



# Meeting the Challenges of Health Transition in the Middle East and North Africa

*Building Partnerships for Results – Time for Strategic Action*

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## ACRONYMS AND ABBREVIATIONS

AHRQ	Agency for Healthcare Research and Quality
BOD	Burden of Disease
CVD	Cardiovascular Disease
DALY	Disability Adjusted Life Years
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GNI	Gross National Income
HTA	Health Technology Assessment
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technology
IDA	International Development Association
IMR	Infant Mortality Rate
MENA	Middle East and North Africa
MIS	Management Information System
MMR	Maternal Mortality Ratio
NHA	National Health Accounts
NCD	Noncommunicable Disease
NGO	Nongovernmental Organization
OECD	Organization of Economic Cooperation and Development
OOP	Out of Pocket
RTI	Road Traffic Injuries
TFEC	Traffic Fatalities Economic Cost
TFR	Total Fertility Rate
U5MR	Under-five Mortality Rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
YLL	Years Life Lost

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## EXECUTIVE SUMMARY

### *The Unfinished Agenda and Emerging Challenges of Health Transition*

#### *Significant achievements in improving health outcomes*

The Middle East and North Africa Region<sup>1</sup> is a heterogeneous region, comprising the lower income countries<sup>2</sup> of Yemen and Djibouti in the south; the middle income countries from Morocco in the west to Iran in the east, and the oil-producing high income countries of the Gulf Cooperation Council (GCC) countries. In its recent history, the MENA Region has made a remarkable progress in expanding access to basic health services for its citizens, and the Region can be justifiably proud of having achieved one of the fastest rates of decline in child mortality among all the developing regions of the world. These accomplishments are particularly noteworthy in that the Region maintained a steady mortality decline despite of the periods of stagnation in economic growth that have affected different parts of the Region over this period. They reflect the benefits of past investments in basic health services and the beneficiary effects of the broader social and economic development, such as improved access to safe drinking water and hygiene as well as the higher educational attainment of girls – all of which are known to have a positive impact on child and maternal health.

These past achievements form an important basis for addressing future challenges. On the one hand, there are persistent inequities in the status of women and children's health which warrant special attention, as they highlight areas where past efforts have not yet succeeded in achieving desirable results and call for renewed commitments as well as innovative approaches. At the same time, the benefits of economic development are bringing new risks and health issues that will require substantial realignment of the existing policies and programs. MENA region has one of the youngest population in the world: this provides a window of demographic opportunity to prepare the next generation of children and youth for a healthy and productive adulthood, and avoid the unnecessary suffering and heavy cost of modern diseases. At the same time, the healthcare system will also need to be prepared to provide adequate financial protection and quality healthcare as the ageing population will require increasing support to avoid premature deaths and minimize the suffering from disabilities associated with chronic diseases and injuries.

#### *The unfinished agenda - addressing the persistent inequities in maternal and child health outcomes*

Notwithstanding the impressive achievements at the regional level, high rates of maternal and child mortality persist in many parts of the region. This is especially pronounced in the lowest income countries of Yemen and Djibouti, but high levels of maternal and child mortality rates persist also among vulnerable population groups in a number of middle income countries in the region, such as in rural Morocco and Upper Egypt. The people living in Iraq have experienced reversals in health outcomes in recent years due to conflict-related problems, and similar reversals may emerge in conflict affected areas such as the Gaza Strip. Despite evidence of improvements in recent years, there is evidence that women in the Region still face specific socio-cultural barriers: women face

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<sup>1</sup> MENA Region includes the following countries/territories (in alphabetical order): Algeria, Bahrain, Djibouti, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Palestinian Territories (West Bank and Gaza), Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, and Yemen.

<sup>2</sup> According to the World Bank definition, low income economies have 2008 GNI per capita \$975 or less; middle income \$976 - \$11,905; and high income, \$11,906 or more.

particular challenges in terms of accessing healthcare and having appropriate knowledge and information about their own health and the health of their own children.

### ***The unfinished agenda – attending to the neglected problems of child malnutrition***

Malnutrition among women and children remains a serious but largely neglected problem in the MENA Region. While more children are now surviving to adulthood in the Region, many of them suffer the deleterious and long-term consequences of malnutrition which deprive them of having equal opportunities for social and economic development. Yemen carries the unfortunate distinction of having the second highest rate of child stunting (malnutrition) in the world, and the recent trends suggest that the situation is not improving. Child malnutrition - including micronutrient deficiencies such as Vitamin A deficiency and anemia - also persists in a surprising number of countries across the region, including middle and high income countries. Child malnutrition not only increases the risk of child illness and deaths, but malnutrition occurring in the critical period during pregnancy and from 0 - 2 years of age *irreversibly lowers* the child's future learning and productive capacity. Thus, addressing early child malnutrition will have long-term social and economic benefits that go well beyond the immediate health of the affected individual. Low birth-weight and associated perinatal conditions remain the second highest cause of death in the region. For a region that has already shown itself capable of achieving significant improvements in the health of the population, the persistence of such basic health problems presents a conundrum: how can the considerable resources and capacities in the region be mobilized to fill these gaps in basic health outcomes?

### ***Impact of health transition on changing health risks, burden of disease and social and economic burden on the people***

In addition to the unfinished agenda discussed above, the MENA region is facing an additional set of challenges that will profoundly affect people and the economies and societies of the region. These challenges can be identified as a number of transitions pertaining to different social and economic dimensions, including life-styles and health related behaviors, increases in income and subsequent demands for health care, and demographic and epidemiological changes. Rising incomes and urbanization are leading to substantial transformations in lifestyles which, in turn, are generating new health risks and changing the nature of demand for healthcare. These changes are evident, for example, in the rapid increase in obesity rates and the increasing rates of tobacco smoking, especially among women and adolescents. This is leading to a rapid increase in the prevalence of noncommunicable diseases (NCDs) such as heart diseases – already the leading cause of death in the MENA region at 60 percent of deaths and expected to increase further to 77 percent of total deaths by 2030. If no action is taken to mitigate the risk factors contributing to NCDs, the direct and indirect costs of healthcare and disease could be substantial. The growing urbanization and increase in traffic volume in the absence of adequate road safety functions has also contributed to high rates of road traffic injuries (RTIs), which is now the third highest cause of death in the region and also predicted to increase between 30 – 40 percent by 2030 if no action is taken to change the current policies in place.

The new patterns of disease will have a profound impact in many dimensions: for the individuals and families, it will increase the burden on families due to premature deaths or disabilities – leading to potential loss of income and the added cost of treatment and indirect cost of caring for family members suffering from disabilities due to chronic illness or injuries; for the state, it would mean a rising demand for better health care and added pressure to cover these additional costs of care through government budget, and the potential loss of revenues due to premature deaths and disabilities of working age population, and for the employers and businesses, it would mean lower

margin of profit as the cost of labor increases to cover the higher cost of healthcare, health insurance, or losses in productivity due to worker illness or disability.

### ***From “Youth Bulge” to “Middle Age Bulge” – Implications on development opportunities for today’s children and youths***

The MENA region currently has among the youngest population in the world, which is helping to keep down the demand for and costs of healthcare. But over the coming decades most MENA countries will face the effects of declining fertility rates and ageing population. Moreover, as noted above, there is evidence that this new cohort of ageing population may have higher rates of chronic conditions compared to their predecessors, due to higher rates of risk factors such as smoking and obesity. The high rates of malnutrition – both under- and over-nutrition – among the current cohort of children will also increase their likelihood of chronic noncommunicable diseases as well as irreversibly affect their capacity to learn and participate fully in the economic and social life of their community. As this cohort of children and youth move into middle-age, international evidence suggests that it will lead to a substantial increase in demand for and cost of healthcare *unless* actions are taken now to promote healthy lifestyles, reduce the population’s exposure to risk factors, and improve the capacity of the healthcare system to prevent, screen and manage the treatment of illness in the early stages.

### **Measuring Performance for Results – How ready are the MENA countries to meet these new challenges?**

In view of the unfinished agenda and emerging challenges discussed above, the critical question becomes how ready are the governments and healthcare systems in the MENA region to meet them? While many countries of the region clearly possesses some important strengths, a careful and critical review of the performance of the existing health systems reveals a number of issues that may constrain the countries’ capacities to respond effectively to these challenges.

### ***Status of Equity and Financial Protection in Health – a Leaky Safety Net***

Most MENA countries have established a network of publicly subsidized services, complemented in some countries by social insurance schemes. Overall, most MENA countries have officially a system in place that are intended to offer near universal coverage for basic health care at no or only a small formal cost at the point of use. Yet, a review of available data in the low and middle income MENA countries suggests that a significant number of households face financial barriers in accessing healthcare, which may lead to some individuals foregoing needed care, and others to expend a significant part of the household budget on medical payments.

The relatively large size of out-of-pocket (OOP) spending in most of the low and middle income MENA countries indicates the absence of effective health risk sharing arrangements. In a number of countries the share of OOP has been decreasing (Algeria, Libya, Lebanon, Djibouti, Iraq and Yemen) suggesting some improvements in the risk pooling and exposure of the citizens to catastrophic payments. In others (Egypt, Iran, Jordan, Morocco, and Tunisia) this share is increasing, which may be interpreted as a critical challenge in these countries. Finally, most GCC countries show relatively low OOP payments, suggesting that their health coverage is relatively high, although data on access to healthcare among different categories of beneficiaries, including expatriate workers, were not available to allow any conclusions to be drawn.

A further important finding is that there is evidence in some countries that catastrophic payments for healthcare are occurring not only among the poor, but also among the near-poor population groups, and that a significant number of near-poor fall below the poverty line as a result of health expenses. This is a critical observation given that this group is large in the MENA region. These trends suggest that the risk pooling mechanisms may not be functioning adequately to confer financial protection at all levels of income groups. Care must be taken in interpretation of these results, and more detailed analysis will be needed to confirm these findings, but they suggest the potential magnitude of the problem may be extensive, and that social targeting of healthcare services will need to be extended not only to the poor but to the near-poor population groups.

### *Status of the quality of care – a worrisome picture*

A review of the health systems performance in the MENA Region shows that the data on healthcare are generally focused on indicators related to inputs and supply of services, but the quality and efficiency dimensions of healthcare are rarely monitored routinely. While a number of initiatives are being taken to address these issues in the Region, the state of health care monitoring, research and evaluation in the areas of quality and efficiency remains fragmented and very limited in scope. Few assessments are carried out to review the entire set of dimensions that should be included in assessing the “quality” of healthcare, namely:

- safety (for patients and providers);
- effectiveness (clinical efficacy);
- timeliness;
- efficiency; and
- patient-centeredness (responsiveness to patient needs, preferences)

Due to the paucity of data on service utilization and quality, including cost of care, only a partial picture emerges as to the performance of healthcare in the region. The available evidence suggests the following issues:

- (i) Patient safety issues, while assumed to be part of the regular management and operations at the facility level, are not yet part of the national priorities in most MENA countries. Key indicators such as adverse drug effects, nosocomial infection, and other iatrogenic errors are not regularly monitored or publicly reported and the magnitude of the problem remains largely unknown.
- (ii) While most countries have introduced some standards for clinical guidelines and protocols, their application in evaluating the performance of the healthcare system remains limited. These efforts also appear to be fragmented by different specialities or disease groups, and few countries in the region have taken the initiative to prioritize the development of national guidelines based on epidemiological trends analysis, or to link their use with performance evaluation and payment or resource allocation mechanisms.
- (iii) Timeliness of care includes not only the waiting times at the point of service, but the patient access to early screening and treatment. There is evidence that chronic disease patients are not diagnosed in the early stages of the diseases, and enter healthcare only at the later stages of the disease when treatment becomes much more costly and prognosis poor. Many patients, especially among the lower income groups, may be foregoing care due to financial reasons or for other socio-cultural barriers to care: the implications of this foregone care on their burden of disease and subsequent social and economic conditions remain uncertain and warrant further examination.

- (iv) Most public sector healthcare providers do not have the capacity or the organizational structure to evaluate the actual cost of care (versus budget expenditures) for a service output or to compare the quality and appropriateness of the outputs against quality standards. Thus, neither the healthcare provider nor the payer are certain whether they are overpaying or under-financing services, or whether the healthcare providers are meeting the quality standards in the most efficient manner. There is also very little monitoring and evaluation of the efficiency and quality of care in the private sector. This is particularly notable in the pharmaceutical sector, where prices in the private sector in many MENA countries are significantly above international prices, and the use of generics is limited. Since a significant share of out-of-pocket health expenditure in the MENA region occurs for the purchase of pharmaceuticals, this has implications on people's access to healthcare.
- (v) A number of countries are beginning to require healthcare providers to collect information on patient satisfaction and responsiveness. However, it is unclear how or whether this information is being used to influence the performance of the healthcare providers and to empower patients and improve their experience with the healthcare providers.

### ***Trends in healthcare financing in the MENA region – efficient use of resources, or underfinancing of care?***

A review of the healthcare financing trends in MENA region over the past 15 years and its comparison with the global trends reveal the following characteristics. At all levels of income, the MENA countries have been spending a relatively smaller share of the economy on health measured as a percentage of GDP. What is particular to the MENA region is that while the rest of the world has shown a significant increase in the level of spending on healthcare between 1995 and 2008 as a share of GDP at all levels of income, the MENA countries on average have shown no change or a relative *decrease* in health spending as a share of the total economy. At the same time, the level of public spending on healthcare as a share of total government spending has been low relative to the rest of the world, while private out-of-pocket spending has been high.

The last decade was a period of relatively high GDP growth rates in the MENA Region: thus, while there was a real per capita increase in health spending in all the MENA countries, the rate of increase did not keep pace with the economic growth rates, resulting in an overall slight decline of health spending as a share of GDP. These trends might suggest, at an initial glance, that the governments in the Region have managed to contain costs and potentially delivered services efficiently. However, as discussed above, there is evidence of inefficiencies and quality issues in the healthcare system that suggests that cost-containment is not necessarily leading to better results, and that some of the costs are possibly being shifted to patients. Egypt, Morocco, Tunisia and Yemen also showed significant increase in out-of-pocket spending as a share of total health spending. These trends would indicate that at least in these countries, there may be an increasing cost-shifting of healthcare to the patients, leaving them more vulnerable to potential catastrophic health expenditures. This indicates that the risk pooling mechanisms are not keeping pace with the rising demand for healthcare in these countries. The high income Gulf Cooperation Council countries remain an exception, as they have considerable fiscal space and are able to extend coverage to their residents. However, even in these countries, the issue of quality of care has become a major issue and questions are being raised whether the resources are being spent well.

### ***Limited role of the private sector in the provision and financing of healthcare***

While the private healthcare providers and private health insurers have been expanding to some extent in a number of MENA countries, their growth has been relatively slow. In addition, many countries report that the private health markets are only partly or weakly regulated. As will be discussed in more detail below, the MENA region also has limited private insurance market, with preponderance of private spending still coming from direct household out-of-pocket spending at the point of services as was described above.

To be able to meet the increased demand for health services and the likely need for expansion in the supply of certain types of services, the MENA region will need to develop clear strategies and policies for harnessing the private health care sector. Few countries in the region explicitly include the private sector providers as an integral part of the national strategic plan to expand coverage and improve the performance of the healthcare system as a whole. Some of the health reform initiatives in the region are expanding contracting of private providers by social insurance funds or directly by the Ministries of Health, but apart from initiatives in Lebanon and to some extent the Palestinian Authority, the number of initiatives in the region remains very limited. A preponderance of private providers in the region are small-scale dispensaries and physician offices, many of which are run by public-sector physicians conducting private practice after hours. With the growth in income and demand for care among the population, opportunities exist to support a growing number of organized, large-scale private health care providers that could offer effective alternatives, or complements, to publicly administered healthcare delivery system. There are potentially missed opportunities for engaging all the stakeholders in the sector towards the achievement of the national goal- that of ensuring access to and use of quality healthcare for all the population.

### **Next Steps – Window of Opportunity for Strategic Action**

#### ***An ounce of prevention is better than a pound of cure: promoting primary prevention through intersectoral action and primary health care***

A healthy transition from the Youth bulge to Adult age bulge is imperative for MENA countries if they are to maximize their social and economic gains from the demographic dividend and generate wealth. Health systems have a major role to play in this regard, not only through the provision of quality health services, but and perhaps equally importantly through a well conceived vision, strategy and public policies. Primary prevention, the avoidance or mitigation of the occurrence and incidence of a disease, plays a very important, if not primordial, role in this regard. There are really two sides to the coin of primary prevention in anticipation of the emerging NCD epidemic: (i) through healthy intersectoral public policies aiming at promoting population health, aiming at the four behavioral risk factors, namely smoking, physical inactivity, inappropriate diet (including both under nutrition and obesity) and risky driving; and (ii) through interventions aiming at improving health of the individuals, namely, screening, counseling and primary care services to advocate for behavioral change.

Primary prevention is not always less costly, if health benefits as measured in terms of quality adjusted life years (QALYs) are assessed against direct (health care) costs. About 20 percent of some 300 preventive interventions are considered to save costs in the long run. However, primary prevention is almost always cost effective, especially it is well targeted to high risk population groups and if indirect costs due to loss of productivity are also accounted for.

MENA countries are well positioned to advocate for primary prevention for a number of reasons. The literacy rates are high for mass scale public information education and communication (IEC) programs, and the region has relatively good media coverage. School enrollment rates are high for targeted interventions on tobacco control, diet and nutrition. Institutional capacity for improved road safety is existent. And health systems are relatively well endowed for primary prevention in primary care setting. The challenges therefore is more about leadership in setting the right vision and strategies for effective advocacy for healthier public policies and gradual transformation of health systems to make them more attuned to providing primary care.

### ***Linking priority public health programs and the expansion of health coverage for the vulnerable population***

A number of countries in the region are beginning to address the need to improve the social targeting mechanisms and ensure a more effective allocation of subsidies. As these subsidy reforms are introduced and implemented, it would be important to ensure that the priority health policies and programs are explicitly included as the recipients of these additional resources. This will require strong justifications in terms of the cost-effectiveness of the interventions and the long-term benefits in terms of economic impact and social welfare gains that will accrue as a result of investing in these health policies and programs. Among the priority programs that should be in this list would include funds to subsidize access to basic health coverage for the poor and the near-poor, as well as public health programs that will promote healthy lifestyles and prevent health risks.

It should be emphasized that social targeting on its own - while *necessary* - will not be *sufficient* for achieving behavioral changes on the part of both the beneficiaries and healthcare providers. The actual availability of services in the under-served areas and the appropriate use of healthcare services by under-served population groups will require an active program of incentives to the providers to be responsive to patient needs and preferences, and empowerment of the citizens.

### ***Expanding the revenue base and improving risk pooling to meet the expected rise in demand for healthcare***

With the advent of noncommunicable diseases and ageing effects on top of income growth, it is expected that the demand for healthcare will grow, and Governments in the Region will come under increasing pressure to broaden the benefits covered under state-guaranteed health plan to include a wider range of high cost medical interventions. At the same time most MENA countries will need to aim at reducing the share of direct out-of-pocket health spending by individuals and either organize them under some form of prepayment risk-pooling schemes or replace them with subsidies if they are poor or vulnerable. Given that most MENA low and middle income countries have very limited fiscal space to increase the fiscal allocation to cover these additional resource requirements, alternative options will need to be considered:

- (i) There are opportunities to organize at least part of the current relatively large out-of-pocket expenditures – which represent the household’s willingness to pay for services – into better organized risk pools. One option being considered by a number of countries in the region is to introduce new, or expand the existing, social health insurance schemes. However, this approach carries a number of risks, especially in most low and middle income MENA countries which have many unemployed and informal labor markets. A contributory social insurance system risks excluding from the risk pool the poor and unemployed who are unable to contribute, introducing distortions in the labor market, e.g., by discouraging workers from participating in the formal sector to avoid

the additional tax on labor, and increasing administrative complexity by adding another level of organizational structure for collection and management of funds.

- (ii) Another option would be to improve the organization and regulation of the private health insurance market to enable households to direct their out-of-pocket spending on health into the purchase of a prepayment program. Some groups could be encouraged to purchase supplementary health insurance to provide coverage for services outside of the state-guaranteed benefits package. But this will require considerable investments in institutional capacity and regulatory systems in order to achieve effective results and avoid the risks of market failure, including adverse selection and moral hazard problems.
- (iii) There are also opportunities to broaden the revenue base for health through the introduction of taxes on certain goods and services that have a direct impact on public health. This could include tobacco excise taxes and VAT, which would have the effect of reducing the demand for tobacco. The revenues from this source could be applied towards subsidizing health care for priority public health programs (e.g., tobacco cessation program) and to subsidize priority population groups. In the MENA region, the current price of cigarettes inclusive of tax is extremely low, and other forms of tobacco (e.g., the use of shisha) are not taxed. The exact scope for increasing revenues through this mechanism in the MENA region needs to be assessed in each country and given the cost-effectiveness of tobacco excise taxes, it is recommended that this is done across the region.

Furthermore, the Report has shown that most countries in the Region have segmented health systems and multiple risk pools that operate independently from each other and with limited coordination or harmonization of rules across the different funds. This not only increases the administrative complexity and overall cost of the health system, but also creates barriers for the citizens who must move across the different risk pools (e.g., moving from student status to informal employment, formal employment, and unemployment, and eventually to retirement). These groups would benefit from ease of portability of benefits across the different categories. Introduction of consistent and transparent rules and regulation across the different health funds or health subsystems will facilitate the monitoring and evaluation of the performance among these different risk pools, and ensure their contributions towards the national goals of ensuring equitable, affordable and quality healthcare for all the citizens.

### ***Improving quality of care – engaging the professionals in the continuous quality improvement process and creating incentives towards patient-centered care***

Most governments in the MENA region still operate through an administrative, line-item budget process that focuses on limited categories of inputs (wages, operating expenses and capital investments), and which does not allow much scope for resource allocation based on performance. This also holds for the health sector, and there is evidence to suggest that this form of administrative structure and process is not effective at monitoring and detecting deficits in the performance of the healthcare services, or to take corrective action when they occur. International experiences show that allocating resources based on outcome and performance targets can have a large impact on the quality of health services, reduce unnecessary or wasteful use of services, and thereby add value for both patients and providers. Opportunities exist for most MENA countries to improve the performance of the health sector benefit by moving towards more strategic allocation of health resources within the existing envelope of resources. Against the expected substantial increase in the overall spending on healthcare in the coming decade, it will be even more critical to

ensure that the capacities and mechanisms are in place to improve performance before adding to the scope of services.

Specifically, this will involve the introduction of performance based payments or contracting of services, either with private providers, or through internal allocation of resources within the public sector. Paying providers based on performance will require changes to the way the civil service is managed and regulated in many countries. Furthermore, introducing contracting would open up the possibility to create more efficient markets for health care where private providers can operate and provide the state-financed services along with public providers. This could potentially increase the supply of core services that can meet the increasing demand as incomes grow and disease patterns change.

The complexity and dynamic nature of healthcare will be accelerated by the advent of noncommunicable diseases and the growing demand for greater choice and access to high-technology healthcare. In the middle and high income countries around the world, there is a growing trend towards the establishment of independent assessment agencies as a way of independently monitoring and evaluating the quality of services provided by healthcare organizations. Examples of such agencies include accreditation organizations, food and drug authorities, and health technology assessment agencies. These types of agencies are growing in number and influence around the world and they provide valuable professional assessments of various aspects of healthcare. The governance structure of these entities will be critical: ensuring a balanced representation of stakeholders will make certain the credibility and independence of these agencies. Such agencies can play a critical part in enhancing accountability, by developing locally adapted performance standards, benchmarking health care providers against these agreed standards, and providing educational support for the professionals operations. A number of countries in the MENA region are beginning to initiate the establishment of such organizations, for example, accreditation agencies and food and drug authorities, but the process may need to be accelerated.

### ***Strengthening Health Intelligence for sound decision making and evidence based partnership***

Timely and accurate information is a necessary, although not always sufficient condition for sound decisions. This is all the more critical in pluralistic health care systems to function effectively where market conditions are not always ideal and that there usually is a asymmetry of information among its multiplicity of partners. Policy makers, healthcare managers, health insurance fund holders, and the patients need to assess how well the healthcare system is performing, what are its strengths and weaknesses, and what actions need to be taken to address deficits in performance. This will require a fundamental shift from the traditional approaches to health information systems, which invariably focus on inputs to account for the budget, payroll, infrastructure, consumables towards a more user friendly, timely and relevant information system on service use in all its facets (volume, intensity, distribution, mix, technical quality, appropriateness, timeliness etc) and on patient health outcomes. Moreover, data would have to be aggregated or dis-aggregated (e.g., region, hospitals, primary care, diabetic patients, etc) in accordance with the needs and demands of various partners. In addition, there is a growing need for population based information as a result of increased concern for global health security (e.g., Avian influenza, H1N1 etc).

Finally, it is equally important to gauge the health status of the populations through periodic and issue-specific (e.g. nutrition, maternal health, etc) surveys to complement the information base and triangulate administrative data with primary data for drawing a better and more accurate and precise picture of the health, use of health services, and health system

performance. A modern health management information system will enable managers to undertake concurrent review and assessment of the service performance, and allow better control and timely decisions over clinical management process (for managers of health facilities), the healthcare financing process (for healthcare payers), and public health reporting (for surveillance and other public reporting requirements such as international health regulations). Investments in these tools, both in infostructure (hardware) and the institutional and human capacity to collect, compile, synthesize, report and interpret the information (software) for decision making at all levels of care will be vital for improving accountability in the system and evaluating performance on a continuous basis.

### ***Building Partnership for Results – Time for Strategic Action***

This report has highlighted the many impressive improvements in population health across the MENA region over the past decades. These achievements are due to many factors, including investments in education, water and sanitation, and broad access to basic health care for most citizens. At the same time, it identified a number of critical areas of *unfinished agenda* and *emerging challenges* associated with the health transition that warrant attention by policy makers and other stakeholders.

The MENA region has the window of opportunity to take strategic action now, during this period of “demographic opportunity”, while the population is relatively young and healthy and the risks can be modified or averted. Actions taken today will have the salutary effect of preventing premature mortality and morbidity in the future, thus avoiding the future costs of treatment and long-term care of chronic conditions.

This will require foresight and committed leadership at all levels of the society, and a greater understanding of the underlying causes of the risk factors in the MENA context. The rise in the prevalence of many of the risk factors can be traced to behavioral consequences of a multiplicity of causes: increased international trade (e.g., access to tobacco products, processed foods), migration (urbanization and sedentary lifestyle), changes in living conditions (e.g., sedentary work and living environment) and in the production, marketing and availability of goods (e.g., processed food).

Potential solutions are bound to be context specific, but in all cases it will require partnerships among the key stakeholders: policy makers, professionals, business leaders, communities and the public. Success will depend on countries setting up effective institutional structures and processes that will enable different stakeholders to come together on a shared agenda: to agree on common goals, standards and actions, continually adapt to the changing needs of the population and demands created by new technologies, and be accountable to each other with respect to their own areas of responsibility and expertise. Delaying actions at this time will surely place the well-being of the next generation of children and youth into jeopardy. The time for strategic action is now to ensure that they will have the opportunity to participate fully in the social and economic life of their community.

Policy Goals	Meeting the Challenges	Forging Partnerships
<i>Raise public awareness</i>	Raise public support for and mobilize political leadership to support preventive health	Forge new partnerships with media, civil society, business leaders, political leaders.
<i>Enhance economic</i>	Link expansion of priority public health	Engage Ministries of Finance,

<i>and fiscal sustainability</i>	programs and health coverage with ongoing national strategies on subsidy and social safety net reforms; include strategic public health programs for priority investment	Commerce, Social Affairs, Labor
<i>Mitigate health risks risks of poverty and extend social protection for health</i>	Ensure that expansion of healthcare coverage is closely linked with social targeting mechanisms and social programs that help to direct subsidies to poor and near-poor and assure their access to better care; and extend insurance coverage to non-poor	Engage Ministries of Finance, Commerce, Social Affairs, Labor
<i>Mitigate risk factors</i>	Improve the knowledge and understanding of the socio-cultural and environmental factors that affect behavior and exposure to health risks, and develop effective social policies and programs that have impact.	Undertake behavioral research with social scientists and design public health programs that affect behavior; design safe roads with transport engineers; monitor progress with interested stakeholders  Engage Ministries of Education, Agriculture, Industry, Commerce, Interior
<i>Mobilize business and community leaders to support public health goals</i>	Foster Corporate Social Responsibility towards safe and healthy work environment and healthy school environment; expand community outreach programs	Promote private-public partnerships, engage local community organizations and NGOs
<i>Reorient health systems</i>	Create incentives for preventive primary care among health professionals and promote patient-centered care; instill culture of continuous quality improvement and greater accountability on health care performance.	Engage medical schools, professional associations, health insurers/payers.

## Chapter 1: Introduction and Overview

### I. Overview

**Significant achievements in improving health outcomes.** The Middle East and North Africa Region<sup>3</sup> is a heterogeneous region, comprising the lower income countries<sup>4</sup> of Yemen and Djibouti in the south; the middle income countries from Morocco in the west to Iran in the east, and the oil-producing high income countries of the Gulf Cooperation Council (GCC) countries (see Box 1 and Table 34). In its recent history, the MENA Region has made a remarkable progress in expanding access to basic health services for its citizens, and the Region can be justly proud of having achieved one of the fastest rates of decline in child mortality among all the developing regions of the world. The achievement is particularly noteworthy in that the Region maintained a steady rate of mortality decline in spite of the periods of stagnation in economic growth that have afflicted different parts of the Region over this period (see Figure 1). They reflect the benefits of past investments in basic health services and the salutary effects of the broader social and economic development, such as improved access to safe drinking water and hygiene as well as the higher educational attainment of girls – all of which are known to have a positive impact on child and maternal health.

**The unfinished agenda.** Notwithstanding the impressive achievements at the regional level, high rates of maternal and child mortality persist in parts of the MENA region – mainly in Yemen and Djibouti, but also among vulnerable population groups in the middle income countries. The people living in Iraq have experienced reversals in health outcomes in recent years due to conflict-related problems, and similar reversals may emerge in conflict affected areas such as the Gaza Strip. Yemen carries the unfortunate distinction of having the second highest child malnutrition rate in the world, but child malnutrition also persists in significant numbers in some of the middle income countries in the MENA region. Child malnutrition increases the risk of child illness and deaths, and may be an underlying cause of slowdown in child health. Moreover, child malnutrition – especially during the critical period during pregnancy and from 0 - 2 years of age – severely constrains the child’s future learning and productive capacity: for this reason, addressing early child malnutrition will have long-term social and economic benefits that go beyond the health of the individual. Low birth-weight and associated perinatal conditions are the second highest cause of death in the region. Timely access to healthcare may be more problematic for women, who face particular social and other barriers to access. For a region that has already shown itself capable of achieving significant improvements in the health of the population, the persistence of such basic health problems presents a conundrum: how can the considerable resources and capacities in the region be mobilized to fill these gaps in the basic health outcomes?

