

**Country Cooperation Strategy  
for WHO and the United Arab Emirates  
2012–2017**

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## **1. INTRODUCTION**

The Country Cooperation Strategy (CCS) reflects a medium-term vision of WHO for technical cooperation with a given country and defines a strategic framework for working in and with the country. The CCS process, in consideration of global and regional health priorities, has the objective of bringing the strength of WHO support at country, Regional Office and headquarters levels together in a coherent manner to address the country's health priorities and challenges. The CCS, in the spirit of Health for All (HFA) and primary health care, examines the health situation in the country within a holistic approach that encompasses the health sector, socioeconomic status, the determinants of health and upstream national policies and strategies that have a major bearing on health.

The exercise aims to identify the health priorities in the country and place WHO support within a framework of 4–6 years in order to have stronger impact on health policy and health system development, strengthening the linkages between health and cross-cutting issues at the country level. This medium-term strategy does not preclude response to other specific technical and managerial areas in which the country may require WHO assistance.

The CCS takes into consideration the work of all other partners and stakeholders in health and health-related areas. The process is sensitive to evolutions in policy or strategic exercises that have been undertaken by the national health sector and other related partners. The overall purpose is to provide a foundation and strategic basis for planning as well as to improve WHO's contribution to Member States for achieving the Millennium Development Goals (MDGs).

The CCS for the United Arab Emirates is the result of analysis of the health and development situation and of WHO's current programme of activities. During its preparation, key officials within the Ministry of Health, the Health Authorities of Abu Dhabi and Dubai and the national health syndicate were consulted. The critical challenges for health development were identified. Based on the health priorities of the country, a strategic agenda for WHO collaboration was developed.

## **2. COUNTRY HEALTH AND DEVELOPMENT CHALLENGES AND NATIONAL RESPONSE**

### **2.1 Government and geography**

The United Arab Emirates is a federal state established in December 1971 and consisting of seven emirates: Abu Dhabi, Dubai, Sharjah, Umm al Qaywayn, Ajman, Al Fajayrah and Ras al Khaymah. The Supreme Council, comprising the rulers of the seven emirates, is the highest constitutional authority. It is also the highest legislative and executive authority; it draws up the general policies and approves federal legislation. The Cabinet, or Council of Ministers headed by the Prime Minister, is the executive authority for the country. Under the control of the President and the Supreme Council, it manages all internal and foreign affairs of the country under its constitution and federal laws. Corresponding to the federal institutions are the local governments of the seven emirates. Varying in size, they have evolved along with the country's growth. However, their mechanisms differ among emirates depending on factors such as population, area and degree of development. The largest and

most populous emirate, Abu Dhabi, has its own central governing organ, the Executive Council, under which there are a number of separate departments, equivalent to ministries. Abu Dhabi also has a National Consultative Council, chaired by a speaker, with 60 members selected from among the emirate's main tribes and families. The Dubai Executive Council, established in 2003, has similar functions for the country's second largest emirate. Sharjah and Ajman also have Executive Councils.

The total area of the United Arab Emirates is 83 600 sq km<sup>1</sup>, most of which is desert. It is situated in a strategic location along the southern approaches to the Strait of Hormuz, a vital transit point for world crude oil, bordering on Oman and Saudi Arabia. The country has a long coastline and is endowed with rich reserves of petroleum and natural gas. In 2009, over 70% of the total water withdrawal was primary groundwater (including fossil water), 24% was desalinated water and around 6% was treated wastewater.<sup>2</sup>

## 2.2 Population

The population was 8.2 million in 2010.<sup>1</sup> Nationals of the United Arab Emirates comprise 11% of the population and about 8% of the workforce (Table 1). Indians comprise the largest proportion of population, estimated at 36%, followed by Pakistanis at 14%.<sup>3</sup> The remaining expatriate population comprises mainly nationals of Sri Lanka, Bangladesh, Philippines, North America and Europe, Islamic Republic of Iran, and other Arab countries (especially Egypt and Palestine).

**Table 1. Demographic indicators**

Indicator	Value	Year
Population, total	8 264 000	2011
Population ages 0–14 (% of total)	19.1	2008
Population ages 65 and above (% of total)	0.9	2008
Population growth (annual %)	6.1	2008
Birth rate, crude (births per 1000 population)	9.6	2010
Death rate, crude (deaths per 1000 population)	.9	2010
Life expectancy at birth, total (years)	77.4	2008
Fertility rate, total (births per woman)	2.4	2009
Urban population (% of total)	81.0	2008
Percentage of population recognized as a national*	11	2010
Percentage of population recognized as a non-national*	89	2010

Source: *Demographic, social and health indicators for countries of the Eastern Mediterranean 2012*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2012.

\*derived from data from the National Bureau of Statistics, United Arab Emirates (<http://www.uaestatistics.gov.ae>, accessed 6 December 2012)

<sup>1</sup>*Demographic, social and health indicators for countries of the Eastern Mediterranean 2011*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2011.

<sup>2</sup> United Nations Environment Programme. *State of the environment and policy retrospective 1972–2002*. London, Earthscan Publications, 2002.

<sup>3</sup> *Country profile 2008: United Arab Emirates*. London, Economist Intelligence Unit, 2008.

## 2.3 Social determinants of health

The economy is primarily derived from oil and gas. Oil reserves are estimated at around 98 billion barrels, the fifth largest in the Organization of Petroleum Exporting Countries (OPEC). Natural gas reserves are estimated to be the fifth largest in the world.<sup>3</sup> Per capita income has fluctuated in recent years as a result of unstable oil prices and the global economic crisis. The country is successfully diversifying its economy away from the hydrocarbon sector, with the non-oil sector having grown by 54% in 2003–2007 in nominal GDP terms.<sup>3</sup>

The United Arab Emirates has the highest Human Development Index in the Eastern Mediterranean Region, and is ranked at 30 out of 187 countries globally. The country has invested heavily in educating its citizens (Table 2), with good progress in mainstreaming girls and women's education at all levels, including the tertiary level.<sup>4</sup> In its education strategy of 2010–2020, the Ministry of Education emphasizes teacher training and development, focusing on the nationalization of the teaching pool and lessening the dependence on foreign skills.

**Table 2. Socioeconomic indicators**

Indicator	Value	Year
GDP growth (annual %)	1	2010
GDP per capita, PPP (current international \$)	47 213	2010
GNI per capita, PPP (current international \$)	50 580	2009
Labour force, female (% of total labour force)	15	2009
Unemployment, female (% of female labour force)	12	2008
Unemployment, male (% of male labour force)	2	2008
Unemployment, total (% of total labour force)	4	2008
Unemployment, youth female (% of female labour force aged 15–24)	22	2008
Unemployment, youth male (% of male labour force aged 15–24)	8	2008
Unemployment, youth total (% of total labour force ages 15–24)	12	2008
Adult literacy rate, female 15+ years (%)*	93	2008
Adult literacy rate, male 15+ years (%)*	92	2008
Adult literacy rate, total 15+ years (%)*	92	2008
Population with sustainable access to improved water source (%)*	100	2008
Population with sustainable access to improved sanitation (%)*	100	2008

Source: *World Development Indicators 2012*. World Bank, 2012.

