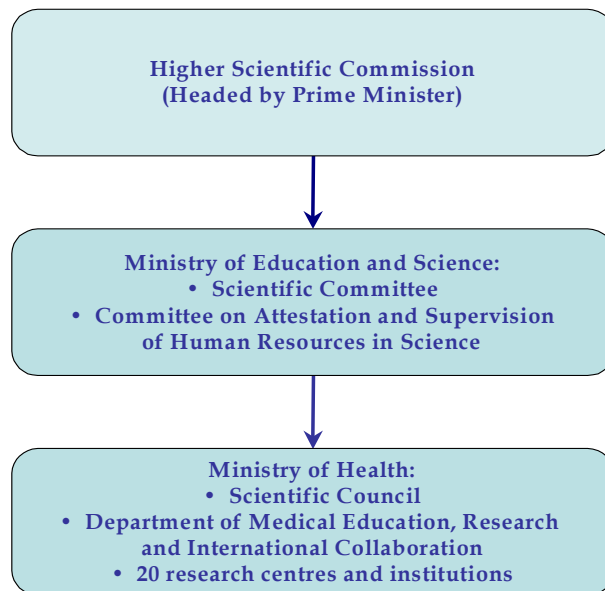
priorities for research, conducts applied studies, and finances research programs. The Ministry of Health is the main administrator of the program “Applied Health Research”. The Ministry of Health has a Department of Medical Education, Research, and International Collaboration.

Twenty research organisations (14 centres and 6 institutes) function under the Ministry of Health. Fifteen of these organisations are situated in Almaty. They provide highly specialised medical care for the population and are leading specialised medical organisations. They coordinate scientific, technical, diagnostic and treatment, preventive, and advisory work in specific areas. Substantial scientific capacity is concentrated at the five State medical academies: the Kazakh National Medical University, a non-governmental Kazakh

Medical University, a department of the university in Ust-Kamenogorsk city, the Kazakhstan School of Public Health, and the Almaty Institution of postgraduate medical education.

The Ministry of Health monitors and evaluates its programs on the basis of quarterly and annual reports submitted by contractors. After completing a program, the contracted organisation is supposed to present a final report to the Ministry of Health. The report is sent to the Scientific Committee of the Ministry of Education and Science. In addition, all governmental programs must be registered at the Kazakh State Centre of Scientific and Technical Information (KSCSTI). Submission of interim and final reports to this centre is also required.

Figure 1: Overview of the health research governance structure in Kazakhstan



3.2.2. Health and Health Research Policies and Priorities

In 2001, Kazakhstan adopted a Scientific Act. Building on this Act, the State Program of Science Development (2007-2012), developed by the Ministry of Education and Science, was presented to the Government. This Program has yet to be adopted. In addition to the State Program of Science Development, a State Program on Health Care Reform in the Republic of Kazakhstan for 2005-2010, was developed and approved by the President of the Republic of Kazakhstan on September 13, 2004 (Order # 1438). The latter includes a section on medical science and education.

Besides the above acts and programs, Kazakhstan developed the draft Concept of Reforming of Medical Science till 2010. One of the main objectives in this Concept is enhancing the competitive ability and quality of national research to international standards. To implement this aim, the following strategies are defined:

- Creating a supportive environment for the development of medical science through improvement of co-ordination and research management;
- Increasing research effectiveness through introduction of modern management in medical organisations;
- Integration of science, practical health care, and professional education;
- Assessing whether the quality of national research adheres to international standards.

In 2004, the Pharmaceutical Act (from 13.02.2004) and Additional Instructions, particularly instructions for the work of ethical commissions and ethical reviews of clinical trials, were approved in Kazakhstan. This facilitated the creation of an environment for developing networks of local ethics commissions, which should provide safety for patients and protection of patients' rights, freedom, dignity, and health during clinical trials. An Ethics Commission was established under the Government alongside with local committees within research institutes, universities, and research centres.

The State Program on Health Care Reform defines the following health priorities:

- Respiratory diseases
- Injuries and poisonings
- Urinary diseases
- Skin diseases
- Gastro-intestinal diseases
- Eye diseases
- Infectious diseases
- Psychological and narcological diseases
- Diabetes
- Pulmonary, cardio-vascular diseases
- Tuberculosis
- STI, including HIV/AIDS
- Cancer

At its meeting of 25 January 2006, The Scientific Council of the Ministry of Health, approved the following list of health research priorities:

- Essentials to improve management in health care;
- Development and improvement of diagnostics, treatment and preventive technologies to protect mother-and-child health;
- Development and improvement of prevention, diagnostics, treatment, and rehabilitation of lifestyle diseases;
- Evidence-based improvement of hygienic, epidemiological monitoring, surveillance, and prevention of incidence in the Republic of Kazakhstan;
- Development of innovative technologies in health care.

3.2.3. Communication, Dissemination and Utilisation of Research

At the moment the phase of research utilisation is insufficiently financed, and research often has no orientation towards the economic needs of the society. In the Concept of Reforming of Medical Science several strategies and objectives are defined that address this issue:

- Facilitate interaction between research entities (health research institutes and health research centres) and the health care system to facilitate implementation of research based

- program designs and newest achievements in medical sciences;
- Provide software and informational maintenance to support the research process;
- Make financial provision for the implementation of achievements and results;
- Involve practitioners in research work;
- Introduce technologies and methods that are based on principles of evidence-based medicine.

(SES). General statistical data include health data on morbidity and mortality, and are published yearly.

The Institute of Health Care Development directly informs the Ministry of Health about the latest achievements of science in the world. In 2006, the Scientific Centre of Economical and Medical Problems was re-organised and re-named in Institute of Health Care Development (IHCD). One of the aims of the Institute is to conduct relevant studies and closely collaborate with the Ministry of Health to keep it informed of new developments.

The following organisations evaluate the impact of health care policy on health status of the population: IHCD, the Kazakhstan School of Public Health, and the National Centre on Healthy Lifestyle Development. Derived data are analysed by the relevant departments of the Ministry of Health (Department of Education, Science, and International Collaboration, Department of Curative and Preventive Work) and reported to the Vice-minister.

Two newspapers (“News in Public Health”, “Pharmaceutical Herald”) are used for reporting on health and health research issues.