**Impact of Epidemiologic and Demographic Transition.** The successes of the past development efforts are also bringing about profound changes to the types of health problems affecting the people in the Region. Rising incomes and urbanization are leading to

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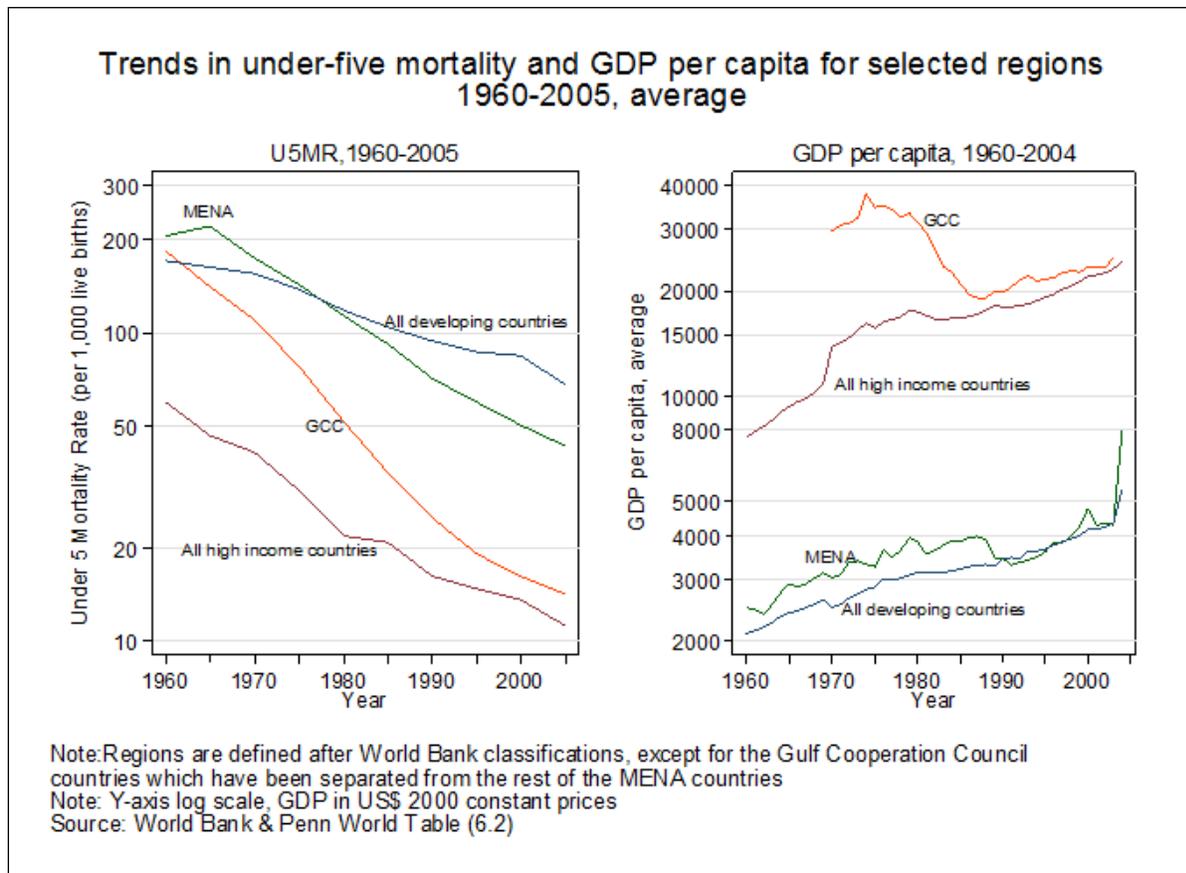
<sup>3</sup> MENA Region includes the following countries/territories (in alphabetical order): Algeria, Bahrain, Djibouti, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Palestinian Territories (West Bank and Gaza), Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, and Yemen.

<sup>4</sup> According to the World Bank definition, low income economies have 2008 GNI per capita \$975 or less; middle income \$976 - \$11,905; and high income, \$11,906 or more.

substantial transformations in lifestyles which, in turn, are generating new health risks and changing the nature of demand for healthcare. These changes are evident, for example, in the rapid increase in obesity rates and the increasing rates of tobacco smoking, especially among women. This is leading to a rapid rise in the prevalence of Noncommunicable Diseases (NCDs) such as heart diseases, which is currently the leading cause of death in the region. The growing urbanization and increase in traffic volume in the absence of adequate road safety functions has also contributed to high rates of Road Traffic Injuries (RTIs), which is now the third highest cause of deaths in the region.

**Demographic Dividend – A Time for Strategic Action.** The MENA region currently has among the youngest population in the world, which is helping to keep down the cost of and demand for healthcare. But over the coming decades most MENA countries will face the effects of declining fertility rates and ageing population. Moreover, there is evidence that this new cohort of ageing population may have higher rates of chronic conditions compared to their predecessors, due to higher rates of risk factors such as smoking and obesity. As the size of middle-aged and elderly population grows, it will inevitably lead to an increased demand for and rising costs of healthcare.

**Figure 1: Trends in under-five mortality and GDP per capita for selected regions, 1960-2005**



Source: Table from unpublished manuscript by Geir Solve Sande Lie, "Economic Growth and Under Five Mortality Rates in Middle East and North Africa, and Gulf Cooperation Countries," The World Bank, 2010.

***What are the implications of these changes on the healthcare system?*** The healthcare systems in the MENA region had developed over the years to address communicable diseases and maternal and child health issues which had been the predominant health concerns in the preceding decades. The substantial shift in demand towards the prevention and treatment of noncommunicable diseases and managing chronic disabilities caused by NCDs and road injuries will impose new demands on the organization and management of healthcare system. It will require the system to develop new capacities on a number of fronts: to engage citizens more actively to have them take early preventive measures – often years before any symptoms might appear; to monitor and treat individual patients on a continuous basis and help them manage their chronic conditions over their lifetime; and to invest in population-based programs that promote healthy behaviors and mitigate health risks that contribute to noncommunicable diseases, such as tobacco smoking.

The ageing population and the expected rise in noncommunicable diseases will intensify the demand for healthcare, not only in terms of access to basic services but also for greater choice of, and access to, new medical technologies. The rapid pace of scientific discoveries in the biomedical field is bringing tremendous opportunities for reducing the burden of diseases across the globe. Yet the speed with which these new medical innovations are being introduced into the global market is often outpacing the capacities of most national authorities – even those in high income countries – to evaluate and regulate in order to assure their safety, efficacy and cost-effectiveness. While new global efforts are being initiated to address these challenges, regulating the influx of new medical technologies and managing their safe and affordable application will present a substantial challenge for the MENA countries. This, in turn, will further intensify pressures on national authorities to expand the breadth and depth of healthcare services covered under state-guaranteed or state-subsidized health programs. It will also increase the need to establish an effective social insurance mechanism to protect the citizens against catastrophic payments in the event of illness or injury. Meeting this growing demand for a more comprehensive health care coverage within fiscally sustainable levels will be a major challenge.

***How ready are the MENA countries to meet these new challenges?*** The MENA Region represents countries at widely different levels of income levels and health outcomes, therefore, the capacities to address the unfinished agenda and meet the emerging challenges will differ according to each country's own resources. Box 1, below, groups the countries broadly by income levels and special conditions (conflict-affected countries). This report will review the trends in the health of the population and available evidence on the performance of the current healthcare system, and identify areas of opportunities and constraints in meeting the new health challenges.

#### **Box 1: Broad Subgroups of MENA Countries**

***Low-income population (Yemen, Djibouti):*** Child and maternal mortality rates remain very high among the lowest income countries of the region (Yemen, Djibouti). Access to basic health services remains a challenge for these population groups. Djibouti is also the only country in MENA to face an epidemic stage of HIV/AIDS. It should be noted that maternal and child mortality rates remain very high among some subpopulations of the middle income countries (e.g., rural Morocco and Upper Egypt), and require special attention.

**Middle-income population (Morocco, Algeria, Tunisia, Libya, Egypt, Jordan, Lebanon, Syria, and Iran):** This group of countries faces a rapid rise in non-communicable diseases and injuries-related conditions as a share of the total disease burden. These conditions are leading to increasing costs and complexities in healthcare that will require substantial investments in modern business functions, information systems and new regulatory structures to ensure quality, safety, equity and efficiency of services. A number of countries are examining healthcare as a contributor to economic growth, with a potential capacity to generate high value employment and expand the role of the private sector.

**Conflict-Affected areas (Palestinian Territories of West Bank & Gaza; Iraq):** The health outcomes have faced reversals in these populations as a consequence of conflict-related problems, and will require special attention and support in addressing the needs of the most vulnerable and affected people, and in rebuilding their healthcare systems.

**Gulf-Cooperation Council (GCC) Countries:** These high income oil-exporting countries have health outcomes that approach the levels of developed economies. They now face very high rates of non-communicable diseases among the national population, and a strong and growing demand for higher quality and more responsive health care services. These countries also have a large expatriate working-age population whose health care coverage is a topic of ongoing national discussion.

## II. Objectives of the Report

This Report is intended to inform the policy makers and other key stakeholders in the MENA region to both the *unfinished agenda* and the *emerging challenges* that are currently affecting the health of the people in the MENA region, and the likely impact they will have on their health and what would be necessary to respond to these challenges in the coming decade. Specifically, the Report aims to: (i) draw attention to the unfinished agenda of maternal and child health, with particular focus on child malnutrition which continues to affect the most vulnerable population in the MENA Region; (ii) review the trends in epidemiologic and demographic transition, highlighting the emergence of noncommunicable diseases and injuries as the leading causes of morbidity and deaths and the new demands they will likely place on the healthcare system; (iii) assess the performance of the existing healthcare systems in the Region in terms of equity, efficiency and quality of care – to the extent data are available, and review the organization of the existing healthcare financing system for the purpose of identifying areas of constraints and opportunities to address the unfinished agenda and emerging challenges; and (iv) suggest a series of approaches that may help the countries in the Region come together and support each other in preparing to resolve the current problems and meet the emerging challenges.

The health of a nation is everybody's business: no single individual or group can solve the complex set of issues that are confronting the health of the people of the MENA Region. Thus, meeting the challenge will require building of partnerships among the multiple stakeholders with varying perspectives and interests who are willing to agree on achievement of common goals. The stakeholders may include the Government policy makers involved in providing public health programs and assuring affordable health coverage for the citizens; members of parliament enacting new health laws and regulations; healthcare managers and professionals providing clinical health services in the public and private domains; medical insurers and social insurance fund managers mobilizing revenues and controlling the cost of care for their beneficiaries; business leaders and employers concerned with the health coverage for their employees; and representatives of the civil

society interested in protecting the health of and access to healthcare for their constituents. Building an effective partnership among the constituents will be an essential step for achieving better performance in healthcare and better results in health.

While international experiences and comparisons can provide insights on the nature of the problem and suggest possible solutions, they are useful only if they can be used as part of an ongoing discussion and debate among the policy makers and stakeholders within their own community. It will be up to the people of the Region to chart their own course towards better results. Within this context, it is hoped that this Report will provide a useful catalyst in bringing together the key stakeholders in the Region for the purpose of defining common challenges and finding joint solutions to improve the health and welfare of all the people of the MENA region.

### **III. Organization of the Report**

The Report will begin with the discussion on the Unfinished Agenda which focuses on the status of Maternal and Child Health in the region, with particular focus on child malnutrition which has received relatively little attention to date, and will be followed by discussion on the Emerging Challenges from Noncommunicable Diseases and Road Traffic Injuries. Part 3 will review the performance of the current health systems in the Region – to the extent that data are available - in terms of their capacity to provide financial protection on the citizens and ensure quality and efficiency of healthcare services. This section will also analyze the health financing system and describe its capacity to address the emerging challenges. In Part 4 we will summarize the main findings of the study and conclude with suggested areas of priority actions to be taken by the key stakeholders of the region.

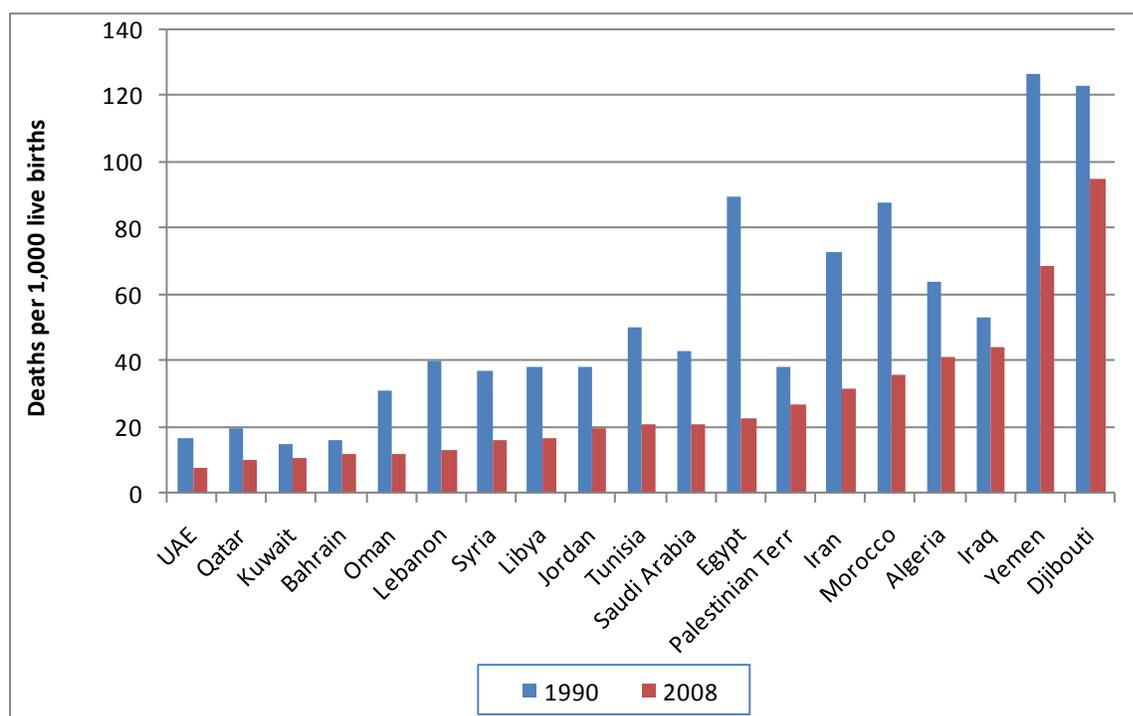
## Part 1. Drivers of Change: The Impact of the Health Transition

### Chapter 2. The Unfinished Agenda of Maternal and Child Health and Nutrition

#### I. Maternal and Child Health

The MENA countries have achieved remarkable improvements in the health status of their people, as evidenced by a more than a ten year increase in average life expectancy between 1980 and 2007 (59 years in 1980 to over 70 years in 2007) and one of the fastest rate of reduction in child mortality rates among the developing regions of the world. Despite this progress, the MENA region includes a number of countries with persistent high rates of child mortality (see Figure 2).

**Figure 2: Under-5 Mortality Rates in MENA countries, 1990 and 2008**



Source: (UNICEF, 2009)

According to UNICEF and WHO, there are 68 countries around the world that account for 90 percent of total number of children under five (8.8 million children) who die every year. Of these, five countries are in the MENA Region: Egypt, Djibouti, Iraq, Morocco and Yemen. Among these countries, Djibouti, Yemen and Iraq are making insufficient progress to meet the Fourth Millennium Development Goal (MDG4) of reducing child mortality rate by two thirds between 1990 and 2015 (see Table 1, below), and deserve particular attention. Egypt and Morocco had high child mortality rates, but made

significant progress in mortality reduction in recent years. It should be noted that according to the criteria used by UNICEF and WHO, Algeria would also fall under the category of “insufficient progress” towards meeting MDG4. However, more recent analysis suggests that Algeria has already reached below 40 per 1,000 live births, putting Algeria “on track” according to the criteria used by UNICEF and WHO to define progress towards MDG4.

**Table 1: Under-five Mortality Rates and Number of Under-five deaths in 5 MENA Countries with highest impact on contributing to progress towards MDG 4**

Country	Under-five mortality rate (per 1000 live births)		Annual Number of Under-five deaths (thousands)	Progress to MDG 4
	1990	2008		
Algeria*	64	41	30	<i>Insufficient progress</i>
Egypt	90	23	45	On track
Djibouti	123	95	2	<i>Insufficient progress</i>
Iraq	53	48	41	<i>Insufficient progress</i>
Morocco	88	54	24	On track
Yemen	127	69	57	<i>Insufficient progress</i>

Source: (UNICEF & WHO, 2010)

Note. According to WHO and UNICEF, “on track” indicates that the under-five mortality rate for 2008 is less than 40 per 1,000 or that it is 40 or more with an average annual rate of reduction of 4% or higher for 1990–2008; “insufficient progress” indicates that the under-five mortality rate for 2008 is 40 or more with an average annual rate of reduction of 1%–3.9% for 1990–2008; “no progress” indicates that the under-five mortality rate for 2008 is 40 or more with an average annual rate of reduction of less than 1% for 1990–2008.

\* Algeria is included in this list since it fulfills the above criteria indicated by UNICEF and WHO. However, more recent data analysis (Rajaratnam, et al., 2010) may suggest that Algeria’s U5MR may already be below 40 per 1,000 live birth, and therefore “on track” to meet MDG4.

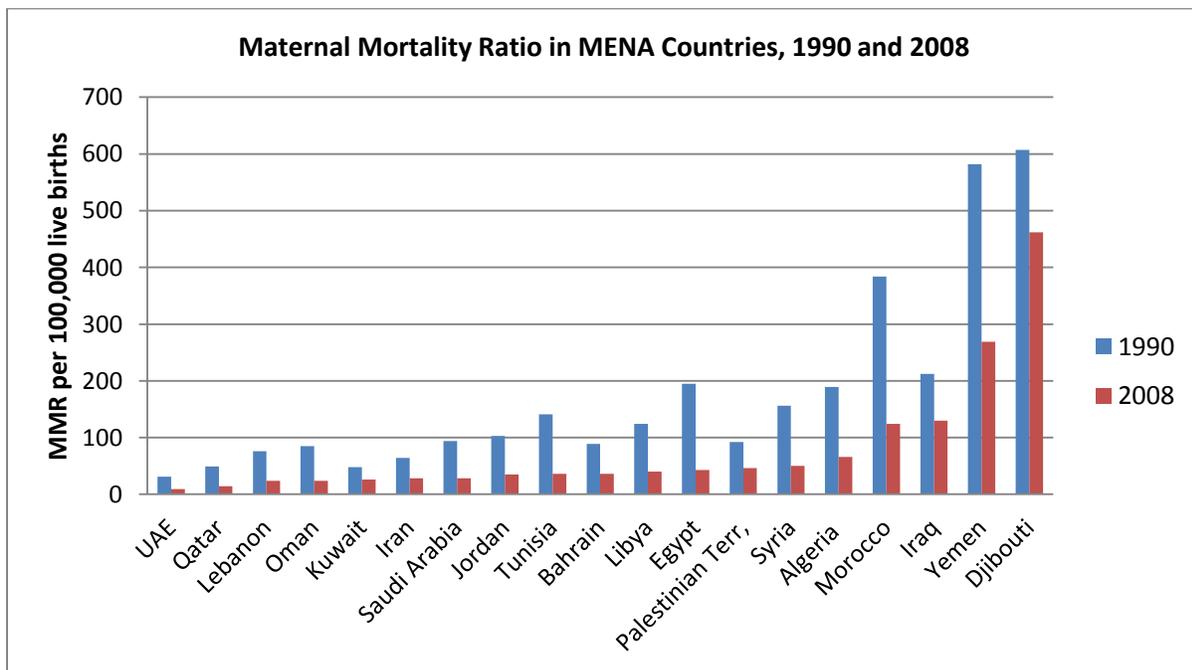
According to a recent study (Black RE, Cousens S, Johnson HL et al. Global, regional and national causes of child mortality in 2008: a systematic analysis. *Lancet*; 375:1969-87) 56% of all under five deaths in MENA occur during the first month of life, as mortality in children 1-59 months has declined. The under-five deaths in MENA occur mainly as a result of preterm birth complications, asphyxia and neonatal infections, pointing out to the inadequacy of skilled birth attendance and neonatal care as the primary contributing factors.

The availability, reliability and validity of data on maternal mortality remains a major issue in countries where vital statistics and data on causes of death are incomplete or unreliable, especially in rural settings. In such circumstances, population based surveys with large sample size are needed to obtain accurate estimates of maternal mortality ratio. A recent study (Hogan, et al., 2010) found that MENA region has the lowest “data density” on maternal mortality among all the global regions. Thus, obtaining accurate and timely data on this indicator is problematic globally, but especially severe in MENA Region which should be a source of major concern to policy makers in the region. In preparation for the countdown to Millennium Development Goal, UNICEF and WHO are undertaking an updated

analysis of the data to address these issues, but at the time of this report, the results were not yet available. We present below the data from the recent study by Hogan et al. (see Table 36 in Annex and Figure 3 below) which uses a regression model based on a number of key determinants to estimate Maternal Mortality Ratio (MMR).

Despite good progress in almost all MENA countries, especially in Egypt and Morocco, in reducing the maternal mortality (MDG 5), several countries, including Djibouti, Yemen and Iraq, are unlikely to achieve the targeted  $\frac{3}{4}$  reduction in MMR by 2015, unless they overcome health-systems constraints and scale up the implementation of proven interventions aiming at improving reproductive and maternal health. It is important to keep in mind that in principle, nearly the totality of maternal deaths is fully preventable at an affordable cost even in the poorest MENA countries, as prices are falling and external donor aid is more readily available. However, there are many supply- and demand-side barriers such as limited and inequitable access to skilled birth attendance, financial constraints, socio-cultural barriers for women to seek and obtain prenatal care. All these barriers could potentially be removed with high level commitment, leadership and adequate funding universal coverage of family planning, appropriate perinatal care and skilled birth attendance (Travis P, Bennett S, Haines A et al. Overcoming health-systems constraints to achieve the Millennium Development Goals. *Lancet* 2004;364:900-06). Egypt, for instance has made notable progress in reducing in maternal mortality ratio over the past decade, through adoption of the safe motherhood strategy that helped increase access to medically assisted deliveries, and the utilization of maternal health care and antenatal care services. The high income GCC countries and some of the middle income MENA countries have maternal and child mortality rates that are approaching the levels of developed economies.

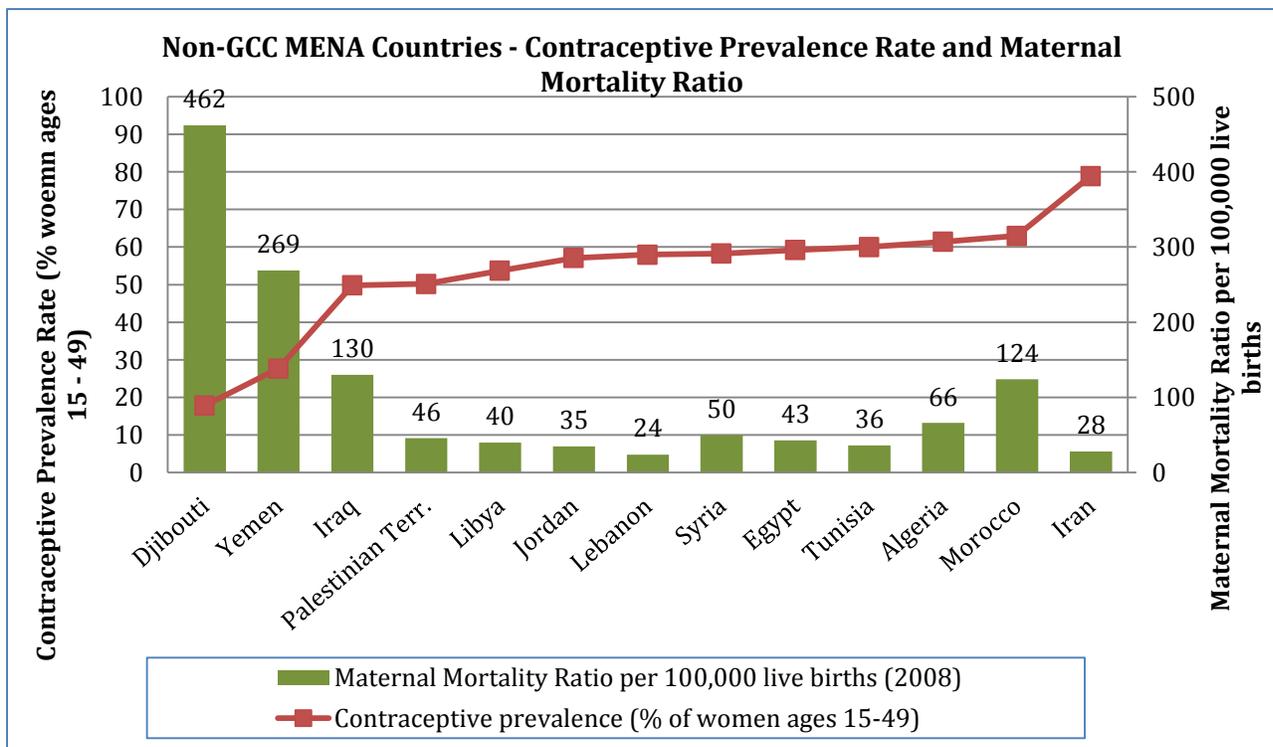
**Figure 3: Maternal Mortality Ratio in MENA Countries, 1990 and 2008**



Source: (Hogan, et al., 2010).

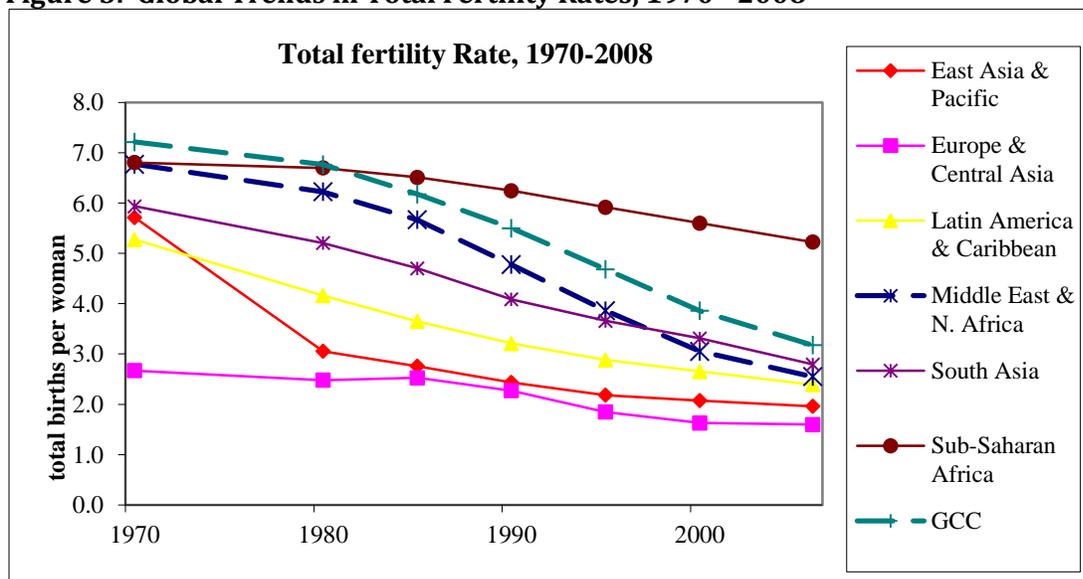
Maternal mortality ratio is an indicator of women’s access to health care, and an indirect measure of empowerment in terms of women’s ability to take care of her own health. Another indirect measure of women’s empowerment towards her own reproductive health is their access to family planning and use of contraceptives. Contraception also offers women the benefits of timing and spacing of pregnancies and increased ability to plan the number of their children. Iran has the highest contraceptive prevalence rate as well as the lowest fertility rate in the region, while Yemen and Djibouti have the lowest contraceptive prevalence levels and among the highest fertility rates in the region (see Figure 4). In GCC, the contraceptive prevalence rates are similar to those in the rest of MENA, varying between a low 30 percent in Oman and Saudia Arabia to a higher 50 percent in Bahrain.

**Figure 4: MENA Countries – Comparing Contraceptive Prevalence Rate (2004-7) and Total Fertility Rate 2008**



Source: Contraceptive Prevalence Rates 2003-2006 from WHO EMRO Health System Observatory Data Base, 2010; Total Fertility Rates from World Development Indicators, 2010.

**Figure 5: Global Trends in Total Fertility Rates, 1970 - 2008**



Source: World Development Indicator, The World Bank, 2010.

The MENA Region was a relatively latecomer to the demographic transition process, but between 1990s and 1980s, the region has shown among the fastest decline in total fertility rates (TFR) over the past two decades (see Figure 5). Despite this significant progress, the average TFR among non-GCC MENA countries remains around 2.6 – significantly above the rates of countries at comparable income levels. The high income countries of GCC show an even higher TFR at just above 3, and a relatively low contraceptive prevalence rate compared with the middle income MENA countries. Fertility decline has been significant in early transition countries such as Lebanon, Iran, Tunisia, and Algeria Egypt, but fertility rates remain high in the Palestinian Territory, Djibouti, Iraq, Saudi Arabia and Yemen. The 2008 DHS from Egypt showed that fertility rates have not shown further decline in Egypt, for reason which are still under investigation. Many factors contribute to the continuing high fertility rates, including the low female labor participation rates and an increasing but still early age of marriage as well as relatively low contraceptive prevalence rates. (See (Roudi-Fahimi & Kent, 2007) and (Assad & Roudi-Fahimi, 2007)).

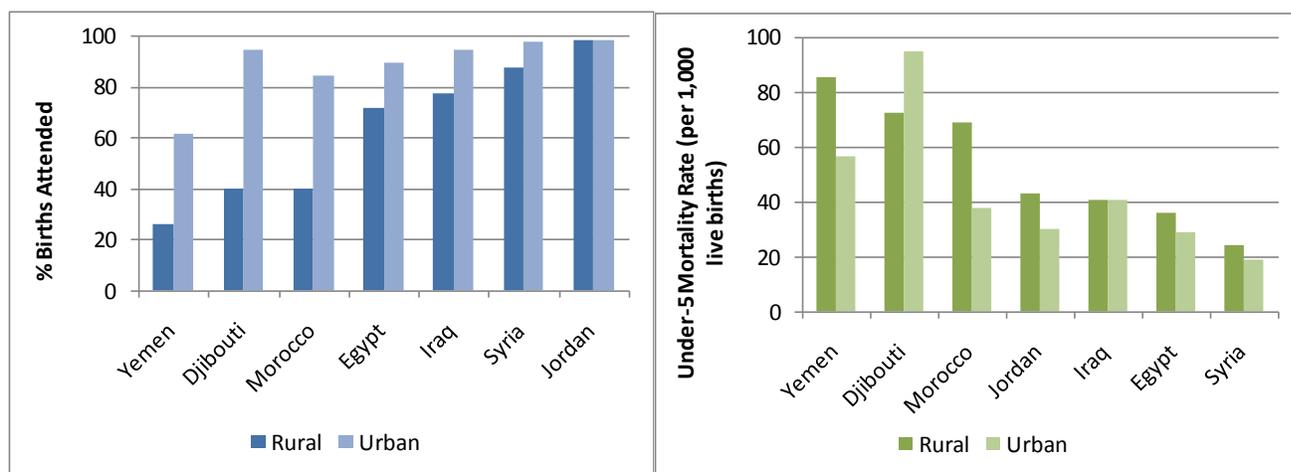
**Unfinished agenda in ensuring health equity in maternal and child health.** The national averages do not give an accurate picture of the underlying health inequities within a country. As in other regions, there is discrepancy in access to health care between rural and urban women. Rural women generally marry at a younger age and have more children. Maternal mortality rates, for example, are generally much higher in rural than in urban areas. It is essential to bring affordable health services closer to rural women to ensure that they receive the care to which they are entitled. Another important factor in the maternal mortality rates is the practice of early marriage in some of the countries of the region, mostly among the poor and the rural populations. This mainly affects already marginalized women (Talevani, 2007).