\* Source: *Demographic, social and health indicators for countries of the Eastern Mediterranean 2012*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2012.

<sup>4</sup> Al-Suwaidi A. The United Arab Emirates at 40: a balance sheet. *Middle East Policy*, 2011, 18(4):44–58.

## 2.4 Health profile

### 2.4.1 Health overview

Health care is provided for all nationals, as mandated by Article 19 in the constitution. Total expenditure on health as a percentage of GDP was 4.0 in 2010 and translated into an average per capita expenditure of US\$ 1078 (Table 3).<sup>1</sup> The population is growing quickly, but almost one third is below the age of 15 years. The number of pensioners is forecast to reach only 1.4 million, or just over 15% of the population, by 2020.<sup>5</sup> There is an increasing demand on health care services: by 2015 the demand is estimated to rise by 16%, and the government has already begun to explore public–private partnership in the health sector.

The United Arab Emirates has managed to eradicate many of the communicable diseases still present in much of the Region; however, due to the increasingly sedentary lifestyles, some of the highest incidences of noncommunicable diseases in the world are found in the country, with high prevalence rates.

National health care indicators are equivalent to those in high-income countries (Table 4). Fully 25% (US\$2 billion) of total health care expenditure in 2010 was spent sending patients for treatment abroad.<sup>5</sup> The absence of local expertise, expensive treatment and a general lack of confidence in medical facilities are the main driving forces behind this.

**Table 3. Health expenditure indicators 2010**

Indicator	
Total expenditure on health as % of GDP	4.0
Total expenditure on health (per capita) (average US\$ exchange rate)	1450.0
Per capita government expenditure on health (average US\$ exchange rate)	1078.0
General government expenditure on health as % of total health expenditure	74.0
Out-of-pocket expenditure as % of total health expenditure	19.0

Source: *Demographic, social and health indicators for countries of the Eastern Mediterranean 2012*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2012.

**Table 4. Health status indicators 2010**

Neonatal mortality rate (deaths per 1000 live births)	4.9
Infant mortality rate (deaths per 1000 live births)	7.1
Under five mortality rate (deaths per 1000 live births)	9.8
Maternal mortality ratio (deaths per 100 000 live births)*	12
Births attended by skilled health personnel (%)	100

Source: *Demographic, social and health indicators for countries of the Eastern Mediterranean 2012*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2012.

\* United Nations Maternal Mortality Estimation Inter-Agency Group estimate

<sup>5</sup> *Industry report: healthcare United Arab Emirates 2011*. London, Economist Intelligence Unit, 2011.

## 2.4.2 Health systems

### Governance

The health sector is administered by different authorities. At the federal level there are two entities: the Ministry of Health (responsible for regulating the public health sector) and the Emirates Health Authority (responsible for service delivery). At the emirate level there are also two: the Health Authority Abu Dhabi and the Dubai Health Authority. The Ministry of Health and health authorities have developed policies and strategies for health development with the aim of further improving quality of health care and access to required primary, secondary and tertiary care. A primary concern is the expatriate community, whose members are not entitled to universal care and must pay for health insurance. In 2008 Abu Dhabi made health insurance mandatory for expatriates, a policy that at the federal level is being encouraged for the rest of the emirates.<sup>5</sup> While a number of policies and strategies for different health programmes exist at the Ministry of Health and health authorities, there is a need for a consolidated national health policy and strategy at Ministry of Health level as well as health authorities level to assist in harmonizing health development at all levels. Similarly, many health laws are in place at national and health authority levels. Activities are under way to amalgamate such legislation as a part of a consolidated public health law.

The establishment of harmonized rules and regulations, norms, standards and managerial practices in health is a major priority for the health sector. In addition, there is need to re-examine intersectoral collaboration and partnership to optimize the contribution of other sectors, ministries and local authorities in applying a rights-based public health approach addressing the social determinants of health.

The national health strategy is based on the overall government strategy of 2011–2013, focusing on a comprehensive and effective health system for communal health. The strategic objectives are as follows:<sup>6</sup>

- Enhance and strengthen the Ministry of Health's role in setting and applying policies, regulations and governance guidance at federal level;
- Develop and improve the Ministry of Health infrastructural facilities;
- Enhance and develop the health care safety system to counter health hazards;
- Promote public health care standards and raise public health care awareness among the community on international standards;
- Ensure and guarantee provision of comprehensive health care services up to international standards;
- Support, enhance and apply scientific research and health care studies;
- Ensure and guarantee the provision of central administrative services according to applied quality, efficiency and credibility standards;

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<sup>6</sup> *Ministry of Health strategy*. United Arab Emirates, Ministry of Health, 2012. (<http://www.moh.gov.ae/en/About/Pages/Strategy.aspx>, accessed 6 December 2012)

- Ensure and guarantee the provision of decentralized administrative services according to applied quality, efficiency and credibility standards;
- Improve auxiliary support to health care services.

### **Service delivery and health workforce**

The care delivery system is based on the primary health care approach. The first contact is the primary health centres. The planned staffing of these centres includes specialist physicians, general practitioners, pharmacists, dentists, nurses, technicians and orderly attendants.

The country recognizes the importance of increasing its human resources for health, specifically strengthening national capabilities by increasing the number of medical schools and training facilities. The health care system depends on professionals from overseas, with expatriates comprising 80% of doctors and over 90% of nurses. In addition, staff turnover is quite high, adding to the shortage.<sup>5</sup> There are two public and a number of private medical schools, the largest of which is the government-funded Emirates University Medical School in Al Ain,<sup>7</sup> in addition to two nursing schools. Postgraduate training is available in internal medicine, surgery, obstetrics and gynaecology, paediatrics, family medicine, community medicine, psychiatry and emergency medicine. The capacity of these schools to produce enough medical graduates to serve the growing population is insufficient, therefore the country will continue to rely heavily on an expatriate health workforce.

The United Arab Emirates has 31 public and 43 private hospitals, with a number of new health care facilities planned. Centres of excellence such as Harvard and Johns Hopkins universities have been commissioned to improve the management and services of hospitals and build capacities in accreditation. Legislation, norms, standards and protocols are in place for health care quality assurance, but monitoring, appraisal and evaluation need to be strengthened in order to improve quality assurance and patient safety.

