

Report on
Health Related Research
In
I.R. Iran (a national profile)

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A. INTRODUCTION

The Islamic Republic of Iran is located in the Eastern Mediterranean Region and has an area of 1,648,150 Km². With a population of 70 million, Iran is the sixteenth most populated country in the world. Nearly 62% of the Iran's population lives in urban areas and 38% in rural areas. The official language and script of the country is Persian. Muslims constitute 99.68% of the population; 0.2% are Christian, 0.07% Zoroastrians and 0.05% Jews. Iran is divided into 30 provinces, which are then subdivided into almost 300 administrative districts.

The Ministry of Health & Medical Education was established 20 years ago, when the health care and medical education systems were integrated. The ministry is responsible for health sciences education and health service delivery. Most of the responsibility is on the 43 medical universities and schools in 30 provinces' centers and 11 other large cities. These academic centers are responsible to deliver health care services to the clients in the related regions. Most of medical research institutes are also affiliated to these universities.

The Ministry of Health & Medical Education has taken measures aiming for a fair allocation of health resources corresponding to the PHC principles. Currently, Iran benefits from a public health system whose services are extended to almost the whole nation at no payment.

The extensive activities in areas as reproductive health, child healthcare and disease control programs have resulted in improved health indices in the recent years: A decline in maternal mortality rate (from 90 to 30 per 100 000 live birth), reduced infant mortality rate (from 45 to 24 per 10000 live birth), and a deceleration in population growth rate (from 3 to 1.2 %) during 1988 to 2005

Nevertheless, the current health problems were determined on the basis of DALY (Disability Adjusted Lost Years) in the "National Disease Burden Study". With a

total 13649005 lost years, contribution of each disease category has been determined as follow:

Accidents and injuries (25.8%), mental and behavioral disorders (15.4%), prenatal disorders (10.8%), cardiovascular diseases (9.3%), musculoskeletal diseases (5.7%), congenital and inherited diseases (4.8%), urogenital diseases (4.3%), respiratory tract diseases (4.2%), gastrointestinal diseases (4%), neoplastic diseases (3.4%)

The number of registered case of HIV / AIDS is about 14000 up to now which is underestimate .Current estimation based on WHO guidelines is about 70000 which two third of them are due to Injecting Drug Use (IDU).

Total number of new cases of tuberculosis in 2005 was about 10000 which half of them were smear positive pulmonary tuberculosis, and about 20 % of them were non Iranians. In addition, total number of malaria cases in 2005 was 18000 which 40 % of them were among non Iranians and 10% of total cases were falciparum.

In collaboration with medical research centers, the Ministry of Health has attempted to implement effective interventions in areas such as prevention, treatment, and integrating disease control programs into PHC. Periodic assessment is the other measure taken to promote health indices particularly MDGs in the nation.

B. Existing Health Research System

The World Health Organization has defined the “Health research system (HRS)” as:

"People, institutions, and activities whose primary purpose is to generate high quality knowledge that can be used to promote, restore, and /or maintain the health status of population. It should include the mechanisms adopted to encourage the utilization of research."

Given the above mentioned definition, bodies, which are currently functioning to make HRS policies in the state, are:

- The Islamic Consultative Assembly (Parliament)
- The Supreme Council for Cultural Revolution¹ (SCCR)
- The National Research Council
- The Undersecretary of Research & Technology at MOHME (URT)
- The Management and Planning Organization (MPO)
- Universities and schools of medical sciences

It should be noted that it is the National Research Council which basically determines the research policies. The URT and, less significantly, the research administrations in medical universities are responsible for executive planning to realize these policies. The existing evidences indicate that the prominent aspects of policy set by the above mentioned bodies are:

The National Research Council (NRC)

- 1) Defining the terms used within the national research system
- 2) Determining and monitoring the country's research priorities
- 3) Designing the National Research Laboratories Network (known by the Farsi acronym of SHAMTAK)
- 4) Performing the role of a consultant to the Government and the SCCR on research issues

¹ The Supreme Council for the Cultural Revolution: Council headed by the President of the Republic and with members includes the Head of the Judiciary, the Speaker of the Islamic Consultative Assembly, the Minister of Health and Medical Education, the Minister of Science, Research and Technology, and a number of prominent researchers and scientists. The role of the SCCR is to define broad polices in the field of higher education and culture.