There is evidence of varying degrees of inequities in health outcomes across the region, even among countries that are on track to reach the MDG 4 and MDG 5 targets at the national levels. Djibouti, Yemen and Morocco show significant rural/urban disparities in access to health care as measured by access to birth attendants and in health outcomes as

measured by under-five mortality rates (see Figure 6). Djibouti has a unique feature in that the urban population appear to have better access to healthcare but worse outcomes in terms of child mortality. This may reflect the effects of HIV/AIDS on this group of population.

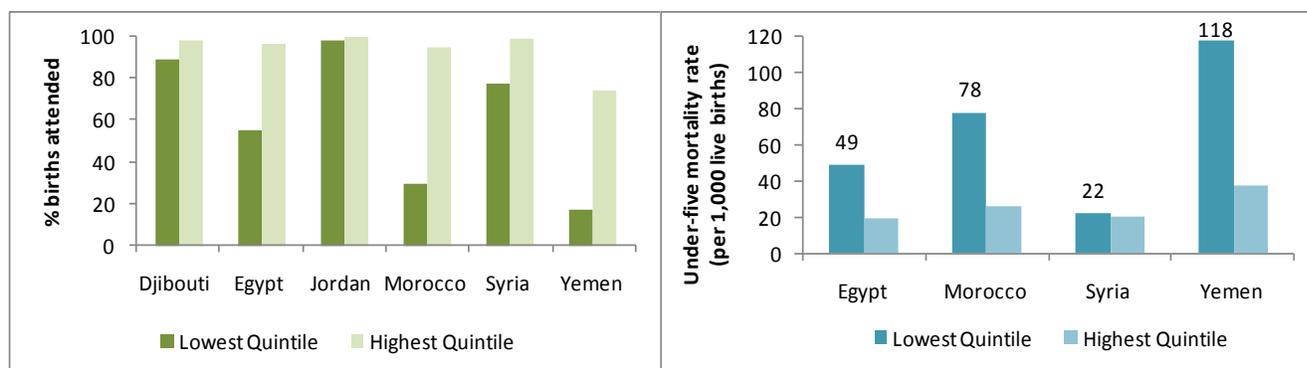
When disparities are measured in terms of income groups, these same measures of health service access and health outcomes appear to be much more pronounced between the lowest and highest income quintile groups in Morocco, Yemen and Egypt, but much less so in Djibouti (see Figure 7). Jordan shows good performance in terms of providing equitable access to health care in rural and urban areas, although the disparities in child mortality rates appear to be worse in rural areas, suggesting potential differences in quality of care or other socio-economic factors. Syria appears to have relatively small differences in health outcomes by rural/urban regions or by income quintiles.

**Figure 6: Geographic disparities in access to healthcare services and health outcomes in selected MENA countries**



Source: See Table 38 in Annex for details.

**Figure 7: Income disparities in access to health services and health outcomes in selected MENA Countries.**



Source: See Table 38 in Annex for details.

It should be noted that while Egypt had had significant disparities in access to health services and in health outcomes between rural and urban areas. In recent years, Egypt has made significant progress in reducing these disparities, as is evident in the steady decline in differences in infant and child mortality rates between rural and urban population groups (Table 2) and in the access to and use of maternal health services (Table 3).

The lack of consistent and comparable data across all the countries in the region limits the opportunity to compare their performance in terms of equity in access to healthcare and health outcomes.

**Table 2: Trends in rural/urban inequities in child health outcomes in Egypt, 1992 - 2008**

<b>Inequalities in Health Outcomes</b>	<b>1992</b>	<b>2005</b>	<b>2008</b>
Disparity in infant mortality rates (ratio of rural/urban rates)	1.77	1.51	1.20
Disparity in under-five mortality rates (ratio of rural/urban rates)	1.85	1.48	1.24

Source: Calculated from Egypt Demographic and Health Surveys, 1992, 2005 and 2008.

**Table 3: Trends in maternal health care indicators in Egypt (1995-2008), by residence**

<i>Percentage of births in the five years preceding the survey whose mothers had:</i>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
<b>Regular Antenatal Care/a</b>			
<b>1995</b>	50.0	14.9	28.3
<b>2000</b>	53.9	25.9	36.7
<b>2005</b>	74.8	49.2	58.5
<b>2008</b>	80.5	57.4	66.0
<b>Medically Assisted Delivery</b>			
<b>1995</b>	67.9	32.8	46.3
<b>2000</b>	81.4	48.0	60.9
<b>2005</b>	88.7	65.8	74.2
<b>2008</b>	90.2	72.2	78.9

Source: (El-Zanaty & Way, 2008)

Note: a. A woman is considered to have had regular antenatal care if she had 4 or more visits during pregnancy.

**Gender-related barriers to care.** Despite this good progress, there is evidence of gender-related barriers to healthcare. In Egypt, when ever-married women were asked in 2008 what barriers exist to constrain them from accessing health care, 80 percent responded that they had encountered at least one serious problem in accessing healthcare for themselves when sick (Table 4). The types of problems facing the women fall broadly under the following categories: perceived quality of care (lack of drugs, availability of female worker), financial constraints (getting money for treatment), social/cultural barriers (getting permission to go for treatment) and physical access (distance to facility). Addressing these constraints will require not only a broader health system response involving improvements in quality of care and patient responsiveness and improved financial protection for the low income groups, but also a better understanding of the socio-cultural barriers to access and

active community outreach programs to counter them. These issues will be discussed further in Section 3, below.

**Table 4: Ever-married women reporting serious problems in accessing health care for themselves when sick, Egypt 2008**

Type of Problems	TOTAL	Residence		Income Quintiles				
		Urban	Rural	Lowest	Second	Middle	Fourth	Highest
At least one problem accessing health care	80.2	74.4	84.2	92.0	85.7	83.1	79.0	62.4
Concern no drugs available	64.3	59.8	67.4	76.9	68.5	66.7	62.8	47.7
Concern no provider available	63.1	57.1	67.3	71.5	69.2	66.8	61.9	47.1
Getting money for treatment	44.3	34.5	51.2	70.4	55.9	46.8	35.5	16.1
Concern no female provider available	40.4	34.4	44.6	51.0	45.3	40.2	37.3	29.5
Not wanting to go alone	26.2	13.2	23.8	32.9	28.2	26.6	24.3	19.7
Having to take transport	19.5	12.4	20.4	31.0	25.2	21.0	13.9	7.8
Distance to health facility	17.1	12.4	20.4	29.2	21.6	17.5	11.9	7.1
Getting permission to go for treatment	7.2	5.7	8.3	12.6	8.3	6.9	5.1	4.0

Source: Table 11.20 in (El-Zanaty & Way, 2008).

## II. Investing in Child Nutrition in MENA – an Forgotten Agenda

The recent food and fuel crises underscore the importance of investing in human capital, particularly nutrition, as one prong in a long term strategy to strengthen MENA region's economic base. The crises reflect the multi-dimensionality of the causes and consequences of the region's poor nutritional status. As the largest net food importer, the MENA region saw its food import bill rise dramatically in 2007-8 with increasing food prices; while oil revenues fell in 2009<sup>1</sup>. Food security is one of the many causes for the region's nutritional problems and the high dependence on oil revenues reflects the region's need for a broader reliance on an economically competitive labor force. In particular, child malnutrition has consequences for the region's long term growth prospects. To address this, the MENA region can make targeted high return investments in interventions to promote optimal child nutrition and stem the current and future economic losses from child malnutrition.

The MENA region faces nutritional problems that are found in both developing and developed countries. Eight MENA countries (Djibouti, Egypt, Iraq, Kuwait, Libya, Morocco, Syria and Yemen) have a high burden of child undernutrition, as defined by a rate of stunting and/or underweight of at least 20%. Child undernutrition can increase the risk of morbidity and mortality, impair cognitive development, and reduce economic productivity<sup>2,3</sup>. Globally, it is responsible for over one-third of child deaths (Maternal and Child Undernutrition Study Group, 2008). In addition, nearly every country in the region,

including the oil-rich nations, suffers from high rates of overweight or obesity amongst adults. Problems of obesity and overweight may be linked to inadequate nutrition *in utero*, which exacerbates the region's increasing burden of non-communicable diseases such as diabetes and cardiovascular disease (Barker, 1995). This "dual burden" of malnutrition calls for a multi-faceted approach, which encompasses a range of cost-effective nutrition interventions delivered during the window of opportunity of child development (i.e., conception to 2 years of age). By ensuring that a child receives proper nutrition along with optimal psychosocial stimulation during this crucial period, it is possible to prevent irreversible damages to a child's physical growth, cognitive development, and later economic productivity.

This section will summarize the nutritional status of countries in the MENA region, identify factors underlying child malnutrition, describe the current coverage rates of micronutrient intervention programs in the region, and present the costs of scaling up a package of interventions that aim to address child undernutrition for five high burden countries, along with the economic rationale for doing so.

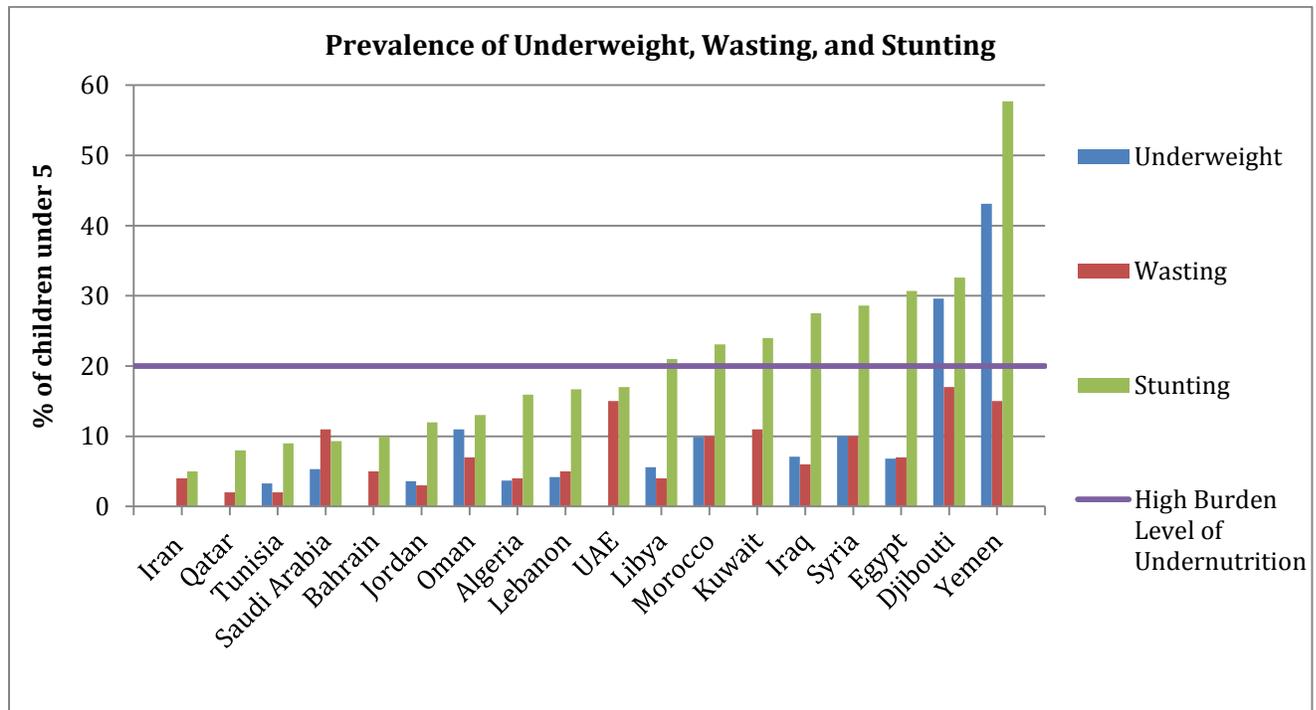
#### **A. The Status of Child Malnutrition in MENA Countries**

The regional variability in the prevalence of child undernutrition is striking (see Figure 1). Rates of stunting range from 5 percent in Iran to nearly 60 percent in Yemen<sup>5</sup>. Similarly, the prevalence of child wasting, an indicator of acute malnutrition, is as low as 2 percent in Qatar and Tunisia, and as high as 17 percent in Djibouti<sup>6</sup>. International studies have shown that poor fetal growth or stunting in the first 2 years of life leads to irreversible damage, including lower school achievements and reduced adult income (Victora, et al., 2008). There are significant geographic disparities in rates of child undernutrition within several MENA countries. For example, in urban parts of Egypt and Syria, approximately 35 percent of children under five are stunted, whereas in rural areas child stunting rates are 52 percent and 58 percent, respectively<sup>6</sup>. As a comparison, the average prevalence of child stunting across all developing countries is 32.0 percent<sup>2</sup>.

If one considers the absolute numbers of stunted children in the region, given the large population of Egypt and the now high stunting rates, it is estimated that over 2.64 million children in Egypt are stunted today, which is almost equivalent to the combined number of 2.7 million stunted children under the age of 5 in three countries in the MENA region which have historically had high stunting rates: Morocco, Yemen and Djibouti<sup>5,25</sup>. Thus, reversing the trend of increased stunting in Egypt alone could achieve a significant impact on the number of children who are stunted in the region as a whole. For this reason alone, Egypt needs to be seen as a priority country for nutrition interventions in the Region.

An examination of nutrition trends according to economic status reveals the fact that undernutrition is not merely a matter of poverty. Even in a high-income country such as Kuwait, nearly one-quarter of all children under five are stunted. Furthermore, within a country, rates of undernutrition can still be high amongst the wealthier segments of society. For example, in Yemen and Egypt rates of child stunting among the wealthiest quintile are 53 percent and 27 percent, respectively.

**Figure 8: Prevalence of Underweight, Wasting and Stunting in MENA Region**

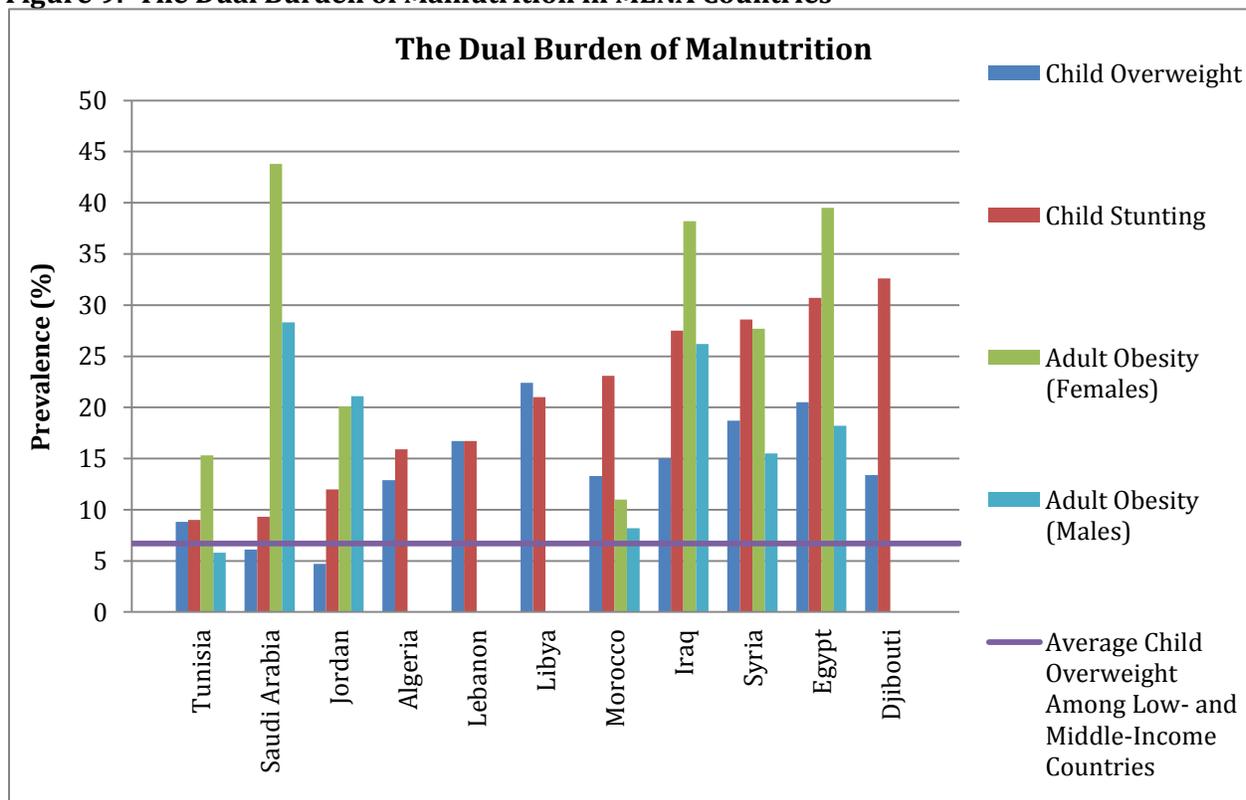


Source: Stunting and underweight rates were obtained from *World Health Statistics 2010*<sup>5</sup>. Wasting rates were obtained from the UNICEF’s 2009 *State of the World’s Children*<sup>6</sup>. Rates are based on the 2006 WHO Child Growth Standards.

Note: Data were not available for the West Bank and Gaza. Rates of underweight were not available for Iran, Qatar, Bahrain, United Arab Emirates, or Kuwait.

Compounding the persistent problem of child undernutrition is the growing and concurrent problem of over-nutrition in the MENA region, creating a “dual burden of malnutrition” (see Figure 9). Rates of overweight and obesity are escalating among both pediatric and adult populations in several countries. In Lebanon, Syria, Egypt and Libya, more than 15 percent of children under-five years of age are overweight (World Health Organization, 2010b). The epidemic of adult obesity is more widespread. While obesity rates tend to be higher among women than men, over 15 percent of the adult male populations in Egypt, Iraq, Jordan, Kuwait, Saudi Arabia and Syria are obese.

**Figure 9: The Dual Burden of Malnutrition in MENA Countries**



Source: *World Health Statistics 2010*<sup>5</sup>. Child stunting and overweight rates are based on the 2006 WHO Child Growth Standards.

Note: Child overweight data were not available for Bahrain, Iran, Kuwait, Oman, Qatar, United Arab Emirates or the West Bank and Gaza.

One factor which may underlie the dual burden of malnutrition is low birthweight. In the MENA region, rates of low birthweight range from 5 percent in Tunisia to 32 percent in Yemen<sup>6</sup>. Research has found that infants who receive suboptimal nutrition *in utero* and are born with a low birthweight, but who experience rapid weight gain in childhood (after 24 months) are at an increased risk of obesity and associated non-communicable diseases (NCDs) such as type 2 diabetes and cardiovascular disease in adulthood<sup>2,4</sup>. As will be discussed below, in the MENA region, NCDs already account for over 65 percent of deaths and their prevalence and associated health care costs are expected to rise. Egypt, for example, can expect a three-fold increase in diabetes and a four-fold increase in related hospital visits from 2000 to 2030<sup>23</sup>.

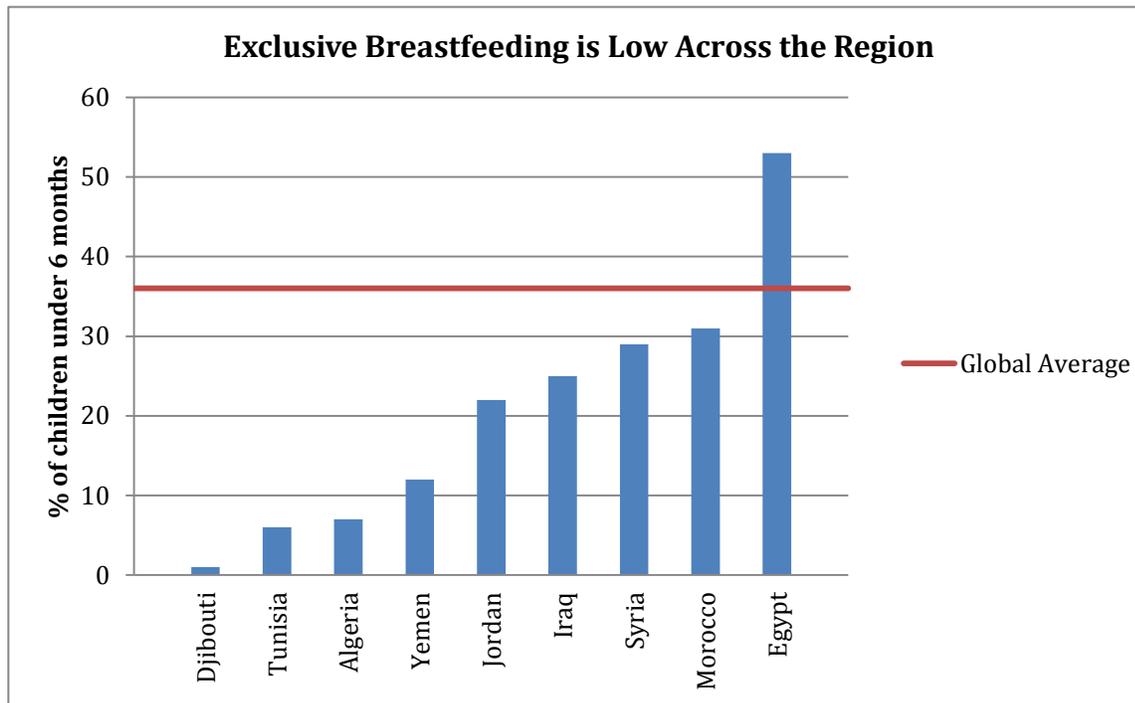
## B. The Primary Causes of Child Malnutrition

While there are a number of broad systemic issues that influence the poor nutrition outcomes in the MENA region, the primary causes of child malnutrition include the following:

*Poor Infant Feeding Practices:* Rates of exclusive breastfeeding are low across the MENA region (see Figure 10). Proper feeding practices during infancy are essential to ensuring optimal

nutritional status during the early years of a child’s life. Exclusive breastfeeding is recommended for the first six months, as it provides all required nutrients, boosts the immune system, and protects against exposure to pathogens found in contaminated water. From six months of age, appropriate complementary foods should be provided along with breast milk, and breastfeeding should be continued until at least two years of age. Data from Djibouti, Eqypt, Iraq, Jordan, and Syria show that, respectively, 77, 85, 91, 77, and 66 percent of children six to nine months of age are breastfed with complementary food. However, the low rates of *exclusive* breastfeeding during the first six months imply that many infants are receiving other foods or liquids besides breast milk too early. This highlights the necessity to provide education and support to mothers and families about the benefits of exclusive breastfeeding.

**Figure 10: Exclusive Breastfeeding in the MENA Region**



Source: *World Health Statistics 2010*<sup>5</sup>.

Note: Rates of exclusive breastfeeding were not available for Bahrain, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, United Arab Emirates or the West Bank and Gaza.

**High Disease Burden:** Rates of infectious diseases and preventable illnesses such as diarrhea and pneumonia remain high in some MENA countries, particularly among the low income groups. For example, in Djibouti and Yemen, 38 percent of deaths among children under five are caused by diarrhea and pneumonia combined (World Health Organization, 2010b). There is a close link between undernutrition and infection: undernutrition can increase the severity of an infection, while additional nutrients are required to fight an infection subsequently increasing the risk of undernutrition. In addition, infants born with a low birth weight and those who are not exclusively breastfed are more vulnerable to contracting an infection. Preventing and treating infections contributes to combating undernutrition.

*Limited Access to Nutritious Food:* The recent economic crisis has heightened the risk of food insecurity in many MENA countries. According to the Food and Agriculture Organization's 2009 State of Food Insecurity Report, more than 30 percent of the population is undernourished in Djibouti and Yemen<sup>7</sup>. Rising food prices often force families to purchase nutrient poor foods and limit dietary diversity, which can increase the risk of micronutrient deficiencies.

*Household Behavior and Local Practices that affect Nutrition.* Guaranteeing food security must be addressed, but *it is not a sufficient solution* since much of the poor nutritional outcomes are often due to practices within the household and communities, including breastfeeding and weaning practices. The practice of chewing qat in Yemen among breastfeeding mothers, for example, can significantly exacerbate the nutritional status of their infants. Social outreach programs, education and other multi-sectoral approaches are needed to ensure that all household members, and in particular, infants, children and women, have access to an adequate, nutritious, and diverse diet.

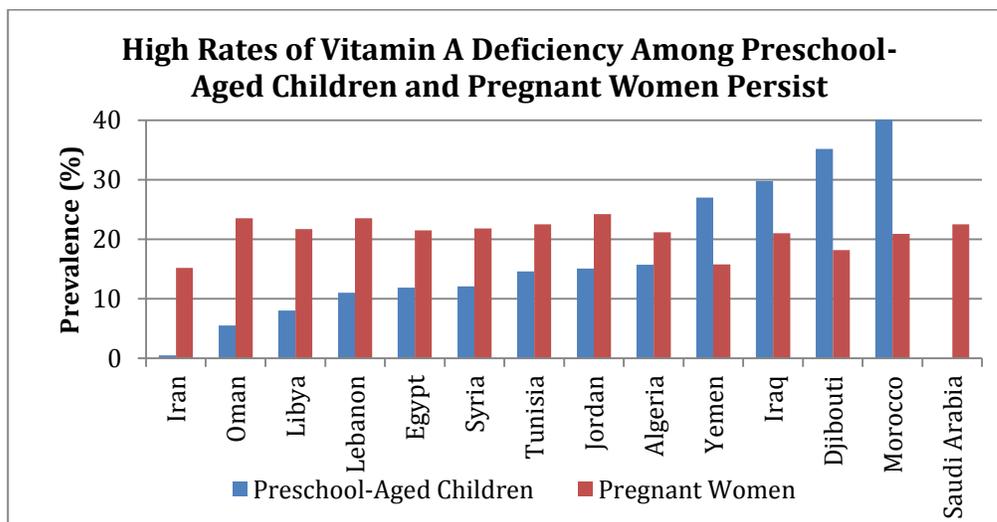
In addition, the growing problem of obesity in the MENA region points to a nutrition transition in which modern diets composed of more sugar, refined grains, and fat have been adopted in lieu of healthier traditional diets that consisted of more whole grains, fruits and vegetables<sup>8</sup>. While this report has highlighted the potential risks of malnutrition, it will require more targeted research will be required in this area to identify these constraints and develop locally adapted and socially responsible interventions.

### **C. Micronutrient Deficiencies: A Hidden Type of Hunger**

Micronutrient deficiencies are widespread in the MENA region and represent an invisible type of malnutrition. Deficiencies in vitamins and minerals such as vitamin A, iron, zinc, and iodine can impair child growth and cognitive development and increase the risk of disease<sup>2</sup>. Young children and pregnant women are particularly vulnerable to certain micronutrient deficiencies, given the increased nutrient demands associated with such periods of rapid growth and development. At the population level, micronutrient deficiencies have severe economic repercussions. For example, childhood anemia alone is associated with a 2.5 percent drop in adult wages<sup>9</sup>.

Figure 4 illustrates the prevalence of vitamin A deficiency among preschool-aged children and pregnant women across several MENA countries. It is notable that rates are consistently high among pregnant women, ranging from 15 percent in Iran to 24 percent in Jordan<sup>10</sup>. However, rates appear to vary more amongst pre-school aged children. Less than 1 percent of children in Iran are reported to have vitamin A deficiency, whereas the rate among Moroccan preschool-aged children is over 40 percent<sup>10</sup>.

**Figure 11: Vitamin A Deficiency in Preschool-Aged Children and Pregnant Women in the MENA Region**

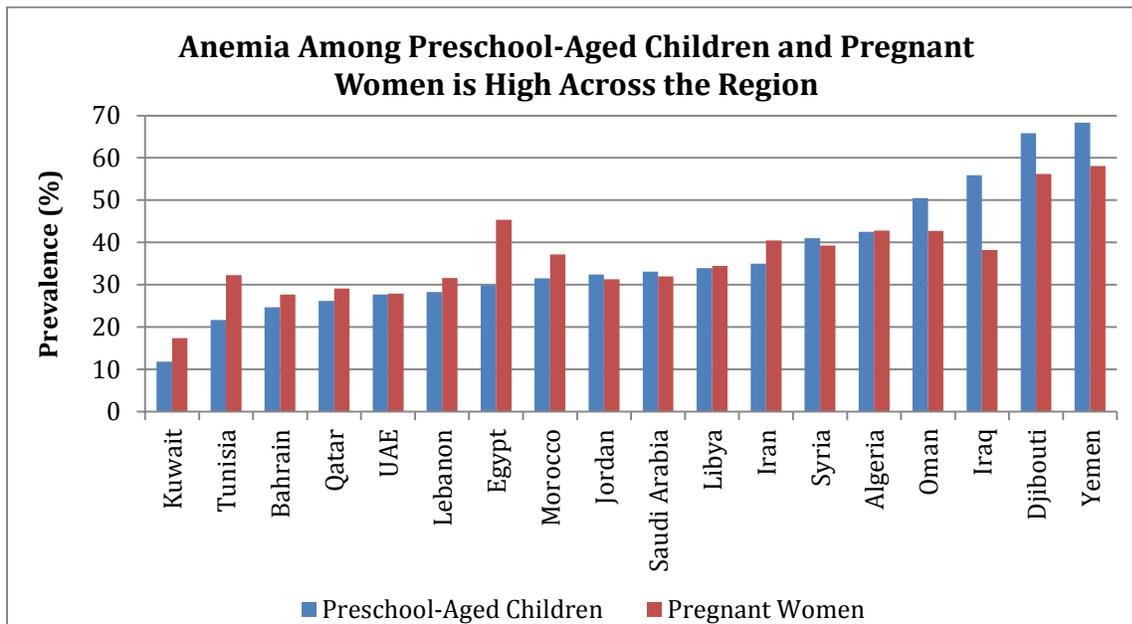


Source: WHO Global prevalence of vitamin A deficiency in populations at risk 1995-2005<sup>10</sup>

Note: Data were not available for Bahrain, Kuwait, Qatar, United Arab Emirates, or the West Bank and Gaza.