### **Health information system**

The Ministry of Health collects comprehensive health data from the northern emirates. Similarly, the Health Authorities of Abu Dhabi and Dubai collect health information in their respective emirates. There are vast amounts of information collected; however, there is no integrated system to harmonize, align, consolidate and report health information at the federal level. There is a need for a strategy and plan for the development of a health information system.

In view of the rapid development and considerable population increase in the United Arab Emirates, health care facilities needs to be extended and the dynamic of service provision and management for health needs to adapt rapidly. Therefore, applied research assumes a major importance for health development in the country. Special attention must be

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<sup>7</sup> Partridge R, Abbo M, Virk A. Emergency medicine in Dubai, United Arab Emirates. *International Journal of Emergency Medicine*, 2009, 2(3):135–9.

paid to the health system and the high prevalence of chronic noncommunicable diseases. In this regard, the rapid growth of universities and medical schools provides a good opportunity to involve faculties and students in these priority research areas.

### **Health financing**

Free health coverage is universal for nationals, and laws have been instituted to ensure mandatory health insurance for non-nationals. In 2010 the government was responsible for 74% of total health care expenditure (see Table 3). However, for non-nationals the market for health insurance in the country is fragmented, with each emirate having its own policies. The federal government began in 2009 to introduce a national health insurance scheme throughout the country.<sup>8</sup> Non-nationals in Abu Dhabi are provided full insurance coverage either through their employers or charitable funds. Similarly, in Dubai, a provision to provide coverage to 75% of non-nationals is in place and is planned to be extended to all. In Dubai, foreign workers can either obtain their own health insurance or apply for a health card from the current public health care regulator, the Department of Health and Medical Services. The remaining emirates will soon extend insurance coverage through a federal system. Accordingly, growth in consumer expenditure on health care is forecast to average 13.7% in 2011–2015.<sup>5</sup>

### **Pharmaceuticals and medical devices**

The Ministry of Health regulates the price of medicines. External (international) reference pricing is primarily used to set prices of originator brand products, with generics priced at 30% less than the originator brand price.<sup>8</sup> There are four domestic producers of pharmaceutical products, and domestic production is dominated by generic drugs, which are less expensive than imported medicines. The country's pharmaceutical market is dominated by foreign multinationals. A legal framework and procedures for quality control, dispensing and management of medicines are in place. Medical devices are also regulated by the Ministry of Health. The country is making efforts to encourage biotechnology. It has established the Dubai Biotechnology and Research Park (DuBiotech), a science and business park designed to become a regional hub for research and collaboration into life sciences, as well as education and industry. In addition, Zayed Complex for Herbal Research and Traditional Medicine is a WHO collaborating centre for strengthening research on herbal medicine, improving safety, quality and efficacy of herbal products and conducting international seminars on herbal medicine research.

Overutilization of medicines, a lack of a federal drug policy and no accreditation of laboratories are very serious deficiencies in the health system. Research on rational use of medicines and antimicrobial resistance are lacking. WHO has designated a collaborating centre, Sharjah Blood Transfusion and Research Centre, to build capacity, promote research and strengthen national blood transfusion services.

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<sup>8</sup> *Medicine prices, availability, affordability and price components: United Arab Emirates 2010*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2010 (Document WHO-EM/EDB/101/E).

**Table 5. Causes of death among children under 5 years, 2000 and 2010**

<b>Cause of death</b>	<b>2000 (%)</b>	<b>2010 (%)</b>
Diarrhoea	1	0
Pneumonia	4	2
Prematurity <sup>9</sup>	40	40
Birth asphyxia	10	9
Neonatal sepsis	3	1
Congenital anomalies	25	27
Other diseases	13	16
Injuries	5	4

Source: *World Health Statistics 2012*. Geneva, World Health Organization, 2012.

## **2.5 Health programmes**

### *2.5.1 Maternal, child and adolescent health*

The United Arab Emirates has given special attention to the health of mothers and children in terms of promotion, health education and medical facilities. Under-5 child mortality, one of the indicators for Millennium Development Goal 4, has been maintained at the low rate of 1 death per 1000 children under 5 years of age for the past ten years. Table 5 lists the distribution of causes of infant mortality in 2000 and in 2010. Congenital anomalies have risen in the past 10 years and in 2010 accounted for 27% of all mortality in children under five years of age.

In 2010, the global school-based student health survey was conducted among 13–15 year-olds in the country. The results of the survey are shown in Table 6. The survey was also conducted and published five years earlier, with better results in some cases. A comparison of survey results shows that the percentage of students who were overweight rose from 21.5% in 2005 to 38.4% in 2010. This is at odds with the data on physical activity, which show improvements in the percentage of students who were physically active for a total of at least 60 minutes per day on five or more days during the past seven days reported at 27.5% in 2010 up from 19.5% in 2005, and in the percentage of students who typically spent three or more hours per day in sedentary activities, reported at 49.9% in 2010 up from 25.7% in 2005. Of particular concern were smoking rates. Among students who ever smoked cigarettes, the percentage who first tried a cigarette before the age of 14 years increased from 39.0% in 2005 to 82.1% in 2010, and the percentage of students reporting that people smoked in their presence on one or more days during the past seven days also increased from 10.7% in 2005 to 58.9% in 2010.

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<sup>9</sup> Prematurity refers to mortality as a consequence of a premature birth (less than 37 completed weeks or 259 days of gestation).