3.2.4. Routine Health Information Systems

Official health and health care statistical data are collected and analysed by the Governmental Statistical Committee and “Medinform” which works under the Ministry of Health. Health care departments in each oblast⁸ have informational and analytical centres where all statistical forms about the health status of the population are sent by medical organisations. For infectious diseases, reports are sent to the governmental agency for sanitarian and epidemiological surveillance

⁸ Subdivision of a republic of the former Soviet Union

3.2.5 List of Institutions Engaged in Health Research

Institution	Commission	Conduct
(a) Government departments and agencies		
Ministry of Finance	Yes	No
Ministry of Education and Science	Yes	Yes
Ministry of Health	Yes	Yes
Ministry of Industry		Yes
Ministry of Defence		Yes
(b) Health care system		
Republic Research and Clinical Center "Stomatology"		Yes
Republic Research and Practical Center on Psychiatry, Psychotherapy and Narcology		Yes
National Medical Research Centre		Yes
Research and Practical Center of Medical and Social Problems of Narcomania (drug abuse)		Yes
National Centre of Hygiene of Work and Occupational Diseases		Yes
National Center of Healthy Lifestyle Development		Yes
Republic Research Centre of Child and Mother' Health Protection		Yes
Republic Research Centre of Quarantinic and Zoonotic Infections (named after Masgut Aikimbayev)		Yes
Republic Research Centre of Pediatrics and Children's Surgery		Yes
National Center of Tuberculosis Problem		Yes
Research Institute of Cardiology and Internal Diseases		Yes
Kazakh Research Institute of Eye Diseases		Yes
Research Institute of Dermatovenerologic Diseases		Yes
Republic Research Centre for Surgery (named after Sizganov)		Yes
Republic Research Centre of Hygiene and Epidemiology		Yes
Institute of Health Care Development		Yes
Republic Research Centre of Urology (named after Acad. B. O. Jarbusynov)		Yes
Research Institute of Traumatology and Orthopedics		Yes
Research Institute of Radiology' Medicine and Ecology (Semipalatinsk city)		Yes
Kazakh Research Institute of Oncology and Radiology		Yes
Kazakhstan School of Public Health		Yes
Almaty Postgraduate Medical Institution		Yes
(c) Higher education and (national) research institutes / laboratories		
Kazakh National Medical University named after S.D. Asfendiyarov		Yes
Western Kazakh State Medical Academy		Yes
Karaganda State Medical Academy		Yes
Kazakh State Medical Academy in Astana		Yes
Semipalatinsk State Medical Academy		Yes
South Kazakh State Medical Academy		Yes
(d) Private non-profit organisations involved in research for health		
Central Asian Centre on Health Research for Development		Yes
Medical Consulting Group		Yes
(e) Business enterprise or industry (Private for-profit)		
Biotechnology companies (no detailed information available)		Yes
(f) International research and development sponsors or partners involved in research for health		
CDC Regional office for Central Asia	Yes	Yes
UNICEF Regional office for Central Asia		Yes
UNESCO Cluster office for Central Asia		Yes
World Bank		Yes
(g) Any other institutions / commissions / structures / councils / networks / fora		
National Association of Young Researchers		Yes

Further Readings: Akanov A. Approaches and Principles of Reforming and Development of Medical Science in Kazakhstan. Astana-Almaty, 2005; Akanov A. Medical Science in current conditions. Astana-Almaty, 2005; Status and perspectives of science and technologies development in Kazakhstan. Report prepared by National Centre of Scientific Information, Ministry of Science and Education

of PK, National Academy of Science of USA. Audit materials. 2006 www.naukazar.kz

3.3. Kyrgyz Health Research System Map

3.3.1. Governance of the Health Research System

The NHRS in Kyrgyzstan constitutes part of the overall national research framework and follows general regulations pertaining to the national research system. The health research system consists of three major components that, for the most part, act independently of one another. These components are:

- Research framework linked to state research funding, including the State Committee on Science within the Ministry of Education and Science; and the Medical Science Council within the Ministry of Health;
- The National Attestation Commission (NAK);
- Independent researchers and institutions.

For state funded research, there is a clear governance structure that involves the State Committee on Science of the Ministry of Education and Science and the Medical Science Council of the Ministry of Health. The Ministry of Education and Science is the primary implementing state agency responsible for the management of earmarked state research funding. The State Committee on Science is the fund holder and the final decision maker in grant allocation. The Committee⁹ reviews applications, and, jointly with the Ministry of Finance, makes decisions on funding of research initiatives (based upon the conclusions/recommendations of an expert panel)¹⁰.

The Medical Science Council at the Ministry of Health¹¹ is the agency involved in day-to-day management of the health research conducted within the public medical institutions. The Medical Science Council facilitates the

application process for the state research funding; coordinates the institutional research in the public health sector, and conducts technical review of new research proposals. The Council's involvement is primarily technical, as all financial elements are in the realm of either the State Committee on Science or other funding agencies/institutions. The Council coordinates its functions with the State Committee on Science and with public medical institutions.

Although there is no designated official on health research at the Ministry of Finance, a special department –the Social Expenditures Policies Division– is responsible for the social sector that includes both public health sector and overall research. The division consists of two sub-divisions: Health Sector and Social Protection, and Education, Science and Culture. The Department is directly accountable to the Deputy Minister of Finance.

There are no specific regulations with regard to research financed outside state government funding. Irrespective of the financing source, however, research used to obtain a degree must meet special rules and regulations set by a special governmental agency –the National Attestation Commission.

The National Attestation Commission (NAK)^{12,13}:

- Develops frameworks to improve and implement the unified state policies on attestation of research and academic cadre, and controls implementation of the policies;
- Forms and regulates the specialty dissertation commissions;
- Initiates and coordinates draft laws and regulatory acts related to attestation and training of scientists and academic cadre;
- Sets requirements for dissertations seeking research degrees; sets

⁹ Framework for the financing of research, technology and innovative initiatives from the national budget, approved by the Government of Kyrgyzstan on August 6, 1999 # 429

¹⁰ A detailed description of other responsibilities and roles were not available for this study, due to pending changes in the national research funding framework. Personal correspondence with Ms. Nagaeva, State Committee on Science, Ministry of Education

¹¹ Contact details: Head of Council, 1 T. Moldo str., Bishkek, Kyrgyz Republic 720045, tel: 996 612 901690

¹² Framework for the National Attestation Commission of the Kyrgyz Republic, approved by the President of Kyrgyz Republic March 14, 2006 #115

¹³ Bulletin #1, National Attestation Committee, Kyrgyz Republic, January 2006

- requirements for assigning research degrees and academic titles;
- Reviews the defended dissertations;
- Sets the list of acceptable academic periodicals for the publications of doctoral research results;
- Sets the requirements for the accreditation of academic and research institutions that grant doctoral degrees;
- Grants research degrees and academic titles to researchers and academic staff;
- Improves the training and attestation frameworks for researchers and academic staff;
- Controls the quality of the activities of the special dissertation commissions and dissertations;
- Initiates and guides the process for acceptance of foreign research degrees.

NAK is accountable to the President and is represented by the leading experts in the areas of science, technology, education and culture. The composition of the Commission needs to be approved by the President upon nomination by the Presidential Apparatus and must be renewed every three years by at least one third. Meetings of the NAK should be conducted at least two times a year. The board of the NAK is headed by the chairman and consists of 16 members. A number of expert commissions function under the NAK. The expert commissions review the dissertations submitted in their respective fields and grant degrees.

