Chapter 2
Strengthening health systems

2. Strengthing health systems

Strategic objective 7: To address the underlying social and economic determinants of health through policies and programmes that enhance health equity and integrate pro-poor, gender-responsive and human rights-based approaches

Issues and challenges

This strategic objective reflects the cross-cutting areas of social determinants of health and health equity; intersectoral action; ethics and human rights-based approaches to health; and gender-responsive policies and programmes, all of which cover the six core functions of WHO. The regional expected results address the uneven distribution of resources and unequal power relations which result in different and inequitable exposure to health risks, and in differential access to, and utilization of, health care services for vulnerable populations. Health inequities are disproportionately distributed in displaced populations, the poor, some ethnic groups and between men and women. Policy changes are needed to address the underlying causes of ill health and ensure access of all populations to the attainment of their human right to health. Challenges include the need to support countries in developing and analysing national disaggregated databases, owing to limited resources and weak health information infrastructures. The pathways through which the structural and the more proximal determinants influence health and health equity, and the interventions to target the barriers and impediments, have yet to be adequately delineated. Social determinants of health cut across multiple sectors, such as employment, education, urbanization and infrastructure provision, and vary according to age, gender and ethnicity. As such two major expected results emphasize the need for multisectoral partnerships to ensure positive impacts in addressing the social determinants of health. Limited progress has been made in improving intersectoral collaboration and partnership with civil society at national level due to scarcity of funds. Limited funding for all aspects of this strategic objective restricts significant progress and technical support to Member States, especially those with multiple complex emergencies, and more WHO institutional and financial support is needed.

Achievements towards performance indicator targets in each expected result

The Regional Office focused on intersectoral action and empowering communities in local health development through implementation of the *community-based initiatives* approach and reducing inequities in health in order to support Member States in addressing the social determinants of health. Two publications, *Building the knowledge base on social determinants of health: review of seven countries in the Eastern Mediterranean Region* and *Social determinants of health in countries in conflict: a perspective from the Eastern Mediterranean Region*, contributed towards two of

the expected results. Support was provided to Islamic Republic of Iran and Sudan to move from knowledge to action on social determinants of health policies. Partnerships with civil society were facilitated, with health assessments and interventions in Hujana, a disadvantaged district of Cairo. The Regional Director shared the regional experience of community-based initiatives in tackling social determinants of health, at the invitation of the Department of Health, United Kingdom. The Qatar Declaration: Health and Well-being through Health Systems based on Primary Health Care expressed the commitment of Member States to health equity, to providing quality primary health care services and to promoting social determinants of health and community-oriented approaches in health care delivery.

The Regional Office provided technical support, through updating of norms and standards and generating new knowledge, to support Member States in developing and analysing national disaggregated databases related to health and development. Intercountry partnerships and capacity-building tools to address poverty-related health inequities were promoted through publication of an advocacy brochure and newsletters on community-based initiatives and a training manual for the healthy city programme. The launch in the Islamic Republic of Iran of the urban health equity assessment and response tool, developed by the WHO Centre for Health Development in Kobe, Japan, was another achievement in capacity-building to generate evidence for assessment and response to unfair health conditions and inequities in urban settings. Support was provided to Yemen on building partnership on health equity. The basic development needs programme in Sudan was enhanced through strengthening partnerships for the achievement of the Millennium Development Goals through the Integrated Community Recovery and Development project.

Despite increasing acceptance of the concept of human rights in health, limited resources and national capacities impeded progress in advancing the concept of health as a fundamental human right. Collaboration took place with the European Union in reviewing an evaluation tool to measure the

realization of the right to health which will be pilot tested in Egypt. In addition, technical and financial support were provided to Iraq and Yemen to strengthen national commitments to the right to health using a tool addressing human rights and gender equality in health strategies developed by WHO and SIDA. Several human rights publications were translated into Arabic, facilitating progress towards achievement of this expected result.

The Regional Office made progress in implementing resolution WHA60.25 on integrating gender analysis and actions into the work of the Organization through capacity-building in gender mainstreaming in health in five countries and training of national master trainers. Collaborative work continued to target women at community level to promote healthy behaviour, making use of information and communications technology. Resources were mobilized for activities in gender and health, with development of concept notes and proposals for capacity and evidence-building.

Future directions

Advocacy among high-level policy-makers and linkages between all expected results, the national mechanisms for Millennium Development Goals, Poverty Reduction Strategy Papers and other health and development plans will be strengthened in 2009. Scaling up of the institutionalization of community-based initiatives, social

Community-based initiatives are supporting income generation and providing basic development needs in all corners of the Region

determinants of health and health equity as part of national and local health and development plans, and development of a model for intersectoral collaboration for health development are planned. Collection of data from sites implementing community-based initiatives will continue and a comprehensive database for planning and scaling up of the local interventions will be completed. Implementation of the WHO/SIDA analytical tool addressing human rights and gender equality in health will start. An evaluation tool on measuring of the right to health will be introduced and provision of technical and financial support for integration of the human rights approach will continue. Advocacy for the inclusion of social determinants of health and health and gender equity in all health policies will be intensified. Capacity and evidence-building in gender issues in health will continue, including support to Member States in integrating the required gender components into proposals to the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Strategic objective 10: To improve health services through better governance, financing, staffing and management, informed by reliable and accessible evidence and research

Issues and challenges

It is imperative that effective delivery of existing interventions and technologies is matched by well performing health systems to better serve communities, especially those in greatest need. The strategic issues in health policy and strategic planning include the need for capacity development in use of policy analysis tools, formulation of evidenced-based policies and preparation of strategic plans. Health system governance poses the challenges of developing assessment tools, institutional strengthening of ministries of health and improving their capacity to legislate, regulate, set standards and ensure their enforcement.

With regard to universal access to essential health services, many low-income countries and those in complex emergencies face the challenge of physical and financial access, while in middle-income countries financial affordability also poses a challenge. Patient safety has assumed significance as a result of efforts to generate evidence and increase awareness about the problem, and this will subsequently lead to solutions. Establishment of mechanisms to accredit health facilities at all levels to ensure adequate quality of care is an area that has yet to be fully recognized. Health management at the various levels of health systems needs to be improved.

Particular attention is needed to strengthening planning and managerial skills at district and facility levels. Strengthening of personnel, financial, physical and logistic management and ensuring effective decentralization of health services are essential in improving the performance of district health systems.

Social health protection has expanded modestly in some middle-income countries through health policy reforms. Studies on equity have shown high rates of exposure of households to financial catastrophe and risk of impoverishment as a result of out-of pocket health expenditure. The share of GDP allocated to health and per capita health expenditure is relatively low compared to other regions (Figures 2.1 and 2.2). There are concerns that the global financial and economic crisis will adversely affect investment in health.