**Table 6. Findings of the 2010 Global School-based Health Survey, United Arab Emirates**

<b>Results for students aged 13–15 years (91% response rate)</b>	<b>Total</b>	<b>Boys</b>	<b>Girls</b>
<b>Dietary behaviours</b>			
Percentage of students who were underweight (< -2SD from median for BMI for age and sex)	4.1	5.5	3.1
Percentage of students who were overweight (> +1SD from median for BMI for age and sex)	38.4	42.0	35.9
Percentage of students who were obese (> +2SD from median for BMI for age and sex)	14.4	18.2	11.8
Percentage of students who usually drank carbonated soft drinks one or more times per day during the past 30 days	42.0	50.3	36.5
<b>Hygiene</b>			
Percentage of students who usually cleaned or brushed their teeth less than one time per day during the past 30 days	14.5	23.3	8.5
Percentage of students who never or rarely washed their hands after using the toilet or latrine during the past 30 days	3.4	4.4	2.8
<b>Mental health</b>			
Percentage of students who ever seriously considered attempting suicide during the past 12 months	15.5	14.2	16.3
Percentage of students who actually attempted suicide one or more times during the past 12 months	12.6	12.4	12.5
Percentage of students who had no close friends	6.4	7.4	5.7
<b>Physical activity</b>			
Percentage of students who were physically active for a total of at least 60 minutes per day on five or more days during the past seven days	27.5	34.5	22.8
Percentage of students who went to physical education class on three or more days each week during the school year	27.8	29.4	26.9
Percentage of students who spent three or more hours per day during a typical or usual day doing sitting activities	51.2	44.8	55.3
<b>Protective factors</b>			
Percentage of students who missed classes or school without permission on one or more of the past 30 days	35.3	35.8	34.8
Percentage of students whose parents or guardians understood their problems and worries most of the time or always during the past 30 days	46.4	45.5	47.1
Percentage of students whose parents or guardians really knew what they were doing with their free time most of the time or always during the past 30 days	49.9	47.2	51.7
<b>Tobacco use</b>			
Percentage of students who smoked cigarettes on one or more days during the past 30 days	9.8	15.6	5.8
Among students who ever smoked cigarettes, the percentage who first tried a cigarette before age 14 years	82.1	83.7	79.4
Percentage of students who reported people smoked in their presence on one or more days during the past seven days	58.9	68.8	52.4
<b>Violence and unintentional injury</b>			
Percentage of students who were in a physical fight one or more times during the past 12 months	46.6	62.7	35.8
Percentage of students who were seriously injured one or more times during the past 12 months	40.9	52.8	33.2
Percentage of students who were bullied on one or more days during the past 30 days	22.8	25.8	20.7

Source: *Global School-based Student Health Survey: United Arab Emirates. 2010 Fact Sheet*. Geneva, World Health Organization, 2010 ([http://www.who.int/chp/gshs/UAE\\_2010\\_FS.pdf](http://www.who.int/chp/gshs/UAE_2010_FS.pdf), accessed 6 December 2012).

Based on the survey findings, health promotion programmes have been launched at school level, such as nutrition awareness, sports activities and training school nurses.<sup>5</sup> In addition, the Nutrition and Health Department, College of Food and Agriculture, United Arab Emirates University, a WHO collaborating centre for nutrition, is working on childhood obesity prevention among other interventions directed at improving the nutritional well-being and health of people.

### 2.5.2 Prevention of genetic disorders

Consanguineous marriages are prevalent in the United Arab Emirates. Studies conducted between 1992 and 1995 showed a consanguinity rate of 50%, leading to a high frequency of genetic disorders, particularly autosomal recessive types.<sup>10</sup> Globally, the United Arab Emirates is ranked sixth out of 193 countries in the prevalence of birth defects, with a rate of 75.9 per 1000 live births.<sup>11</sup> These data are still being used to demonstrate the effects of consanguinity on genetic disorders, which are now recognized as the leading cause of infant mortality in the country (see Table 5).

### 2.5.3 Communicable diseases

The country was certified by WHO as polio-free in 2000. In 2007, it was also declared malaria-free, a feat that took 10 years to accomplish.<sup>12</sup> Tuberculosis remains present in the country at negligible rates, 2 cases per 100 000 population. The tuberculosis programme is not integrated within primary health care and operates as a vertical programme. Similarly, the malaria-free maintenance programme is also a vertical undertaking.

## HIV/AIDS

The United Arab Emirates currently has a very low incidence and prevalence of HIV. Since the 1980s, when the first HIV case was reported in the country, until the end of 2011, a cumulative total of 726 HIV still-alive cases has been reported among nationals: 546 males (75.2%) and 180 females (24.8%). The majority of HIV cases are found in Abu Dhabi and Dubai, reflecting their larger populations as well as possibly higher levels of risk behaviour, as both cities may be more exposed to high-risk phenomena associated with HIV.<sup>13</sup> Rigorous testing (including HIV testing) of foreign workers as a prerequisite for issuance of work permit has limited the number of reported incidents among non-nationals. In the period 2010–2011, a total of 93 new HIV cases were reported among nationals: 36 in 2010 and 57 in 2011. However, it should be noted that these figures represent only the number of officially

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<sup>10</sup> Al-Gazali LI et al. The profile of major congenital abnormalities in the United Arab Emirates population. *Journal of Medical Genetics*, 1995, 32:7–13.

<sup>11</sup> Christianson A, Howson CP, Modell B. *Global report on birth defects: the hidden toll of dying and disabled children*. New York, March of Dimes Birth Defects Foundation, 2006.

<sup>12</sup> Meleigy M. The quest to be free of malaria. *Bulletin of the World Health Organization*, 2007, 85(7):507–8.

<sup>13</sup> *United Arab Emirates: Global AIDS response progress report 2012*. UNAIDS, 2012.

reported cases, most of which were found through screening in the context of blood donations, pregnant women, premarital testing, and among tuberculosis patients. HIV-screening data do not accurately reflect the actual number of new HIV cases.<sup>12</sup>

HIV/AIDS vigilance has been scaled up in recent years in light of the large number of expatriate workers. Information, education and communication materials are provided at HIV-testing centres for expatriates in their local languages. Access to HIV treatment and care is free and there are good models of comprehensive treatment, care and support for HIV patients, with multidisciplinary hospital teams of clinicians, psychologists and counsellors providing high-quality services which respond to the needs of people living with HIV. Furthermore, nationals living with HIV enjoy legal protection in terms of their rights to health, employment, education and non-discrimination. HIV/AIDS passive surveillance efforts cover premarital screening, antenatal care and services for tuberculosis patients, prisoners and injecting drug users.

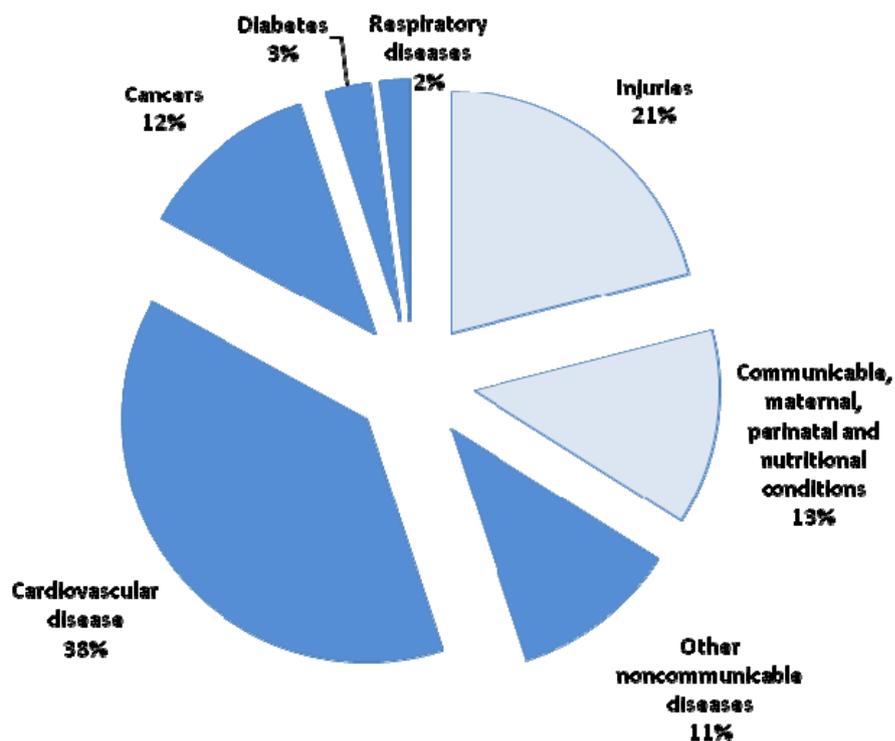
The country has created a cohesive environment for partnership in the area of HIV/AIDS. Involvement of non-health sectors is evidenced by the joint efforts of the Human Rights department of the Dubai Police and UNICEF in the field of support for victims of human trafficking; this may be a powerful model for the implementation of similar programmes for HIV prevention among most-at-risk populations. The Red Crescent conducts HIV peer education among youth.