As shown in Figure 5, rates of anemia are exceptionally high in many MENA countries. Although there are different causes of anemia, it is generally estimated that approximately half of all cases are due to dietary iron deficiency. In 16 of the 18 countries with available data, more than one-quarter of preschool-aged children and pregnant women are anemic<sup>11</sup>. In Djibouti and Yemen, the rate of anemia among preschool-aged children has reached 66 percent and 68 percent, respectively<sup>11</sup>. Such high rates are of concern given the close association between anemia and reduced cognitive performance. A recent review found that 19 of 21 studies reported poorer mental, motor, social, emotional, or neurophysiological functioning in infants with iron deficiency anemia than those without<sup>26</sup>.

**Figure 12: Anemia among Preschool-aged Children and Pregnant Women in the MENA Region**



Source: WHO Worldwide prevalence of anemia 1993-2005: WHO global database on anemia.

Note: Data were not available for the Palestinian Territories.

While data are lacking for other types of micronutrient deficiencies, some recent estimates on zinc status have reported that 42 percent and 61 percent of the population is at risk of insufficient zinc intake in Morocco and Egypt, respectively<sup>12</sup>. Zinc has been proven to be effective in reducing morbidity from diarrhea as well as promoting child growth<sup>27</sup>.

### Coverage Rates for Micronutrient Interventions: Where does MENA stand?

The promotion of a diversified diet amongst all members of the population should underlie all efforts to improve micronutrient status. However, in certain settings, supplementation for vulnerable subgroups and fortification of staple foods with particular micronutrients is also necessary. For example, vitamin A supplementation of children 6-59 months of age has been proven to reduce rates of child mortality by 23 percent<sup>13</sup>. Iron folic-acid supplementation during pregnancy lowers the risk of maternal mortality due to hemorrhaging, and reduces the chance that the infant will be born prematurely, with a low birthweight, or with a neural tube defect<sup>14</sup>.

In the MENA region, some countries have begun micronutrient supplementation or fortification programs to help prevent micronutrient deficiencies. Egypt, for example, has a large-scale flour fortification program that has achieved great success in providing additional iron to the diets of the poor population via wheat flour which is used for baking subsidized baladi bread. With financing from the Global Alliance for Improved Nutrition, Morocco has been able to fortify more than 80 percent of industrial flour and approximately 90 percent of table oil. Additional efforts are currently underway to expand coverage of flour fortification to small artisanal mills and also to develop new fortification vehicles, such as couscous, milk and sugar. Table 1 presents coverage rates of vitamin A supplementation, salt iodization, and the status of

national flour fortification policy for countries with available data. However, further expansion of these programs is needed in order to achieve universal coverage, which could be accomplished yielding highly cost-effective outcomes.

**Table 1: Coverage rates of micronutrient interventions in selected MENA countries**

Country	% of children 6-59 months of age who received full coverage of vitamin A	% of households consuming iodized salt	Type of wheat flour fortification policy
Algeria	-	61	-
Bahrain	-	-	Mandatory
Djibouti	17.9	-	-
Egypt	12.4	25	Proposed
Iran	-	-	Mandatory
Iraq	2.0	69	Mandatory
Jordan	-	80	Voluntary
Kuwait	-	-	Mandatory
Lebanon	-	92	-
Libya	-	90	Proposed
Morocco	25.5	91	Mandatory
Oman	-	-	Mandatory
Qatar	-	69	Mandatory
Saudi Arabia	-	-	Mandatory
Syrian Arab Republic	2.9	46	Proposed
Tunisia	-	-	Mandatory
United Arab Emirates	-	-	Voluntary
Yemen	-	-	Mandatory

Sources: Vitamin A supplementation coverage rates were obtained from *World Health Statistics 2010*<sup>5</sup>. Salt iodization coverage rates were obtained from UNICEF's 2009 *State of the World's Children*<sup>6</sup>. The status of flour fortification policy was obtained from the Micronutrient Initiative's *Investing in the Future*<sup>12</sup>.

Note: Data were not available for the West Bank & Gaza

#### D. Targeted Nutrition Interventions Reap High Returns on Investment

MENA's child malnutrition must be addressed through both nutrition-related policy reforms and targeted interventions. Complex socio-economic factors help explain existing nutrition outcomes. For example, Egypt's obesity problem has been in part blamed on food subsidies for energy dense, nutrient-poor foods which increase the relative price of healthier fruits and vegetables<sup>15</sup>. In some cases, low female participation in decision making hinders the ability of mothers to make optimal nutrition decisions. At the country level, a close examination of policies that impact nutrition outcomes such as food pricing, agricultural policies, securing access to water, and strengthening primary care access, delivery and public health networks needs to be accomplished in conjunction with expanding nutrition interventions.

When the MENA region is viewed as a whole, selected nutrition issues are consistently apparent: child stunting, overweight, and iron deficiency anemia need to be prioritized as problems that require immediate action. Interventions that aim to address these problems should have both child protection and gender components. Furthermore, to have the greatest impact, interventions should be targeted at children under five years of age as well as women of

childbearing age, with particular attention to children under the age of two and adolescent females. In order to reach these vulnerable subgroups, strategies must engage multiple actors including care providers, family members, policy-makers and influential groups, local communities, and the general public.

In countries with a high burden of child undernutrition, scaling-up a set of ten proven nutrition interventions has been recommended to reduce mortality, improve health outcomes, and strengthen human capital<sup>16</sup>. Although the specific package of interventions should be tailored to the context of each country, Table 2 summarizes the ten proven interventions, highlights their cost-effectiveness, and estimates the costs of scaling up from existing coverage levels to full coverage of the target populations in Djibouti, Egypt, Iraq, Morocco, and Yemen<sup>5</sup>. The individual country-specific costs are detailed in Annex

The interventions for improving micronutrient status yield enormous benefits and are especially cost-effective, generating returns on investments greater than those of programs for water and sanitation, and governance and corruption<sup>17</sup>. For example, achieving universal salt iodization would impact nearly 60 million additional people in Djibouti, Egypt, Iraq, Morocco, and Yemen at a cost of under US\$3 million which would yield a benefit:cost ratio of 30:1<sup>12</sup>. Expanding the use of multi-micronutrient powders would lead to a benefit of \$12.20 per Disability Adjusted Life Year (DALY) saved<sup>20</sup>. These ten interventions vary in their impact and cost-effectiveness. Vitamin A, zinc supplementation and treatment of acute malnutrition have lower costs per DALY. Other interventions such as iron fortification, salt iodization may have higher costs per DALY but have primary impacts on productivity and GDP<sup>16</sup>.

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<sup>5</sup> Details of the interventions, target populations and costing methodology can be found in Scaling Up Nutrition: What will it cost? and at: [www.worldbank.org/nutrition/profiles](http://www.worldbank.org/nutrition/profiles)

**Table 2: Targeted Nutrition Interventions**

			For Djibouti, Egypt, Iraq, Morocco, and Yemen		
Intervention	Unit Cost (US\$)	Approximate Return on Investment (%) or cost effectiveness (US\$) <sup>12, 20,21,22</sup>	Total Cost of Scaling Up (US\$)	Numbers of children or people currently uncovered who will be reached by scaling up the interventions	Costs as % of Government Health Expenditures <sup>28</sup>
1. Community nutrition programs for behavior change	16.50/child under 5/year	1400	342,853,500	21 million children under 5 years of age	2%
2. Vitamin A supplementation for children aged 6-59 months	2.64/child aged 6-59 months/year	1700	24,975,743	9.5 million children 6-59 months of age	<0.5%
3. Therapeutic zinc supplementation for children 6-59 months	2.20/child aged 6-59 months/year	Up to 1370	40,685,282	18.5 million children 6-59 months of age	<0.5%
4. Multi-micronutrient powders	7.92/child aged 6-23 months/year	3700 (iron) \$12.20 per DALY saved	41,063,807	5.2 million children 6-23 months of age	<0.5%
5. Prophylactic deworming	0.55/child aged 12-59 months/year	600	2,962,868	5.387million children aged 12-59 months of age	<0.5%
6. Iron-folic acid supplementation for pregnant and lactating women	4.40/pregnant or lactating woman/year	\$65-115 per DALY saved	12,467,884	2.8 million pregnant and lactating women	<0.5%
7. Iron fortification of wheat flour	0.20/person/year	800	9,599,000	48.0 million people	<0.5%
8. Salt iodization and iodized oil capsules	0.05/person/year	3000	2,926,262	58.5 million people	<0.5%
9. Complementary food for the prevention and treatment of moderate acute malnutrition	0.40/underweight child 6-23 months of age/day		85,958,973	1.7 million children of 6-23 months of age	0.5%
10. Treatment of severe acute malnutrition	200/child treated	\$41 per DALY saved	87,674,683	438,000 children 6-59 months of age	0.5%
<b>TOTAL</b>			651,168,000		3.8%

Source: The set of interventions, unit costs, and return on investment estimates were obtained from *Scaling Up Nutrition: What will it cost?*<sup>16</sup>. Methodology for the cost estimates can be found at: [www.worldbank.org/nutrition/profiles](http://www.worldbank.org/nutrition/profiles)

### **E. The High Costs of Doing Nothing: Need for Action Now**

Poor nutrition can take a sizable financial toll on economic growth resulting in billions of GDP lost in the MENA region. In the absence of scaled-up dedicated nutrition programs, undernutrition levels would likely decline only at half the rate of per capita economic growth<sup>18</sup>. For the high burden countries in the MENA region such as Djibouti and Yemen, their current pace of slow or stagnating progress in child undernutrition is insufficient to meet the Millennium Development Goal 1c of reducing by one-half, the number of underweight children by 2015. The persistence of relatively high levels of malnutrition even in middle and higher income economies in the region points to existence of particular constraints that are slowing progress in many countries the region.

In Egypt, Morocco, Djibouti and Yemen, it is estimated that is 7 percent of the existing annual economic losses to GDP due to malnutrition<sup>24,25</sup>. Vitamin and mineral deficiencies cost Egypt, Morocco and Syria a total of \$1 billion annually<sup>24,25</sup>. The economic costs of poor nutrition are borne at two levels. Poor nutrition imposes medical and non-medical costs of illness that result from the increased vulnerability to complications during childbirth, infectious diseases, and chronic diseases. Indirect costs include the loss of labor productivity from the inability of malnourished individuals to meet their full cognitive and physical potential during child development and the resulting losses in time and wages from related death, disability, and disease. Many estimates of the burden of malnutrition are conservative and cannot fully capture all the relevant costs. Individuals could potentially lose more than 10 percent of their potential lifetime earnings as a result of malnutrition and economies can lose 2-3 percent of their GDP<sup>3</sup>. This represents a potential US\$55 billion in lost GDP for the entire MENA region<sup>25</sup>. By comparison, the total cost of scaling up all ten interventions in the five countries (Djibouti, Egypt, Iraq, Morocco, and Yemen) is estimated at US\$651 million, which is just over 1 percent of the total GDP loss.

More analyses will be needed to examine the financial impact of the rising prevalence of nutrition-related chronic diseases across the MENA region. Egypt, for example, is expected to lose about \$1.26 billion in GDP between 2006 and 2015 because of its high rates of coronary heart disease, stroke and diabetes<sup>19</sup>. These estimates only hint at the high costs that the MENA region is already paying as a result of the poor nutritional status of its children. As will be discussed in Chapter 3, below, treating chronic noncommunicable diseases may require higher cost health system resources such as higher cost of hospitalization, and will require appropriate interventions to reduce risk factors such as obesity. Whether for addressing undernutrition or overnutrition, investing in proper nutrition interventions now will have the potential to reap high returns that would strengthen the future economic and social prospects of the affected individuals as well as their family and community.

### **Box 2: National Nutrition Strategies and Policies in MENA**

A number of countries in the MENA region have recognized the urgency of the situation and have initiated policies to address both under- and over-nutrition. In 2007 experts from the Egypt's Ministry of Health, National Research Council, and international organizations working in Egypt collaborated to develop a ten year National Food and Nutrition Policy and Strategy. The strategy has the goal of "guaranteeing universal availability and accessibility to high quality, safe food and promoting healthy dietary practices for the prevention and control of nutrition disorders". It also recognizes the importance of monitoring and evaluation and is striving to develop a national nutrition surveillance system. More recently, an inter-ministerial committee on nutrition has been established and is currently chaired by Egypt's Minister of Health.

In 2009 Yemen, the Government developed its National Nutrition Strategy, which aims to reduce morbidity and mortality of Yemeni people due to malnutrition so that they can sustain their healthy life and contribute to socio-economic development of the country. The strategy will enhance nutritional interventions along the ten pillars consistent with the ten interventions recommended in this Report. These pillars focus on cost-effective interventions aimed at control of child and maternal under-nutrition, low birth weight, and micro-nutrients deficiency such as iron, vitamin A, iodine, and zinc. Most programs are supported by external assistance, which have so far focused on treatment of acute malnutrition and complementary feeding programs, including improving Infant and Young Child Feeding and the establishment of Therapeutic Feeding Centers and Outpatient Therapeutic Program Centers, respectively, at each governorate and district levels.

In 2008, Djibouti developed its national nutrition strategy in collaboration with international organizations. The strategy aims to contribute to the improvement of the nutritional status of vulnerable groups, including children, women at the age of reproduction and extremely poor people. The National Nutrition Program also includes an integrated action plan which is being implemented through contributions from development partners including The World Bank, UNICEF and WHO. Morocco will be preparing its national nutrition strategy in 2010-2011, and also has plans to institute a National Alliance for Nutrition, which will build on the positive aspects of its ongoing fortification program.

### **III. Stopping the Silent Spread of HIV/AIDS Epidemic**

The MENA Region has been fortunate in that HIV prevalence has remained very low. The recently published study on HIV epidemiology in the MENA region (Abu-Raddad, Akala, Semini, Riedner, Wilson, & Tawil, 2010) confirms that most MENA countries have a low HIV prevalence and no evidence exists yet for a major HIV epidemic in the general population, with the exception of Djibouti which stands out from the rest of the MENA region as having a generalized HIV epidemic. However, the total number of AIDS deaths has increased almost six-fold since the early 1990s, and half of new HIV infections are among young people ages 15 to 24, the period when sexual activity usually begins.

Two main patterns of transmission describe HIV epidemiology in most of the MENA countries:

- A pattern of exogenous HIV exposures among nationals who contract HIV outside their country and then transmit the virus to their sexual partners on their return to their home country.
- A pattern of concentrated HIV epidemic among priority populations. A concentrated epidemic is defined as HIV prevalence that consistently exceeds 5% in at least one priority population. Priority populations comprise injecting drug users (IDUs), men who have sex with men (MSM), and female sex workers (FSWs). All MENA countries have populations in which concentrated epidemics have the potential to occur.

The general epidemiological pattern in MENA countries points toward growing epidemics in “priority populations”, who have the highest probability of being exposed to HIV infection. “Bridging populations” are groups at intermediate risk of exposure to HIV, who provide links between the high-risk priority populations and the low-risk general population. Bridging populations include groups such as truck drivers, military personnel, sailors, and sexual partners of high risk population. A sizable fraction of MENA populations belong to this group of population, but very little critical information about this group is known, such as HIV prevalence rates, as well as prevalence rates of other Sexually Transmitted Infections; sexual risk behavior measures; and drug injecting practices. Where data are available, evidence suggests considerable levels of sexually risky behavior among the bridging populations – mostly youths – indicating the high potential that HIV could spread through this group into the general population.

AIDS response in MENA remains relatively weak in comparison to global levels. With just 14% of people in need of treatment receiving antiretroviral drugs in 2008, treatment coverage rate in the Region was less than half the global average for low- and middle-income countries. The pace of service expansion is also slower in MENA than in other regions: while global anti-retroviral coverage increased more than fourfold between 2004 and 2008, a more modest expansion was reported in MENA, with coverage rising from 11% to 14% in the same four-year period. MENA also stands as the region where knowledge of the epidemic continues to be very limited among the population. Overall, this reflects a level of complacency due to the low prevalence level in the general population, and the concentration of the epidemic among the high risk groups who are in the marginalized and stigmatized group.

This complacency is dangerous. MENA countries will urgently need to develop robust surveillance systems to monitor HIV spread among priority populations. Effective and repeated surveillance of priority populations across MENA will be critical for preventing the spread of HIV beyond this group. This surveillance strategy offers a window of opportunity for targeted prevention at an early stage of an epidemic, when halting new infections among priority populations would be much less costly than having to bear the cost of the treatment and care in the later stages of massive epidemics among the general population. If HIV were to spread to the general population, much of the achievements to date in improving the health outcomes of the population would be reversed, and the cost to the economy could be substantial (Jenkins & Robalino, 2003).

## Chapter 3. Emerging Challenges of Health Transition

### I. Consequences of Epidemiologic and Demographic Transition

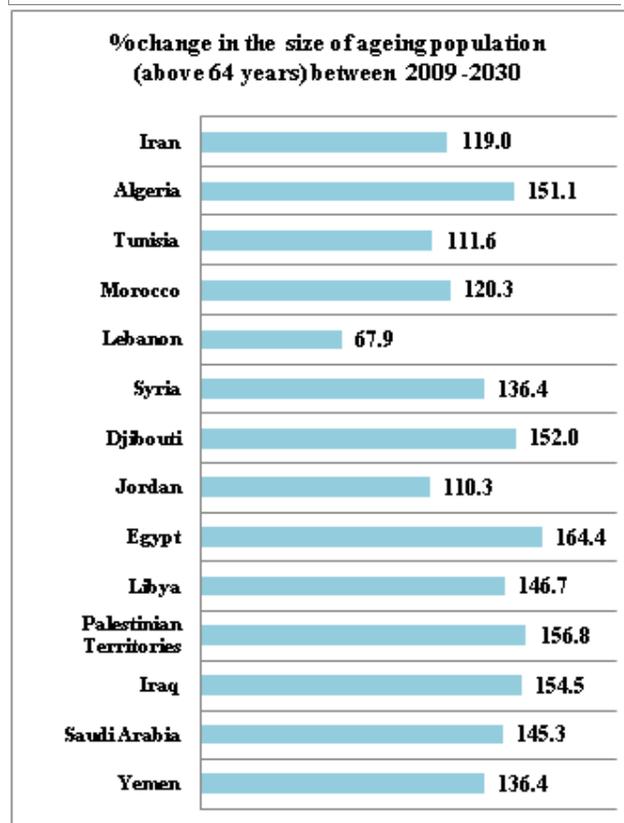
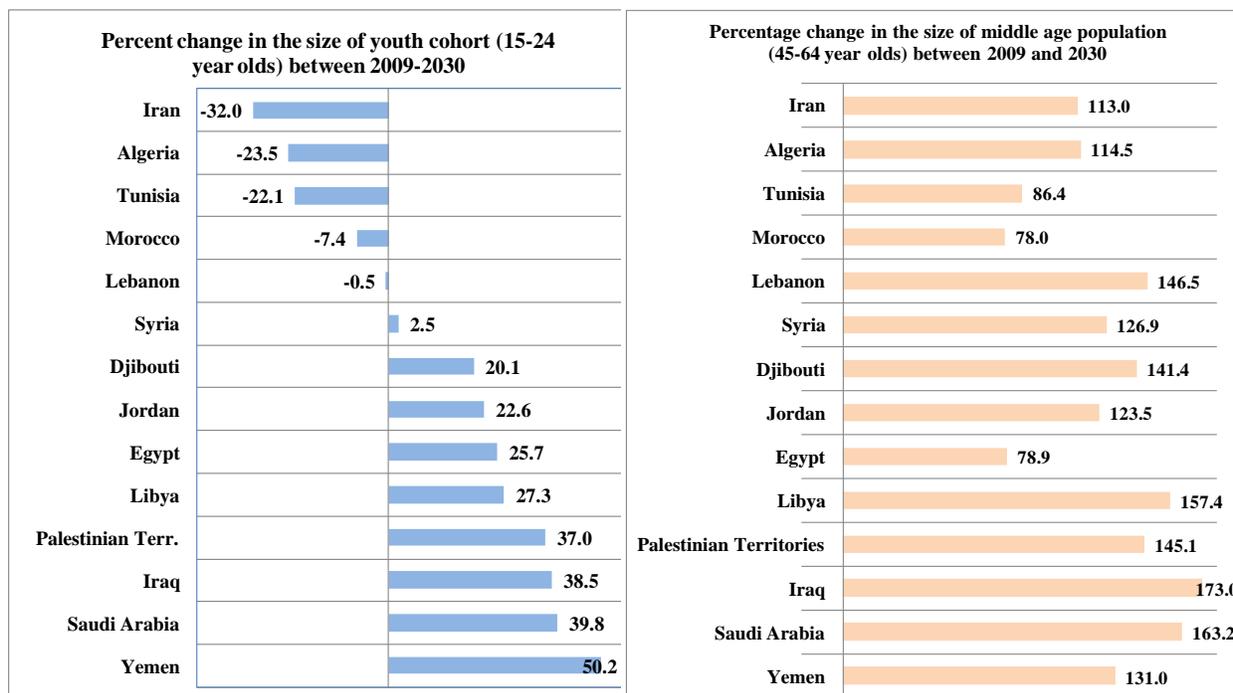
Many countries in the MENA region introduced active population policies that have contributed to significant reductions in total fertility rates, starting from a regional average of over 6 births per women in 1980 to just below 3 births per women in 2006. Concurrent expansion in access to contraceptive services, improvements in girls' education attainment levels and an increase in the age of marriage have contributed to the reductions in family size (Assad & Roudi-Fahimi, 2007). Nevertheless, MENA region was a relative latecomer to demographic transition, and the regional average Total Fertility Rate (TFR, number of births per woman) of 3 remains significantly above that of other developing regions at comparable income levels. By comparison, the developing regions of East Asia and Latin America have average Total Fertility Rates of just over 2.

The rapid decline in child mortality rates and relatively slower decline in fertility rates across the region has led to a rapid population growth rate as well as one of the fastest growth in the proportion of 15 to 24 year olds in the total population. As a consequence, youth form the majority of the population in MENA: with about two thirds of the region's population below the age of 24, MENA is facing an unprecedented "youth bulge". The current youth bulge creates a demographic window of opportunity in which economies can benefit from a majority of individuals entering their productive peak, while the share of the population that is very young and the elderly remains relatively small. The increase in the labor supply creates possibilities for enhanced growth if they are also coupled with increased productivity, higher savings, consumption, income tax, and investment from this group (The World Bank, 2007). The large size of young population also helps to keep the demand and cost for healthcare low, as this is among the healthiest age group in any country. As the population ages, this window of opportunity will close.

The countries in the MENA are at different stages of demographic transition. For most MENA countries, the demographic window of opportunity will remain open for the next decade or so. Among the countries in more advanced stages of demographic transition, the youth bulge is more pronounced: Iran, Algeria and Tunisia, and Lebanon fall within this group. These countries will face a "middle-age bulge" in the coming decade (see Annex 3: Population Pyramids for MENA Countries, 2009 and 2030) and these countries are already experiencing the effects of epidemiologic transition.

Yemen, Iraq and the Palestinian Territories, which continue to show high fertility rates and high population growth rates, will likely extend the demographic window of opportunity for a longer period. Yet even in these countries, the effects of the growing share of the diseases of advanced demographic transition such as noncommunicable diseases are rising. In the labor-receiving Gulf Cooperation Council (GCC) countries, international migration plays an important role, with large numbers of expatriate workers migrate to these states for work. As most migrants are predominantly working age male population, their presence mitigates the effects of ageing among the national population. Figure 13, below, illustrates the changing demographic profile of the low and middle income countries of the region. Saudi Arabia is included as a reference for GCC countries.

**Figure 13: Demographic transition - change in the size of youth (15-24 year olds) and middle-age (45-64 year old) cohorts between 2009 and 2035, MENA countries**



Source: Calculated using data from U.S. Census Bureau, Population Division, updated in August, 2009.

The Global Burden of Disease Study indicates lists heart diseases as the leading cause of death in the MENA region, followed by low birth-weight, birth trauma, and road traffic injuries (see Table 5).

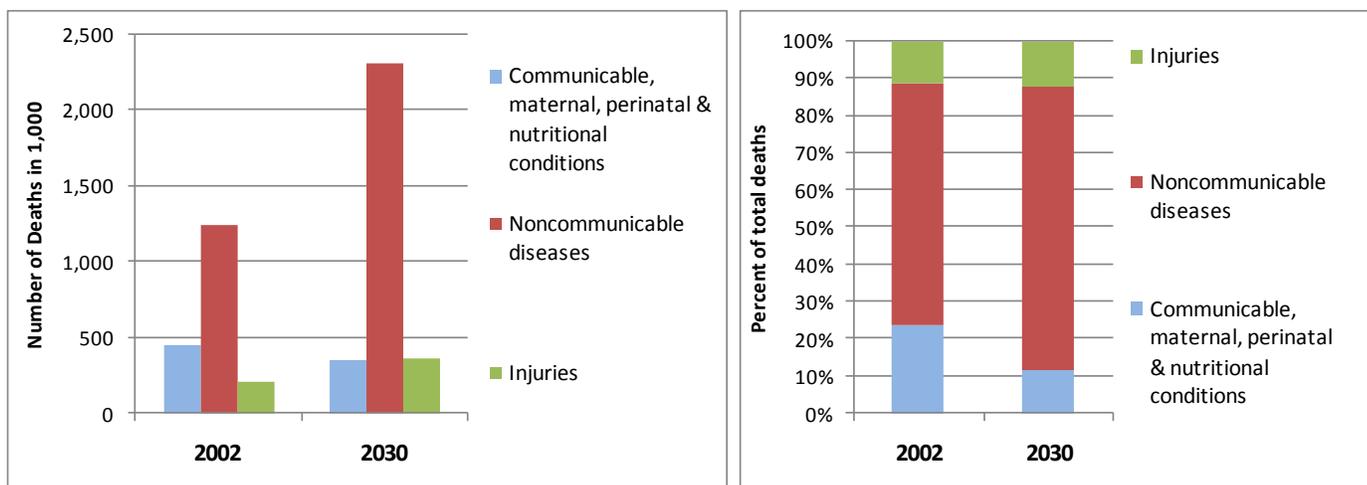
**Table 5: Leading Causes of Death in MENA and Global Regions, ca 2001**

Rank	Middle East & North Africa	World	High-Income Countries	Low- and Middle-Income Countries
1	<b>Heart Disease</b>	Low birth-weight, prematurity and birth trauma	Heart Disease	Low birth-weight, prematurity and birth trauma
2	<b>Low birth-weight, prematurity and birth trauma</b>	Pneumonia, bronchitis, and flu	Stroke	Pneumonia, bronchitis, and flu
3	<b>Road Traffic Injuries</b>	Heart Disease	Depression	Heart Disease
4	Pneumonia, bronchitis, and flu	Stroke	Alzheimer's and other dementias	HIV/AIDS
5	Diarrhea	HIV/AIDS	Trachea, Bronchus and Lung cancer	Stroke
6	Depression	Diarrhea	Hearing loss, adult onset	Diarrhea
7	Birth defects	Depression	Chronic lung disease	Depression
8	Stroke	Malaria	Diabetes	Malaria
9	Vision disorders, age-related	Chronic lung disease	Alcohol use disorders	Tuberculosis
10	Cataracts	Tuberculosis	Arthritis	Chronic lung disease

Source: (Mathers, Lopez, & Murray, 2006)

The Global Burden of Disease estimation by Mathers and Loncar (Mathers & Loncar, 2006) estimated the changes in the leading causes of deaths for different regions of the world between 2002 and 2030. Figure 14, below, summarizes the results by the three broad categories of diseases for the MENA region: Noncommunicable Diseases (NCDs) are estimated to account for 65 percent of all deaths in the MENA Region in 2002, and by 2030 NCD deaths are expected to nearly double and will represent 77 percent of total deaths. By contrast, deaths attributable to communicable, maternal, perinatal and nutrition conditions are projected to decrease from 24 to 12 percent of total deaths over the same period.

**Figure 14: Estimated Number of Deaths and Percentage of Total Deaths, by Broad Causes in MENA Region, 2002 and 2030**



Source: (Mathers & Loncar, 2006)

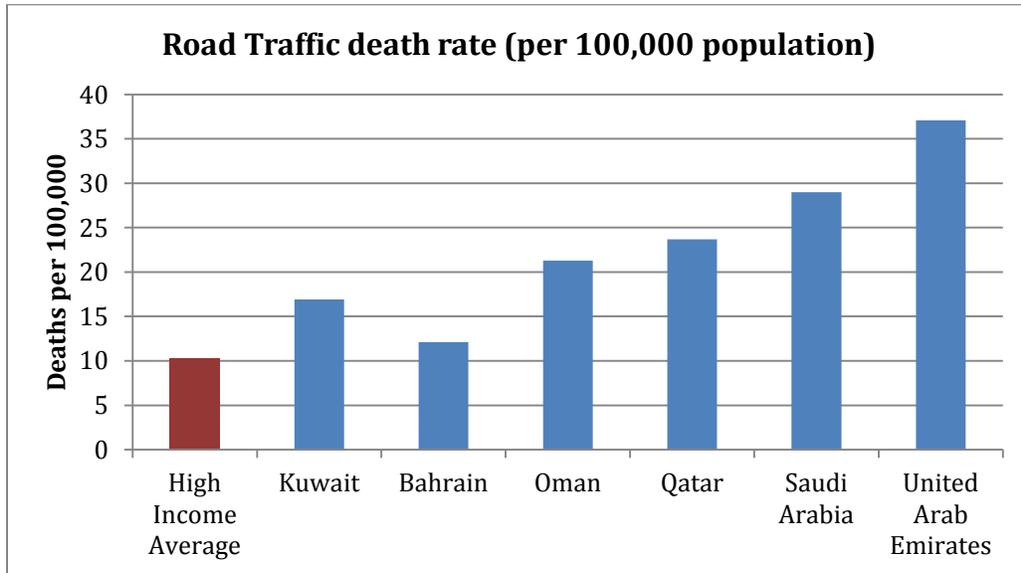
## II. Road Traffic Injuries

### A. Burden of Road Traffic Injuries

While the countries within the MENA region continue to benefit from globalization and their economies shift from low and middle income to high income, the burden placed on their health systems as a result of road traffic injuries is set to substantially increase if current trends continue. Deaths and disabilities due to injuries pose a serious public health problem in the Region, and some of the highest mortality rates in the region occur in low- and middle-income countries, respectively at 9% and 11.5% of total deaths. The overall mortality rate of 59.75 per 100,000 due to unintentional injuries in the MENA region is considerably higher than the corresponding rate in more developed countries of 34.5 deaths per 100,000.

**Fatalities due to Road Traffic Injuries.** The Global Burden of Disease Study identified RTI as the third leading cause of disease burden in the MENA region which is the highest such ranking among the global regions. Most countries in the MENA region have traffic death rates above the global averages at comparable income levels. These are evident from Figure 15 and Figure 16, below.