Responsibilities and roles of institutions and independent researchers outside the state funded and degree seeking research frameworks vary significantly depending upon institutional and individual arrangements. One organisation that can potentially play a major role in health research is the Mandatory Health Insurance Fund. This organisation commissions a number of studies for its own use. This research could easily be expanded, giving the organisation the potential to become a major health research funder in the Kyrgyz health context.

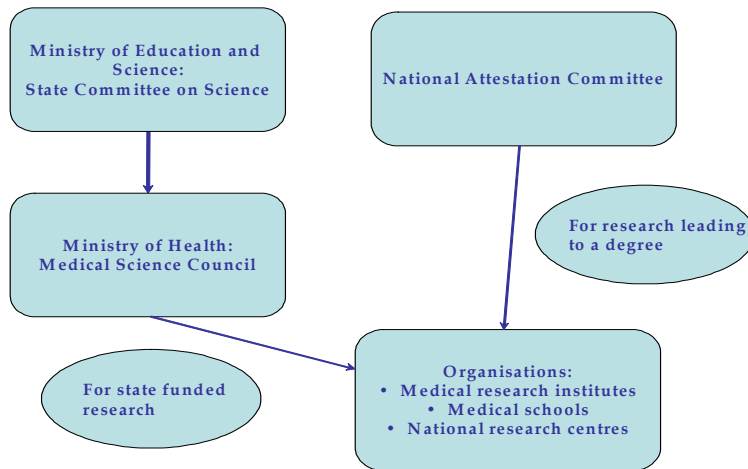
Although independent, together the three components of the Kyrgyz health research system comprise the core of the system as a whole. Regular reports on science by the Ministry of Education and Science, and

bulletins by the State Agency on Science and Intellectual Property and the NAK represent the evaluation format generally used by the agencies. For detailed examples see the "Report on activities in the area of science, techniques and new technologies, 2004" or the annual Bulletin series by the National Attestation Committee of Kyrgyz Republic^{14,15}.

¹⁴ Bulletin series, National Attestation Committee, Kyrgyz Republic

¹⁵ Report on activities in the area of science, techniques and new technologies, 2004. State Agency on Science and Intellectual Property, Government of Kyrgyz Republic, Bishkek 2005

Figure 2: Overview of the health research governance structure in Kyrgyzstan



3.3.2. Health and Health Research Policies and Priorities

National Health Priorities in Kyrgyzstan are reflected in the National Health Sector Reform Programme “Manas Taalimi 2006-2010”¹⁶. Health priorities were formulated in the form of reform aims/objectives and priority health conditions.

The following reform aims and objectives are stated:

- Raising equity and accessibility of health services;
- Reducing the financial burden to the population (for accessing/using the health services);
- Raising the efficiency of the health delivery system;
- Improving the quality of care;
- Improving the responsiveness and transparency of the system.

The following priority health conditions are stated:

- Maternal and child health;
- Tuberculosis;

- Respiratory conditions;
- Cardiovascular conditions and their complications;
- HIV/AIDS.

No specific document dedicated to national health research priorities could be found at the time of preparation of this working paper. The annual report on science by the State Agency on Science and Intellectual Property, however, lists ten priority areas and directions for health research¹⁷:

- Development and implementation into clinical practice of effective methods of diagnostics, treatment and prevention of socially significant cardiovascular conditions in Kyrgyz Republic;
- Study of mechanisms (inclusive of molecular level) of adaptation of healthy and ill individuals to conditions of hypoxia;
- Improvement of the methods of early diagnostics, treatment and prevention of internal diseases;
- Improvement of the quality of surgical care delivered to the population of Kyrgyz Republic. Implementation of

¹⁶ Manas Taalimi National Health Care Reform Program of the Kyrgyz Republic 2006-2010 - Executive Brief

¹⁷ Report on activities in the area of science, techniques and new technologies, 2004. State Agency on Science and Intellectual Property, Government of Kyrgyz Republic, Bishkek 2005

- endoscopic and less invasive surgical procedures in regions;
- Safe motherhood and childhood;
- Epidemiology, prevention and early diagnosis of malignant tumors;
- Social-hygienic monitoring;
- Recreational resources in Kyrgyz Republic: current state, development prospects;
- Holistic rehabilitation of patients and disabled with socially significant conditions;
- Current clinical and epidemiological features of tuberculosis and improvement of tuberculosis related activities.

This priority list is used as one of the criteria in the selection process for the state research grants. Through its Medical Science Council, the Ministry of Health gets involved in the processes of state research grant allocation. All research proposals are initially submitted to and reviewed by the Medical Science Council. Applicants are required to address the comments made by the Medical Science Council prior to final submission to the State Committee on Science.

Priority setting is a practice in some organisations that do not seek state funding for studies. The Health Policy Analysis Unit is a good example of such an organisation. The Unit defines its priority studies for the year in close collaboration with the Ministry of Health. In 2007, 13 studies were included in the work plan. Information regarding the process followed to define these priorities and how the national health priorities influence the Unit's health research priorities was not available.

The Kyrgyz Republic lacks legislation that deals with health research specifically. However, there are some efforts underway to develop a new Law on Science. In addition, the State Program on Science¹⁸, provides guidance for the national research system in Kyrgyzstan, which should become one of the key resources/tools for the economic and moral development of the country. In addition, the research system should aim to facilitate scientific-technological progress, align

¹⁸ State Program on Reforming Science in Kyrgyz Republic in 2003-2005, approved by Kyrgyz Government March 19, 2003 #144

scientific potential with government priorities, and raise research efficiency, effectiveness, quality and utilisation of research outputs in the country.

In recent years, there has been an increased focus on ethics, ethics codes and ethical standards in research in Kyrgyzstan. Ethical committees are in place at the Ministry of Health and the Kyrgyz State Medical Academy. The Ministry of Health established a Committee on Ethics of Clinical Investigations and Clinical Pharmacology in 1998. The committee has 13 members representing various stakeholders including health practitioners, researchers, workers union, and lawyers. A similar committee has been established in 2004 within the Kyrgyz Medical Academy with the support of American International Health Alliance. There are also some efforts to incorporate courses on bioethics into the medical curriculum.

3.3.3. Health Research Financing

In 2004, the equivalent of \$600,000 was allocated for research and technology projects of which 39.9% were allocated for medical sciences¹⁹. Funds allocated for science represent 0.12% of GDP²⁰.

In 2004, 15 medical research institutions conducted 84 projects totalling approximately \$280,000. In 2005, 17 medical research institutions were involved in 97 projects. In 2005, earmarked medical research funding accounted for 38.6% of total national research funding²¹.

Overall research funding has been decreasing since the end of the Soviet Union. Total research funding in 2004 constituted almost 25% of allocated research funding in 1990. In 1990, allocations into research accounted for 0.7% of a national budget, while over the last

¹⁹ Report on activities in the area of science, techniques and new technologies, 2004. State Agency on Science and Intellectual Property, Government of Kyrgyz Republic, Bishkek 2005

²⁰ Meeting with Ms. Nagaeva, State Committee on Science, Ministry of Education and Science

²¹ Report on activities in the area of science, techniques and new technologies, 2004. State Agency on Science and Intellectual Property, Government of Kyrgyz Republic, Bishkek 2005

decade this percentage has steadily decreased to reach 0.17% in 2004. Moreover, almost 95% of research funding tends to go for salary related items (salary, social fund payments and stipends).