** The National Research Council came into existence in 1975 after ratification by the Cabinet ,and in1988 was appointed, in accordance with the executive guidelines sanctioned by the Supreme Council for Cultural Revolution ,as the chief policymaking body in the field of research

The Undersecretary of Research & Technology at MOHME (URT)

- 1) Development of research networks within different disciplines
- 2) Capacity-building for researchers and research managers
- 3) The promulgation of research through organizing operational workshops for health managers, with the goal to eliminate obstacles which impede health managers to participate in research activities
- 4) Collaboration with the medical instrument manufacturers and pharmaceutical companies through establishment of research and production groundwork within these industries which could link them with pertinent research centers
- 5) Developing community based on participatory research by means of population laboratories and assessing the needs of the community with the aim of restructuring health management and modifying community behaviors.
- 6) Escalating the role of student research committees in universities of medical sciences
- 7) Proposing changes in standing regulations such that a more inspiring and encouraging environment for research develops
- 8) Improving knowledge transfer through internet and intranet
- 9) Redevelopment of the statistical data relating to MOHME activities
- 10) Monitoring and evaluation of research activities in medical universities and accredited research centers. Employing incentives and encouragement policies to support these institutions according their performances
- 11) Expansion of clinical research through launching “clinical research development centers” in university hospitals
- 12) Development of research ethics respecting moral principles

- 13) Providing enough opportunity to disseminate, present and utilize research results
- 14) Escalating the partnership of Iranian medical researchers in reputable internationally sites with respect to their published articles
- 15) Qualitative and quantitative growth of health science publications
- 16) Qualitative and quantitative growth of health research centers
- 17) Espousing novel technologies such as biotechnology, nanotechnology and bioinformatics
- 18) Expanding international collaborative programs particularly with Iranian researchers outside the country
- 19) Enabling health managers to allocate sufficient funds to research and apportion funds on the basis of the established priorities
- 20) Enabling health managers for defining research priorities in each region

The Management & Planning Organization (MPO)

- 1) Compilation of the Islamic Republic of Iran's 5-year Economic, Social and Cultural Development Program Act and setting broad strategies for scientific and technological development.
- 2) Formulation of public budget for different sectors including health research.

Stakeholders of the health research system

- Researchers
- Policymakers
- Users
- Funders

The bodies involved in research activities

- Medical universities and schools
- Health research centers affiliated to the MOHME
- Universities, schools and research centers affiliated to the MOHME
- Research centers affiliated to other public organizations
- Service providers affiliated to the MOHME or other public agencies
- Pharmaceutical, food and medical equipment companies
- Domestic NGOs
- International agencies
- The community
- The private sector

Bodies providing financial resources for research

- Management & Planning Organization
- The cabinet
- The parliament
- Pharmaceutical, food and medical equipment companies
- Charity organizations
- International agencies
- Municipalities

Policy making bodies

- Supreme Council for Cultural revolution
- National Scientific Research Council
- The parliament
- Ministry of Health & Medical Education (MOHME)

Nationwide speaking, 116 medical research centers have been accredited at present. There are also 105 scientific-research credited journals, of which 20 journals are being indexed in international databases.

In 2005, Iranian researchers contributed to almost 4200 articles in different scientific journals. Of the figure, 2500 articles were published in indexed journals.

C. Human Resources and resource flows for health research

Table 1 represents the distribution of faculty members (researchers) by work place and academic rank. These data are based on regular data of the year 2005 gathered by the Office of Statistics in the MOHME.

Table 1. Distribution of medical faculty members by academic rank and place of work in IRAN _ 2005)

Place of work	Academic rank				
	Professor	Associated professor	Assistant professor	Instructors	Total
UMSs affiliated to MOHME	353	900	5612	3084	9946
academic centers other than UMSs affiliated to MOHME	5	19	135	71	230
UMS not affiliated to MOHME	37	62	83	692	874
Total	395	981	5830	3844	11050

MOHME: Ministry of Health & Medical Education

UMS: Universities of Medical Sciences

Table 1 shows that

- ✓ Most faculty members were either assistant professor or instructors (assistant professor: 53%; instructors: 35%)
- ✓ Most faculty members (92%) work in UMSs affiliated to MOHME; 8% work in UMSs not affiliated to the Ministry

In addition, 31% of faculty members were female and 71% of researchers were of age 50 years or less.