Health information systems remain weak and fragmented in many countries. Information generated through routine systems, population-based surveys and research activities are not properly used in management, planning or policy development. The use of ICD 10 and information technology is limited. In most countries vital registration is incomplete and coordination between concerned parties including ministries of health, statistical bureaus, ministries of interior and the private sector needs to be strengthened. Qualified professionals in health statistics are in short supply and there is limited development in relation to the burden of disease analysis initiative.

The institutional capacity for human resources development is weak, especially in developing policies and long term-plans. Health workforce shortages are compounded by migration and ineffective retention, maldistribution, dual practice and loose regulation. Qualified nurses and midwives are especially needed. High work load, poor working environment, low job satisfaction, inadequate remuneration and lack of workforce plans particularly affect the

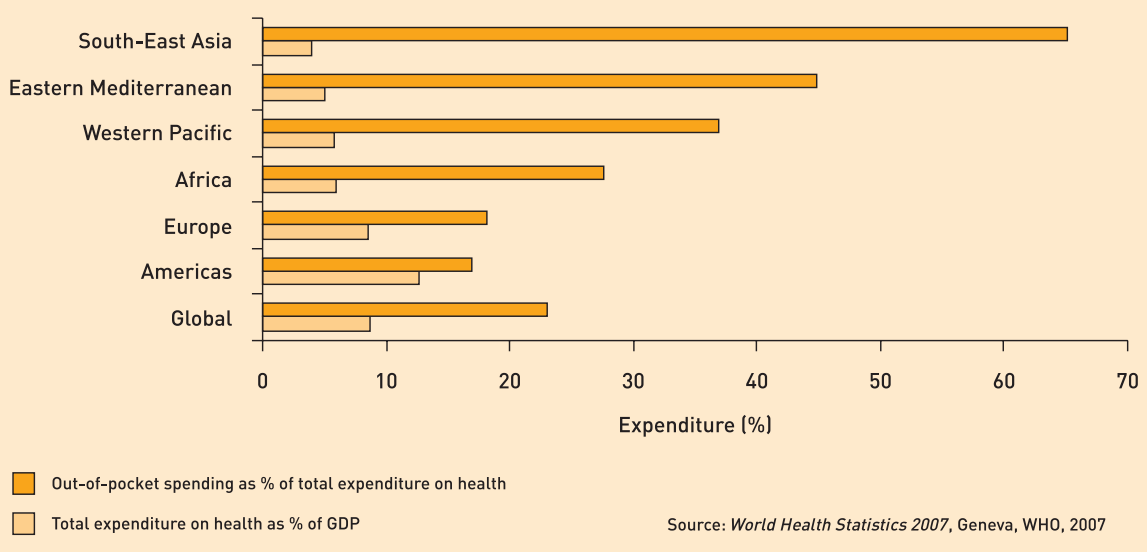
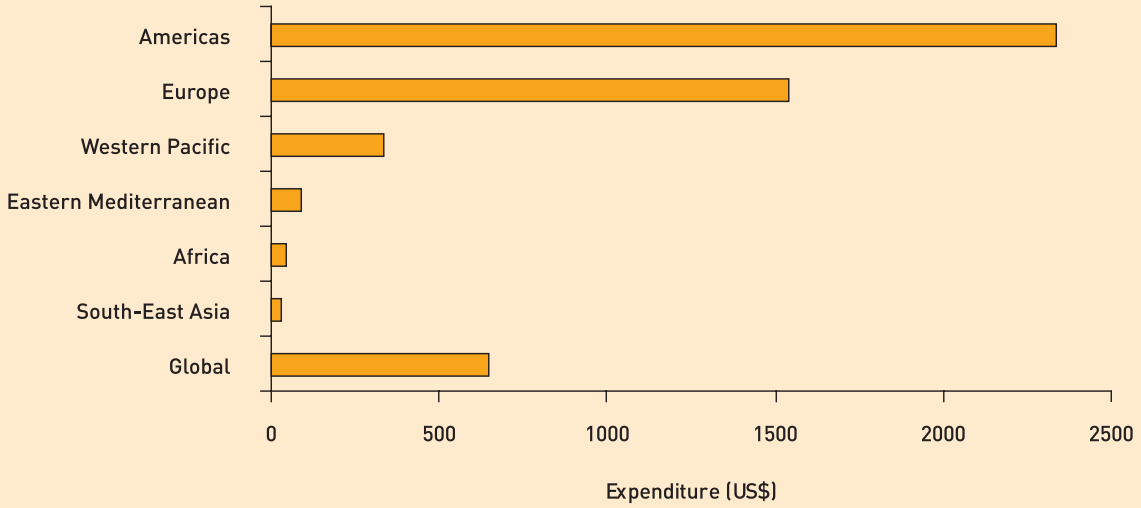


Figure 2.1 Total expenditure on health as percentage of GDP and households out-of-pocket spending as percentage of total expenditure on health, WHO Regions, 2004



Source: *World Health Statistics 2007*, Geneva, WHO

Figure 2.2 Total expenditure on health per capita (US$), WHO regions, 2004

quality of nursing and midwifery services in the Region. In some countries, the nursing profession suffers from poor image and lack of respect. Lack of accreditation of nursing and allied health education programmes is a major area of concern. Schools of nursing and allied health are unable to perform to capacity due to the shortage of teachers. Most countries suffer from lack of appropriate, good quality education and training of health professionals. Institutional capacity-building is required through systematic appraisal and establishment and/or strengthening of educational development centres and creating a regional network. The regional fellowships programme should be seen as part of the overall national human resources plan so that it provides targeted support to the development of relevant and skilled health personnel.

In terms of health systems research, it is imperative to develop an inclusive, participatory and transparent research for health strategy. There is a need to generate new knowledge, synthesize available information and strengthen the capacities of researchers to provide much needed research evidence to improve policy and management decisions. There are few institutions in the Region with the potential to train researchers in health policy and systems research or to enable policy-makers in the use of research evidence. The importance of high quality medical journals for transfer of knowledge is increasingly recognized and editors are seeking opportunities to enhance their skills. However the disconnect between the type of research published in regional medical journals compared with the needs of policy-makers is of concern.

Improving access to and availability of up-to-date and valid health and biomedical sciences information is a key challenge for the Region. Capacity for better utilization of health information resources needs to be strengthened. Development of e-libraries in

countries and the medical libraries network are essential steps to promote knowledge management and sharing improvement of health services. Financial constraints continue to limit the ability of the Regional Office to take initiatives and implement key elements of the library and information networks plans and activities.