3.3.4. Communication, Dissemination and Utilisation of Research

Attempts to increase the utilisation of research by different stakeholders, particularly by policy makers and practitioners may be divided into a) structured and regular; and b) isolated unstructured efforts with no specific aim to increase the utilisation of the research results.

Currently, there is no framework/mechanism within the public sector designed to regularly inform health policy and decision makers with quality evidence and decision support. The use of international medical advances and the extent and mechanisms for utilisation of such information vary widely among policy makers, and depend upon individual personality rather than on the frameworks in place. Nonetheless, efforts to develop sustainable public sector frameworks that would serve to address policy makers' and practitioners' needs for evidence and decision support do exist.

The Center for Health System Development is a good example. The Center incorporates departments that are well placed to serve practitioners and policy/decision making community. It has a modern information resource unit with a medical library and facilities for accessing international electronic databases. Units of Evidence Based Medicine and Health Policy Analysis produce reports and clinical guidelines.

No specific position or department is set to evaluate the impact of new government health policies or interventions. However, elements of impact evaluations are incorporated into the products of the Health Policy Analysis Project and of international agencies active in the health sector.

In addition, there are many national and regional conferences on various topics that, in addition to providing opportunities for networking and exchange of ideas, often

produce information for practitioners and policy/decision makers. These events do not, however, specifically target policy makers, aim at producing decision support information, or evaluate effects upon practice or policy/decision making.

A number of television shows and newspaper columns are dedicated to health issues; however, they rarely if ever use research outputs as guidance or core information, and most of the content is based on expert opinion (interviews with clinical specialists) or references to other popular media.

3.3.5. Routine Health Information Systems

Kyrgyzstan inherited, from the Soviet Union, a comprehensive data collection system built for central planning and control purposes. The system has undergone a number of changes since the end of the Soviet Union. Currently, the system used by the Ministry of Health can be divided into three hierarchical levels²²:

- National level: at the National level data is pooled by the Republican Medical Information Center (RMIC). The RMIC pools data from its regional branches, Ministry of Health departments, Republican level health care organisations and health care organisations of two major cities (Bishkek and Osh). A total of 37 statistical forms are pooled by the RMIC.
- Regional level: at the regional level two entities are responsible for the pooling of health data: regional medical information centres and regional Sanitary Epidemiology Control (SES) departments. A regional medical information centre pools data from regional united hospitals, regional level health care organisations, sanatoria, private health care providers and regional family medicine centres. The regional SES department pools the data from the city and district SES departments.

²² Alisher Ibraimov, Health Policy Analysis Project: Information flows in health sector. 2005

Information from the regional level is passed on to the national level.

- Local level: Territorial hospitals and family medicine centres collect data at the local level. Data related to infectious conditions, immunisations etc. are collected by city and district SES departments. All entities involved in local data pooling pass data on to relevant regional level entities.

In addition to the system of the Ministry of Health, the following data collection paths are also characteristic of Kyrgyzstan:

- Program specific: major vertical national/international programs develop their own data collection system that may or may not be pooled into the Ministry of Health system;
- State Statistics System: the National Statistics Committee requires separate reporting on selected health data through its regional and district branches. This data collection system

covers indicators on mortality, births and logistics;

- Parallel health systems: The National Security Service maintains a parallel health system; the Ministry of Internal Affairs and other ministries or companies use a separate reporting system for their facilities.

All these mechanisms are independent from each other. The extent of coordination among the mechanisms is not clear. Institutions/units responsible for the data collection in each of the mechanisms produce regular reports, most of which are not readily available to the public. These data and reports tend to be heavily quantitative in nature.

A number of internationally funded surveys that aimed to capture the gaps in existing data collection systems were carried out. The Demographic and Health Survey of 1997 is a good example of such large-scale surveys.

3.3.6. List of Institutions Engaged in Health Research

Institution	Commission	Conduct
(a) Government departments and agencies		
Ministry of Health	Yes	No
Mandatory Health Insurance Fund	Yes	Yes
Ministry of Education, Committee on science	Yes	Yes
State Agency on Science and Intellectual Ownership	Yes	Yes
(b) Health care system		
Center for Health System Development	Yes	Yes
National Centre of Tuberculosis	Yes	Yes
Scientific Research Institute of Balneology and Rehabilitation	Yes	Yes
National Centre of Surgery	Yes	Yes
National Centre of Oncology	Yes	Yes
Kyrgyz Scientific Centre of Human Reproduction	Yes	Yes
National of Cardiology and Therapy	Yes	Yes
Kyrgyz Scientific Center of Hematology	Yes	Yes
Scientific research institute of heart surgery and organ transplantation at National Centre of Cardiology and Therapy	Yes	Yes
Republican Blood Centre	Yes	Yes
National Centre of Pediatric and Child Surgery	Yes	Yes
(c) Higher education and (national) research institutes / laboratories		
Kyrgyz State Medical Academy	Yes	Yes
Kyrgyz State Medical Institute on Continuing Medical Education	Yes	Yes
(d) Private non-profit organisations involved in research for health		
NGO "Preventive Medicine"	Yes	Yes
NGO Hospital Association	Yes	Yes
NGO Family Group Practitioners Association	Yes	Yes
NGO Socium Econic	Yes	Yes
(e) Business enterprise or industry (Private for-profit)		
"Socium Consult"	Yes	Yes
"Avanco"	Yes	Yes
(f) International research and development sponsors or partners involved in research for health		
Health Policy Analysis Project WHO/DFID	Yes	Yes
Zdrav Plus USAID	Yes	Yes
Kyrgyz-Swiss Health Reform Support Project	Yes	Yes
World Bank Institute	Yes	Yes
City Hope Project	Yes	Yes

Further Reading: Ministry of Health www.med.kg Center for Health System Development <http://chsd.med.kg> Health in Transition series www.euro.who.int/observatory/CtryInfo/CtryInfoRes?COUNTRY=KGZ&CtryInputSubmit Demographic and Health Survey, 1997 UNDP reports www.undp.kg/

3.4. Uzbek Health Research System Map

3.4.1. Governance of the Health Research System

The NHRS in Uzbekistan constitutes part of an overarching national research framework. It follows general regulations that cover all areas of national research. The aims of the research system in Uzbekistan include facilitating scientific-technological progress; aligning scientific potential with government priorities; and raising research efficiency, effectiveness, quality and the application of research outputs in the country^{23,24}.

Since the end of the Soviet Union, the governance structure of the research system has undergone a number of changes, the most recent of which was initiated in August 2006.