**Figure 15: Road Traffic Death Rates per 100,000 Population in High Income MENA Countries**



**Figure 16: Road Traffic Death Rates per 100,000 Population in Low and Middle Income MENA Countries**

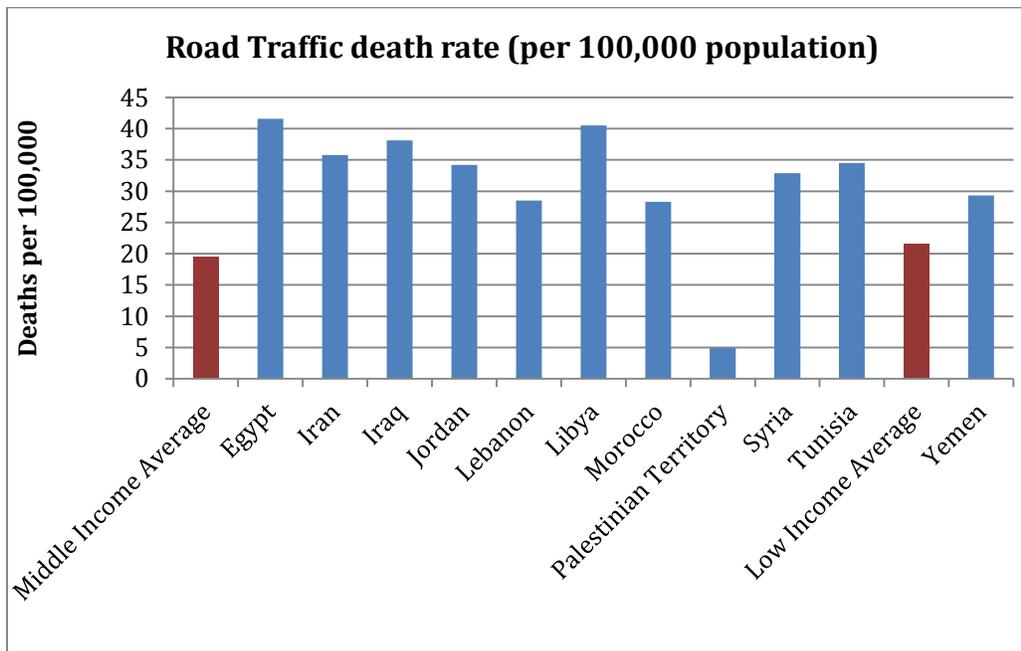
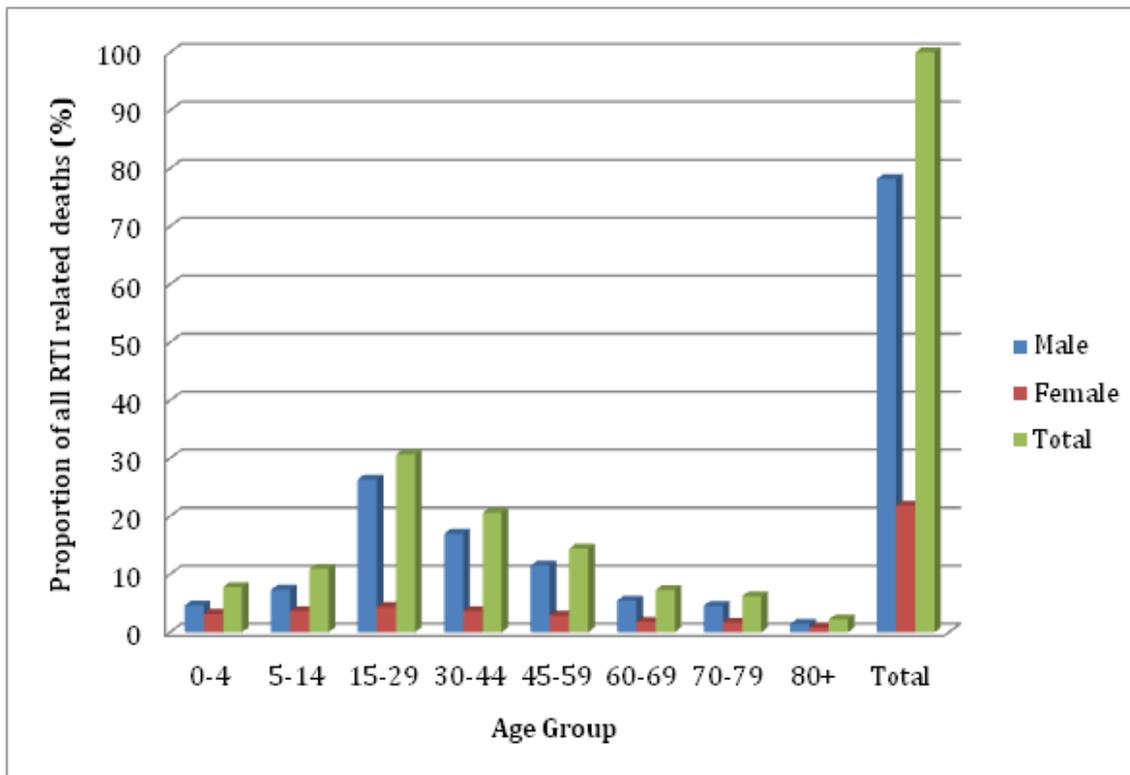


Figure 17 shows road traffic injury fatalities disaggregated by age and sex (World Health Organization, 2008a). The highest proportion of RTI fatalities occurred in the 15-29

age group followed by the 30-44 age group. This has important implications particularly because those two age groups together account for 40% of the entire population of MENA. This trend is also evident when the number of DALYs lost to RTI is considered (36 percent of all DALYs lost occurred in the 15-29 age group, followed by 21 percent in the 30-44 age group). Sex-specific mortality rates due to RTI in the region highlight the inequalities between genders, with the male rate over three times the female fatality rates. A quarter of all deaths resulting from RTI occurred among males in the 15-29 age group. Disaggregating the morbidity data by sex and age reveals that the largest proportion of all DALYs lost to RTI also occurred amongst males (76 percent of all DALYs lost to RTI) and more specifically within the 15-29 year age group (30 percent of all DALYs lost to RTI).

**Figure 17: Proportion of all Road Traffic Injury Fatalities in the MENA region, by sex and age**



Source: World Health Organization. The global burden of disease: 2004 update. Geneva, World Health Organization, 2008. Available at <http://www.who.int/evidence/bod>

Table 6 shows the level of road traffic fatalities and the categories of road users. With the exception of the Palestinian Territories, all the countries in the region are significantly above the global averages at the comparable levels of income groups. Between 15 – 33 percent of total road fatalities are pedestrians. Studies conducted in other developing regions have shown that pedestrians tend to come from lower income groups, who represent an especially vulnerable population. Additional research will be needed in the MENA region to demonstrate this important correlation, and they point to another example in which lack of information and awareness exposes the vulnerable groups to higher risks of injuries.

**Table 6: Percentage of Fatal Road Traffic Injuries by Road User Type in MENA Countries in 2007**

Country	Road Traffic Deaths	Road User Deaths (%)			
	Road Traffic death rate (per 100,000)	Motorized Four-wheelers (Drivers/Passengers)	Motorcyclists	Bicyclists	Pedestrians
<b>High Income Group (GCC)</b>					
Kuwait	16.9	..	..	..	..
Bahrain	12.1	59.4	5.5	6.6	28.6
Oman	21.3	..	..	..	..
Qatar	23.7	69	4	27	..
Saudi Arabia	29	..	..	..	..
United Arab Emirates	37.1	70	1.5	..	28.5
<b>Middle Income Group</b>					
Algeria	..	..	..	..	..
Djibouti	..	..	..	..	..
Egypt	41.6	47.5	0.1	1.9	20.1
Iran	35.8	44.9	11.4	..	33.3
Iraq	38.1	..	..	..	..
Jordan	34.2	75.2	0.1	..	24.7
Lebanon	28.5	..	..	..	..
Libya	40.5	60	..	5	15
Morocco	28.3	45.7	16.3	7.1	27.9
Palestinian Territory	4.9	..	..	..	..
Syria	32.9	..	..	..	..
Tunisia	34.5	50.8	14.4	2.6	32
<b>Low Income Group</b>					
Yemen	29.3	..	..	..	..
<b>Global Averages</b>					
<b>World</b>	18.8				
<b>High Income</b>	10.3				
<b>Middle Income</b>	19.5				
<b>Low Income</b>	21.5				

Source: National sources as reported in (World Health Organization, 2009b).

## F. The High Cost of Doing Nothing: Potential Economic Impact of Road Traffic Accidents

**Economic Growth and Trends in Road Traffic Injuries.** Economic growth and the resulting increasing motorization and industrialization are known to correlate with an increase of traffic crashes and the deaths associated with them. A literature review on industrialized countries suggested that road traffic fatality has an inverted U-shaped relationship to economic development: traffic fatality rates grow rapidly during the early period of development of a country, then plateau due to investments in road safety, and then start to decrease (Van Beeck, Borsboom, & Mackenbach, 2000). More recent research on developing countries suggests, however, that this presumption may not hold for developing countries, due to the fact that the rate of economic growth often outstrips the pace of improvements in the design of a developing country's infrastructure and road safety policies and programs. The combination of large number of inexperienced younger drivers on dysfunctional roads is a lethal combination. It would appear that the expected reduction in road traffic injuries is being delayed in the MENA region, partly due to the very large number of youths who tend to be the group most at risk of RTI, and the delayed introduction and implementation of effective road safety policies and programs.

**Projections of Road Traffic Fatalities and Disabilities in the MENA Region.** Two main models of road traffic fatality projections exist: the WHO Global Burden of Disease (GBD) projections and the World Bank Traffic Fatalities and Economic Growth (TFEC). The 2004 GBD update using health data has published projections for fatalities and Disability Adjusted Life Years (DALYs) between 2008 and 2030 (Table 7). It should be noted that women are at higher risk of road traffic deaths and disabilities. The World Bank data looked at a different time period between 2000 and 2020, and used a model based on transport, population and economic data (Table 8). Both predict a substantial increase in road traffic fatalities if current policies and actions continue without improvement.

A significant proportion of the burden on the health systems will be placed by those who sustain non-fatal injuries and disabilities, and disability rates are predicted to increase by 31% by 2030 (Mathers, Lopez, & Murray, 2006). It is clear that effective interventions and safety programs particularly those targeted at specific risk factors (e.g. vulnerable road users, occupational risks) need to be implemented in the region if this escalating health problem is to be prevented. It should be noted, however, that despite the large burden of road traffic injuries in the region, data from MENA is somewhat limited and inadequately measured. This paucity of data may lead to a potentially large underestimation of the true extent of mortality and morbidity associated with RTI in the region which needs to be addressed.

**Table 7: Predicted road traffic fatalities and disabilities in MENA Region – WHO model, 2008–2030**

Projected Totals		2008	2015	2030	% change 2008–2030
Projected Deaths	Male	90,509	102,221	123,867	36.9
	Female	25,643	30,427	40,553	58.1
	Total	116,152	132,648	164,420	41.6
Projected DALYs	Male	3,009,130	3,361,410	3,880,690	29.0
	Female	940,872	1,076,376	1,290,617	37.2
	Total	3,950,002	4,437,786	5,171,307	30.9

Note. DALYs: Disability Adjusted Life Years (3% discounting, no age weighting).

Source: (World Health Organization, 2008a). Available at <http://www.who.int/evidence/bod>

**Table 8: Predicted road traffic fatalities in MENA region in thousands, 1990-2020**

	Number of Countries Surveyed	1990	2000	2010	2020	% Change 2000- 2020
Middle East & North Africa	13	41	56	73	94	68
High Income Countries	35	123	110	95	80	-27

Source: Koptis, E and Cropper M. Traffic and Economic Growth, Washington DC, World Bank, 2003 (Policy Research Working Paper no. 3035)

**Economic Impact of Road Traffic Injuries.** Traffic injuries and deaths translate into present and future economic losses that could act as a drag on economic growth and inflict substantial changes in the composition of the labor force. According to Elvik<sup>43</sup>, there are three major components of road crash costs. The first component is the direct costs of crashes: these include any additional expenses caused by crashes and include costs of medical treatment, costs of repairing or replacing damaged vehicles, and administrative costs. The second component is the indirect costs of crashes which include the losses in output attributable to premature death and permanent impairment or temporary absence from work. The third component is the social valuation of lost quality of life, which represents the value of preventing premature death and the associated pain, grief and suffering caused by road crashes. Using this framework (Hyder, 2009) estimates the economic cost of road traffic deaths in the MENA region to be in the range of 0.9% and 2.1% of the total regional GDP.

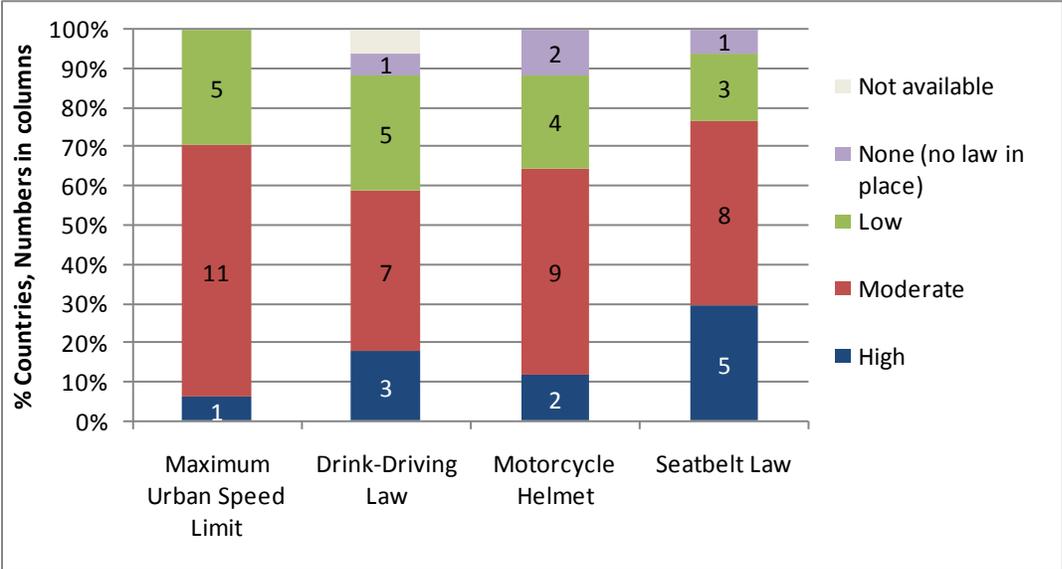
**Implementing Cost-effective Interventions.** MENA countries can decrease this potentially negative economic impact through relatively cost-effective interventions.

Simple and inexpensive interventions in the road design – such as pedestrian crossings, safety fences, turnabouts and speed bumps – have been shown to be highly effective in preventing road traffic injuries and deaths in other countries. Implementation of safety belts for automobiles and helmets for motorcycles, enforcing speed limits and prohibiting drink-driving are examples of other cost-effective strategies that can save lives. But this will require a commitment by both national leaders and the public towards effective and pro-active implementation of road safety policies and programs.

**G. Building institutional and management capacities for road safety**

**Evaluation of Institutional Capacity for Road Safety in MENA Region.** A review of the institutional framework in the MENA region shows that most countries have established an intersectoral agency responsible for road safety and have legislation in place related to key road safety issues: setting speed limits, prohibiting drinking and driving, and requiring the use of seatbelts for cars and helmets for motorcycles. However, few countries have comprehensive road safety laws that are well enforced (Figure 18).

**Figure 18: Road Safety Compliance Levels Among 17 MENA Countries, 2010**



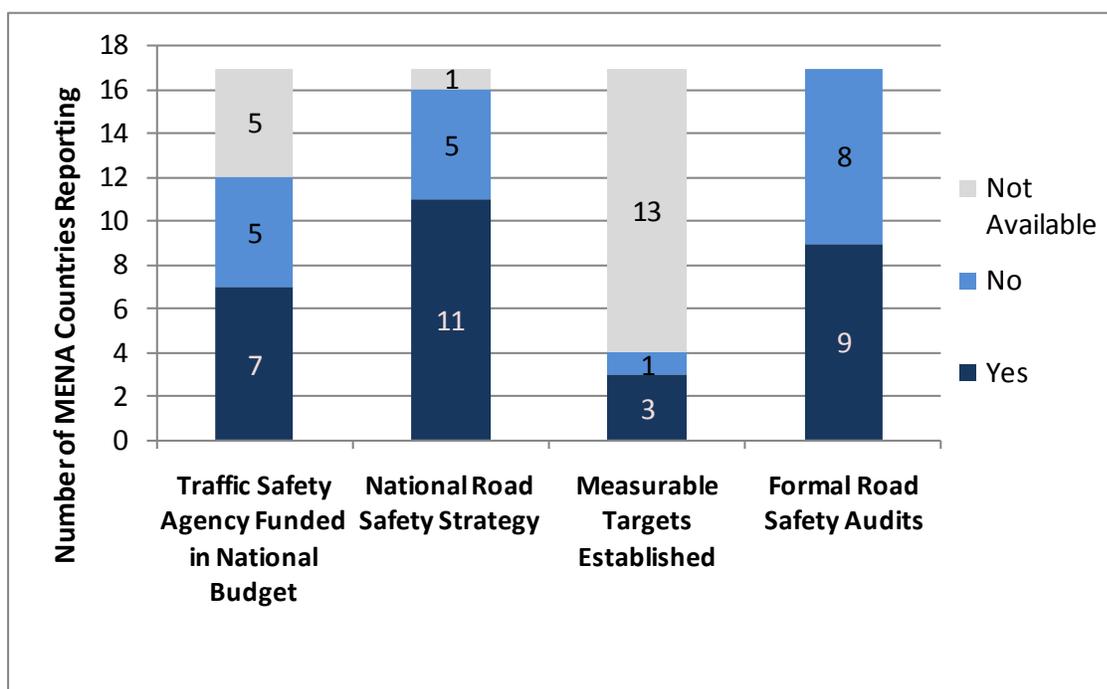
Source: (World Health Organization, 2009b)  
 Note: Enforcement scores represents consensus based on professional opinion of respondents, on a scale of 0 to 10 where 0 is not effective and 10 is highly effective. “Low” refers to score 1 – 3, “moderate” for scores 4 – 7, and “high” for scores 8 – 10. For details, see Table 44 in Annex.

**Need to strengthen governance and accountability for better results.** Most MENA countries have established an intersectoral institution to take the lead on road safety. However, many of these are not funded, nor have they developed a national strategy with measurable outcomes indicators (see Figure 19 and Table 45). Achieving better results on road safety will require more than enhancing the capacity of the existing institutions. It will also require substantial improvements on the existing information and surveillance system.

Most countries do not have injury surveillance systems that generate reliable data on road traffic crashes, injuries, and deaths. This may contribute to underreporting and discrepancies in the data. Few countries regularly collect reliable information or use them to establish targets for achieving results.

Conduct of strategic research will also need to be encouraged in order to understand better the roles and contributions of different stakeholders, and clear specification of the potential benefits to be achieved. Adoption of best practices in the region through information exchange, production of shared guidelines, manuals, and the development of a regional crash, injury and death database, and a regional road safety policy research program would be valuable.

**Figure 19: Road Safety Institutional Commitments in 17 MENA Countries, 2007**



Source: National sources as reported in (World Health Organization, 2009b).

There is a need to strengthen the institutions and governance capacity for RTI prevention in the region. This will include not only enhancing capacities in the lead agency, but also targeting evidence-based training of senior policymakers and managers in the various relevant sectors, and ministry focal points and practitioners, especially in transport, justice, traffic police, and health. Creating space for civil society and private sector participation has the potential to mobilize political support on the basis of well-articulated social demands from communities that bear the burden of RTIs.

#### H. Focus on Results in Road Safety

The following actions are recommended to achieve better results in road safety:

### *Strengthening national institutional capacity and accountability*

- Improving nationwide traffic injury surveillance systems to better map the causes, risks, extent, and consequences of injuries; to pinpoint risks for more effective action; and to evaluate the effectiveness of those actions.
- Promoting national road safety reviews as the basis for formulating policies and plans. These reviews help identify main risk groups and exposures to determine priorities, set realistic targets, allocate budgets, specify implementation responsibility, and ensure rigorous evaluation.
- Designing demonstration projects. Well-designed demonstration projects can support the process of catching up with best practice in road safety performance and are an essential part of building capacity. They can provide useful benchmarks for rolling out a modern road safety program to the rest of the country with support from donors and international finance organizations.

### *Integrating road safety in the design of road infrastructure and traffic control and management programs*

- Integrating road safety and transport policy. Recent research indicates that improving transportation options (for example, better walking and cycling conditions, and improved ride sharing and public transport services) can reduce car collision frequency.
- Integrating road safety in all phases of planning, design, and operation of road infrastructure. At the planning stage, before project approval, strategic comparative analysis of substantial changes and new construction need to be conducted to examine the network's safety performance. Road safety audits and safety impact analyses complement these assessments focusing on the design characteristics of a road infrastructure project. In addition, reviews of high road traffic crash concentration sections need to be undertaken to help target investments to road sections with the highest crash concentrations and/or the highest crash reduction potential.
- Reducing speed limits, particularly in urban areas, and strengthening these efforts with road design, enforcement, publicity, speed cameras and appropriate penalties, to generate immediate safety benefits.
- Increasing seatbelt use through enforcement and publicity campaigns, revising specifications (at least for new cars), promoting vehicle seatbelt reminder systems, and undertaking periodic surveys to monitor front and rear seatbelt usage rates.
- Mitigating young driver risk through graduated licensing schemes and extended training programs.

### *Integrating road safety in health care system responsiveness*

- Integrating road safety with improvements in the quality and responsiveness of emergency medical systems as part of broader health system modernization efforts to reduce fatalities and mitigate injuries.

It is a concern that there is relatively limited investment currently in either road traffic injury prevention or trauma care in MENA, especially in view of the increasing burden of death and disability that these injuries are unleashing. An immense potential exist for saving lives and suffering from road traffic crashes in the MENA region. It is

obvious that more research is needed in this area of the world in order to have a better understanding and appreciation of the economic and social impact of road traffic deaths to support the development of appropriate road safety policies.

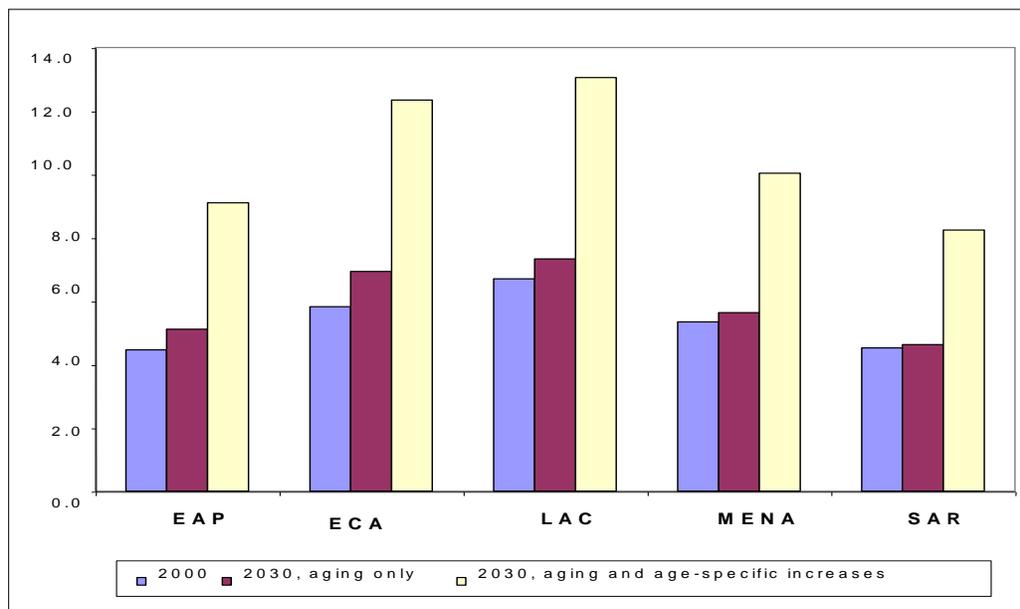
### III. Meeting the Challenges of Non-communicable Diseases

#### A. Overview

Chronic Non-communicable diseases (NCDs), which include cardiovascular diseases, cancers, chronic respiratory diseases and diabetes, account for up to 60 percent of the total deaths globally. They have already become the biggest challenge for health systems the world over, rich and poor. WHO estimates that in 2005 around 35 million people, soon to rise to 41 million in 2015, died from NCDs, not to mention those have become incapacitated at a significant loss of productivity, earnings and wealth (Obegunde, Mathers, Adam, Ortegón, & Strong, 2007). As discussed in the preceding section, NCDs are already the leading cause of death and disability in the MENA region.

The challenge is enormous: a relatively modest global goal of 2 percent reduction per year in NCD-related deaths, as advocated by WHO, would require a major overhaul in the way most health systems are designed, structured, led, organized, funded, and their services delivered (World Health Organization, 2005), (World Health Organization, 2008b)). On the other hand, failure to do so could prove to be more costly. Not only will the additional health care costs be significantly higher (estimated at some 2- 4 percentage point of GDP for MENA - see Figure 20) but also because NCDs typically strike the young adults at the peak of their productive years and as such results in considerable aggregate loss of productivity and societal wealth often estimated at several times direct health care costs (Suhrcke, Nugent, Stuckler, & Rocco, 2006).

**Figure 20: Potential Changes in Total Health Expenditure due to NCDs as Percent of GDP**



Source: (Adeyi, Smith, & Robles, 2007)

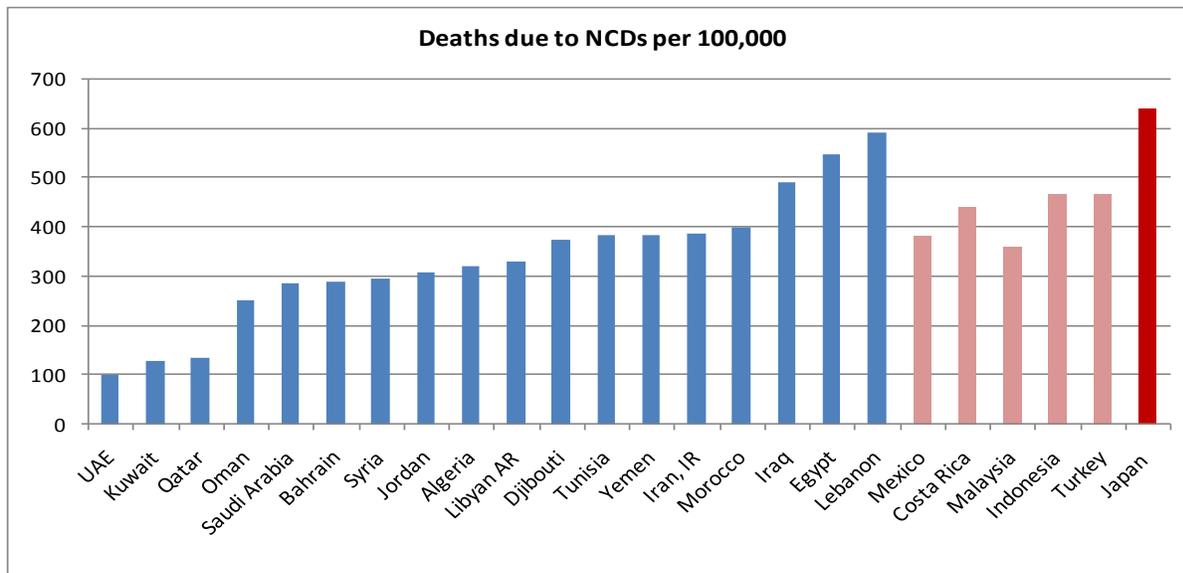
As discussed in the previous section, in the MENA region NCDs were estimated to account for 65 percent of all deaths in 2002, and by 2030 NCD-related deaths are expected to nearly double to represent 77 percent of total deaths (Mathers & Loncar, 2006). About 50 percent of these deaths will be among people younger than 70 years of age, who will have accumulated considerable NCD who in their early adulthood did not benefit from effective public health programs and preventive care aimed at improving diet and physical activity or reducing alcohol and tobacco consumption, or they may not have had access to timely and adequate healthcare once they became sick.

The existing global evidence corroborates this prediction: at present, age standardized death rates for NCDs in middle- and low-income countries are 50 percent higher than in high-income countries. This means that after controlling for ageing in high income countries, 50 percent more people in the developing world die of NCDs than in developed countries, simply because they acquire them at a higher rate and die from it more frequently as a result of lower access to quality healthcare.

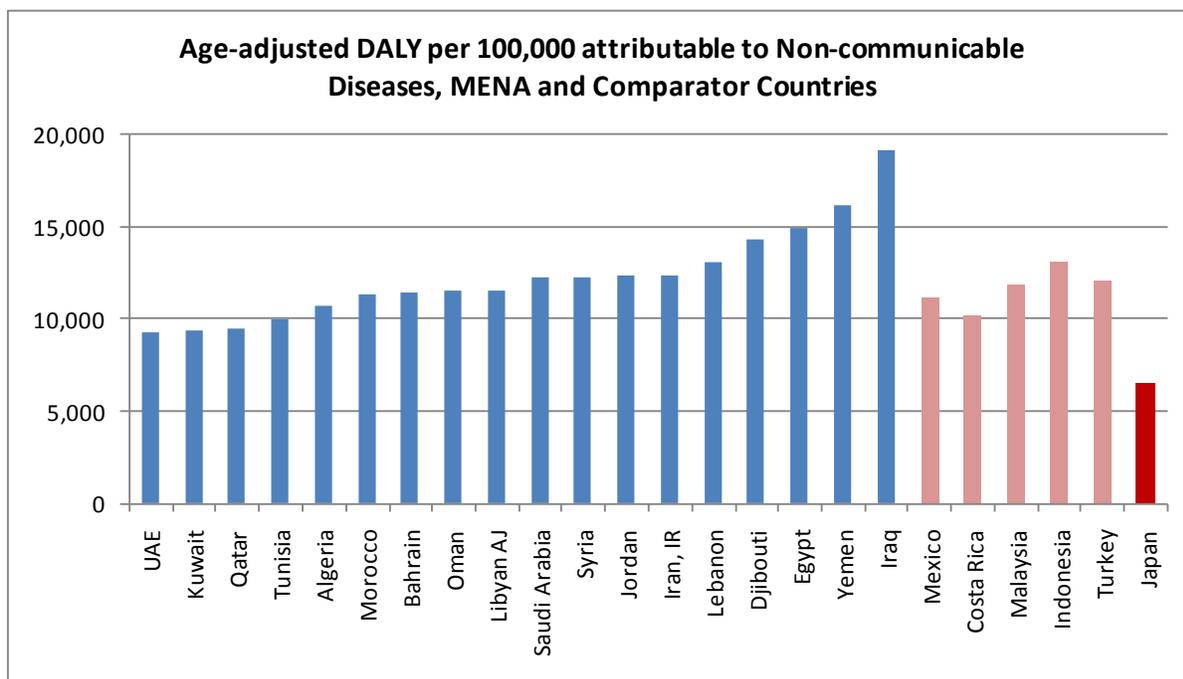
This is further corroborated by comparing the age-weighted Disability Adjusted Life Years (DALYs) due to NCDs among MENA countries, selected Middle Income countries, and Japan. Japan has been chosen here as a country with one of the oldest population in the world, and yet also with one of the lowest age-adjusted DALYs. This means that after adjusting for age structure, Japan has the lowest loss in terms of premature deaths and disability adjusted-life years, and represents the current “gold standard” in terms of how far a country could reduce the burden of diseases due to NCDs.