### **International Health Regulations (2005)**

The United Arab Emirates is Party to the revised International Health Regulations (IHR), which entered into force in 2007. All Parties were expected to meet the requirements for implementation of the IHR by June 2012. However, there are still gaps and weaknesses in national core capacities related to IHR implementation. These capacities are in the areas of legislation, coordination, surveillance and response, preparedness, risk communication, human resources, laboratory, points of entry and readiness for zoonotic, food safety, chemical and radiation events. WHO is expecting the United Arab Emirates to submit materials in request of an extension of the implementation deadline for an additional two years, 15 June 2014, to comply with all the requirements of the IHR.

#### *2.5.4 Noncommunicable diseases*

Noncommunicable diseases are the leading cause of mortality in the country, responsible for 67% of the estimated burden of mortality in 2011 (Figure 1). Diabetes, coronary conditions and other lifestyle-related diseases are widespread. Over 60% of the population is overweight, 20% of the population has been diagnosed with diabetes and a further 18% is considered at risk of developing this disease.<sup>5</sup>



Source: *Noncommunicable diseases country profiles 2011*. Geneva, World Health Organization, 2011.

**Figure 1. Proportion of mortality due to noncommunicable diseases (percentage of total deaths, all ages), 2011**

### Diabetes mellitus

In 2000, the country reported a diabetes prevalence rate of 13.5%, the second-highest prevalence in the world.<sup>14</sup> In 2011, this rate was 19.5%.<sup>15</sup> This figure is expected to rise to epidemic proportions with the adoption of modern lifestyles and an increase in lifespan.<sup>16</sup> Diabetes has a significant effect on quality of life and increases the risk of heart disease and stroke. Accordingly, the Ministry of Health attaches great importance to its prevention and control. A national campaign for diabetes awareness has been conducted throughout the country and efforts in this area will continue.

### Cardiovascular diseases

Cardiovascular diseases accounted for 38% of all mortality in the Region in 2011 (Figure 1). In Abu Dhabi, adult nationals were screened for cardiovascular risk factors in 2008, as a condition for enrolment in *thiqa* insurance. Individuals thought to be at high risk of

<sup>14</sup> Reid M. The weight of affluence. *Bulletin of the World Health Organization*, 2010, 88(2):86–7.

<sup>15</sup> International Diabetes Federation

<sup>16</sup> Bani-Issa W. Evaluation of the health-related quality of life of Emirati people with diabetes: integration of sociodemographic and disease-related variables. *Eastern Mediterranean Health Journal*, 2011, 17(11):825–30.

cardiovascular disease are now being followed up. Cardiovascular disease can be prevented by addressing behavioural risk factors such as unhealthy diet, physical inactivity and tobacco use, which are responsible for about 80% of the disease.<sup>17</sup> The prevalence of risk factors is relatively high in the United Arab Emirates, particularly obesity among women (43%) and raised blood pressure among men (30%) (Table 7). In addition, physical inactivity is high among both men (54.6%) and women (67.5%).

According to the Dubai Health Survey, which was conducted by the Dubai Health Authority in 2009, 21.4% of men who live in Dubai are smokers. The corresponding figure for women was 4.4%. The data collected for smokers included age, ethnicity, level of income and education. For both men and women, the percentage of nationals who smoked was lower than among other nationalities, with the exception of women from India. The prevalence of smoking among men was lowest in those with university education, and among women, highest in those with university education. People with high income smoked less among both men and women. Among expatriates, men from other Arab countries smoked most, followed by European, North American and Australian men. The trend was reversed in women, with European women smoking most followed by women from other Arab countries. Legislation and policies have been developed banning smoking in many public places. The country has an anti-tobacco programme with four components: legislation, smoking cessation units; a community-based component; and a school-based component. Sharjah prohibits the consumption of *shisha* in all public places.

## Cancer

Many of the behavioural risk factors for cardiovascular disease are the same for leading causes of cancer, which accounted for 12% of mortality among all age groups in the country in 2008 (see Figure 1). Among the age group of 30 to 70 years, this proportion was 18% for the same year. According to the Ministry of Health, breast cancer, the second leading cause of death in females, is being detected at a rate of 6.3 cases per 1000 women screened aged 40 years and older.<sup>18</sup> Screening is promoted and is available for all residents over the age of 40 years. At present, there is no federal cancer registry; however, Al Tawam Hospital in Al Ain is expected to launch a national registry in 2012.

**Table 7. Prevalence of metabolic risk factors, 2008**

Risk factor	Females (%)	Males (%)
Raised fasting blood glucose among adults aged ≥25 years	15.8	15.3
Raised blood pressure among adults aged ≥25 years	21.2	30.4
Adults aged ≥20 years who are obese	43.0	30.2
Smoking any tobacco product among adults aged ≥15 years	2.0	19.0
Current tobacco use among adolescents aged 13–15 years	13.0	25.0
Physical inactivity	67.5	54.6

Source: *World Health Statistics 2012*. Geneva, World Health Organization, 2012.

<sup>17</sup> *Cardiovascular diseases*. Fact sheet no.317. Geneva, World Health Organization, September 2012 (<http://www.who.int/mediacentre/factsheets/fs317/en/>, accessed 6 December 2012)

<sup>18</sup> *Beat breast cancer*. United Arab Emirates Ministry of Health, 2011 (<http://www.moh.gov.ae/en/OurServices/Pages/BeatBreastCancer.aspx>, accessed 6 December 2012).