A clear governance structure is in place for state-funded research. It is headed by the Committee on Science and Technology Development (Coordination Committee), which is based within the central government (Cabinet of Ministers). This body coordinates research, including health research, funded through the central government. The Committee established an advisory group that includes representation from different sectors²⁵. Two representatives represent the health sector²⁶. Committee tasks include:²⁷

- Identify priority directions for research (in coordination with relevant Ministries and agencies);
- Ensure coordination of the Academy of Science, research institutes and higher education institutions in implementing research priorities;

- Ensure effective monitoring of the implementation of research projects, as well as applying local research outcomes in practice;
- Develop mutually beneficial international cooperation in research;
- Attract international investments into the national research sector;
- Facilitate involvement of research institutions and researchers in international research projects and programs.

The day-to-day management of state-funded research is done by the research coordination units of various government agencies; these are ministries and state agencies. In the health sector, day-to-day management is done by the Unit of Health Research Coordination under the Ministry of Health²⁸. The Unit closely coordinates its functions with the Committee on Science and Technology Development within the Cabinet of Ministers. The Ministry of Health grant centrally earmarked state funding and coordinates state funded research within the sector. It also determines the number of training slots for *aspirantura* (PhD training) and *doktorantura* (Doctor of Science training).

Although there is no designated official for health research at the Ministry of Finance, the Department for Financing Social Affairs and Sciences exists as a special department responsible for the social sector, including both the public health sector and overall research. This Department is directly accountable to the Deputy Minister of Finance.

While specific regulations with regard to research financed outside state funding are not in place, research that is used to obtain degrees- irrespective of the source of financing- must meet special rules and regulations set by the Highest Attestation Commission or VAK—a special governmental agency. The VAK includes a number of departments²⁹, such as Departments of Chemistry, Biology, Agriculture and Medicine.

²³ Presidential decree on “Measures to improve the coordination and management of science and technology development”, August 8, 2006

²⁴ Presidential Decree on the Improvement of Research Activities, 20 February 2002

²⁵ Presidential decree on “Measures to improve the coordination and management of science and technology development”, August 8, 2006

²⁶ Deputy Minister of Health (tel: 998 71 139 4410; <http://mzr.uz/index.php?id=structure&lang=ru>) ; Director, Research Institute of Paediatrics (tel: 998 712 29 38 74 – http://mzr.uz/index.php?id=nii_pediatrii&lang=ru)

²⁷ Presidential decree on “Measures to improve the coordination and management of science and technology development”, August 8, 2006

²⁸ Following the government decree dated August 8, 2006, a sub-unit on research at the Ministry of Health has been transformed into a Unit of Health Research Coordination. Contacts: Head of the Unit, 12 Navoi str., Tashkent, Uzbekistan 100011; tel: 998 71 139 4808

²⁹ <http://vak.uz/index.php?go=Vak&in=view&id=6> accessed February 3, 2007

The Departments review the dissertations submitted in their respective fields and grant degrees. In addition the VAK:³⁰

- Grants research degrees and academic titles to researchers and academic staff;
- Improves the training and attestation frameworks for researchers and academic staff;
- Ensures a unified approach to granting science and academic degrees;
- Ensures quality control of the activities of the special dissertation commissions;
- Initiates and guides the process for acceptance of foreign research degrees; and
- Regularly updates the respective agencies and ministries on locally conducted research and results.

Roles and responsibilities of institutions and independent researchers outside the state-funded and degree-linked research frameworks vary significantly depending upon institutional and individual arrangements.

Although independent, these major players comprise the core of the NHRS framework in Uzbekistan. The Unit of Health Research Coordination at the Ministry of Health and the VAK have specific evaluation and monitoring systems in place. These systems have a mostly quantitative focus, and are carried out by regular staff. Explicit descriptions of monitoring and evaluation processes and selection criteria for indicators were not available for this mapping study.

3.4.2. Health Research Financing

State research funding is complex in Uzbekistan. The state budget has a separate line item for science totalling some \$19 million US dollars in 2006³¹. There is no information available on the allocation of this budget to personnel, administration and actual research costs.

3.4.3. Health and Health Research Policies and Priorities

Efforts are underway to develop a health plan, which includes health priorities. The National Public Health Strategy (2008-2015) is expected to build a list of national health priorities and specific goals to be achieved. Currently, there is no specifically adopted set of priorities. At a practical level, policy makers prioritize health issues based upon the political visibility of the problem, interest from international investors/agencies and past prevalence/incidence.

No specific health research policy document or legislation that specifically deals with health research is available. Prior to August 8, 2006, the State Committee on Science and Technology Development was responsible for all research, including health research. This Committee was solely responsible for decisions with no direct involvement from the Ministry of Health. Under the new arrangement, decision-making will be delegated to the Ministry of Health.

The Ministry of Health has developed a list of research priorities for state funded research. Priority areas include reproductive health, neonatology, paediatrics, adolescent medicine and development of new technologies³². The priority list is used as one criterion in the selection process for state research grants. Information on how the priorities have been defined and how they are being used in the selection process is not available.

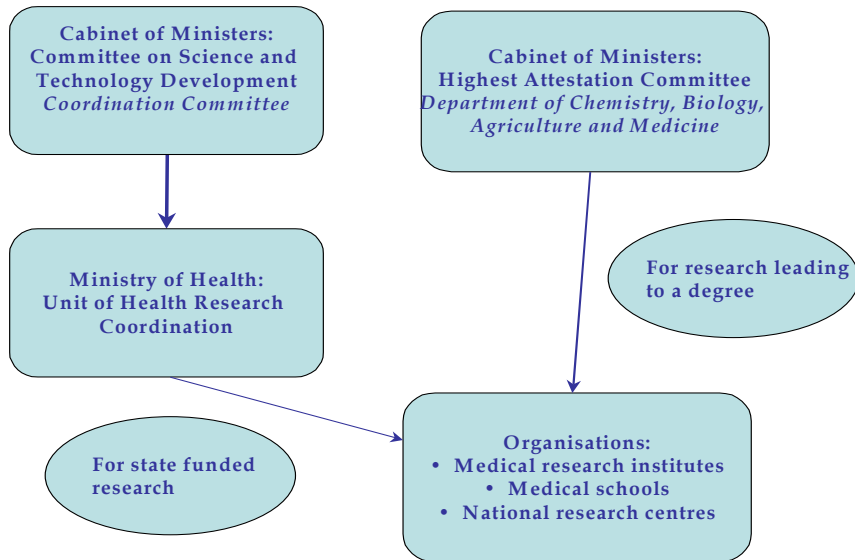
In recent years, ethical issues in health research have been highlighted and given more importance. This is due in part to international interest and emphasis on ethics but still, to date, there is no clear legislation for ethical review of research.