RESOURCE FLOWS FOR HEALTH RESEARCH

The public funds allocated to the health research system as the proportion of total expenditure (public plus private sector) in the health system was about 0.8 percent in 2005(300 million PPP) .The public funds allocated to the health research system as the proportion of total public funding in the health system was 1.8 percent in the same year.

This shows that the public sector is the main source of funding in health researches and partnership of the private sector is only minimal. In fact, the non-governmental sector accounts for only 3-6 percent of health research funding in Iran.

Public funds allocated to the health research system as the proportion of total public funding in the research area was about 9 percent in 2005.

The proportion of the Gross Domestic Product (GDP), which has been allocated to health research, was 0.05 percent in 2005.

Health research funds in the governmental sector are distributed through the Universities of Medical Sciences (UMSs), Medical Research centers, Ministries and other governmental organizations

A ratio of 6% of total funding in the health research was allocated for implementing the health research priorities of the country (in 1997 – 2001). The proportion of GDP, which was allocated to the Priorities of health research system (1997-2001), was 0.003%.

D. AGENDA FOR HEALTH RESEARCH PRRORITY SETTING

During the last decade, two bodies have been involved in setting priorities of health research: the NRC (National Research Council) and its medical commission and the URT (Undersecretary for Research & technology at the Ministry of Health & Medical Education). Available evidences indicate that medical commission of

NRC has accomplished this function on three occasions during the past 10 years (i.e. on years 1991, 1995, and 1999). The medical commission was responsible to seek viewpoints of the vice chancellors for research of UMSs and high ranked officials at the MOHME (in areas as healthcare, drug, education and cultural affairs). It also converse the issue with researchers and academicians in order to identify major elements of health research priorities.

In 1996, the Undersecretary for Research & technology of the Ministry of Health & Medical Education (URT) defined the Iran's health science research priorities taking into account the researchers', experts' and executives' views, and also what had been concluded and proposed in a number of the workshops and 43 expert committees.(table2)

During the past three years, under supervision of URT, vice chancellors for research in each UMS have commenced programs to set research priorities, using the qualitative and quantitative methods, and based on need assessment in collaboration with all stakeholders including health managers, community and researchers. Consequently, a list of defined priorities has been developed and observed in production and utilization of knowledge.

At a national level and with the partnership of all users and health mangers, a list of national priorities is being set. The regional priorities, MDGs goals, 4th Development Program, National 20-year Perspective, and results of the "Burden of Diseases Study" will be observed in developing the list.

Table 2: National research priorities in different area of health system in IR Iran

	Axis	Research priorities
1	Health management	<p>Determination of burden of diseases in order to set priorities</p> <p>Improved management of the referral system</p> <p>Development of communication and informatics systems</p> <p>Family planning and birth rate control</p> <p>Improving the environment and sanitary conditions</p> <p>Health economics</p> <p>Development of rural and underserved areas with emphasis on the essential elements of development</p>
2	Disease control	<p>Preventive measures for and enhanced management of accidents and incidents</p> <p>Preventive measures for cardiovascular diseases</p> <p>Preventive measures for common communicable diseases (Malaria, tuberculosis, brucellosis, leishmaniasis, typhoid fever, Eltor, hepatitis and STDs)</p> <p>Preventive measures for occupational medicine</p> <p>Control programs for mental disorders and addiction</p> <p>Diabetes mellitus control program</p>
3	Nutrition	<p>Nutrition security programs</p> <p>Programs to combat malnutrition</p>
4	Medicines	<p>Programs for production, synthesis, distribution of drugs</p> <p>Quality control programs</p> <p>Herbal medicine programs</p>
5	Healthcare delivery	<p>Upgrading outpatient services</p> <p>Upgrading insurance services</p>
6	Medical education	<p>Restructuring medical education in the following fields:</p> <p>Community oriented education (curricula and assessment)</p> <p>Quantity of healthcare personnel</p> <p>Quality of healthcare personnel</p> <p>Enabling the environment to nurture talents</p> <p>Biotechnology</p> <p>Information technology in governmental and nongovernmental institutes</p> <p>Subsides (education, nutrition, medicines and health care)</p> <p>Privatization and general publicizing</p>