Achievements towards performance indicator targets in each expected result

In the area of *health policy and planning*, the actions taken to tackle the issues and challenges were based on the following strategic directions: capacity-building to develop the necessary skills in policy analysis and formulation and in strategic planning at national as well as regional level; institutional development of ministries of health in order to support activities aimed at strengthening health policy and planning function; promotion of evidence-based, ethical and consistent health policies and strategies in key policy areas and on emerging health system issues; enhanced understanding of governance and leadership of the health system, and development of a framework for assessment and measures for improvement of health system governance in countries; and improved monitoring of health system reforms in countries through the establishment of a regional health system observatory.

A health system review mission followed by policy dialogue was undertaken in the Syrian Arab Republic to recommend strategic directions for improving health system performance and an exercise to help reorganize the ministry of health in Pakistan was carried out. The initiative to help ministries of health create units for health policy analysis, to help design, manage and monitor health system reforms, was pursued. In this regard, support was provided to Afghanistan, Islamic Republic of Iran, Kuwait, Morocco Pakistan, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates and Yemen to strengthen and institutionalize policy and planning capability. The Eastern Mediterranean Regional Health System Observatory, established in 2006 to help monitor health systems performance of the Member States, continued to provide regularly updated health system profiles of all countries. In addition, it offers a health system database which, though incomplete, is a rich source of data assessing health system performance.

Work in the area of *health care delivery* focused on the renewal of primary health care and patient safety. An analytical paper, presented to the Regional Committee at its 55th session, presented an in-depth review of the changes in primary health services and status in the Region since the Declaration of Alma-Ata in 1978 and proposed strategic directions for the development of health systems based on primary health care. As part of the celebrations of the 30th Anniversary of the Alma-Ata Declaration, an international conference on primary health care was organized in Doha, Qatar, by the Regional Office and the Ministry of Health, Qatar. Over 800 delegates participated in the conference, of whom 150 were international delegates representing 30 countries, including all Member States of the Region. The highlight of the conference was the Qatar Declaration: Health and well-being through health systems based on Primary Health Care, which was endorsed by all Member States of the Region, expressing their commitment to develop national health systems based on the principles and values of primary health care.

In the area of patient safety, the Regional Office focused on providing an evidence base

from 22 hospitals in six countries and on developing tools and instruments to support future interventions based on the evidence acquired. The preliminary and final results of the research study to assess the prevalence of adverse events in these countries were shared in two regional meetings on patient safety. Subsequently, the results for each of the participating countries (Egypt, Jordan, Morocco, Sudan, Tunisia and Yemen) were sent to respective ministries of health. The results indicated high prevalence of adverse events in several countries and a high rate of death and permanent disability as well as a high rate of potentially preventable adverse events in all countries. These results call attention to the need to address gaps in the health systems, including lack of policies and standard operating procedures, poor communication and defective staff training. The results are being used to adapt patient safety standards to the needs of the Region as part of the Patient Safety Friendly Hospital Initiative.

An action plan for implementation of the Patient Safety Friendly Hospital Initiative was drawn up and implementation begun. Ministries of Health of seven countries (Egypt, Jordan, Morocco, Pakistan, Sudan, Tunisia and Yemen) nominated one hospital each to establish a "Patient Safety Friendly Hospital". The Regional Office developed a toolkit to assist the countries in successfully implementing the initiative. The seven hospitals will serve as models for replication. The initiative is a joint effort of the Regional Office, World Alliance for Patient Safety and the International Islamic Relief Organization.

Participants at the Qatar international conference on primary health care display the Qatar Declaration on Primary Heatlh Care

Capacity was strengthened in several countries on methods of adverse event reporting and hospital record analysis for measurement of the degree of patient harm, with the support of the World Alliance for Patient Safety. Hand hygiene, as an integral component of the work on patient safety, was promoted through capacity-building on use of alcohol hand rub and implementation of the WHO hand hygiene guidelines. The campaign to improve hand hygiene is being tested in two pilot countries.

The work on patient safety is well grounded at the country level: 11 countries have pledged to adopt and test the WHO hand hygiene guidelines, 7 countries have adopted the Patient Safety Friendly Hospital Initiative, 8 countries have adopted the patients for patient safety programme and 14 countries have adopted the second patient safety challenge (Safe Surgery Saves Lives). In addition, alternative research tools for adverse event determination, to replace the traditional medical record review methodology, were pilot tested in 4 countries. Success factors include high level political commitment. In addition, a critical mass of regional expertise has been developed over the past 3 years, which is being built upon to develop new patient safety initiatives.

Support was also provided to countries to strengthen *health management* capabilities through in-depth system reviews and capacity development. Technical support was provided to Oman, Sudan and Syrian Arab Republic in management and quality; to Saudi Arabia in improving primary health care supervision and management; to Bahrain to evaluate the emergency care situation and review the proposed action plan for primary care; and to Islamic Republic of Iran for needs assessment and analysis of health managerial skills and techniques.

Conferences were held in collaboration with the Arab Hospital Federation, on implementation of quality in the Arab health care sector, and, in collaboration with the Arab Administrative Development Organization, on new trends in hospital performance improvement and cost containment. An agreement with the Liverpool School of Tropical Medicine is being processed to establish an MSc degree in health system management in Saudi Arabia, Sudan, Syrian Arab Republic and Yemen.

Proposals to the GAVI Alliance for health system strengthening in Afghanistan, Pakistan, Sudan and Yemen were successful, and implementation started. Technical support was provided to several countries to promote advocacy and political commitment to health system strengthening. Cost-sharing agreements were signed with Pakistan to expedite implementation of approved proposals, and with Sudan for health system financing studies. WHO supported development of proposals for round 8 for Afghanistan, Somalia and Sudan. The 15th Regional Working Group on the GAVI Alliance was held in the United Arab Emirates to review the support to the countries in application development, the annual progress report before submission, and joint WHO/UNICEF/GAVI missions to countries.

Technical support for development of evidence-based, equitable and efficient *health financing* options in order to improve the performance of health systems continued. However, the requests from some countries have been limited in scope. Studies in mapping of the health care financing system and household expenditure surveys were commissioned from Bahrain, Egypt, Jordan, Morocco and Tunisia. In addition the Regional Network on Health Economics and Health Systems Research (RESSMA), a francophone health economics network in

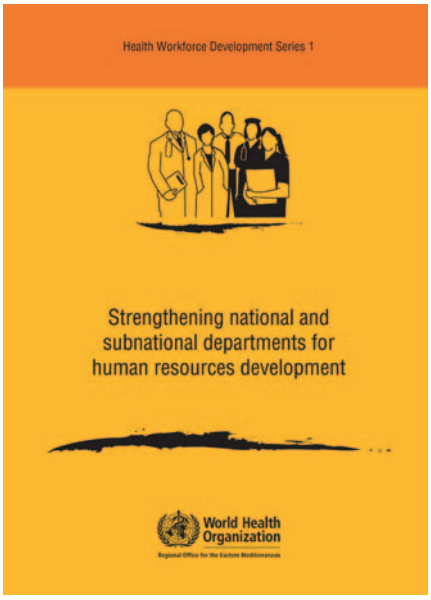
the Maghreb countries, was provided with technical support. New health economics networks in the Islamic Republic of Iran and Pakistan were promoted. A comprehensive initiative to develop regional capacity in health economics and policy in the American University of Cairo with financial support from the Bill and Melinda Gates Foundation is under way. This initiative includes master degrees in health economics and health policy, short executive courses and applied research in health policy and health economics.