³⁰ <http://vak.uz/index.php?go=About> accessed January 26, 2007

³¹ http://www.mf.uz/eng/?gb_3r=1&n=51 accessed January 26, 2007

³² European Observatory on Health Systems and Policies - Health in Transition, Uzbekistan 2007, draft

Figure 3: Overview of the health research governance system in Uzbekistan



3.4.4. Communication, Dissemination and Utilisation of Research

There are two types of activities that aim to communicate the results of research by different stakeholders, mostly by policy makers and practitioners: structured and regular activities; and isolated, unstructured efforts that have no specific aim to increase the use of research results.

A framework/mechanism designed to regularly inform health policy and decision makers with quality evidence does not exist. The use of international medical advances, and the extent and mechanisms for utilisation of such information vary widely among policymakers. For the most part, they are determined by individual choice rather than by the frameworks in place. There are, however, some efforts to develop this area. The School of Public Health at Tashkent Medical Academy is currently advocating for the launch of a health policy unit that would work in close collaboration with national policy makers and provide needs-based quality decision support. Another similar effort,

supported by international agencies in Uzbekistan, targets clinicians through the recently launched Center for Evidence Based Medicine which aims to provide clinical protocols for primary care physicians.

There is no specific position or department to evaluate the impact of new government health policies or interventions. However, impact evaluation is often used by international agencies active in the health sector and is regular practice for major international agencies. Two projects funded by the World Bank and the Asian Development Bank (Health 2 and Woman and Child Health Development), for example, include significant project components that specifically focus on monitoring and evaluation of project activities and their impact.

In addition to offering opportunities for networking and exchanging ideas, national and regional conferences on various topics often produce information for policy and decision makers. But they do not specifically target policy makers, produce decision support information, or evaluate the effects upon policy/decision making.

No specific body is responsible for the dissemination of research findings to the public. The Institute of Health (under the Ministry of Health) focuses on health promotion. The Institute carries out a number of health promotion campaigns through media and other channels. These activities are not, however, primarily focused on the communication/dissemination of research findings.

A number of television shows and newspaper columns are dedicated to health issues; however, they rarely- if ever- use research outputs; most of the content is based on expert opinion (interviews with clinical specialists) or references to other popular media.

3.4.5. Routine Health Information Systems

Uzbekistan inherited from the Soviet Union a comprehensive data collection system built for the purposes of central planning and control.

The Data collection system in Uzbekistan is divided into five mechanisms^{33,34}:

- Ministry of Health: data is collected through district organisational and methodology units (based within district health authorities), pooled at the regional branches of the Institute of Health, then transferred to the headquarters of the Institute of Health in Tashkent.
- Sanitary and Epidemiology System: data is collected from all public health care facilities. It is first pooled at the sanitary and epidemiological units at district level, and then at the regional and national Sanitary-Epidemiology System departments/centres. For the most part, the data focuses on infectious conditions.
- Program specific: major vertical national/international programs (i.e. HIV/AIDS, Tuberculosis) develop their own data collection systems.
- State Statistics System: the Ministry of Macroeconomics and Statistics

requires separate reporting of health data through its regional and district branches. This data collection system covers indicators on mortality, births and logistics.

- Parallel health systems: the parallel health systems maintained by the National Security Service, the Ministry of Internal Affairs, Uzbek Airlines and other ministries or companies use a separate reporting system for their facilities.

All these mechanisms are independent from each other and their level of coordination is not clear. Institutions/units responsible for data collection in each of the mechanisms produce regular reports, most of which are publicly unavailable. Generally, these data and reports tend to be quantitative and extensive³⁵.

It is worth noting that most of the data collection mechanisms capture information pertaining to the public health sector, while leaving out the rapidly expanding private health sector.

A number of internationally-funded surveys that aimed to fill the gaps in existing data collection systems have been carried out. Good examples of such large-scale surveys are the Demographic Health Surveys of 1996 and 2002.

³³ Theo Lippeveld, Trip Report: Health Information Systems and M&E for Primary Health Care in Uzbekistan, 27 July 2002, Tashkent

³⁴ Clifford D. Olson, HMIS Draft Technical Report, ADB Working Group, 25 November 2003

³⁵ Dennis Streveler, Consultancy Report: Strategic Evaluation of Health Management Information Systems in Uzbekistan, May 2004, Tashkent

3.4.6. List of Institutions Engaged in Health Research

Institution	Commission	Conduct
(a) Government departments and agencies		
Republican Institute of Obstetrics and Gynecology	Yes	Yes
Republican Institute of Haematology and Blood Transfusion	Yes	Yes
Republican Institute of Dermatology and Sexually Transmitted Diseases	Yes	Yes
Republican Institute of Medical Parasitology	Yes	Yes
Republican Institute of Tuberculosis and Pulmonology	Yes	Yes
Republican Institute of Paediatrics	Yes	Yes
Republican Institute of Endocrinology	Yes	Yes
Republican Institute of Sanitary, Hygiene and Occupational Conditions	Yes	Yes
Republican Institute of Medical Rehabilitation and Physical Therapy	Yes	Yes
Republican Institute of Traumatology and Orthopaedics	Yes	Yes
Republican Institute of Virology	Yes	Yes
Republican Institute of Epidemiology, Microbiology and Infectious Conditions	Yes	Yes
Republican Institute of Clinical and Experimental Medicine	Yes	Yes
Regional Health Authorities	Yes	No
Ministry of Health	Yes	No
(b) Health care system		
National Specialized Center of Urology	Yes	Yes
National Specialized Center of Surgery	Yes	Yes
National Specialized Center of Cardiology	Yes	Yes
National Specialized Center of Microsurgery of the eye	Yes	Yes
National Research Center of Emergency care	Yes	Yes
National Research Center of Neurosurgery	Yes	Yes
National Research Center of Oncology	Yes	Yes
National Research Center of Mycology and protozoy conditions	Yes	Yes
National Research Center of Gastroenterology	Yes	Yes
National Research Center of Allergology	Yes	Yes
Research Center of Surgery of Liver and Biliary passages	Yes	Yes
National Center of Narcology	Yes	Yes
National Screening Center of Mother and child	Yes	Yes
National Center of Child orthopaedics	Yes	Yes
National Center of Pathology	Yes	Yes
National Center of Perinatal Care	Yes	Yes
(c) Higher education and (national) research institutes / laboratories		
Tashkent Medical Academy	Yes	Yes
Tashkent Paediatrics Institute	Yes	Yes
Tashkent Institute of Pharmacy	Yes	Yes
Andijan Medical Institute	Yes	Yes
Bukhara Medical Institute	Yes	Yes
Samarkand Medical Institute	Yes	Yes
Tashkent Institute of Advanced Medical Education	Yes	Yes
(d) Business enterprise or industry (Private for-profit)		
Pharmaceutical companies: commission mostly small scale clinical studies for local product licensing purposes (see the requirements for the licensing of the pharmaceuticals in Uzbekistan)	Yes	No (contract out)
(f) International research and development sponsors or partners involved in research for health		
World Bank	Yes	Yes
Asian Development Bank	Yes	Yes
USAID (through its contracted agencies such as Project Hope, Abt Associates etc.)	Yes	Yes
UN agencies: UNFPA, UNDP, UNICEF, WHO, UNODC	Yes	Yes
CDC	Yes	Yes
Japanese International Cooperation Agency	Yes	Yes
Red Cross	Yes	Yes

Further Reading: Analytical and Information Center, Ministry of Health of the Republic of Uzbekistan [Uzbekistan], State Department of Statistics, Ministry of Macroeconomics and Statistics [Uzbekistan], and ORC Macro. 2004.