The Ministry of Health has pledged a firm commitment, as part of a wider Gulf Cooperation Council (GCC), to implementing the United Nations Political Declaration on Prevention and Control of Noncommunicable Diseases. The GCC will develop a regional strategy to address diabetes, cardiovascular disease, cancer and chronic respiratory disease. The strategy will tackle noncommunicable diseases by reducing exposure to causative risk factors and improving services to prevent and treat.<sup>19</sup>

#### *2.5.5 Mental health*

The national mental health programme was formulated in 1991. The programme aims to provide universal care for mental health and substance abuse, which are included in primary health care. The primary strategies for achieving the programme's aims are training of personnel in mental health at all primary care levels, strengthening existing centres and opening new ones, streamlining referral services and providing essential medicines, linking community and other sectoral services to mental health services and developing human resources.<sup>20</sup>

#### *2.5.6 Road traffic crashes*

In 2010 the United Arab Emirates ranked fifth in the Region for road traffic fatalities, with a rate of 37.1 deaths per 100 000 population.<sup>21</sup> Injuries account for 21% of all deaths in the country (Figure 1), ranking as the second leading cause of death. The predominant cause of injury is road traffic crashes. Road traffic fatalities totalled 1056 in 2007, with males accounting for 87% of these deaths.<sup>20</sup> The reported number of non-fatal road traffic injuries was 11 155 in 2007.

The country has developed a good programme for preventing and managing road traffic crashes. An awareness campaign, conducted especially through schools, has been effective in reducing morbidity and mortality in connection with road traffic crashes. The Ministry of Interior and National Transport Authority are the lead agencies and the Ministry of Health is a collaborator. The country has a target-bound national strategy on road safety with proper legislation and regulations. The strategy and approaches used in the United Arab Emirates may be of use to other countries.

#### *2.5.7 Environmental health*

The United Arab Emirates has achieved rapid and widespread success in providing environmental health services such as water supply, sewerage and sanitary facilities. All

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<sup>19</sup> WHO recognizes progress of Gulf States for adopting regional strategy to address noncommunicable diseases. World Health Organization statement, 6 January 2012 ([http://www.who.int/mediacentre/news/statements/2012/ncds\\_20120106/en/index.html](http://www.who.int/mediacentre/news/statements/2012/ncds_20120106/en/index.html), accessed 6 December 2012).

<sup>20</sup> *Mental health in the Eastern Mediterranean Region: Reaching the unreached*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2006.

<sup>21</sup> *Eastern Mediterranean status report on road safety: Call for action 2010*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2010.

major cities towns and villages have very efficient sewage and solid waste management systems. The entire population has access to safe water supply and sanitation. The country, especially Abu Dhabi, has become a model for creating green areas around the city to encourage a more habitable environment.

The environmental health challenges stem from the country's rapid growth and its geographic location. The pollution of seawater from petroleum is a particular concern for its potential impact on desalination and on beaches.

Dubai has been collaborating with Harvard University and WHO on a pollution control study and environmental health impact assessment. In 2009 the University of the United Arab Emirates and University of North Carolina, Chapel Hill began a cross-sectional study on indoor and outdoor air pollution exposure, chronic health conditions, respiratory symptoms, individual and household-level characteristics, health behaviours, obesity, and nutrition transition.<sup>22</sup> The purpose of this study is to inform a national environmental health strategy and action plan. With regard to climate change, a national intersectoral committee has been established to develop strategies and plans to cope with environmental impacts.

#### *2.5.8 Emergency preparedness*

The National Emergency, Crises and Disasters Authority is responsible for emergency preparedness planning in the country. Emergency medical services are available throughout the emirates. Dubai has a centralized system that dispatches 120–150 ambulances per day. Approximately 50–70 inter-hospital ambulance transfers occur daily.<sup>7</sup> The different sectors and respective agencies including the Ministry of Health, and nongovernmental organizations such as the national Red Crescent Association, are collaborating with the Authority. There is an emergency health sector plan in place that includes preparedness for medical care.

#### *2.5.9 Challenges and opportunities*

There is an urgent need for WHO and the Ministry of Health expand collaboration towards the development of evidence-based strategies and procedures for nationalization of the health workforce, workforce needs assessment and recruitment and management of the large number of expatriate health professionals. In this regard, WHO can facilitate a partnership approach addressing human resources for health production and management. In addition, comprehensive review is needed of medicine and health technologies management in the Ministry of Health. Based on the findings of the CCS mission, the tuberculosis control programme needs to review its programme and its integration within primary health care. The procedures at the primary health care centres need to be revised to allow for the dispensing of tuberculosis medicines; in addition, malaria-free maintenance needs further attention and structure.

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<sup>22</sup> *The UAE–UNC Indoor Air, Health and Nutrition Study*. Chapel Hill, University of North Carolina (<http://www.cscs.unc.edu/uaee/>, accessed 6 December 2012).

The Ministry of Health should focus on early detection of diabetes mellitus, mainly type 2, to prevent development of late complications in asymptomatic individuals. Health care providers need to initiate public awareness campaigns about diabetes across the country to identify people at risk and to enhance early detection and diagnosis of diabetes.<sup>15</sup> WHO should support the newly created cancer registry. Another critical priority is establishing an information and surveillance system to record all risk factors (diet, smoking, physical activity, etc.) and diseases. This system should also include information from road traffic crashes and injuries. All noncommunicable disease registries should include congenital anomalies along with cancer.

The collaborative programme should support actions in relation to climate change impacts and norms and standards for drinking-water quality and wastewater use, hospital waste management and chemical safety. The role of the primary health care centre should include an environmental health component. Primary health care centres should play a pivotal role in the development of a community-based mechanism for immediate first aid response at the onset of the emergency situation, before arrival of help from national emergency response services. WHO collaboration can provide effective help for rapid assessment, emergency response and recovery for the health sector.

In view of current roles and responsibilities of the Ministry of Health, the main challenges are in the following areas.

- Strengthening and harmonizing governance of the health sector (legislation, policy, strategies, norms, standards and regulations);
- Strengthening and harmonizing norms for accreditation of personnel and health facilities;
- Strengthening primary health care and referral systems, particularly for provision of care for noncommunicable diseases and mental health;
- Strengthening noncommunicable disease and cancer prevention and control programmes;
- Developing or strengthening national and emirate-level plans for education, training, recruitment and management of the health workforce;
- Developing an integrated, flexible and sustained national health information system(s) capable of catering for information needs at all levels (local, district, emirate and national);
- Satisfying the core requirements in relation to IHR;
- Establishing reference centres for road traffic crashes and health-promoting schools.