The national health accounts teams from all countries, with the exception of Somalia, received a new round of technical training. An expert meeting was organized in collaboration with WHO headquarters and the Regional Office for Europe to review the proposed revised system of health accounts (SHAII). A course in social health insurance is being developed in French for francophone countries of the Region. Francophone countries of the African Region will also benefit from this course. Extensive support was provided to Sudan and Yemen to develop national health accounts and social health insurance.

In the area of health information, support was provided in improving routine health statistics and non-routine data collection. For routine health statistics, a self-administered questionnaire was sent to all focal points to assess the level of implementation of the International Classification of Diseases (ICD) in each country. Technical support was provided to address issues such as the assessment of health information systems, lack of comprehensive vital registries, medical records, mortality and morbidity statistics, including cause of death, and use of ICD-10. As a clearing house of health statistical information for the Region, the Regional Office invested in updating and in maintaining its health situation and trends assessment database. Coordination is taking place with all technical programmes in the Regional Office aimed at harmonizing definitions and reporting in order to avoid inconsistencies in published data. The Regional Office published *Demographic, social and health indicators for countries of the Eastern Mediterranean 2008*.

In the area of non-routine data collection, the member countries of the Gulf Cooperation Council received technical support in the implementation of the World Health Survey, including capacity-building in data management and data analysis. With the support of WHO, a joint project with the League of Arab States to standardize the PAPCHILD and PAPFAM survey data to enable in-depth and comparative analysis started. It will be expanded to include UNICEF, UNFPA and the Institute of Health Metrics and Evaluation to further use this wealth of information. Support was given to countries to implement surveys on health expenditure, mortality, fertility and risk factors. In an effort to further harmonize data collection, manipulation and dissemination, a meeting for the six WHO regions to establish the WHO Global Health Observatory was held in the Regional Office.

In the area of *human resources development*, seven out of the eight regional expected results are on track with only one result, related to establishing dynamic e-systems for human resources for health management and development, at risk due to scarce funding. Six of the targeted eight countries have functioning national human resources development units, of which four have undergone reorganization. The database on health professions education institutions was maintained and now contains data on more than 580 institutes. In addition to a functioning regional human resources for health observatory, national



observatories were established in five more countries (Bahrain, Jordan, Lebanon, Oman, Syrian Arab Republic). Technical support was provided to six countries to strengthen Ministry of Health governance of human resources development. Four more countries established a national continuing professional development system. Six countries (Bahrain, Jordan, Lebanon, Sudan, United Arab Emirates and Yemen) produced studies on human resources for health issues. Three more countries (total 19) are at different stages of establishing national systems of education accreditation. Funding has not yet been secured to establish a regional accreditation board. Proposals were made to grant-awarding bodies to support eight countries facing a crisis in human resources for health.

Collaborative activities continued to focus on investment in the development of *nursing* and midwifery services as a vital component of the health system and health services development and on strengthening *allied health personnel* education. As in previous years, collaboration with countries continued in taking corrective measures to improve basic nursing and midwifery education and reorienting curricula towards primary health care. The capacity of several countries to establish, develop and sustain systems for human resources evidence-based policy and planning, with a focus on imbalanced coverage and categories like nursing and midwifery, was strengthened. Technical support continued to southern Sudan to develop the nursing and allied health resources and to strengthen the capabilities of the existing nursing, midwifery and allied health teachers. In addition plans are under way for completing the building and opening of the Rumbek Institute of Health Sciences which will in the future prepare nurses, midwives and allied health professionals for the provinces in the south. Technical support was continued to Somalia through collaborative programmes with partners to strengthen the nursing schools in the three zones in Somalia to be able to produce nurses, midwives and allied health professionals to meet the country's health services needs. In addition, support was provided, in collaboration with WHO headquarters, partners and WHO collaborating centres for nursing in the Region, to complete the post-basic nurse midwifery curriculum and to establish the programme in the nursing schools and the Institutes of Health Sciences in Mogadishu, Hargeisa and Bossaso. In Afghanistan, support continued to the Institutes of Health Sciences and the community midwifery programme in collaboration with partners.

In order to support countries to initiate programmes to develop qualified and competent health leadership, management, training and teaching with a focus on public health for all health professionals, support was continued to Djibouti, Iraq and Sudan to improve the pre-service nursing, midwifery and allied health education.

Tunisia was supported to strengthen the newly established university level nursing education programme through a twinning mechanism with a nursing faculty in Lebanon. Saudi Arabia, Yemen and the United Arab Emirates implemented the fourth cycle of the leadership and management training programme developed by the International Council of Nurses through the national trainers who were prepared in the first cycle of the programme with support from WHO. Support was provided to the programme in Jordan, which was established in 2006, and the programme was also established in Bahrain.

In Yemen, job descriptions were developed for all levels of nurses and midwives, and support was provided to establish a proper nursing documentation process as part of the patient safety initiative and nursing quality improvement programme. In Syrian Arab Republic, through support of partners, development of the community and primary health care nursing services and education continued in the north-eastern region, which has the lowest health indicators in the country. In Pakistan, a process of mapping all the institutes preparing nurses, midwives and lady health visitors was initiated in order to identify needs in support of the educational reform process. Technical support was provided to the GCC Technical Nursing Committee and Yemen in preparation for the eighth GCC nursing symposium dealing with nursing, midwifery education and human resources; to Sudan and the United Arab Emirates in establishing a national nursing and midwifery council to regulate nursing and midwifery practice and education; and to Lebanon in reviewing and updating the nursing law. A plan for improving the UNRWA nursing and midwifery services was developed based on the regional nursing and midwifery strategy.

In the area of *educational development and training* and in relation to networking of educational development centres, the Educational Development Centre in King Saud bin Abdulaziz University of Health Sciences, Saudi Arabia, was assessed for possible designation and efforts were made to guide other centres applying for designation, in Islamic Republic of Iran and Pakistan. Monitoring of the current collaborating centres in the field of health professions education in Egypt (Suez Canal University), Islamic Republic of Iran (Shahid Beheshti University), Pakistan (College of Physicians and Surgeons) and Sudan (Gezira and Khartoum) was undertaken. Re-designation of two centres (Gezira in Sudan and College of Physicians and Surgeons in Pakistan) was completed.