Uzbekistan Health Examination Survey 2002. Calverton, Maryland, USA: Analytical and Information Center,

State Department of Statistics 2. Health in Transition series

www.euro.who.int/observatory/CtryInfo/CtryInfoRes?COUNTRY=UZB&CtryInputSubmit= ;

3. UNDP reports www.undp.uz/.

4. Regional Consultation on Health Research and Health Research Systems

The regional consultation on health research and health research systems was jointly organised by the Kazakhstan School of Public Health (KSPH) and COHRED. The consultation brought together a group of policy makers and researchers from four countries of the region - Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. See annexes 2 and 3 for the list of participants and the agenda of the meeting.

Concurrent scheduling of the COHRED Board meeting and the consultation provided a unique opportunity for sharing experiences - not only regionally - but also internationally, through involvement of COHRED Board members in the round table proceedings.

The consultation had three key objectives:

- To discuss the status of health research in countries of the region and discuss needs, opportunities and mechanisms for the strengthening of national health research systems;
- To explore opportunities for partnerships and collaboration between countries in the region and international agencies;
- To define possible roles COHRED can play in supporting and strengthening national health research systems and research initiatives in the countries of the region.

The meeting involved country presentations and presentations on draft national health research maps, followed by group work. Country representatives presented the current status and recent developments in national health research systems as well as problems and obstacles to system strengthening and gave their views on possible solutions. The presentations are outlined below:

Tajikistan:

The main objectives of research at the Ministry of Health in Tajikistan are to enhance training, to conduct research on the most relevant issues

in medicine, and to develop technical recommendations based on research results. The primary constraint is the lack of financing, including financing for re-equipment of research institutions. Medical scientific institutions conduct research in close collaboration with research institutions and academic organisations within Tajikistan (such as the Tajik State Medical University and the Tajik Institute of Postgraduate Education) as well as with institutions from other countries. A School of Public Health was established in 2005, and training of Masters of Public Health started in 2006. Within this training, attention is given to research.

Kyrgyzstan:

In 1996 the "Manas" program, which is the locomotive of all Health Care reform including medical research, was approved in Kyrgyzstan. The following problems in medical science development were identified:

- Discrepancies between the regulatory and legal base and the modern conditions and requirements of research;
- Inadequate financing for research;
- Outflow and ageing of the staff; and
- Insufficient level of research staff training.

The following approaches to solving these priority issues were defined:

- Improve governmental policy and legislation in the field of health care and medical research;
- Increase financing;
- Improve coordination of the activities of various institutions; and
- Develop international communication and adopt available international expertise.

In 2005 the Center of Health System Development, which also carries out research in health care systems, was established. The Center has departments on evidence-based medicine, health care policy analysis and health care information technologies; and it provides courses on health care policy and

management. Financing of medical research happens through the Ministry of Health, although only 0.19 % of gross national product is allocated to research. Additional financing for research comes from international grants.

Uzbekistan:

In 2006, a Committee on Science and Technology Development was created under the Cabinet of Ministers. This occurred in response to a number of identified weaknesses including an irrational use of resources (narrow group of experts, narrow topics, duplication of research projects), failure to apply results, and inefficient coordination. The Committee should work closely with various ministries and corresponding departments, who should also become the main customers of research projects financed by the Committee.

The following challenges for medical sciences in Uzbekistan remain: training of research staff including training in foreign languages; introduction of international research standards (modern methodology, software for statistical data processing); networking and experience exchange at the regional and international levels; and increasing financing of research from national as well as international sources.

Kazakhstan:

The president of Kazakhstan has given major attention to science and wants Kazakhstan to enter into the world's top 50 countries in the area of research. A concept paper on reforming medical science has been developed. The document aims for changes in important areas of the health research system such as financing, human resources management, governance/management and efficiency/effectiveness. Priority is on modernizing domestic medical research through innovative management and facilitating the integration of medical scientists into the international research community. The reform can build on the current potential of medical science in the country, which is powerful as there are 20 research institutes and centres, six medical schools, a school of public health and an institute of postgraduate medical education. As personnel potential grows financing tends to increase steadily.

Group work

Group work followed the country presentations. Two groups, each of which included representatives from all four countries, were formed. The groups were expected to formulate five priority needs for strengthening NHRS. These needs had to be common to all four countries. The groups then formulated potential solutions acceptable to all four parties.

The working groups formulated the following common needs:

- A comprehensive holistic strategic policy framework on health research at a national level;
- Refined financing mechanisms;
- Capacity strengthening among researchers and academics involved in research training programs;
- Strengthening of research training programs (curricula: methods and content);
- An effective national evaluative framework;
- Increased international cooperation in research.

The groups formulated the following as possible solutions to these needs:

- Detailed situational analysis that leads to a state policy document which includes an effective and efficient organisational structure and financing mechanisms that facilitate quality, efficiency, effectiveness, and innovation as well as creative competition;
- Assessment and revision of research training programs with strong emphasis on research methodologies and learning and assessment methods (benchmarking against international standards);
- Development and implementation of systems for the monitoring and evaluation of health research and health research systems;
- Joint international research programs.

The group presentations were followed by discussions of how international organisations, specifically COHRED, might assist in addressing the need for NHRS strengthening in the region.

The main discussion revolved around the idea of international organisations becoming enablers and facilitators that provide tools and assist in developing mechanisms and frameworks. Expert support and facilitative environments/frameworks for developing health research policy documents, strengthening research training programs and/or strengthening evaluation /monitoring frameworks were formulated as possible pathways for cooperation.

5. Conclusion

This paper provides national *health research system (NHRS) mapping* information from Kazakhstan, Kyrgyzstan and Uzbekistan. NHRS mapping provides the information necessary to describe the governance framework of the system, the health research policies and priorities in place, and the actors playing key roles in the system. It is a basic description needed to effectively plan the system's development.

COHRED defines two other levels for health research system assessment: *health research system profiling* and *health research system analysis*. Profiling provides an analysis of the financial and human capacities of the system. Analysis provides information on how well the system performs in addressing the defined priority health research needs, the quality of the research produced and how the research is used.

The focus of this work with Central Asian countries is on NHRS mapping. However, some conclusions will refer to the capacities and performance of the systems, noting that further information needs to be collected to make firmer conclusions or recommendations.

The basic requirements of a national health research system are: political commitment to health research; credibly set and regularly updated health research priorities; a health research policy framework that is in place; and a mechanism to manage the national health research effort.