### **3. DEVELOPMENT COOPERATION AND PARTNERSHIPS: TECHNICAL ASSISTANCE, AID EFFECTIVENESS AND COORDINATION**

#### **3.1 United Nations system**

As a high-income country, the United Arab Emirates does not receive extensive support from the United Nations system. Nonetheless, UNDP, WHO, UNICEF, UNESCO, UNEP and

UNAIDS are collaborating with the government. In the health sector, UNDP, UNICEF and UNAIDS are collaborating with the Ministry of Health and Ministry of Interior for prevention and treatment of HIV/AIDS. UNESCO's collaboration is in the areas of education and science and UNEP's main focus is on marine pollution. Generally speaking, the functions of these agencies are primarily to offer exchange of ideas and technical assistance in areas such as social and economic development, services, education, health and management.

UNDP's work in the United Arab Emirates is governed by the Country Programme, and all decisions that pertain to its projects are approved by the Resident Representative in consultation with national authorities (federal or emirate level) according to their developmental priorities. UNDP's focus in the country for 2008–2011 was to make a positive contribution towards the attainment of the national development objectives in the areas of gender, social and economic development, democratic governance, environment and energy, and HIV/AIDS. The value of projects implemented in 2008–2011 was estimated at US\$ 15 million. The Government of the United Arab Emirates is the main contributor to the joint programme as a net contributor country.

UNICEF has been collaborating with the General Women's Union in the United Arab Emirates since the early 1990s. Ongoing cooperation between the two parties includes projects aimed at advocacy for the Convention on the Rights of the Child and information on children and addressing child protection issues, childhood development, youth issues and HIV/AIDS awareness in the country. In the past few years the partnership between UNICEF and the General Women's Union has been instrumental in preparing policy instruments and implementing them to support the Convention on the Rights of the Child. The first national childhood strategy was prepared in collaboration with relevant government agencies, civil society and nongovernmental organizations. In 2010–2012 the work of UNICEF and the Women's Union has focused on evidence-based advocacy and mobilization, child protection and adolescent empowerment.

### **3.2 Bilateral and multilateral cooperation**

In the field of health the United Arab Emirates is collaborating with a large number of well-established universities and higher education institutions in the United States of America, Europe, Canada and Australia. As mentioned previously, Harvard University, Johns Hopkins University, and several other institutions are collaborating with their respective counterparts. Similarly, Cleveland Clinic, Mayo Clinic and other entities assist in hospital management and quality of medical care. As well, there are major collaborators in the field of medicines, medical supplies, biological and mental health.

### **3.3 Coordination of partnership**

There is no structured mechanism or regular forum among UN agencies to discuss and consult on overall development, particularly for the social sectors. Collaboration exists on specific programmes such as HIV/AIDS and monitoring of MDG progress, but not through a

standing monthly or quarterly forum. Similarly, within the health sector there is no regular meeting or mechanism for exchange among the large number of bilateral partners.

### 3.4 Challenges

A major challenge is how to coordinate related support by different partners and collaborators for optimal results in building the national capacity. Venues and mechanisms for collaboration and dialogue among partners are generally lacking.

## 4. CURRENT WHO COOPERATION

### 4.1 WHO country programme

There is no WHO country office in the United Arab Emirates. A senior staff in the WHO Regional Office for the Eastern Mediterranean is designated as WHO Desk Officer to facilitate and coordinate WHO support to the country. The Desk Officer for the United Arab Emirates collaborates with Ministry of Health through the Office of Foreign Relations and International Health Department in the Ministry of Health.

### 4.2 Collaboration with the Ministry of Health

Collaboration between the government and WHO goes back for more than four decades. In view of the high income level of the country, WHO budgetary allocation for the collaborative programme is not extensive. However, in the past three biennia collaboration has included substantial activities with the Ministry of Health on health system development, noncommunicable disease, communicable disease and medicine and health technology. Based on these experiences, the Ministry of Health has expressed interest in WHO expanding its collaboration in support of health development in the country. In 2010–2011, the focus of WHO was in the following areas.

Area of collaboration	Contribution	
	WHO Regular Budget (US\$)	Ministry of Health through funds-in trust (US\$)
Communicable disease	13 000	71 000
Noncommunicable disease	27 000	28 000
Reproductive health	3000	0
Emergency	0	5000
Equity	0	7000
Nutrition and food safety	3000	1000
Health system	47 000	15 000
Medicine	4000	0
Total	97 000	127 000

Lack of adequate resources at present limits collaboration in vital areas, and lack of country presence limits the ability of WHO to support country programmes effectively.

## **5. STRATEGIC AGENDA FOR WHO COOPERATION**

### **5.1 Introduction**

The strategic agenda for WHO cooperation at the country level is guided by the overall policy framework for the work of WHO as set out in the Eleventh General Programme of Work, WHO Medium-Term Strategic Plan and regional priorities. Furthermore, WHO country cooperation is strongly influenced by WHO core functions.

The strategic agenda identifies the proposed role of WHO in supporting the United Arab Emirates' national health and development plans during the six years 2012–2016. The strategic agenda has been prepared based on the following.

- The country's long term development and health vision and goals;
- Rapid review of the health sector and health challenges identified by WHO in full consultation with the government, national stakeholders and development partners;
- Contributions to health development by other development partners including related national ministries, agencies, nongovernmental organizations, the private sector and health-related professional associations;
- WHO's past and current cooperation.

### **5.2 Strategic priorities**

The strategic agenda for WHO cooperation with the United Arab Emirates includes 12 strategic priorities that will guide WHO support and technical assistance with the aim of further development of the health sector during the period 2012–2017.

- Strengthening the health system and building national capacity in the Ministry of Health and Health Authorities
- Expanding surveillance, prevention and control of noncommunicable diseases
- Strengthening prevention and control of communicable diseases
- Strengthening road safety and prevention of road traffic crashes and injuries
- Collaborating on health-promoting schools and adolescent health
- Strengthening partnerships
- Strengthening national capacity for health preparedness and response in emergencies and natural disasters
- Continuing collaboration on occupational and environmental health

### 5.3 Key objectives and strategic approaches

*Objective: Strengthen the health system and build national capacity in the Ministry of Health and Health Authorities*

*Strategic approaches*

#### **Governance**

- Harmonizing or developing norms, standards and accreditation systems for personnel and health facilities
- Strengthening capacity for harmonized, evidence-based policy and strategy formulation
- Developing consolidated public health law and facilitating the development of harmonized regulations
- Strengthening public–private health partnership and regulation of the private sector, including quality assurance and reporting to the Ministry of Health

#### **Delivery system**

- Strengthening primary health care and referral systems
- Developing and implementing skills assessment for the health workforce