A meeting was held in Bahrain with the support of headquarters to discuss issues related to the new electronic system for WHO collaborating centres, and strengthening of collaboration and networking. The directors of eight WHO collaborating centres in the area of health professions education in the Region participated. Steps towards establishment of the channels of communication among different centres and national networking were taken, including preparation of a detailed list of all the educational development centres in Islamic Republic of Iran.

With regard to the WHO fellowships programme, a policy and management document was developed to address the best practices in the Region. The Regional Office fellowships administration was assessed and benefited from the recommendations made on different aspects of processing and monitoring of fellowships. Contributions were made to preparing the terms of reference and the action plan of the task force for impact assessment of the global UN fellowships

programme, as recommended by the 16th Meeting of Senior Fellowships Officers of UN in 2008. A rapid impact assessment of fellowships was carried out in six countries (Afghanistan, Islamic Republic of Iran, Palestine, Sudan, Syrian Arab Republic and Yemen).

During 2008 a total of 279 fellowship requests were received and processed, out of which 265 fellowships were awarded (Table 2.1). The highest number of requests was from Sudan (65) followed by Afghanistan (36) and Iraq (35). This shows a change in the pattern of the past few years, when Iraq was sending almost one third of all fellows. The reduction in the requests from Iraq also contributed to the sharp reduction in the total fellowship numbers during the year.

Following the trend of recent years, the majority of fellows (153) were placed within the Region (Figure 2.3). The highest numbers were placed in Islamic Republic of Iran (39), followed by Sudan (31) and Egypt (24). This differs from recent years when Egypt was the host for the majority of fellows. No fellowships were requested by Lebanon, Qatar and United Arab Emirates.

Table 2.1 Number of fellowships awarded to the countries of the Region, 2008

Country	Number	Percent (%)
Afghanistan	36	13.6
Bahrain	4	1.5
Djibouti	2	0.8
Egypt	1	0.4
Iran, Islamic Republic of	2	0.8
Iraq	35	13.2
Jordan	4	1.5
Kuwait	1	0.4
Libyan Arab Jamihiriya	1	0.4
Morocco	8	3.0
Oman	4	1.5
Pakistan	13	4.9
Palestine	12	4.5
Saudi Arabia	2	0.8
Somalia	31	11.7
Sudan	65	24.5
Syrian Arab Republic	9	3.4
Tunisia	4	1.5
Yemen	31	11.7
Grand total	265	100.0

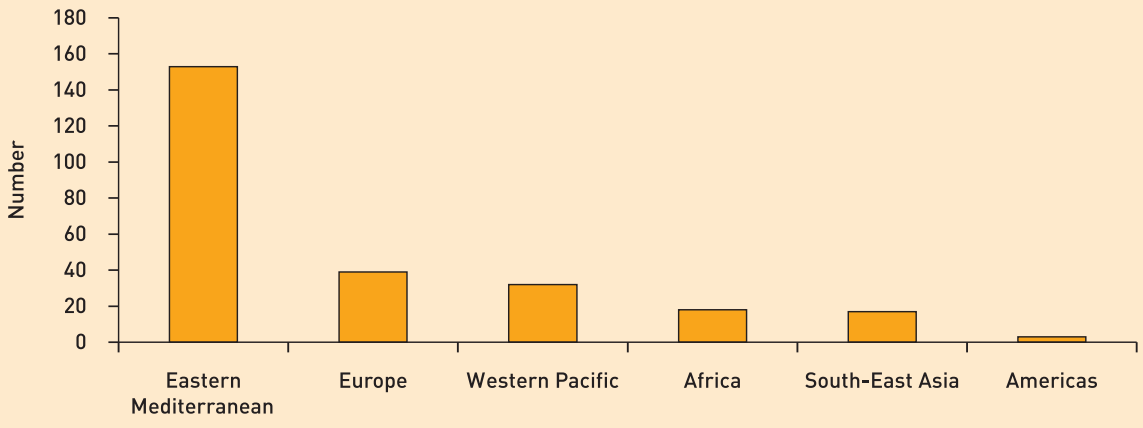


Figure 2.3 Distribution of fellowships by region of placement, 2008

A total of 14 francophone fellows from the African Region were placed in the countries of the Eastern Mediterranean Region, mainly Tunisia and Morocco. Distance learning was also utilized in seven cases (two in medical education and five in epidemiology and biostatistics). The frequency distribution of areas of study shows communicable diseases as the most frequent area of study followed by public health sciences (Figure 2.4).

With regard to support to countries to undertake research on different aspects of education, financial constraints prevented progress. However, the assessment of health professions educational institutions in Somalia was carried out in order to plan for meeting their needs and to develop a proposal for fund-raising. The Regional Office continued to support the countries to upgrade their educational programmes towards more relevant and efficient approaches. The assessment tool for the health profession education institutions was further revised and used for the assessment of medical and nursing institutions in Somalia. Human resources development was further supported in many countries with priority given to countries like Somalia. A group of faculty members from different institutions were sent to different workshops and training courses and were invited to a meeting in the Office to develop a joint workplan. A proposal was developed for fund-raising and putting the workplans into action.

In the area of *research policy and cooperation*, support was provided to strengthen leadership and capacity in health systems research. To create demand for user-driven health policy in health systems research, capacity was built among science journalists and health information specialists in Yemen for science and health journalism