Most participants noted that there was little exchange within the region, as researchers and policy makers actually visit Europe and elsewhere more often than neighbouring countries in the region. Opportunities for regional networking were suggested as another area for cooperation with international agencies. Regular regional health research forums could facilitate regional exchange of ideas and help countries align directions for development in NHRS within the region. Notably, health research systems in all countries of the region evolved from the same model. This provides significant opportunities for countries from within the region to learn from each other.

The health research maps from the three countries provide detailed information regarding these basic requirements:

- 1) **Political commitment to health research:** research is considered fundamental to health care in the region. All the countries have a history of research (established and developed during the Soviet era), structures in place to manage their research, and made some financial commitments to research.
- 2) **Health research priorities:** all three countries have health research agendas. However, it is not clear from the information collected which process is followed to set the agenda, who is involved in this process, and how frequent the agendas are revised.
- 3) **Health research policy framework:** none of the countries currently has a comprehensive health research policy framework. The country teams highlighted this gap during the regional consultation. Consultation participants consider a policy framework essential as it can help outline the organisational structure and financing mechanisms for health research, and can support creation of the necessary conditions for quality research, innovation and creativity.

4) **National research management:** all three countries have very similar health research systems. Central government agencies play a key role in setting the regulations for the health research system, and in providing funding for research. In addition to the central government agency on research and the Ministry of Health sub-unit on health research, the national attestation commissions and the leading medical education institutions of each country are key players in the health research systems in Central Asia. How the different mechanisms exactly relate to each other and coordinate the various activities is not entirely clear.

Kazakhstan, Kyrgyzstan and Uzbekistan have the basic requirements of a national health research system in place. It appears that there is general interest in research and that basic governance structures exist. At the same time, each country needs to develop a clear health research policy framework. This will clarify the coordination of research, and the process for agenda setting. It is also a priority for strengthening health research systems in the countries of the region, and key to creating an environment that is conducive to research generation and utilisation.

A second level of system development focuses on research implementation and the human and financial resources needed to achieve this.

The mapping and consultation provided some information on human and financial resources in the Central Asian region:

1) **Human Resources for Health Research plan:** participants raised the importance of revisiting and strengthening health research training programmes. Training and capacity building can be achieved directly, by revising the research training curricula in the countries and, indirectly, through joint research initiatives. The countries in the region tend to use the same curricula for all training programs in the country. A focus on research training is timely in the light of initiatives in these countries to redesign their medical curricula.

2) **Predictable health research funding:** there is limited information available on the financing of research and health research. The Kyrgyz health research map illustrates an overall decrease in research funding since independence – from 0.7% of the national budget allocated to research in 1990 to 0.17% in 2004. Almost 95% of this budget goes to salary related costs.

Further information on human and financial resources needs to be collected to inform strategic plans for human resources for health research, and develop health research financing mechanisms. However, further data gathering need not precede system development work. A better research policy framework and well-defined research agendas in these countries will support discussion with internal and external partners around human and financial resource investment and alignment towards priority research needs.

A third level of system development focuses on optimising the system. This includes research ethics, research communication, peer review mechanisms, monitoring and evaluation, and health information systems. If a country considers some of these issues very important, they can be addressed at an earlier stage of system development.

In the countries involved in this study, ethics and monitoring and evaluation are considered key areas for system development:

1) **Ethics review of health research:** in recent years, ethical issues in health research are given more importance. In Kyrgyzstan this has resulted in the establishment of committees on ethics in the Ministry of Health and in the Kyrgyz Medical Academy. In Kazakhstan, legislation facilitated the creation of ethics committees. In Uzbekistan, legislation does not yet exist and information on ethical committees was not readily available.

2) **Monitoring and evaluation systems.** Good evaluation and monitoring systems can become the drivers of change and improvement in the health and health research system. In the study countries these practices are not yet well developed. Participants in the consultation summarised in this report

strongly supported developing and implementing such monitoring and evaluation systems in the countries of the region—a process that may require international cooperation.

Other system optimising areas are not yet addressed. Consideration should be given to how important these areas are in the early stages of health research system strengthening in the countries of the region.

This includes peer review mechanisms, research dissemination, and the work of routine health information systems:

- 3) National attestation committees may need to be supplemented by peer review mechanisms **to ensure quality and independence of research review.**
- 4) There are no mechanisms in place to ensure regular **dissemination of information to key stakeholders.** Local journals in Central Asia usually depend on authors for the financing of articles. This may create a conflict of interest. Increased Internet access does not yet benefit many researchers due to a low knowledge of English in the countries and a lack of local language information.
- 5) **Routine health information is fragmented:** it is collected by statistical

agencies, ministries of health, and vertical disease-oriented programs. These systems operate independently from each other and collect different types of information. The focus is on the public sector, leaving out the rapidly growing private sector. The reports produced are often not publicly available, and the quality of the data collected is not clear.

- 6) Great potential exists for **regional cooperation, networking and exchange.** Given the similarities in the health research systems of the region, any initiatives developed could, with minor adaptation, be easily applicable to all other countries. Despite considerable disparities in economic development, the Central Asian countries are very similar in terms of the development of their national health research systems.

Consultation participants expressed their appreciation for the networking and exchange opportunity provided through this regional meeting, and indicated that regular regional forums on health research would greatly benefit research on health in the region.

Annex 1: Participants list: regional consultation

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Annex 2: Agenda COHRED regional consultation, Almaty, 21/10/2006

Morning session (9.00 – 12.30):

Welcome and introductions (Chaired by: Prof Maksut Kulzhanov):

- Prof. Kulzhanov M.K., Rector, Kazakhstan School of Public Health, Kazakhstan: Welcome
- Ms Sylvia de Haan, Head, Projects and Programmes, COHRED: Introduction Meeting Objectives
- All: Introduction and meeting expectations
- Prof. Carel IJsselmuiden, Director, COHRED: Welcome and introduction to COHRED

Country presentations (Chaired by: Dr A.N.Smailova and Prof M.M.Karataev):

- Tajikistan (Prof M.S. Tabarov)
- Kyrgyzstan (Prof M.M. Karataev)
- Uzbekistan (Prof Dilbar Nadzhmutdinova)
- Kazakhstan (Dr. Altynai Smailova)
- Questions and discussion

12.30 -13.30 Lunch

Afternoon session (13.30 – 18.00) (Chaired by Prof A.N. Aripov and Prof M.S. Tabarov):

- Report on preliminary results NHRS mapping (Dr M. Ahmedov)
- Introduction to working groups (Dr Bakhyt Sarymsakova)
 - o discussion on general needs for strengthening health research systems in the region;
 - o discussion on potential roles of COHRED and other international organizations in supporting development of the health research systems in the region.
- NHRS in Thailand (Dr Somsak Chunharas)
- Reporting back by two working groups

Closure of the meeting by Prof Marian Jacobs (chair of COHRED Board) and Prof Carel IJsselmuiden (Director COHRED)

After the consultation a reception will be held for the participants in the regional consultation and COHRED Board members