Figure 21, below, compares the straightforward number of deaths per 100,000 population attributable to NCDs for MENA countries, selected comparator middle income countries, and Japan. As can be seen, Japan has the highest death rates due to NCDs due to the very high proportion of elderly who carry a larger share of NCD disease burden. However, when age-adjusted DALYs are used to compare performance across countries, MENA countries are generally doing worse than the comparator countries (i.e. have a higher rate of age-adjusted DALYs), and in comparison to Japan most MENA countries are more than twice the rate of DALYs.

**Figure 21: Deaths due to NCDs per 100,000 in MENA and Comparator Countries**



**Figure 22: Age-adjusted DALY per 100,000 attributable to Noncommunicable Diseases in MENA and Comparator Countries**



Source: World Health Organization -Department of Measurement and Health Information, compiled from the Global Burden of Diseases statistical database available on [www.who.int/evidence/bod](http://www.who.int/evidence/bod).

Notes: 1. Data for the Palestinian Territories were not available.

## B. Addressing the NCD Challenge: Managing the Risk Factors

Is it possible to bend the curve and change the trend? Fortunately, yes. About 80 percent of premature deaths due to cardiovascular diseases (CVDs) and diabetes could be prevented through efficacious population health and individual counseling and care interventions which, if implemented effectively, could result in substantial reduction in morbidity and deaths, and gains in economic welfare (see EU, 2000 and WHO, 2005). In the MENA region, the risk factors mentioned above account for the majority of the disease burden due to NCDs, much of which can either be prevented or clinically managed in a cost effective manner (See XX for details). For instance, it is estimated that if Egypt, the MENA country with the highest burden of cardiovascular diseases could decrease its share of NCD related deaths by 2 percent by the year 2015, its life expectancy will by then be 2 years higher, 72.1 vs. 70.1 years compared to 67.7 years in 2005 (Obegunde, Mathers, Adam, Ortegon, & Strong, 2007).

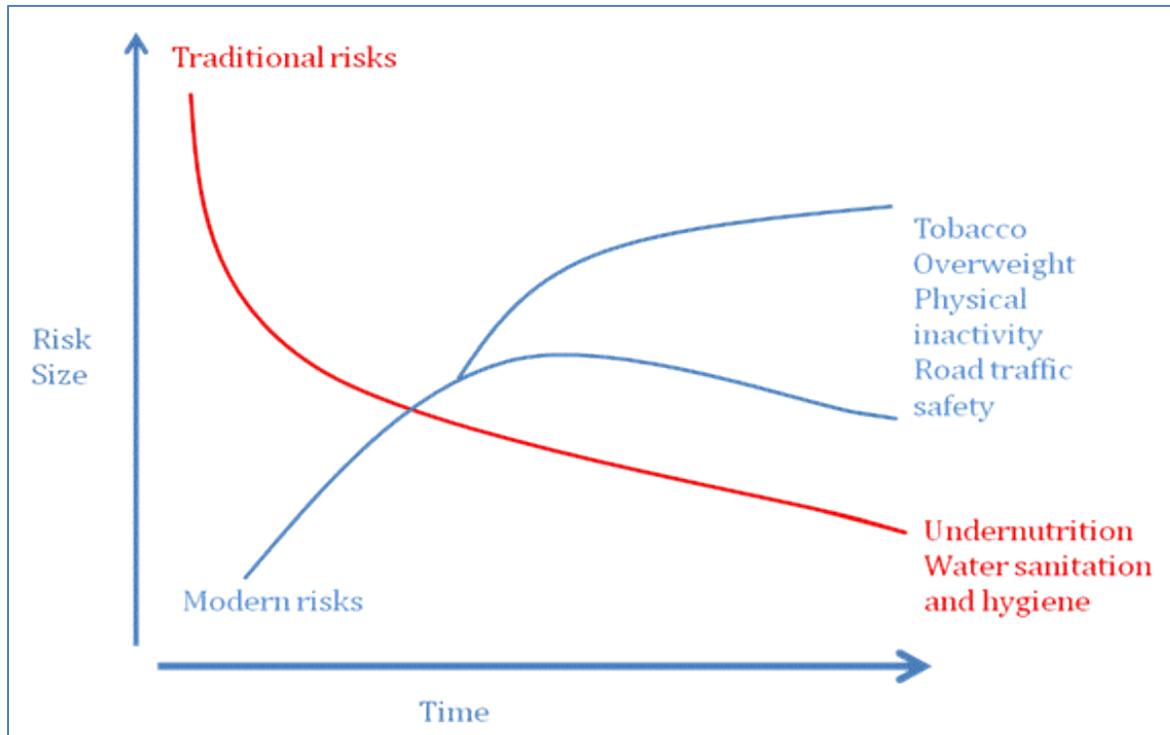
Could it be done in a fiscally and financially sustainable manner? The answer is once again yes, if the countries can act in a proactive manner by adopting evidence-based inter-sectoral strategies of primary prevention to curb smoking and obesity and encourage physically active living. For instance, reduction in salt intake and tobacco control alone could avert 14 million deaths in the 23 countries around the globe that account for 80 percent of the NCD burden at a modest cost of \$0.40 per person per year. Scaling it up with aspirin and cholesterol lowering drugs could avert 18 million deaths in these countries over a period of ten years and at a cost of \$1.10 per person per year (Horton R. , 2007).

The implementation of preventive policies and interventions will potentially avert direct healthcare costs in the future years as the present cohort of youths in the MENA region enter middle-age years. There are also potential savings as a result of reduction in absenteeism and gain in labor productivity due to healthier workforce. A reduction of 2 percent in NCD related deaths in Egypt is expected to bring about savings in the amount of about 9 percent of the projected cumulative GDP loss of 1.26 billion due to treatment and productivity costs in the process (Obegunde, Mathers, Adam, Ortegon, & Strong, 2007). As a corollary, and to emphasize the importance of reducing economic costs due to reduced labor, a recent study on Egypt showed that chronic health conditions may cause up to 6 percent loss in employment and 19 percent reduction in labor supply. The probability of being employed is 25 percentage points lower among people reporting chronic health condition (the average probability is about 50 percent) and the amount of working time is reduced by 22 hours per week (out of about 40), especially among the less educated and the older population (Rocco, 2010). Thus, NCDs could disproportionately affect the welfare of the poor and more vulnerable segments of the population.

### *Tobacco and Obesity as Major Risk Factors*

Two risk factors, tobacco use and obesity, the so-called modern risks, along with road accidents detailed in the previous section Figure 23 deserve special emphasis. Figure 23 describes the health transition over time as country undergoes economic development. These two risk factors account for a significant share of disability and premature mortality. There are effective policy interventions known to curb tobacco use and promote healthy diet, but much of the intervention lies outside of the healthcare system. Therefore, addressing these risk factors effectively will require inter-sectoral partnership, advocacy and action.

**Figure 23 : Transition over time from Traditional to Modern Health Risks**



Source: (World Health Organization, 2009b)

According to Centers for Disease Control and Prevention (CDC) of the United States, 80 percent of diabetes, heart disease and stroke could, in principle, be eliminated by reducing smoking and obesity. On the other hand, lack of effective primary prevention leading to higher prevalence of smoking and obesity could result in significantly higher health care costs. A review of global trends suggests that the increase in morbidity due to these risk factors may account for a much larger share of increase in costs than the effects of aging alone (Sturm, 2002). The United States spends almost twice per capita in healthcare than the average per capita spending in Western Europe. One study using 2004 data for the US and ten Western European countries estimated that 85 percent of the higher average per capita health spending in the US could be explained by the higher obesity and smoking rates in adults over fifty years in the US. As a consequence of the higher rates of risk factors, higher proportions of US population are being put under treatment for high blood pressure, high cholesterol and diabetes which add to the cost of care (Thorpe, Howard, & Galactionova, 2007). The US also lags behind Europe significantly in reducing mortality from preventable causes of death that could have been addressed through primary prevention (Nolte & McKee, 2008). These data provide evidence that the prevalence, morbidity and mortality due to NCD can be reduced in a cost-effective manner through primary prevention.

**Table 9: Comparisons between US and Western Europe on health expenditures, obesity and smoking rates, 2004**

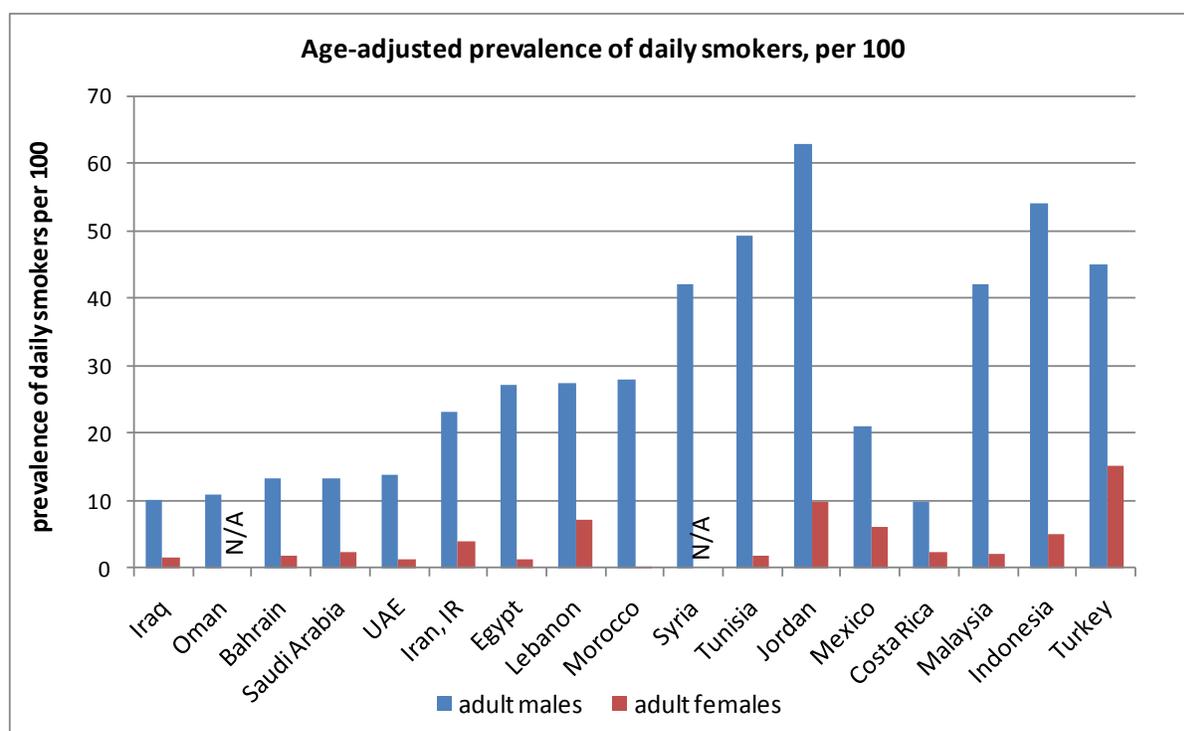
	US	Western Europe
Average per capita total health expenditure (\$PPP)	\$6,037	\$3,268
Obesity Rates in adults over 50 years	53	33
Smoking Rates in adults over 50 years	43	17

(European Commission, 2004)

### Smoking

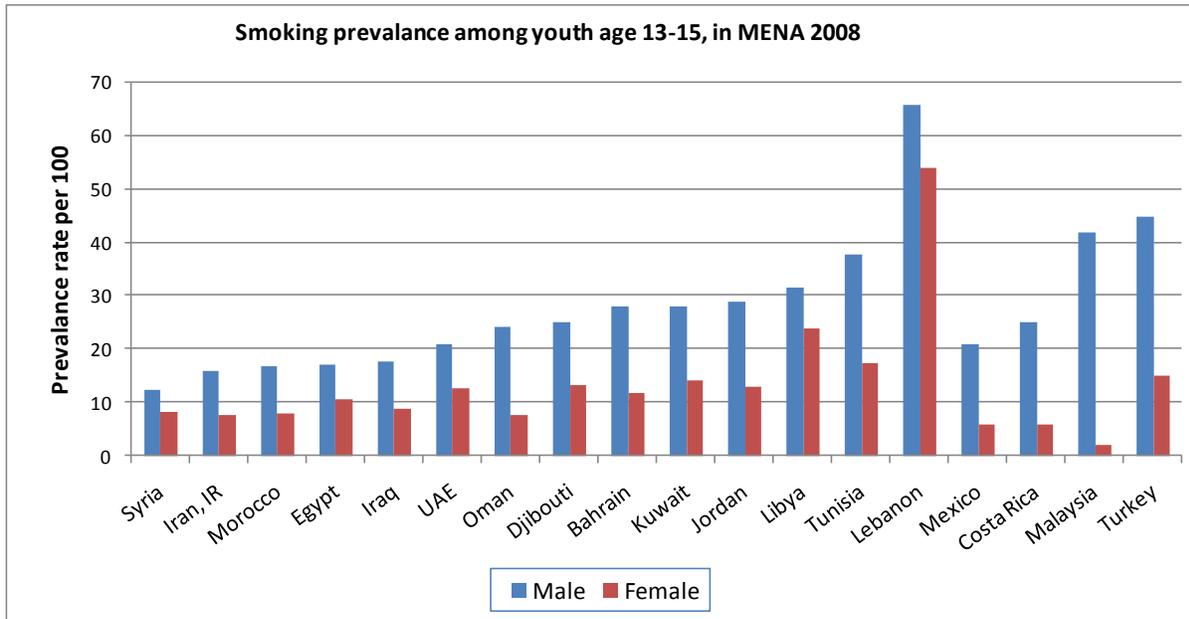
Smoking is the leading risk factor in the MENA region among adults accounting for a very large disability and death. A majority of MENA countries have high prevalence of daily smokers above 20 percent of the population, and they are significantly higher than comparator middle income countries such as Mexico and Costa Rica, and some exceed those of Indonesia and Turkey, which are known to have some of the highest rates of smoking in the world (see Figure 24).

**Figure 24: Age-adjusted Prevalence of Daily Smokers per 100 in MENA and Comparator Countries, 2008**

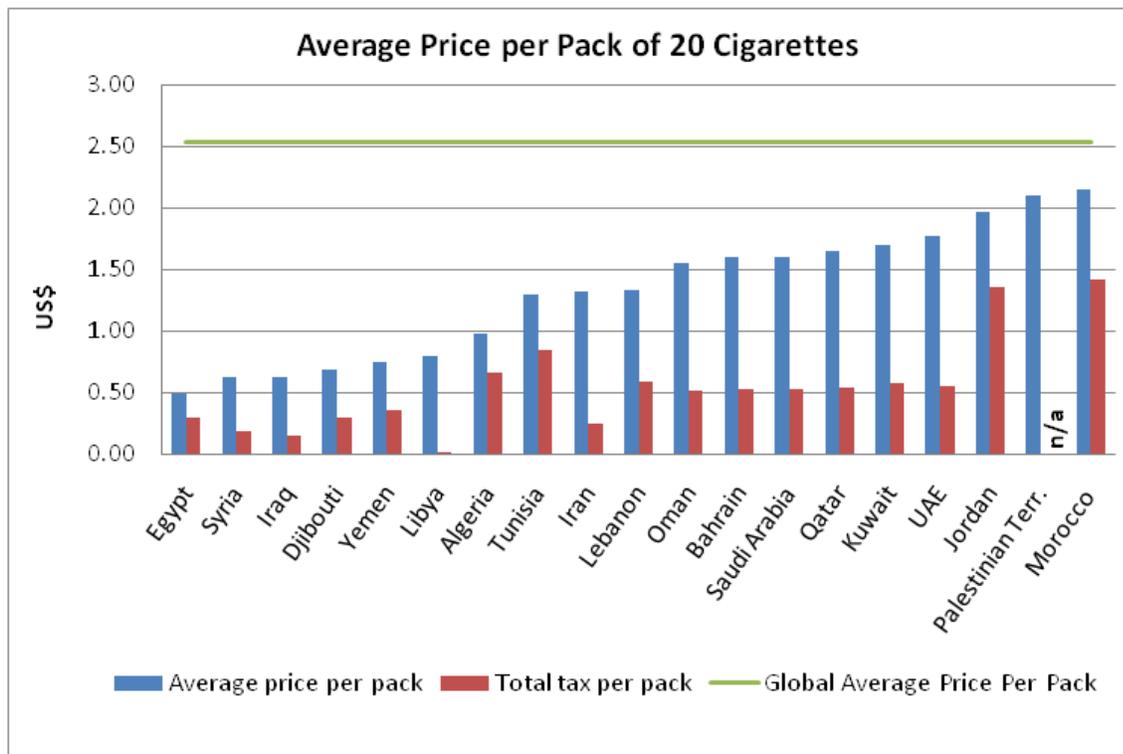


The habit of smoking often begins in early teenage years, and once started it becomes very difficult to quit. Teenage smoking rates in the MENA region are also high, and it is especially worrisome that smoking is becoming popular among young teenage girls across the region, but especially countries such as Lebanon, Libya and Tunisia (Figure 25). The very low cost of cigarettes throughout the Region encourages smoking to be taken up, even by the youths (see Figure 26).

**Figure 25: Smoking Prevalence among Youth Aged 13-15 in MENA and Comparator Countries, 2008**



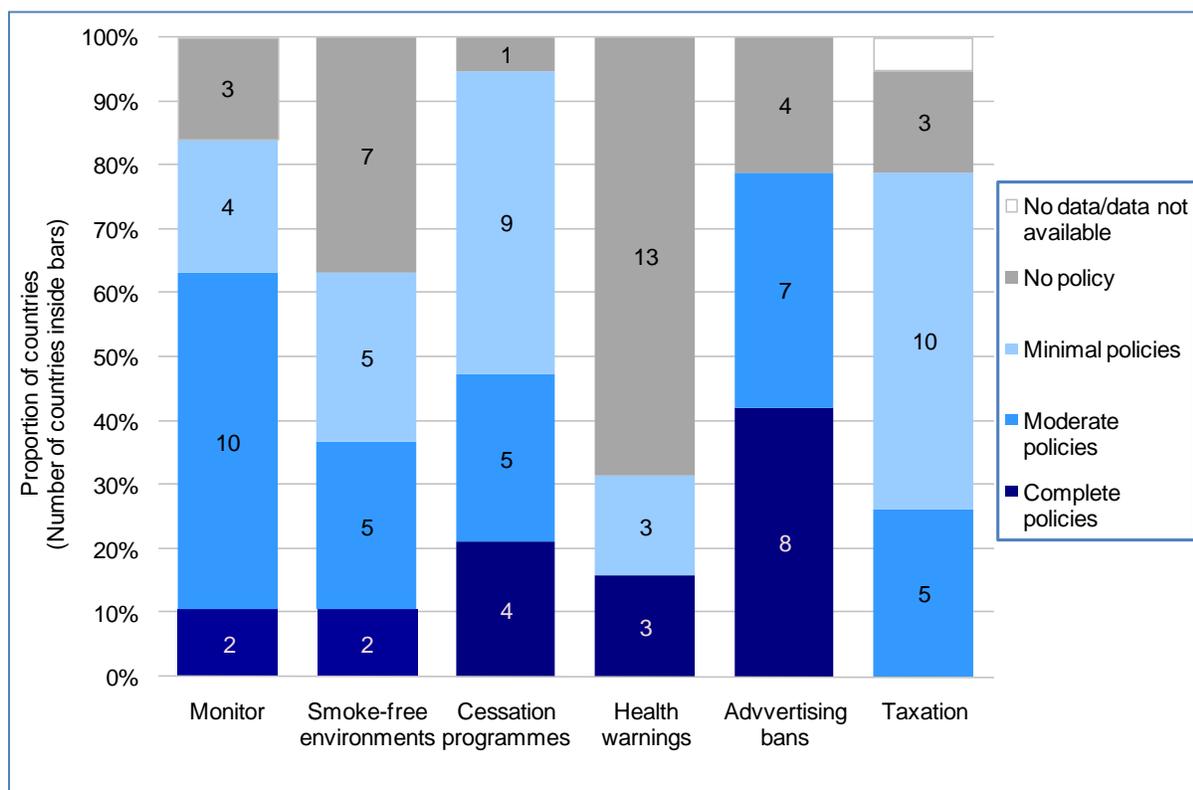
**Figure 26: Average Price per Pack of 20 Cigarettes in MENA Countries**



Source: (World Health Organization, 2009c)

Most countries in the MENA region have made important progress in ratifying the Framework Convention on Tobacco Control (FCTC) and passing the relevant legislation. Subsequently the progress in MENA leaves much room for improvement, especially compared with the rest of the world. The MENA region is particularly lagging with respect to (a) promoting smoke free environment, (b) enforcement of warnings on tobacco products about the deleterious health effects, and (c) taxation (Figure 27).

**Figure 27: The state of selected tobacco control policies in MENA, 2008**



Source: (World Health Organization, 2009c)

Introduction or increase in excise and other taxes on tobacco products is especially a viable policy option, not only because it is the most cost-effective intervention that exists to curb smoking, but also because the additional revenues thus collected could be earmarked for population-based health programs. This will require a close partnership between Ministries of Finance and Health. According to our estimates, in Egypt alone, a fully comprehensive and effective tobacco control program could prevent about 11 percent of premature excess deaths a year, amounting to 621,960 lives saved over a period of 20 years.

Examples exist around the world of successful tobacco prevention programs, with evidence of impact on reducing the burden of NCDs. In Australia, for example, a leader in effectively introducing and enforcing comprehensive and intersectoral policies, rates of lung cancer declined and deaths from coronary heart disease decreased by 59 percent among men and 55 percent among women between 1980 and 2000 (Chapman S. Reducing tobacco consumption. *NSW Public Health Bulletin*, 2003,14:46–48). A comprehensive set of policies would include pricing, pack warnings, advertising bans, national tobacco control campaigns, quit-line services for smokers, extensive advocacy programs, smoking bans, adoption of smoke-free homes and litigation by smokers and passive smokers against tobacco companies. One of the most effective control measures is price increase through taxation: while its elasticity may vary from one country to another, on average, an increase of 10 percent is expected to result in a decline of 3–5 percent in consumption (Chaloupka F,

Warner W. The economics of smoking. In: Culyer A, Newhouse J, eds. *Handbook of health economics*. Amsterdam, Elsevier Science, 2000, Volume 18: 1539–1627). A country closer to MENA, Turkey, has recently been able to become a front-runner in adopting comprehensive and intersectoral measures under the leadership of the Ministry of Health (see Box 3).

### **Box 3: Tobacco control in Turkey**

Turkey is one of the top 10 consuming countries, with 20 million smokers spending about 20 billion dollars a year on tobacco products. Nearly half of the men and one in every six women smoke. Smoking has recently become more popular among women and adolescents, and young people start to smoke at around 13 years of age. An 80% increase in smoking rates during the last two decades of the previous century as a result of opening its market to foreign brands resulted in a subsequent significant rise in lung cancer and NCDs. In Turkey, more than 100 000 people die every year as a consequence of smoking (a quarter of all deaths), a number that is estimated to rise to 240 000 by 2030.

More recently Turkey has made a major effort to stem the tobacco epidemic. This is largely due to the high level of leadership and political commitment. When the first tobacco control law was enacted in 1996, banning advertising and smoking in public places, many complained that it was contrary to Turkish culture and could never be enforced. There were some setbacks to full enforcement of the smoking ban at the time, but the law not only remained unadulterated, despite many attempts by various pro-tobacco lobbyists but was strengthened in 2008. This was largely a result of Turkey's ratification of the WHO Framework Convention on Tobacco Control in 2004, which allowed policy-makers to further pursue the issue. The commitment and leadership of the Ministry of Health has been crucial throughout. First, a special unit was established in 2006 devoted exclusively to tobacco control. Second, a National Tobacco Control Committee was created, with high-level representation of key ministries and civil-society organizations, as stipulated by the Framework Convention. Third, in 2007 the Prime Minister launched the first five-year National Tobacco Control Programme and Action Plan, prepared by the National Tobacco Control Committee. Fourth, the Government continually increased taxation on tobacco products to reach a compound tax rate of 73–87%, depending on the brand, one of the highest rates in the world. Finally, the amended law in 2008 expanded smoke-free environments to cover all indoor areas. This includes the hospitality and tourism sector – a major source of foreign exchange – which was given an eighteen-month transition period. When the law entered into force for this sector on 19 July 2009, Turkey became the sixth country globally with national smoke-free laws containing no exemptions: no provisions for designated smoking rooms in public places.

The new law and the political commitment that supports it are an example of best practice from which other countries can learn. The law was judiciously rendered free of loopholes or ambiguities that could be abused. For instance, the previous law required 90 minutes of air time for information, education and communication for tobacco control on broadcast mass media, but the amended law specifies that 30 of the 90 minutes must be during prime time, for greater exposure to achieve the objective of creating an antismoking culture among 90% of the population by 2012. In addition, tobacco products may not be displayed in television programmes, films, music videos and advertisements, and all smoking scenes are blurred. Enforcement is taken very seriously, as all broadcast mass media stations are required to use a set of messages approved by the Ministry of Health for information, education and communication, and to prepare a compact disc of their advertisements every month for review by the Higher Radio and Television Council. This is a major undertaking in a country in which the penetration of broadcast mass media is almost universal, with some 1400 national, regional and local television and radio stations.

Despite the initial objections on cultural grounds, recent polls show that more than 85% of the population now favours the smoke-free legislation. Attitudes and awareness have changed to such an

extent that the Prime Minister has publicly mentioned the fight against tobacco in relation to the fight against terrorism.

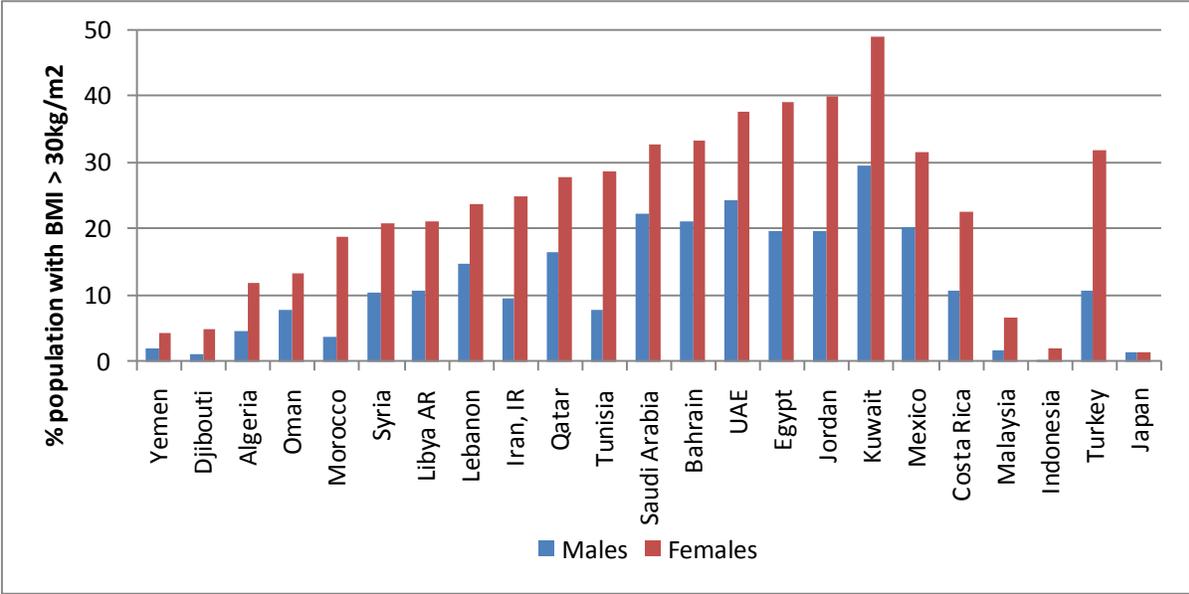
Sources: Bilir N, Cakir B, Dagi, E, Erguder T, Onder, Z. (2009). Tobacco Control in Turkey. World Health Organization, Regional Office for Europe, Copenhagen, Denmark, 2009.  
World Health Organization (2009). The European Health Report 2009: health and health systems. World Health Organization, Regional Office for Europe, Copenhagen, Denmark, 2009.

*Courtesy of WHO Regional Office for Europe (permission to reproduce pending)*

## **Obesity**

Kuwait, Jordan, Egypt and the United Arab Emirates have among the highest obesity rates in the world, as measured by percentage of population with Body Mass Index (BMI) of 30 kg/m<sup>2</sup> or more (Figure 28). Often perceived as a risk factor more prevalent in wealthier populations and individuals, obesity is much more pervasive, affecting equally the poor and the rich, with a disproportionate frequency in poorer populations in low- and middle-income countries. It is so mainly as a result of the poor not being able to afford more costly foods such as fruits, vegetables and whole-grain cereals, as well as their lack of leisure time and opportunities for exercise, especially for women (Monteiro et al 2004). These international trends point to the importance of designing policies aimed at reducing health inequities associated with obesity, which will likely be correlated with poverty and gender inequalities.

**Figure 28: Obesity Rates (BMI  $\geq$  30 kg/m<sup>2</sup>) in MENA Countries and selected Benchmark Countries, 2006**



Source: WHO Infobase data, accessed May 2010.

The combination of poor diet and lack of or insufficient physical activity leading to obesity and consequently to higher prevalence of diabetes, hypertension, heart disease, stroke, and many other chronic diseases, especially among poorer children and women is a “time bomb” in MENA with potentially huge consequences on future health spending, and labor productivity as the youth bulge gives way to middle age bulge, requiring therefore urgent and multi-pronged intersectoral action.

#### **Box 4: Obesity: is it a private or public “bad”?**

Most policy makers and indeed health professionals regard obesity, the accumulation of excess body weight, as an individual problem requiring behavioral change. Granted, obesity is a consequence of excess energy intake and/or reduced energy output over time and as such, could, in principle, be prevented or “treated” by either reducing intake of calorie through diet and/or increasing output by physical activity. In reality, however, individualized approaches to obesity prevention and treatment are likely to fail if they are not accompanied by societal and community interventions aiming at the root cause of obesity, the built “obesogenic” social, economic and physical environment, in which the individual live. First, obesity, and thus cardiovascular diseases and diabetes in adulthood, are more common in people who suffered from intrauterine growth retardation, undernutrition and stunting in childhood, conditions over which individuals would have little control. Indeed the “dual” burden of adult (mostly female) obesity and underweight children in the same household is increasingly recognized as a leading transitional cause of the NCD burden in the developing world, especially among the poor, and thus of the widening inequalities in health.