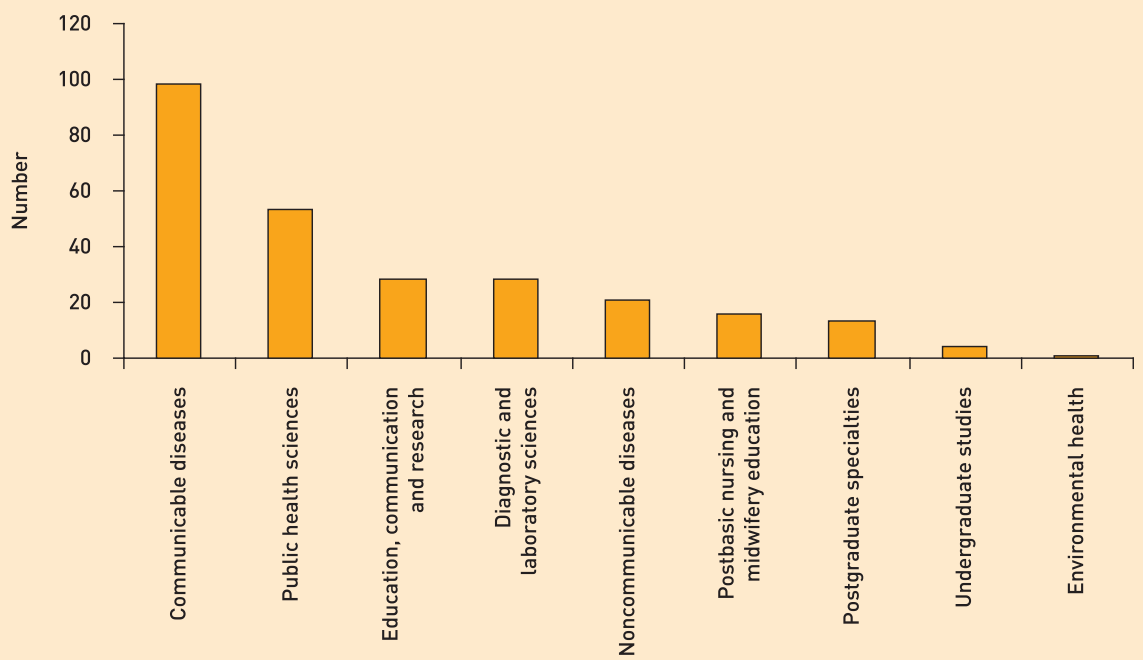
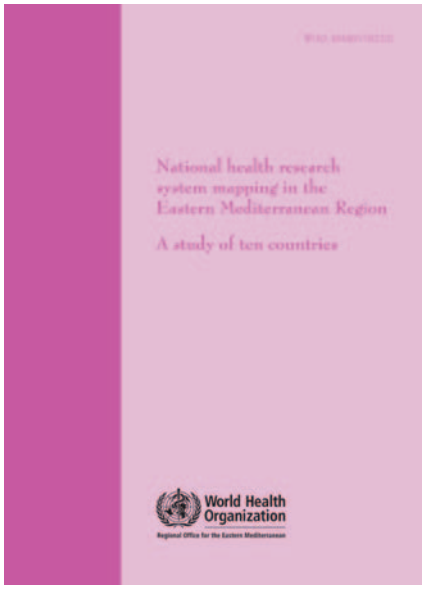


Figure 2.4 Distribution of fellowships by area of study, 2008

and for writing a journal article and getting it published. High level representatives from six countries and staff from the Regional Office participated in the 2008 Global Ministerial Forum on Research for Health in Bamako, and played a visible and constructive role in development and finalization of the Bamako Call to Action and Communiqué. This will play a leading role in generation and translation of knowledge for improved policy over the next few years.

In response to the 6th call for submission of research applications in priority areas of public health, 111 proposals were received from 14 countries; 76 proposals were short-listed and 19 proposals were approved by the selection committee for funding, making a total of 140 proposals funded in 15 countries of the Region from the 1st to the 6th rounds (Figure 2.5).

In order to strengthen national capacity for harnessing genomics and biotechnology



in health research, research and training in critical areas of applied biotechnology and genomics were supported. Fourteen research grants were provided under the 3rd round of the EMRO-COMSTECH grant, making a

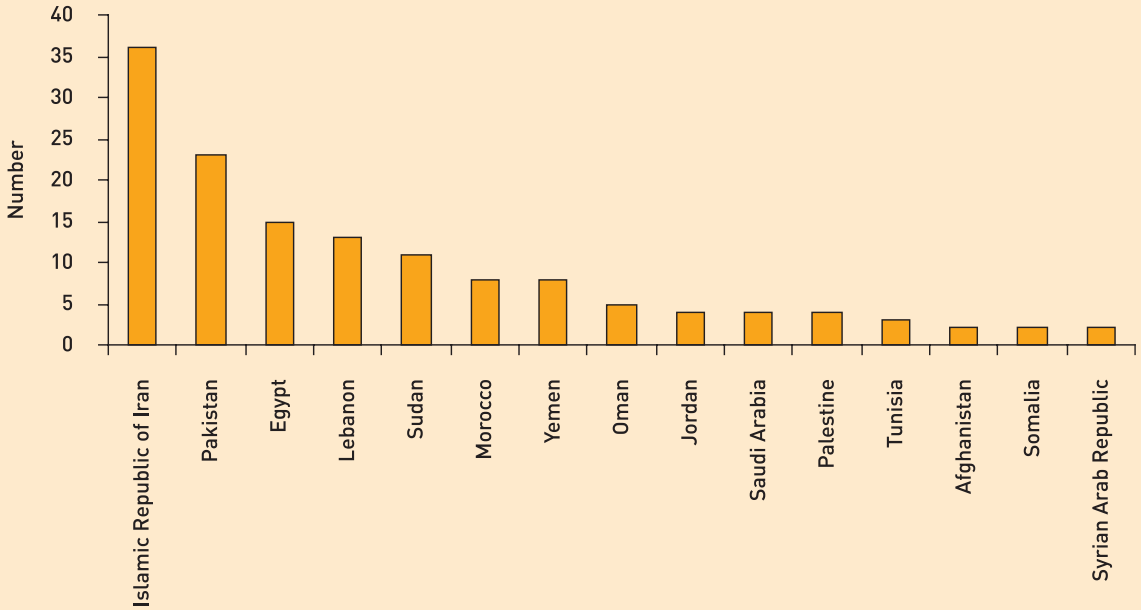


Figure 2.5 Proposals funded by country in rounds 1–6 (2002-2008) of the special grant for research in priority areas of public health

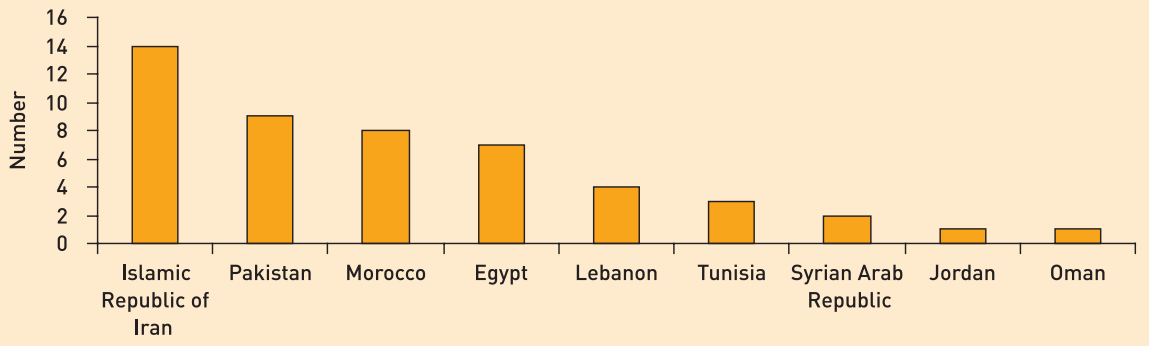


Figure 2.6 Proposals funded by country in rounds 1–3 (2004–2008) of the grant for research in applied biotechnology and genomics in health

total of 49 proposals funded in nine countries of the Region through this grant (Figure 2.6). Capacity-building on bioinformatics methods and software handling was supported. Three participants from the Region were supported to attend a training programme on computational biology organized by Sultan Qaboos University, Oman.