E. CONCLUSION AND OUTLOOK FOR ROLES OF HEALTH RESEARCH IN CONTROL OF DISEASE IN IRAN

A major development has taken place in the area of research management in recent years. More than a few broad-spectrum strategies have been implemented to foster partnership of health managers, researchers and people in priority setting procedures, production and utilization of research results. Partnership of industries in research has been another area to be encouraged by current policies. The most important implemented program is as follows:

1-Population Labs

By now, 31 population labs have been authorized in UMSs (Universities of Medical Sciences) and 2 SDHPCs (Social Development & Health Promotion Centers) to enable the people and other stakeholders in areas such as identifying problems, setting priorities and conducting interventions.

2- Novel Technologies in Health Sciences Domain

- Development of Incubators

These units serve to link universities and industries. They direct researches so as a specific problem be solved. In recent years, 6 incubators have been established.

- Nanotechnology

Efforts have been made to advance the place of Iran in the area of nanotechnology among the 15 countries which possess such expertise. In line with scientific promotion of the nation, 4 nanotechnology research centers and 12 nanotechnology projects have been launched which have mainly addressed the “target therapy of neoplasia”.

3- Encouraging student researches

At present, student research committees are operational in all UMSs and medical schools. These committees are intended to promote research culture among students and update young researchers about novel technologies.

4- Development of Research Networks

As cited in the 4th National Development Program, the research networks are developed to promote health science research projects both in qualitative and quantitative aspects. By now, 5 networks have been established i.e. Medical Biotechnology Network, Molecular Medicine Network, Herbal Medicine Network, Pharmaceutical Sciences Network, and Stem Cell Network

It is intended to increase the number of these networks to 15 by the end of the 4th Development Program.

5- Establishment of Clinical Research Development Centers

These centers have been established in university hospitals of 19 UMSs. The program has aimed to enable faculties in the area of clinical research. It is hoped that launching of these centers lead to a promotion in the quality and number of clinical researches and published articles.

F. BRIEF OF MAJOR ADVANCES WITH RESEARCHES IN HEALTH PROMOTION AND DISEASE CONTROL PROGRAMS

The national PHC network was launched on the basis of evidences and community needs. The system has realized a number of achievements in the following areas:

- ✓ Control of Diarrhea Disease (CDD)
- ✓ Control of Acute Respiratory Disease (ARI)
- ✓ Family Planning (FP)

- ✓ Control of Iodine Deficiency Disorders (IDD)
- ✓ Integration of Mental Health into PHC
- ✓ Control of hypertension
- ✓ Prevention and control of diabetes Mellitus type 2
- ✓ Integrating of program of neonates hypothyroidism disorders to PHC
- ✓ Implementation of DOTS strategy
- ✓ Eradication of poliomyelitis
- ✓ Eradication of trachoma
- ✓ Eradication of schistomiasis (filariasis)
- ✓ Elimination of measles, tetanus, and leprosy
- ✓ Planning for elimination of malaria

Currently, MOHME is running a number of researches intending to design and integrate STI, HIV, Accidents & injuries, Cardiovascular, and Disaster control programs and also Cancer screening program into PHC.

G: THE WAY FORWARD (TO SOLVE RESEARCH DIFFICULTIES)

In recent years, community Participatory Research has been introduced as a policy which enables people in areas as setting priority and conducting researches. Health System and policy Research programs have also been among the other policies which have been adopted to enable health managers and researchers to make evidence-based decisions and utilize research results. This policy has been hoped to be an essential step towards conducting focused researches and utilizing their results in the health system.

H: WHAT HAVE BEEN DONE SINCE THE MEXICO

A number of lectures have been organized to introduce the goals and policies which were raised in Mexico City to the policymakers, managers and researchers.

It has also been endeavored to enable health managers and researchers to utilize research results through organizing knowledge transfer workshops. Furthermore, the board of trustees in each university has been obligated to allocate 2 percent of total university's funds to research activities.

On the whole, the state general strategy is to run researches aiming at the community's needs and to allocate sufficient funds to achieve these goals and utilize the obtained results.

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