Second, urbanization has deeply transformed the patterns of daily living through increased mechanization and automation by limiting vigorous physical activities such as farming and walking, and thus reducing significantly the amount of energy we need. It has also increased availability and affordability of energy-dense food and access to readily-made food outlets, especially for the poor who typically spend 60% of their income on food. In 2001 in the US, only 16% of children walked or biked to school, down from 42% in 1969. Nowadays, a typical US teenager spends about 30 hours watching TV or playing computer games while often consuming snacks the existence of which is persistently reminded to him/her through TV ads.

Recognizing the severity of the problem, and the potential role of the public sector in modulating the built environment, many countries are increasingly adopting “healthy” multi-sectoral policies to counter the trend. These include interventions that address food production (packaging information) and marketing (e.g., TV ads, school cafeterias, taxation of food with high sugar and salt content); transportation (e.g. sidewalks, bicycle lanes and parking facilities, more accessible public transport); public safety (e.g. for pedestrians or for walking and outdoor activities); targeted information, education and communication (e.g., early childhood development, pre- and post-natal maternal counseling, food and nutrition curriculum in schools); and financial (e.g., food vouchers, cash transfers, subsidies for public transportation, etc) and non financial incentives in schools and workplaces and communities (e.g., sport facilities in workplaces and schools, healthy food distribution at schools, parks, sidewalks, bicycle lanes, etc).

Compiled from: Caballero B: The Global Epidemic of Obesity: An Overview. *Epidemiologic Review*, 2007;29:1-5.

### **C. Next Steps: Strategies for NCD Prevention, Control and Case Management**

Curbing the epidemic of NCDs will require a multi-faceted approach that go beyond the traditional boundaries of the health sector, and call for the use of a wider array of policy instruments and approaches and involve a broader set of stakeholders.

- Promoting lifestyle changes to reduce obesity, smoking and other related risk factors that contribute to NCDs;
- Reorienting health services and its physical, human and financial resource base to design and implement healthcare models conducive to health promotion and

disease prevention, and continuity of care for patients who suffer from chronic NCDs; and

- Introducing continuous monitoring and evaluation of “the health of the nation” to measure the effectiveness of policies, strategies and interventions, and to redefine targeted groups, and accelerate, adjust or change policies as necessary based on evaluation of impact on the ground.

With respect to NCD prevention, WHO recommends that “*settings where children gather should be free from all forms of marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt. Such settings include, but are not limited to, nurseries, schools, school grounds, and pre-school centres, playgrounds, family and child clinics and paediatric services and during sporting and cultural activities that are held on these premises.*” Mindful of the importance of monitoring and implementation of such policies, WHO also recommends that the proposed policy framework include enforcement mechanisms, “*...clear definitions of sanctions and [could include] a system for reporting complaints*” and “*a system to evaluate the impact and effectiveness of the policy... using clearly defined indicators*” (World Health Organization, 2010a).

In a recent international review, the OECD developed a taxonomy combining the classification of health determinants and the different types of preventive interventions and their implications on individual choice. Table 10, below, identifies the most common set of preventive interventions, which range from the less intrusive to more coercive interventions. For example, the less intrusive interventions involve widening of consumer choice by pricing and rendering of available alternative options (e.g., conditional cash transfers for families with young children to promote healthy nutrition, creating safer environments through road safety), while a more coercive, regulatory interventions include regulations that restrict fast food advertising in children television programs to taxation on sugar containing non-alcoholic beverages and banning smoking in public places (OECD, 2008).

The acceptability of these interventions and their effectiveness will vary from country to country, depending on local preferences and acceptability of these approaches. Based on the review of state of tobacco prevention and control programs in the Region, most of the MENA countries appear to have formally recognized the importance of prevention. However, the enforcement and measurement of results remain weak, and there is little evidence to date of the effectiveness of tobacco control programs. The review of policies and programs in the MENA on Smoking and Road Traffic Injuries (previous section) has also revealed shown a similar trend: that while many countries have a national strategy and framework legislation in place, monitoring of their enforcement and the actual compliance remains low.

On obesity, there is even less evidence of national commitment to address this issue. What is needed is a coherent strategy on diet, physical activity and health with special emphasis on the marketing of foods and non-alcoholic beverages to children in schools, child care and educational facilities to reduce the health impacts of those with high content of saturated fats, trans-fatty acids, free sugars and salt. It is equally important to start continuous monitoring of trends in childhood obesity, especially among the poor and vulnerable population groups. There is an urgent need to call the attention of the national leaders to the risks of NCD epidemic and its potential detrimental effect on the welfare of the future generation.

**Table 10: A Taxonomy of a Select List of Preventive Interventions and their Relevance to MENA Countries**

Areas of Intervention	Main Actors	Interventions to widen choice or lower price of choice options	Interventions to influence choice other than through pricing	Interventions to raise the price of selected choice options	Interventions to ban selected options	Remarks for MENA countries
Interventions aiming at influencing broader socio- economic determinants	Government, (Ministry of Finance, Social Affairs, NGOs)	Targeted social programs and conditional cash transfers to reduce vulnerability				Could be linked with subsidy reforms and well-targeted social programs
Interventions aiming at school or work environments	Government, (Ministry of Labor, Education, Urban Planning, trade unions, business leaders, professional associations)	Interventions aiming at: increasing physical activity – school physical education curriculum; promoting safer roads and pedestrian-friendly urban design; ensuring safe work environment and effective occupational safety programs				Highly relevant, and technically and economically feasible in most countries.  Political commitment required.
Interventions aiming at food and non-alcoholic beverage production, distribution and retail industry	Government (M of Agriculture, Industry, Food manufacturers and retailers)	Subsidies to producers of fruits and vegetables	Regulation to limit advertising of fast food in children TV programs		Banning the use of trans-fatty acids in selected settings.	Highly relevant.  Political feasibility may need to be assessed on a country by country basis

Areas of Intervention	Main Actors	Interventions to widen choice or lower price of choice options	Interventions to influence choice other than through pricing	Interventions to raise the price of selected choice options	Interventions to ban selected options	Remarks for MENA countries
Health care interventions	Government (Min of Health, Health insurance plans, Providers)		Programs on lifestyle counseling of individuals at risk, in primary health care settings			Highly relevant. Requires political commitment and incentives to healthcare providers
Interventions on lifestyle choices	Government (Min of Finance, Health, Agriculture, Industry)			Taxation of sugar containing beverages; tobacco products	Smoking ban in public places	Highly relevant. Either already existing, but in need of reinforcement (smoking ban), or requires assessment of political feasibility.

In conjunction with these population-based NCD prevention and control programs, there will be a need to reorient the health system to promote primary prevention as well as provide effective treatment for patients who suffer from NCDs. In this context, it will also be important to:

- assess the effectiveness and cost-effectiveness, and wide scale applicability and use of new pharmaceuticals and medical devices;
- devise financial incentives to encourage integrated, coordinated and continuous care, including greater reliance on health professionals other than physicians, such as nurse practitioners, community nurses, case managers, and family care givers, and
- make better use of the available information and communication technology (ICTs) such as electronic patient records and clinical decision support systems (CDSSs) (Busse et al, 2010).

The limited available evidence from the MENA region suggests that many countries have not yet taken the steps needed to reorient the health systems towards NCDs. Some of these will be discussed in Chapter 5 “Aspiring for Better Health System Performance for Better Health in MENA”.

In the developed countries, this is also an area under development and new care models are emerging as alternatives to traditional hospital-based curative care models. These new approaches include a number of Disease Management Programs and integrated care models that hold promise to offer more effective approaches in improving health outcomes of NCD patients, as well as potentially contain costs and increase patient satisfaction. What is still needed is to develop appropriate NCD case management models that are appropriate for the lower and middle income countries. The MENA Region has considerable resources and capacities that could be applied towards finding a solution appropriate to the local conditions. The time to act is now, before the NCD becomes a major epidemic in the region.

The MENA countries will face new challenges on a number of fronts as a consequence of the increase in NCDs. Countries could mobilize additional resources to finance the expected rise in the cost of healthcare, the need to design and implement new strategies and interventions to reduce the burden of NCD and to treat and control the disease at the earliest stages, thereby minimizing the suffering and cost to the patient and the society. There is an opportunity to act now, while most of the population in MENA are still young and relatively healthy.

This will require foresight and committed leadership at all levels of the society, and a greater understanding of the underlying causes of the risk factors in the MENA context. The rise in the prevalence of many of the risk factors can be traced to behavioral consequences of a multiplicity of causes: increased international trade (e.g., tobacco products, processed foods), migration (e.g., urbanization and sedentary lifestyle), changes in living conditions (e.g., obesogenic work and living environment) and in the production, marketing and availability of goods (e.g., processed food). The healthcare systems will also need to be reoriented to meet the new challenges presented by NCDs, including primary prevention as well as improved case management for those who have NCDs.

Potential solutions are bound to be context specific and as such pose major challenges to policy makers, professionals and the population, requiring an effective partnership among all the key stakeholders. Table 12 below provides a list of “grand challenges” in chronic non-communicable diseases identified by 155 stakeholders from 50 countries, and their potential relevance to the MENA region.

**Table 12: Grand challenges in building partnership for better prevention and care in MENA**

Policy Goal	Challenges	Health system involvement and responsibility	Partnership in shared responsibility	MENA specific remarks
Raise public awareness	<ol style="list-style-type: none"> <li>1. Raise the political priority for preventive health</li> <li>2. Promote healthy lifestyle and consumption choices through effective education and public engagement</li> <li>3. Package compelling and valid information to foster widespread, sustained and accurate media coverage and thereby improve awareness of economic, social and public health impacts</li> </ol>	<ol style="list-style-type: none"> <li>1. Leading role in advocacy within the government, civil society</li> <li>2. Leading role in building partnership within government and with civil society</li> <li>3. Leading role in building partnership with media in providing content</li> </ol>	<ol style="list-style-type: none"> <li>1. Within government/cabinet across all sectors</li> <li>2. Partnership with media, consumer advocacy groups, NGOs, civil society, professional associations, schools, etc</li> <li>3. Government agencies, media, advocacy groups, etc</li> </ol>	<ol style="list-style-type: none"> <li>1. Very high priority in all MENA countries for raising awareness about healthy lifestyles, improving child nutrition, and road safety</li> <li>2. Ditto</li> <li>3. Needs expanded coverage especially regarding diet, obesity, feeding practices, road safety</li> </ol>
Enhance economic, legal and environmental policies	<ol style="list-style-type: none"> <li>4. Study and address the impact of government spending and taxation on health</li> <li>5. Develop policies and trade agreements, including regulatory restraints to discourage the consumption of tobacco and unhealthy foods</li> <li>6. Study and address the impacts of poor health on economic output and productivity</li> </ol>	<ol style="list-style-type: none"> <li>4. Leading role in building partnership with academia, think tanks in developing research agenda and policy options</li> <li>5. Advisory role and provision of data/evidence to other government agencies</li> <li>6. Leading role in building partnership with academia, think tanks, in developing research agenda and policy options</li> </ol>	<ol style="list-style-type: none"> <li>4. Think tanks, academia, public research and training agencies, ministries of finance, education</li> <li>5. Government through Ministries of Trade, Education, Transport</li> <li>6. Think tanks, academia, public research and training agencies</li> </ol>	<ol style="list-style-type: none"> <li>4. Requires leadership and funding</li> <li>5. Requires better enforcement of existing laws</li> <li>6. Needs leadership and funding</li> </ol>

<b>Policy Goal</b>	<b>Challenges</b>	<b>Health system involvement and responsibility</b>	<b>Partnership in shared responsibility</b>	<b>MENA specific remarks</b>
Modify risk factors	<p>7. Deploy proven measures to reduce tobacco use, and boost resources to implement FCTC</p> <p>8. Increase the availability and consumption of healthy food</p> <p>9. Promote lifelong physical activity</p> <p>10. Better understand environmental and cultural factors that change behavior</p>	<p>7. Advocacy role for the ratification of FCTC and adoption of its imperatives (e.g. law on tobacco)</p> <p>8. Advocacy role with Ministry of Education, agriculture etc</p> <p>9. Advocacy role</p> <p>10. Leading role in building partnership with academia, think tanks, in developing research agenda and policy options</p>	<p>7. Government, food industry, media,</p> <p>8. Ministries of higher education, agriculture, etc</p> <p>9. Municipalities, media, government agencies, professional associations</p> <p>10. Think tanks, academia, public research and training agencies</p>	<p>7. FCTC has been ratified by all MENA countries but needs more forceful enforcement</p> <p>8. Needs improvement, especially for women</p> <p>9. Needs improvement especially for women</p> <p>10. Role of gender needs further attention</p>
Engage businesses and community	<p>11. Make business a partner in promoting health and prevent disease</p> <p>12. Develop and monitor codes of responsible conduct with the food, beverage and restaurant industries</p> <p>13. Empower community resources such as voluntary and faith based organizations</p>	<p>11. Advocacy role to relevant government agencies, CSOs</p> <p>12. Advocacy role to relevant government agencies, CSOs</p> <p>13. Advocacy role to CSOs, foundations, fraternities, faith based organizations</p>	<p>11. Ministries of commerce, trade, agriculture, business associations</p> <p>12. Municipalities, food industry, ministry of education</p> <p>13. Faith based organizations, CSOs, foundations, fraternities, etc</p>	<p>11. New initiatives required</p> <p>12. A new area for policy development and advocacy for most MENA countries</p> <p>13. A potentially very effective resource for community mobilization</p>

Policy Goal	Challenges	Health system involvement and responsibility	Partnership in shared responsibility	MENA specific remarks
Mitigate health risks of poverty and urbanization	<p>14. Study and address how poverty increases risk factors</p> <p>15. Study and address the links between the built environment, urbanization and malnutrition, chronic NCDs, RTIs</p>	<p>14. Advocacy role to think tanks, academia, public research and training agencies</p> <p>15. Advocacy role to think tanks, academia, municipalities, public research and training agencies</p>	<p>14. Think tanks, academia, public research and training agencies</p> <p>15. Think tanks, academia, municipalities, public research and training agencies</p>	<p>14. Needs funding and interdisciplinary research and policy development</p> <p>15. Needs funding and interdisciplinary research and policy development</p>
Reorient health systems	<p>16. Allocate resource within health systems based on burden of disease</p> <p>17. Move health professionals training and practice towards prevention</p> <p>18. Increase number and skills of professionals who prevent, treat and manage chronic NCDs</p> <p>19. Build health systems that integrate screening and prevention within health delivery</p> <p>20. Improve access to medications to prevent complications of NCDs</p>	<p>16. Leading role in resource allocation</p> <p>17. Leading role in curriculum development and training</p> <p>18. Leading role in curriculum development and training</p> <p>19. Leading role in designing financial and non-financial incentives to influence professional behavior</p> <p>20. Leading role in adopting policies for rational use of cost effective drugs for NCDs</p>	<p>16. Government, Ministry of planning and finance, universities, professional associations</p> <p>17. Ministry of higher education, universities professional associations</p> <p>18. Ministries of planning, higher education agencies, Universities, professional associations</p> <p>19. Public, statutory and private insurers, providers, other entities</p> <p>20. Public, statutory and private health insurance schemes and providers</p>	<p>16. Needs a thorough understanding of the NCD related burden of disease and risk factors and costing studies and sustainable financing of health promotion</p> <p>17. Revision of curriculum may be needed</p> <p>18. Strengthening health human resources planning</p> <p>19. Requires reforms in resource allocation and purchasing modalities and adoption of evidence-based and well targeted interventions for population-level and primary care level programs to prevent or delay NCD-related complication, disability, and death</p> <p>20. Requires reform in pricing, reimbursement rates, access to and use of generic drugs.</p>

Adapted from (Daar, Singer, & Persad, 2007) and (Swann, et al., 2010).



## **Part 3. Measuring Health Systems Performance and Preparing to Meet the Emerging Challenges**

The MENA region has made significant progress over the past three decades in terms of expanding access to basic health services. With the exception of Yemen, Iraq and Morocco, most MENA countries indicate reaching above 90 percent coverage in basic health services as self-reported by the national authorities. This section will review how well the health systems in the region are performing in terms of equity, quality and efficiency, or how effective they are in providing value for money.

### **Chapter 4. Understanding the Equity Implications of Out-of-Pocket Health Expenditures**

#### **I. An Overview of Poverty and Health in the MENA Region**

Compared to other developing regions of the world, the MENA region has made significant progress in reducing poverty levels, and currently has relatively low levels of poverty. Overall, less than 5 percent of MENA's population lives on less than US\$1.25 per day. Yet, some structural features about MENA make the region particularly vulnerable to various shocks from the poverty perspective. MENA region has a significant number of people living just above but close to the poverty line. While nearly one fifth of the regional population lives on less than US\$2 per day, significant numbers live just above the poverty line (The World Bank, 2009). For example, in 2005, about one fifth of Egyptians and Moroccans had per capita daily consumption falling between US\$2 and US\$2.50, which represents a significant proportion of the population living within this near-poor band. In Yemen and Djibouti, around 15 percent of the populations are found in the near-poor group of households.

There are several important implications of these socioeconomic situations in many MENA countries. The poor and the near-poor may feel the need to forego healthcare and subsequently suffer losses in income and employment through untreated illnesses or injuries. The expected rise in the prevalence of noncommunicable diseases and injuries, as discussed in the previous sections, is expected to intensify the vulnerability of these groups to such health shocks by increasing the cost of episode of care as well as by potentially increasing morbidity rates among the working age population and the elderly. Among other concerns, this group of near-poor will be especially vulnerable to health shocks through catastrophic health expenditures which could drive their families below the poverty line. Health programs aimed at extending financial protection to the vulnerable groups will need to include the near-poor as well as the poor.

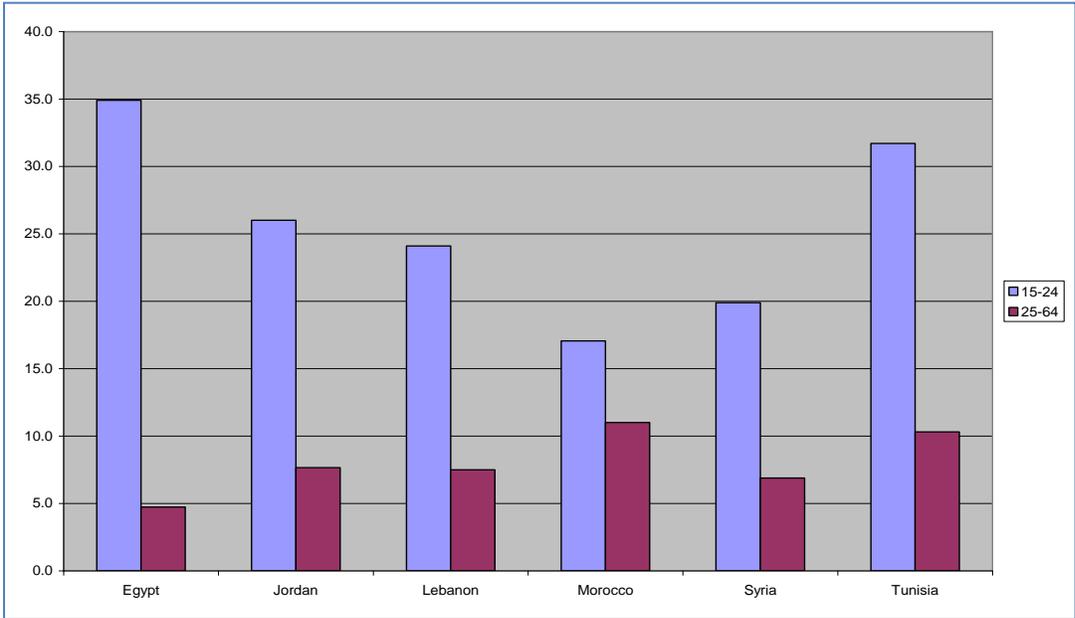
Among all the developing regions of the world, the MENA region has the highest levels of labor force growth, the lowest levels of female participation, and the second youngest labor force after Sub-Saharan Africa. The demographic trends indicate that MENA will continue to face a job creation challenge greater than that of any other region except Sub-Saharan Africa. Women's labor participation rates has been increasing in recent years, but by next decade it will still remain the lowest among all developing regions. Overall, MENA's total labor force participation rates will remain the lowest of any developing region (The World Bank, 2007).

Furthermore, despite significant improvements in educational attainment, youth unemployment rates in MENA remain among the highest in the world, at around 25 percent (compared to 14.4 percent worldwide), and the gap between unemployment rates among youth

and the older cohort is very high (The World Bank, 2007). In Egypt, for example, the unemployment rate for young people aged 15-24 years is 35 percent while that for older age cohorts is below 5 percent (see Figure 29). In addition, MENA youth spend lengthy periods in temporary or intermittent work and spells of joblessness before permanently entering stable employment.

Both the high unemployment and informality rates in the MENA region, especially among the youths, will have important implications on their access to healthcare. Most notably, the proposals currently under consideration in a number of MENA countries to expand coverage through a contributory social insurance scheme could be problematic from this perspective (for more discussion, see Chapter 5 Health Financing).

**Figure 29: Youth and Adult Unemployment Rates in Selected MENA Countries, 2003<sup>††</sup>**



Source: (European Training Foundation, 2006)

**II. Coverage and Access to Healthcare in the MENA Region**

This section will review evidence on the performance of the current healthcare system in conferring social protection in terms of mitigating the effects of catastrophic health payments on household budget and ensuring access to healthcare irrespective of income levels. Most MENA countries have established a network of publicly subsidized services, complemented in some countries by social insurance schemes. Overall, most MENA countries have a system in place that offer near universal coverage for basic health care at no or only a small formal cost the point of use (see Table 11).

<sup>††</sup> All data for 2003, except for Jordan which refers to 2004.

**Table 11: Formal health coverage by different programs in selected MENA countries, (latest available year)**

Country	Directly provided government health services (Complete or Partial) <sup>a</sup>	Social health insurance schemes	Est. % of civil population enrolled in social health insurance	Private health insurance <sup>b</sup>
Yemen	Yes/Complete	No	n/a	No
Libya	Yes/Complete	No	n/a	No
Lebanon	Yes/Partial	Yes	31.0	Partial
Iran	Yes/Complete	Yes	69.3	No
Egypt	Yes/Partial in reformed governorates	Yes	45.0	Limited
Palestinian Territories	Yes/Partial	Yes	48.5	No
Tunisia	Yes/Partial	Yes	78.0	Partial
Jordan	Yes/Partial	Yes	44.0	Modest
Morocco	Yes/Partial	Yes	30.0	Partial
Kuwait	Yes/Complete	No	n/a	Limited
Saudi Arabia	Yes/Partial	No	n/a	Partial

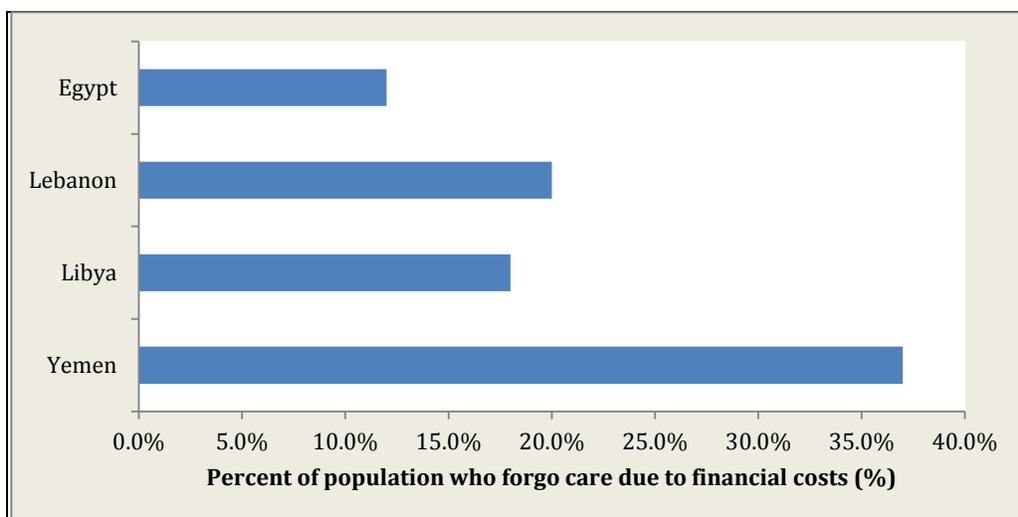
Sources: Yemen, Ministry of Health, 2007; Libya, Ministry of Health, 2008; Lebanon, Ministry of Finance/Ministry of Health Annual Report; Lebanon, percent receiving Ministry of Health-funded treatment, Ammar, 2009; Iran, Household Expenditure Survey, 2006; Egypt, Ministry of Finance/World Bank, Health Policy Note, Public Expenditure Review 2007; Tunisia, Ministry of Health; West Bank-Gaza, Ministry of Health/World Bank Health Policy Note, 2009; World Bank, 2003; World Bank, World Bank, 2005a).

Note. a. "Complete" refers to coverage by government health services for all citizens, whereas "Partial" refers to systems that may exclude or require payments by some groups of the population, e.g., Lebanese population covered by social security will not be eligible for free care from the public hospitals.

b. "Partial" indicates coverage rate above 10 percent of the population or some sections of the population.

Despite the apparent extensive coverage, there is evidence that many individuals in the region face economic barriers in seeking health care. According to available national household survey data, a proportion of citizens in MENA countries report forgoing necessary health care services because of the expected financial costs. In Yemen, approximately 37 percent of respondents have reported not seeking health care due to financial barriers. In other countries, response to a similar question in the household surveys revealed that in Lebanon around 20 percent reported foregoing care, 18 percent in Libya and 12 percent in Egypt, as shown in Figure 30.

**Figure 30: Forgone health care use due to financial costs in MENA**



Sources: Yemen, Household Budget Survey 2005/6; Lebanon, Multi-Country Survey Study, World Health Organization, 2001; Libya, Household Expenditure and Consumption Survey, 2003/4; Egypt, Multi-Country Survey Study, World Health Organization, 2001.

A number of surveys also reveal the extent to which financial barriers exist in the region. According to the 2008 Demographic and Health Survey for Egypt, some 44 percent of women reported financial constraints as a significant barrier to accessing healthcare (see Table 4 in Chapter 2, above). In Morocco, about 34 percent of users of hospital services reported that they were treated badly by the providers due to “lack of wealth” (WHO Multi-Country Health System Responsiveness Survey, 2002). While these latter two surveys asked questions indirectly and therefore the figures need to be interpreted with caution, they nevertheless point to a significant number of people facing financial barriers to access in many MENA countries. A more systematic and regular assessment of barriers to access to health care would be necessary to obtain

### III. Trends in Out-of-Pocket Spending by Households

The relative size of out-of-pocket (OOP) health spending as a percentage of total health expenditures is often used as one measure of assessing the extent to which the country’s risk pooling mechanism is functioning. Low income countries tend to have relatively high share of OOP (47 percent global average), as the institutional capacity for risk pooling remains limited and the total cost of healthcare remains relatively low. As income levels grow, and countries increase the share of total health spending which is funded through some form of a risk pooling mechanism, either through government revenues, social insurance systems, or supplemental private insurance schemes. In middle income countries, OOP accounted for around 32 percent of total health spending, and high income countries around 20 percent.

In MENA, health care expenses often comprise the single largest component of household expenditure after food. In seven MENA countries surveyed as depicted in Table 4 below, households reported spending between 3 percent and 7 percent of their total consumption expenditure on health care-related services. The OOP health expenditures also accounted for a relatively higher share of total health expenditures in comparison with the global averages at similar income levels (see summary Table 12).

**Table 12: Out of pocket (OOP) Spending as Share of Total Health Expenditures – MENA and Global Averages, 1995-2008**

Country	1995	2008	% change
GCC Mean	25.76	22.72	-12%
Global High Income Mean	22.08	20.84	-6%
MENA Middle Income Mean	43.62	40.03	-8%
Global Middle Income Mean	35.38	32.23	-9%
Yemen	65.51	58.01	-11%
Global Low Income Mean	50.03	45.77	-9%

See Section XX on Health Financing.

Among the high income GCC countries, the share of OOP at 23 percent is close to global average, confirming that these countries provide a relatively good coverage and financial protection for their population. But the MENA middle income and low income countries show a significantly higher rate at 40 percent and 58 percent, respectively, compared with the global average of 32 percent among Middle Income Countries and 47 percent among Low Income Countries (see summary in Table 12). As will be discussed below in Chapter 6, below, the overall trend has been a decrease in the share of OOP over the past 15 years. But in a number of countries (Egypt, Morocco, Iran, Tunisia and Jordan) the trend has been towards a further *increase* in OOP as a share of total health expenditure. These trends are of concern, as they suggest that the risk pooling and financial protection mechanisms in these countries may not be keeping pace with the changing demands for healthcare, and more households are being exposed to increasing financial burden of healthcare. That this is occurring at a time when these countries still have a relatively young population profile adds weight to that concern: as the population ages and the prevalence of noncommunicable diseases rises in these countries, the likelihood of these households facing catastrophic health payments will increase.

The OOP spending pattern has been further disaggregated by urban/rural spatial differentiation, and by income quintile groups in selected countries. These trends are summarized in Table 13 and Table 16, below. Data by geographic status show that out-of-pocket payments reveal further differences across countries. In Yemen, Libya and Tunisia, households in urban and rural areas appear to pay similar proportions of their expenditure on health care on average. In Iran, Lebanon and Egypt, wide gaps exist; healthcare accounts for a greater proportion of household spending in urban areas than in rural areas.

**Table 13 Average out-of-pocket spending on health care in selected MENA countries, urban /rural differences**

Country	GDP per capita, 2006 (current International \$)	OOP as % Total Health Expenditure	Average OOP as % HH Income (%)		
			Total	Urban	Rural
Libya	9,225	20	3.0	3.0	2.9
Lebanon	6,060	75	6.6	n/a	n/a
Iran	3,152	44	5.1	4.9	6.1
Tunisia	3,072	56	4.6	4.4	4.8

Country	GDP per capita, 2006 (current International \$)	OOP as % Total Health Expenditure	Average OOP as % HH Income (%)		
			Total	Urban	Rural
Egypt	1,489	62	8.9	9.2	8.5
Palestinian Territories	1,187	40	3.1	3.3	3.2
Yemen	882	58	2.7	2.8	2.5

Sources: GDP data: Current international dollar; World Economic Outlook, April 2009 Database, International Monetary Fund; West Bank-Gaza based on IMF West Bank-Gaza Staff Report February 25, 2009. OOP expenditure: Authors' calculations based on household survey data: Egypt figures based on Household Income, Expenditure and Consumption Survey 2004/5 for total expenditure and Health Insurance Survey 2006 for OOP; urban and rural figures approximated; Lebanon Multipurpose Survey on Households 2004/5; Iran Household Income and Expenditure Survey 2006; Palestinian Consumption and Expenditure Survey, Palestinian Central Bureau of Statistics, 2006; OOP as % Total Health Expenditure based on West Bank-Gaza Health Policy Note, World Bank, 2009. Notes: International Dollar = purchasing power parity exchange rate. OOP = out-of-pocket expenditures on health care. HH = household.