In order to strengthen national capacity for harnessing genomics and biotechnology in health research, research and training in critical areas of applied biotechnology and genomics were supported. Fourteen research grants were provided under the 3rd round of the EMRO-COMSTECH grant, making a total of 49 proposals funded in nine countries of the Region through this grant (Figure 2.6). Capacity-building on bioinformatics methods and software handling was supported. Three participants from the Region were supported to attend a training programme on computational biology organized by Sultan Qaboos University, Oman.

In order to support the ethics review process and regional networking in ethics of research for health, the Regional Office held an expert meeting on ethical and legal issues of human embryo research in Cairo, Egypt, in collaboration with UNESCO and ISESCO. The meeting was attended by regional and international experts, and recommendations included development of national and regional guidelines on human embryo stem cell research. The first meeting of the Eastern Mediterranean and Arab Forum on Bioethics in Research was held in Cairo, Egypt, in collaboration with UNESCO, ISESCO and the Middle East Research Training Initiative (MERETI) of the University of Maryland, Baltimore. The theme of the meeting was challenges to ethical considerations in research with regard to research subjects, researchers and research ethics committees. The forum brought together about 150 interested stakeholders and experts in bioethics from the Region and beyond. The presenters highlighted the efforts under way in the Region and globally to build bioethics capacity and to enhance and improve researchers' bioethical knowledge and practices.

In the area of *knowledge management*, regional activities continued in line with the regional strategy for knowledge management to support public health. At regional level capacity was strengthened in library and information networking and in the use of the Health Inter-Network Access to Research Initiative (HINARI) and Online Access to

Research in Environment (OARE). At national level, capacity was strengthened in medical librarianship and computer-based library systems for medical librarians in Yemen and Tunisia, and, in collaboration with UNEP and FAO, in HINARI, OARE and Access to Global Online Research in Agriculture (AGORA), for health care professionals and medical librarians in Sudan.

Regional capacity in publishing quality medical journals continued to be promoted. Following the fourth regional conference on medical journals, hosted by the Ministry of Health, Bahrain, the membership of the Eastern Mediterranean Association of Medical Editors increased by around 25% to reach almost 270 members. The biennial conference and network have proved to be invaluable forums for knowledge sharing and capacity-building among editors in the Region.

Future directions

Adherence to the values and principles of primary health care will underpin the work on the development of health systems in the Region. Following the endorsement of the Qatar Declaration on primary health care by the Member States, efforts will be made to turn the commitments made in the declaration into actions on the ground. In the area of health policy and planning, priority will continue to be focused on strengthening capacity in policy formulation and strategic planning. The work on governance will focus on strengthening health legislation, regulation and standard setting, and improving accountability within health systems. Improving donor coordination and monitoring aid effectiveness will be a new area. The work on the regional health system observatory will be consolidated. A comprehensive review of the various modes of health care delivery will be undertaken to help countries adapt to health care delivery models that best suit their needs and circumstances. Family practice will be promoted to meet the increasing demand from countries. The work on patient safety will be expanded to more countries and to include quality of care and accreditation of health facilities. Model Patient Safety Friendly Hospitals will be established in several countries. Experiences with decentralization will be assessed in several countries. Health system strengthening support will be provided to global health initiatives through development of national teams to effectively monitor their implementation. Development of prepayment social health protection schemes will be promoted. Capacity development in the areas of health economics and financing and analytical tools will continue and advocacy to invest in health and protect populations' health will be intensified in light of the global financial and economic crisis.

Countries will be supported to assess their health information systems including vital registration systems. The use of essential health indicators and ICD 10 will be promoted. The health situation and trends database will be further improved through better coordination and establishment of national health observatories. The use of information technology will be promoted in data collection, compilation and dissemination. Support to conduct population-based health surveys to complement the routine data systems will be provided along with capacity-building in data analysis and dissemination.

Development and institutionalization of evidence-based policy for human resources for health will be promoted. Special attention will be given to countries with pressing needs in order to improve the production, distribution, skill mix and retention of

workforce and respond to the needs of primary health care-driven national health systems. The updated strategy on nursing and midwifery will be applied. Workforce planning, education, maximum utilization of roles, positive practice environments with specific strategies for scaling-up the nursing and midwifery workforce in countries in conflict and complex emergencies, and strategies to retain nurses and midwives and manage migration will be emphasized. Educational development centres will be encouraged to introduce innovative approaches in education of health professions, integration of education with services and continuing health professions development. They will be supported in the development of research proposals and training in the area of health professions education.

Support will be given to the development of national health research strategies; establishment of the regional Evidence-Informed Policy Network (EMR EvIPNet); creation of demand for evidence for informed decisions; capacity development in health systems research and ethical review; strengthening national capacities for harnessing genomics and biotechnology in health research; establishment of an electronic repository of unpublished (grey) literature; and development of a regional strategy on research for health. Further capacity-building of editors of medical journals is planned through development of a training course for trainers. Capacity-building in medical librarianship and access to electronic health information resources will continue.

Strategic objective 11: To ensure improved access, quality and use of medical products and technologies

Issues and challenges

Essential health technology, including medicines, vaccines, blood transfusion, blood products and laboratory technology, saves lives and improves health provided it is of assured quality, safe, effective, available, affordable and wisely used. There are many challenges in each of these aspects in the Region. Around 50% of recurrent health budget is spent on essential health technology by ministries of health, and yet this is too low in real terms in low-income countries, many of which also suffer from complex emergencies. Reliable access to essential health technology thus remains a huge challenge. Voluntary blood donation is also limited and makes emergency management a challenge. Minimal social protection and high out-of-pocket expense on essential health technology is a typical case scenario. Lack of appropriate selection for biomedical technology and of maintenance budget are serious issues. Countries generally lack coherent and cogent national vision for essential health technology. National regulatory institutions, with a few notable exceptions, remain fragmented and inadequate and the private sector is ineffectively regulated. Substandard and counterfeit essential health technology have become a problem in a few countries. Post-marketing surveillance is almost negligible in the Region and pharmacovigilance, vaccine quality and safety and radioprotection continue to be major safety issues. The peculiarity of biological products, including vaccines and sera, is not

effectively catered for in regulatory systems. Human resources are a vital issue, while traditional medicine is generally insufficiently integrated in health systems. Irrational use of essential health technology is high and efforts to promote better use largely remain piecemeal and ad hoc with no sustainable improvement being achieved.