#### **Human resources for health**

- Developing and implementing systems for human resources needs assessment at the Ministry of Health and Health Authorities of Abu Dhabi and Dubai
- Developing or strengthening a human resources for health plan in line with the nationalization policy and strategy
- Upgrading or developing a human resources management system including accreditation criteria and professional development
- Strengthening nursing education and career development
- Reviewing medical and allied health institutions' curricula and education in coordination with existing collaborators with national universities.
- Supporting coordination between key collaborators for human resources for health development

#### **Health information system**

- Developing a consolidated health information strategy and plan for development of an integrated health information system to collect, develop and report information at local, district, emirate and national level
- Developing or strengthening cancer, diabetes and other disease registries as part of the integrated information system
- Building system and capacity at all level for development of information for policy and decision-making

### **Health financing**

- Developing plans for training of staff, collection of required data and establishing a national health account
- In consideration of existing insurance schemes and prevailing health cost, developing an equitable health financing system

### **Medicines and health technology**

- Developing a comprehensive national policy for medicines and health technology through careful evaluation of existing programmes
- Supporting the development of policy and criteria for rational use and safety of medicines and implementing drug utilization studies in collaboration with regional and global reference centres
- Strengthening national capacity for vaccine safety and biological products
- Strengthening drug laboratories to qualify for WHO accreditation

***Objective: Support implementation of the Plan of Action on Noncommunicable Diseases, and mental health***

#### *Strategic approaches*

### **Noncommunicable diseases and risk factors**

- Implementing the GCC Plan of Action for Noncommunicable Diseases and Cancer that has been developed based on the WHO global and regional plan
- Undertaking a comprehensive survey and study to assess the prevalence of noncommunicable diseases including cancer
- Developing or strengthening monitoring and surveillance systems for noncommunicable diseases and cancer
- Developing and conducting research and studies on lifestyle, diet, physical exercise
- Developing or updating training modules for primary health care health staff on noncommunicable diseases and cancer for detection and referral
- Establishing linkages and networking with key regional and global research and reference centres

### **Hereditary diseases**

- Establishing a WHO collaboration centre on prevention of congenital anomalies

### **Mental health**

- Strengthening the integration of mental health into the primary health care system at all levels
- Assisting in the development of prevention and substance use rehabilitation

***Objective: Maintain the success achieved in prevention and control of communicable diseases and strengthen national capacity for preparedness to cope with epidemics and pandemics***

*Strategic approaches*

- Strengthening the tuberculosis control, HIV/AIDS and malaria eradication maintenance programmes
- Establishing a public health reference laboratory
- Updating the preparedness plan to cope with epidemics and pandemics such as H1N1 and avian influenza.
- Implementing and putting in place the requirements of the International Health Regulations regarding national surveillance and response systems including alert and response system
- In a phased manner develop a national centre for disease control to provide technical support for disease control programmes within primary health care and especially in relation to epidemics and pandemics.

***Objective: Provide technical assistance on prevention and medical management of road traffic and other injuries***

*Strategic approaches*

- Providing technical support for prevention and management of road traffic crashes and establishing a subregional network in a national institution to become a WHO collaborating centre at a later stage

***Objective: Expand collaboration on health-promoting schools and adolescent health***

*Strategic approaches*

- Exploring the establishment of a WHO collaborating centre on health-promoting schools and adolescent health to conduct research, develop approaches, guidelines and provide training

***Objective: Strengthen cooperation and partnership for health development in country and facilitate collaboration at subregional, regional and global levels***

*Strategic approaches*

- Assessing comprehensively the status of participation of various partners and stakeholders in health development, including the private sector, nongovernmental organizations, civil society, charity foundations and professional associations
- Developing and implementing a plan for facilitating and strengthening partnerships to be reviewed and ratified by Higher Council for Health.

- Under the auspices of Higher Council for Health, convening an annual national health forum to review the status of health and progress in implementing the CCS and to reflect on priorities and challenges with participation of all key stakeholders and partners
- Facilitating dialogue and networking between partners and stakeholders.
- Establishing linkages with key health research, reference and collaborating centres in and outside the Region

***Objective: Strengthen national capacity for health preparedness and response during emergencies and natural disasters***

*Strategic approaches*

- In close collaboration with the National Emergency, Crises and Disasters Authority, developing a health preparedness response and recovery plan
- Training health and environmental health staff for response at all levels and training staff of primary health care centres including rehearsal and mock exercises

***Objective: Continue collaboration on occupational health and environmental health***

*Strategic approaches*

- Strengthening the occupational health programme
- Collaborating with the Ministry of Environment and National Committee for Global Warming and strengthening national capacity for monitoring of drinking-water quality, waste management and air quality
- Conducting ongoing activities in environment risk assessment with CEHA

## **6. IMPLEMENTING THE STRATEGIC AGENDA: IMPLICATIONS FOR WHO**

The strategic approaches that have been agreed upon call for opening a new chapter in collaboration between WHO and the government. Prior to the development of this document, a discussion was held between WHO and the Ministry of Health to establish a WHO country office and preliminary talks have been encouraging. The advantages and the need for presence of WHO country office have been stated in Section 4. The bulk of resources for establishment of a WHO office in the United Arab Emirates will be provided by the country through funds in trust.

*At country level*

Negotiations for the establishment of a WHO presence in the country are already in process. At the first stage of establishing a country office, critical requirements include the provision of accommodation for the office and resources for support staff and logistics.

Upon the placement of a WHO Representative, WHO must assist in promoting and brokering dialogue between key health and health-related institutions and the large number of collaborators. It is essential that the WHO country office have the capacity to assume the role of technical broker in order to optimize the available skills for nationalization of health workforce and building of national institutions.

*At regional level*

The Desk Officer should follow up action in relation to establishment of a WHO office in the United Arab Emirates. The Desk Officer should negotiate and follow up the accomplishment of the items specified above at country level. Concurrently, the Regional Office should proceed with the selection, appointment and placement of a WHO Representative with logistics and support staff.

The WHO Representative with the support of the Regional Office should translate the strategic approaches into a planning framework and determine the technical staff and resources required for implementation of the plan. Upon determination of the human resources needed, the Regional Office should proceed with their recruitment and placement in the country. If funds are made available, two experts are needed for the long term: one to assist in development of the health system and the other to help in implementation of the national plan of action for noncommunicable diseases. Considerable support will also be needed from the Regional Office in relation to health information, medicines and health technologies as well as in development of human resources for health.

The Regional Office should also provide support and facilitate national participation in intercountry collaboration in the specific areas identified in Section 5.

*At headquarters level*

Support from WHO headquarters will particularly be needed in the following areas.

- Development of public health law and health legislation
- Health system development
- Health information
- Health technologies
- Development of national core capacity requirements for implementing the IHR.

WHO headquarters is also expected to facilitate networking between health programmes and global centres of excellence.