Achievements towards performance indicator targets in each expected result

In the area of *essential medicines and pharmaceutical policies*, the Regional Office continued to advocate for and support development and monitoring of comprehensive national medicine policies based on the essential medicines concept. The majority of countries have a national medicine policy. Bahrain and Morocco started developing their first national medicine policies and Pakistan started reviewing its existing policy. In the area of traditional, complementary and alternative medicine, the member countries of the Gulf Cooperation Council embarked upon developing a sub-regional strategy for traditional medicine and practices with support from WHO. Transparency assessments in pharmaceutical policy and management were undertaken in Jordan, Lebanon, Morocco, Pakistan and Syrian Arab Republic as part of the global good governance programme in medicines. Pharmaceutical sector assessment was initiated in the Syrian Arab Republic following completion in Egypt, Pakistan, Sudan and Yemen.

With regard to access to medicines, the Islamic Republic of Iran and Oman completed national medicine price surveys, joining nine other countries which have already completed such surveys. A policy guide for health-related TRIPs-plus provisions in Bilateral Free Trade Agreements in the Region was finalized with focus on access to new patent protected essential medicines. *Medicine prices, availability, affordability and price components*, a synthesis report of the medicine price surveys undertaken in selected countries, was published. An electronic medicines price information exchange is being developed, in line with a resolution of the Regional Committee, in order to facilitate efficient and informed public sector procurement of medicines. Seven country case studies on assessment of national intellectual property protection regimes and infrastructure with reference to access to medicines were finalized in a collaborative project with UNDP.

With regard to establishment and strengthening of comprehensive national regulatory authorities, assessment of the medicines regulatory authority was completed in Egypt. Sudan undertook a major initiative on the basis of the recommendations of the assessment conducted there, establishing an autonomous national regulatory authority. Technical support is being provided to Pakistan which is also in process of creating an autonomous national regulatory authority.

Assessment of rational medicine use was completed in Jordan in refugee camps managed by UNRWA. A comprehensive plan for Abu Dhabi, United Arab Emirates, for promotion of rational use of medicines was supported and an assessment was undertaken in Tunisia. National programme officers were appointed to support strengthening of rational use of medicines in Afghanistan and Pakistan.

In the area of *blood safety, laboratory, biomedical engineering and imaging*, capacity was strengthened in voluntary nonremunerated blood donation, transfusion transmissible infections, good manufacturing practices in blood and blood products, and appropriate clinical use of blood and blood derivatives. Based on needs assessment of technology resources, including mapping of existing laboratories and available facilities, all countries received support to rehabilitate their laboratory networks and blood transfusion services, especially countries emerging from complex disaster situations. The Blood Transfusion Training Centre in Baghdad, Iraq, has made particular progress. Partnerships with regional and international stakeholders were strengthened in the relevant areas. Laboratory services in communicable diseases are supported in the Islamic Republic of Iran, Iraq, Lebanon, Sudan, Syrian Arab Republic and Yemen.

Communication and computer networking to link the peripheral and district laboratories to central public health laboratories were established. Laboratory networks were involved in antimicrobial resistance surveillance and containment, control of hospital-acquired infections, biosafety and biosecurity, and were linked with surveillance and epidemiology departments in order to better detect and respond to emerging diseases, outbreaks and epidemics. Commendable efforts were made in Egypt and Pakistan to support the development of health legislation related to organ transplantation. Technical support was provided to Afghanistan to promote essential surgical procedures at various levels.

The Regional Office continued to collaborate with WHO headquarters to develop a framework that can be used by Member States to develop their own prioritized lists of health technologies, especially medical devices. Prioritization will depend on several factors including existing inventory, disease profiles and trends, financial resources, population demographics, health system information, national standards, public health conditions and national objectives.

A new programme on *essential vaccines and biological policies* started in 2007 with a focus on vaccine quality. National awareness-raising meetings were conducted in Jordan and Libyan Arab Jamahiriya to develop a strategy for vaccine regulation. In order to develop efficient vaccine procurement systems in the Region, technical support was provided to the Maghrebian countries to build a pooled vaccine procurement system. Performance of the vaccine self-procurement systems in Oman and Pakistan was assessed.

The vaccine regulatory systems in Egypt, Jordan, Libyan Arab Jamahiriya, Oman and Pakistan were reviewed. Continued technical support was provided to strengthen national regulatory authorities, with particular attention on the vaccine-producing countries, in line with the regional strategy for ensuring regional vaccine self-sufficiency. In Egypt, the institutional development plan was reviewed and updated; specific training on vaccine regulation and on good manufacturing practices inspection, and an advanced course on adverse events following immunization (AEFI) surveillance were carried out. As part of the regional strategy, the framework of the

regional network for lot release and control of vaccines is being developed.

The Regional Office continued to support vaccine production in the Region through technical support in order to ensure the WHO prequalification status of the vaccines. WHO initiated a new project with the Islamic Republic of Iran to improve national vaccine production. Eight countries were supported to develop the AEFI surveillance system. A WHO Global Training Course on AEFI surveillance was organized for countries of the Region.

A project to improve the production, control and regulation of antivenoms was started. Producers and regulators from the Region that are producing antivenoms were involved in the review of the WHO draft guidelines on production, control and regulation of antivenoms.

Evaluation of the activities of the Pakistan National Institute of Health was undertaken as a part of the project for restructuring this institute. A review of the activities of the Lebanese Public Health Laboratory was conducted in order to rehabilitate critical activities related to public health laboratories, control of medicines and control of food and water.

Future directions

A health system perspective will continue to underpin the work in the area of essential health technology. Countries will be supported in the development, review and implementation of national medicine policies; national strategy for vaccine quality and regulation; rational selection and maintenance of health technology; and improved access to safe blood and blood products and better blood transfusion services. Low-income countries and countries in complex emergencies will continue to be a priority. Development of legislation related to ethical, safe and suitable access to allergenic and xenogeneic transplantations will be promoted. Vaccine safety, through an efficient post-marketing surveillance and pharmacovigilance system, will be a priority. Promotion of good governance in pharmaceutical polices and practices, affordable prices of essential medicines and efficient and reliable supply systems for health products will remain important areas of work. Operational research and assessment at policy level as well as various levels in the supply chain will continue in order to identify the gaps and plan appropriate technical support and capacity-building. Countries will also be supported to develop a national comprehensive approach for rational use of essential health technology.