**Table 14: Distribution of out-of-pocket health care spending (OOP) across income quintile**

Country	Proportion of total household expenditure spent on health care across income quintile (%)						Concentration Index**
	Poorest	2 <sup>nd</sup> Poorest	Middle	2 <sup>nd</sup> Richest	Richest	Total	
	Yemen (2005/6)	1.7	1.8	2.2	2.5	3.7	
Libya (2002/3)	2.1	2.6	3.0	3.3	3.7	3.0	0.1039
Lebanon (2004/5)	4.8	6.3	6.5	7.5	8.2	6.6	0.0960
Iran (2006)	4.3	4.2	4.1	4.2	5.9	5.1	0.0569
Egypt (2006/7)	5.2	3.1	4.4	3.7	1.0	3.4	-0.1888
Palestinian Terr. (2006)	3.0	2.9	3.1	2.9	3.5	3.1	0.0162
Tunisia (2005)	4.0	4.3	4.4	4.7	5.1	4.5	0.0346

Sources: See Annex 8 for details. Yemen Household Budget Survey 2005/6; Egypt calculations based on data from 2007 health survey in four governorates (Alexandria, Menoufia, Suez and Sohag) used to measure policy effectiveness at exempting poorer households from user fees; Lebanon Multipurpose Survey of Households 2004/5; Libya Economic and Social Survey, 2006; Iran, Household Income and Expenditure Survey, 2006; Palestinian data based on Palestinian Consumption and Expenditure Survey, Palestinian Central Bureau of Statistics, 2006; Tunisia Health Survey 2005.

These household survey data show that among the countries surveyed in the MENA Region, the share of OOP spent by households tends to be higher in absolute and relative terms among higher income groups, with the richest quintiles spending nearly double that of the poorest on health care. Among the countries analyzed, Egypt is the exception, with lower income groups paying a higher share of their household budget on healthcare.

The interpretation of these trends requires great caution, as there are multiple factors contributing to these trends including the availability of the supply of services, the level of needs and demand for services; and the level of subsidies being directed to different groups of beneficiaries. First, the OOP trends must be reviewed in conjunction with utilization data to understand whether they lower income groups are making greater or lesser use of services in terms of the volume of services as well as the intensity and quality of services received. Secondly,

\*\* The Concentration Index is a measure of how equally a health variable is distributed across a population ranked by income level.

the review of OOP trends should be closely complemented with the analysis of subsidies being utilized by different categories of the population, such as through benefits incidence analysis.

For example, in Egypt, the same household survey also showed that the lower income groups made less use of healthcare in terms of the volume of services. The same survey showed the ineffectiveness of the policy exempting the poor from copayments, suggesting that the efforts to target the subsidies to the poor may not be working well. The Demographic and Health Survey 2008 also showed that women in lower income groups face financial and other barriers to healthcare (unmet needs). These pieces of evidence taken together suggest that in Egypt, the poor are paying a higher share of their own household budget towards healthcare, but even at with this higher share they are still using services below the level they need. Furthermore, there is an indication that government subsidies are not being effectively directed to mitigate the financial burden of healthcare for the poor, but a more detailed benefits incidence analysis will be required to show the magnitude of this effect.

In Yemen and Libya, citizens have reported having had to travel abroad for health care services due to the lack of availability or satisfaction with local services. Overseas treatment accounts for a large share of OOP in these countries, and they are more likely to be used by higher income quintile groups. These trends suggest that higher income groups are consuming more expensive and possibly higher quality services than the poor, which account for the higher share of OOP spending among this group. In Tunisia, there is evidence that on average the insured population groups pay significantly higher OOP compared with the uninsured group. These trends suggest that the insured might have access to better (and possibly more expensive) supply of healthcare services, and are also making greater use of healthcare services due to partial subsidization of benefits. In doing so, they may also face significant copayments and other user charges. As will be discussed in Chapter 5, below, there is evidence that the public hospital services may be under-financed in some facilities in Tunisia, and some of the costs of care are possibly being shifted onto the patients. In Iran, there is a similar trend emerging, in which the insured population group in the rural areas are beginning to face catastrophic payments approaching the level of the uninsured population (see Box 5, below). The exact cause of this effect will require a more in-depth analysis of the use of services in the local context. They also point to the critical importance of closely monitoring the effectiveness of health insurance programs as they are rolled out over time.

### Box 5: Evolution of Health Insurance Coverage and Catastrophic Payments in Iran

The extent to which health insurance schemes protect households against catastrophic health care payments depends on the scope of the coverage and eligibility criteria, amongst other factors. Examining the case of Iran during 1996-2006, uninsured households have tended to face approximately twice the exposure to catastrophic health care payments. Between 2001 and 2006, there was a significant improvement in health insurance coverage due to the introduction of the Rural Health Insurance scheme in 2005 (see Table 15) to the point where the coverage rate now exceeds that of the urban population.

An analysis of catastrophic payments show that in 2006, approximately 7 percent of insured households reported catastrophic payments as compared to 14 percent of uninsured households as shown in

Table 15: Spatial distribution of health insurance coverage over time in Iran, 1996-2006

	Proportion of households enrolled in health insurance (%)	
	Rural	Urban
1996	28.46	61.12
2001	33.29	60.91
2006	76.24	61.18

Source: Iran, Household Expenditure Survey, 1996-2006.

**Figure 31.** Over the past two decades, the expansion of health coverage to rural areas was associated with improved access to primary health care services focused on maternal and child health services. But with the increase in noncommunicable diseases, the coverage has been extended to a more comprehensive package under the Rural Health Insurance Program. Since the introduction of that program, the insured rural households reported a substantially higher rate of catastrophic payments. This may reflect, on one hand, the improved availability of health care services (supply side) and potentially increased exposure to copayments and other user charges for households who are making more use of services that they might have otherwise forgone.

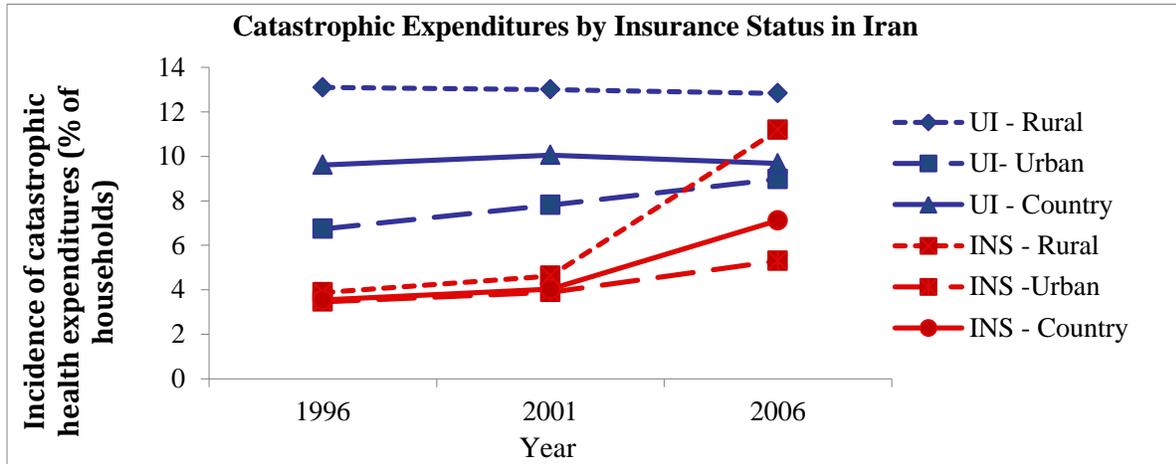
Table 15: Spatial distribution of health insurance coverage over time in Iran, 1996-2006

	Proportion of households enrolled in health insurance (%)	
	Rural	Urban
1996	28.46	61.12
2001	33.29	60.91
2006	76.24	61.18

Source: Iran, Household Expenditure Survey, 1996-2006.

Figure 31: Spatial distribution of catastrophic expenditures by insurance status in Iran over

time, 1996-2006



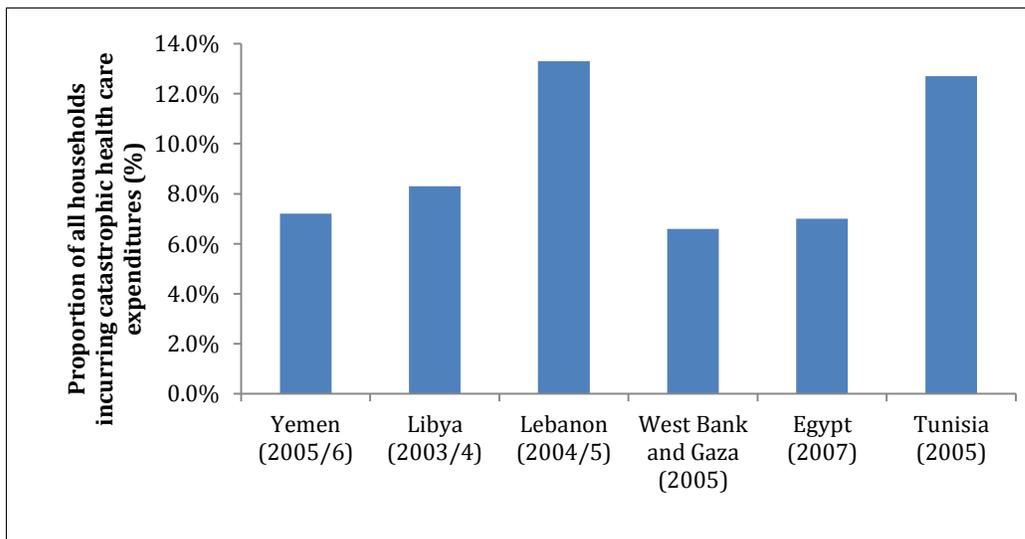
Source: Authors' calculations using data from national surveys. Note: Catastrophic spending in Iran is defined as at least 25 percent of total household expenditure. UI = Uninsured; INS = Insured.

#### IV. Assessing the financial burden of healthcare spending

To assess the burden of out-of-pocket payments and catastrophic expenditures, the extent to which health care payments impinge on living standards has been evaluated in selected MENA countries. OOP health care payments may pose a source of strain on household resources due to the uncertainty of their timing, duration and magnitude.

**Figure 32** shows the proportion of households who faced catastrophic health expenditures (defined as at least 10% of total household expenditures) in seven MENA countries.

**Figure 32: Incidence of catastrophic health expenditures in MENA countries**



Source: Calculated using data from national household surveys.

Note: Catastrophic spending is defined as having incurred at least 10% of total household expenditures.

Table 16 shows that health care payments in selected MENA countries impact poverty levels differently across countries. While the effect appears to be negligible in Libya – the wealthiest of these countries, OOP health expenditure increases the number of households that fall below the poverty line in the others: Palestinian Territories, Lebanon, Iran, Egypt, and Tunisia.

**Table 16: Effect of out-of-pocket health care payments (OOP) on poverty rates in MENA countries**

Country	Pre-payment poverty headcount (% of households)	Post-payment poverty headcount (% of households)	Absolute difference (percent difference)	Relative difference (percentage difference)
Yemen (2005/6)	20.3	21.9	1.6	7.9
Libya (2003/4)	1.7	1.8	0.1	5.6
Lebanon (2004/5)	27.5	31.6	4.1	14.9
Palestinian Territories (2005)	13.7	25.1	11.4	82.9
Iran (2006)	13.6	15.4	1.8	13.2
Egypt (2007)	31.8	36.1	4.3	13.5
Tunisia (2005)	3.7	4.4	0.7	17.8

Source: Authors' calculations using data from national surveys (see Volume 2). Notes: Data for Egypt shown for baseline levels before introduction of user-fee exemption scheme.

Consistent with the patterns of poverty within countries, the effect of health care payments varies geographically (Table 17). Using the cases of Yemen and Libya, overall poverty rates are generally two to three times as high in rural areas than in urban areas, as tends to be the case throughout MENA countries. At the same time, Yemeni urban households face the effect of health care payments more intensely than their rural counterparts; the relative differences in headcount and the gap are higher amongst urban than rural households. In Libya, it is rural households that face a greater intensity of poverty after health care payments are taken into account. Therefore, spatial differences in the effect of health care payments should be taken into account when designing appropriate health financing schemes within a given country.

**Table 17: Spatial distribution of OOP-related impoverishment in MENA countries**

Country	Poverty Headcount (%)			Poverty Gap (%)		
	Pre-payment poverty	Post-payment poverty	Relative difference	Pre-payment	Post-payment	Relative difference
Yemen (2005/6)	20.30	21.90	7.88	5.85	6.32	8.03
Urban	14.90	16.40	10.07	3.99	4.37	9.52
Rural	31.10	33.25	6.91	9.48	10.22	7.81
Libya (2003/4)	1.70	1.80	5.56	73.70	73.70	0.00
Urban	1.40	1.40	0.00	57.30	59.60	4.01

Rural	3.70	3.70	0.00	161.30	175	7.83
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Source: Authors' calculations using data from national surveys (see Annex 8).

## V. Next Steps

### A. Meeting the Challenges

Although poverty rates in MENA countries are relatively low, the existence of a large population of near-poor makes them particularly vulnerable to impoverishing effects of catastrophic health expenditures. Among the 7 countries surveyed in this report, OOP health expenditures tend to increase the poverty headcount by 5 – 14 percent, with the exception of Palestinian Territories where the headcount increased by as much as 80 percent. These vulnerabilities emphasize the importance of extending financial protection against catastrophic health payments not only to the poor, but to the *near-poor* who are especially vulnerable to the impoverishing effects of ill-health.

Few countries in the MENA region have well-developed, targeted safety nets. Most programs rely heavily on highly expensive consumer subsidies, which often suffer from both poor coverage and a high degree of leakage to the non-poor. Egypt's food and energy subsidies, for example, absorb some 30% of public expenditure (and about 10% of GDP), but are not available to a large segment of the poor. In Morocco, the poor are receiving only 10% of what the government spends on universal price subsidies, while 90% goes to subsidizing goods consumed by the non-poor (The World Bank, 2009). While a number of MENA countries are taking steps to improve the efficiency, targeting and coverage of social safety net mechanisms, progress has been slow.

This general weakness in the social safety net programs in the region has significant implications on the design and effectiveness of the health system in ensuring adequate protection from catastrophic financial outlays due to illness or injuries. First, the existence of the sizeable subsidies limits the fiscal space for allocating needed resources to expand health benefits or increase subsidies to the vulnerable population. Secondly, the lack of effective social targeting mechanisms limits the scope for targeting the vulnerable population who should be eligible for subsidized health care. Thirdly, social safety net programs will need to be enhanced to include community outreach component that addresses socio-cultural barriers to access.

The shortcoming in this last area was especially evident, for example, in the introduction of the policy to exempt the poor from paying premiums or copayments in Egypt. During 2006 and 2007, four Egyptian governorates participated in a user fee exemption system as part of the pilot social health insurance program. In the initial phase of implementation, the scheme was unable to demonstrate that the exemption scheme reduced the financial burden on the targeted population. The lack of impact has been attributed in part to the absence of any social outreach programs to inform the potential beneficiaries about the exemption scheme and a complementary program to incentivize health personnel to extend services to the exempted population group. This example demonstrates that introduction of social targeting and exemption schemes must be matched by comprehensive systems to ensure that beneficiaries are empowered to take advantage of the program and the providers are ready to provide services to this group.

Finally, social insurance systems in the MENA region remains limited in extent of coverage and scope of benefits. The existence of a large number of unemployed and informal sector workers, as noted above, presents a major challenge in extending health insurance coverage through a traditional social health insurance scheme. Because participation in social insurance schemes are

usually predicated on beneficiaries making prepayment contributions in the form of a premium or payroll deduction, those who are unable to pay (the poor) or who are not part of the formal economy are less likely to participate. This could lead to exclusions of the most vulnerable categories of the population, notably the poor and informal sector workers and their families. Therefore, any expansion of social health insurance programs will need to be accompanied by concurrent programs of social outreach and social protection to ensure the full participation and inclusion of these groups in the program.

#### **D. Focus on results –Steps to Reduce Financial Risks Due to Illness and Injuries**

A number of low and middle income countries in the region are beginning to address the need to reform the existing energy and food subsidies in order to free up additional fiscal space better targeted social programs. As subsidy reforms are implemented in phases and fiscal space becomes available, it would be important to ensure that the priority health policies and programs are explicitly included as the recipients of these additional resources. This will require strong justifications in terms of the cost-effectiveness of the interventions and the long-term benefits in terms of economic impact and social welfare gains that will accrue as a result of investing in these health policies and programs.

Among the priority programs that should be in this list would include funds to subsidize access to basic health coverage for the poor and the near-poor, as well as public health programs that will promote healthy lifestyles and prevent health risks. This will require the introduction of effective social targeting system, which is not yet in place in MENA countries. A number of countries are beginning to initiate programs to introduce effective targeting mechanisms, but they are often carried out separately from health sector reform activities: a better coordination and integration of efforts will be needed to avoid duplication of efforts. At the same time, social targeting on its own - while *necessary* - will be *insufficient* for achieving behavioral changes on the part of both the beneficiaries and healthcare providers. The actual availability of services in the under-served areas and the appropriate use of healthcare services by under-served population groups will require an active program of incentives to the providers and empowerment for the citizens. Designing and effective program to achieve this will require a close cooperation and partnerships among the beneficiary groups, the professionals who provide the services, and the state which will be financing the subsidies.

Poverty reduction and social protection strategies should explicitly take into account the household risks associated with catastrophic health expenditures in order to mitigate against their impoverishing effects. Financial protection against catastrophic health spending will need to be extended as also to those groups with a higher-than-average need for health care, such as infants, mothers, the elderly and the disabled, and those with chronic conditions such as those associated with non-communicable diseases, HIV/AIDS, or injury-related disabilities.

While the appropriate policy response to improve equity in health care is best designed by a careful assessment of local needs, the following key policy features will require attention:

- (a) Ensure close linkage between the design of the health coverage plan and the ongoing social targeting initiatives in the country, including collection of accurate information on beneficiary welfare through national registry and effective information systems for social targeting.
- (b) Inclusion in the social safety net of the near-poor group who are highly vulnerable to the impoverishing effects of catastrophic health expenditures.

- (c) Introduction of effective incentive systems for health care personnel to provide quality services to the under-served population.
- (d) Development of effective community outreach programs to encourage and empower citizens to utilize health services effectively in under-served areas, and to reduce socio-cultural barriers to access.
- (e) Well-designed risk-pooling schemes, including the development of supplementary private insurance plans to reduce the financial risks of catastrophic health expenditures for all income levels, including the non-poor who are also vulnerable to catastrophic health payments. The importance of extending financial protection to families will increase as the cost of health care is expected to increase due to ageing population and the rise in NCDs.

## Chapter 5. Aspiring for better health system performance for better health in MENA

### A. Why emphasis on health system performance?

All health systems aspire to achieve three fundamental goals: (i) improve health across all segments of the society; (ii) be responsive to people's expectations and preferences; and (iii) ensure that financial consequences of ill-health are borne out by the society at large without causing undue welfare loss to, and impoverishment of the sick, his/her family and community. Accordingly a health system will be performing well if it could score high on all these three goals, a tall order for any health system, regardless of how well endowed or under (fiscal) strain it may be. Health systems strive to achieve these goals while trying to remain effective and efficient to safeguard their long term viability and sustainability.

Assessing performance of health systems has become prominent, especially in North America and Europe, with the increased emphasis on/preoccupation with improving value in health care, or in lay terms, achieving better health outcomes and patient satisfaction while containing costs. Four trends have contributed to the increased emphasis:

- (i) ever escalating health care costs in almost all countries, albeit at different rates, but often at a rate higher than the GDP growth;
- (ii) perennial concerns over failures in the health care market, either as a result of "moral hazard", or propensity to use health services by the population when there are no financial or other costs involved, and/or because of the "supplier induced demand" that is health providers inducing or creating demand for services that are not needed or medically justifiable;
- (iii) increased concerns over patient safety and informed decisions about their treatment choices;
- (iv) availability of new applications of Information Communication Technology (ICT) in health system information that has significantly improved the system capacity to gather and manage large amount of information efficiently, taking advantage of the technological advances that has improved the user interface and ease of adaptation to complex business processes, and substantially reduced costs in information technology.

There is a growing international recognition that health systems needs to be subject to the same degree of performance assessments as in any other sector, and the availability of information technology to process the enormous amount of information in real time has significantly increased the system's capacity to respond to this growing demand from the Governments, employers, and the general public for greater accountability in the sector. This does not only mean that all the production factors, that is capital, labor, infrastructure, know-how and technologies should be there in sufficient quantity and be deployed geographically in an equitable and efficient manner, but it also means that the all these factors should produce the right volume and mix of services that are safe, appropriate and technically of high quality and that they are delivered in a comprehensive, continuous and respectful manner to those who need them.

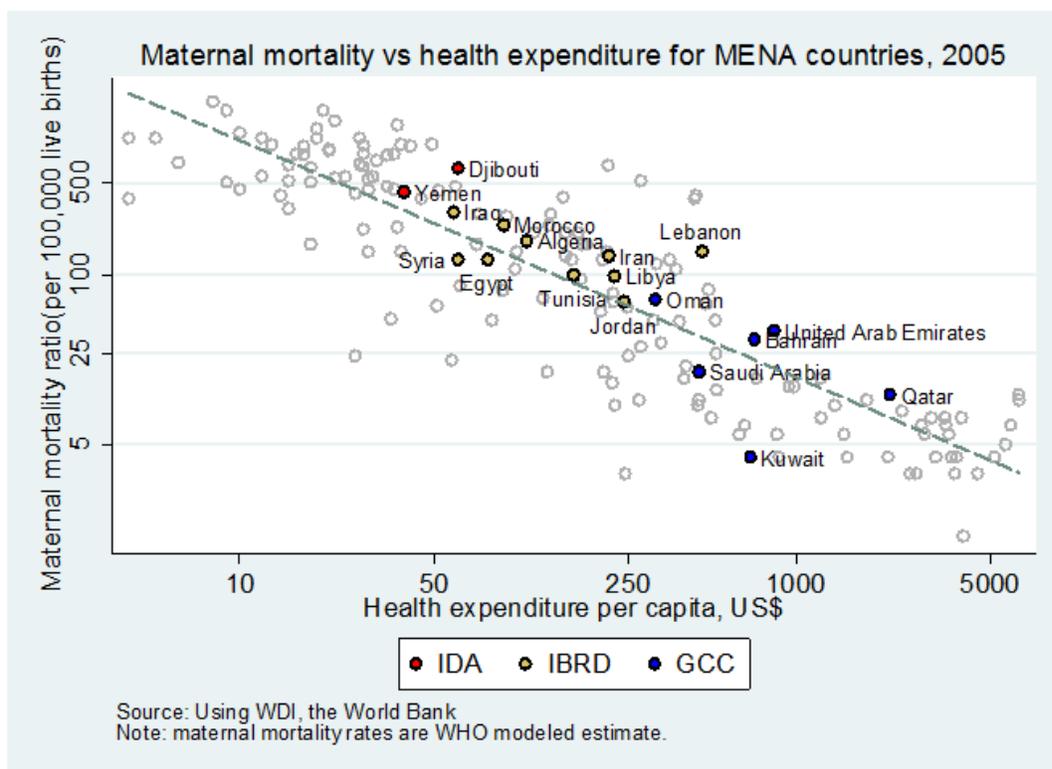
It is therefore crucial that health systems continuously assess their achievements and compare them with those of comparable others to assess their performance, draw lessons from weaknesses and shortcomings and take corrective actions. Achieving and demonstrating measurable improvement in the performance of their health systems will require partnership

between the government and the broader non-governmental sector, including professional associations, business leaders, civil society and consumer advocacy groups.

## VI. What is meant by performance?

Health system performance is usually assessed at the sectoral level, typically by measuring a set of health outcome metrics (e.g., maternal mortality, life expectancy, etc) against expenditures (e.g., total health expenditures – see Figure 33).

**Figure 33: Maternal mortality ratio and per capita health expenditures – global trends and MENA**



While such assessments are important to have a broad view of system performance, they are less useful for identifying specific actions since they do not disaggregate the impact of the multiple factors that may be contributing to the overall mortality rates, including factors outside the healthcare system, such as environmental and behavioral factors, and those which are more directly linked to healthcare services, such as access to health services, quality of care, responsiveness. One study on 19 industrialized nations estimated that mortality that can be prevented through interventions of the healthcare system accounted for 23 percent of male and 32 percent of female mortality before the age of 75 (Nolte and McKee, 2008). Another study found that one of the reasons why the US spends 50 percent more on healthcare than in France is attributable to higher rates of obesity and smoking among the American populations (Sturm, 2002). These studies suggest that much more attention needs to be paid to health promotion and other life-style and behavioral factors in order to achieve better health outcomes for the nation. Nevertheless, spending on healthcare is significant and growing in all of the industrialized countries, and its

performance will be a critical element in contributing to good health outcomes and its financial sustainability and affordability in the long term is of paramount concern.

For the low and middle income countries which have much less institutional capacity to collect and manage information, the ability to assess performance in the health sector has been that much more constrained and much of the analysis has remained at the broad, macro-level assessments and at the facility-level, the information has been primarily limited to supply of inputs rather than on outputs or outcomes. It will be argued that this level of analysis will no longer be adequate in ensuring effective management, and that even using very selective and limited number of indicators it will become necessary to collect information on and assess the performance of healthcare on quality at a more disaggregated level. For example, among the low income countries, the Kyrgyz Republic is well known for having made a remarkable progress in improving access to health services for its citizens despite limited resources (US\$36 per capita total health expenditure in 2006), thereby making basic health care more affordable and efficient while expanding choice. Furthermore, Kyrgyz system allows the performance measures at the facility-level, thus allowing the information on performance to feedback to the management level for decision making. A recent assessment of the Kyrgyz health system found that the indicators of equity, access and efficiency had improved, but those related to quality of care was lagging. Consequently, improved access to affordable care was not translating into improvements in health outcomes due to quality issues.<sup>§§</sup>

The growing trend in the health sector performance assessment has been to focus on care settings (e.g., hospitals, primary care, etc) or domains (e.g., pharmaceuticals) and disease pathways (e.g., diabetes, cardiovascular diseases) for a in-depth assessment at these disaggregated levels to determine and act on issues related to appropriateness and quality of care, including efficiency (See Table 18).

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<sup>§§</sup> Manas Taalimi Health Reform Program: Joint Mid-Term Review, World Bank Aide Memoire, May 2008.

**Table 18: Different Approaches to Performance Assessment in Healthcare**

Levels of performance assessment	Advantages	Disadvantages
<b>Health system</b>	<ul style="list-style-type: none"> <li>• Holistic (macro-level perspective)</li> <li>• Goal oriented – can be linked to equity and other national policy objectives</li> <li>• Can be the basis for overall accountability of the Government</li> <li>• Comparability through benchmarking at broad population levels</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to disentangle healthcare outcomes from health outcomes, i.e. attribution to factors outside of healthcare setting, including social determinants of health, inter-sectoral factors</li> <li>• Accountability can be diffuse</li> <li>• Value for money not always clear – difficult to identify specific bottlenecks and magnitude of problem associated with that bottleneck</li> <li>• Less actionable and quantifiable investment requirements</li> </ul>
<b>Settings (facilities or domains)</b>	<ul style="list-style-type: none"> <li>• Shared accountability</li> <li>• Emphasis on governance and management at the level where decisions can be made and implemented immediately</li> <li>• Emphasis on different aspects of performance can be made more specific and measurable, including efficiency, safety, clinical outcomes, patient responsiveness</li> <li>• Comparability across similar healthcare providers</li> <li>• Benchmarking</li> <li>• More actionable</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on the care provided within the facility, not necessarily coordinated with the other levels of care.</li> <li>• Alignment with health sector objectives not always evident, especially if the facility operates on its own without regulation or reference to peers (e.g., through accreditation)</li> <li>• Consideration of alternative options (and allocative efficiency) can be overlooked, e.g., prevention, unless multiple options are explicitly considered – e.g., in an integrated healthcare setting</li> <li>• Less emphasis on integration and coordination of care, unless evaluation takes place in an integrated care setting</li> <li>• Risk adjustments will be needed to account for difference in socioeconomic and morbidity mix</li> <li>• Less emphasis on sustainability and equity unless explicitly included in evaluation</li> <li>• Value for money not always clear</li> </ul>

Levels of performance assessment	Advantages	Disadvantages
<b>Disease pathways (episodes of illness or care)</b>	<ul style="list-style-type: none"> <li>• Patient-centered: better alignment of incentives for continuity of care, patient responsiveness</li> <li>• Streamlining of care process: allows better integration and coordination across multiple settings</li> <li>• Better delineation of costs across the episode and better alignment of financial incentives</li> <li>• Allows monitoring by episode of illness and episodes of care (longitudinal)</li> <li>• Prevention is valued</li> <li>• Accountability clearer and shared across different care givers</li> <li>• Allows balanced evaluation of quality, costs and outcomes at the patient level</li> <li>• Provides valuable insights into how healthcare delivery system performs from patient perspective</li> </ul>	<ul style="list-style-type: none"> <li>• Narrower focus on patient rather than on the population as a whole</li> <li>• Appropriateness of care at the population level may not be evident, and adjustment for different population groups will require other approaches</li> <li>• Accounting for co-morbidity and severity will be a challenge</li> <li>• Comparability across settings</li> <li>• Less emphasis on sustainability and allocative efficiency</li> <li>• Value for money clear at the episodic level only</li> </ul>

Measuring health system performance in all its dimensions is complicated because of the inherent complexity of health systems. Healthcare involves complex procedures requiring coordination among diverse groups of specialized personnel (e.g., general practitioners, specialists, nurses, midwives, technicians, pharmacists, administrators), goods (pharmaceuticals, medical devices and supplies), and infrastructure (e.g., hospitals, clinics, laboratories). These interventions are also subject to constantly changing technologies. The very complexity of the services, combined with the rapid pace of technological innovation, has made healthcare notoriously difficult to monitor and evaluate.

On the other hand, no health system can afford not to assess its performance because of the divergent needs of its stakeholders: Patients would like to be assured of the availability of appropriate services when they need them; physicians and providers would like to know if that are providing high quality care and respond to the needs of their constituency: payers would like to make sure that their money is well spent in line with their expectations: and governments/regulators/policy makers that the healthcare market functions efficiently and that they generate value and create welfare through improved health and productivity (Smith, Mossialos, Papanicolas, & Leatherman, 2009).

Among the high income countries, the concern over improving value in healthcare is real and pressing. In its groundbreaking report “To Err is Human”, the Institute of Medicine (Institute of Medicine, 2001) estimated that up to 100,000 people may be dying as a result of medical errors, much more so than traffic accidents. The study found a substantial gap (a “chasm”) between the evidence-based best practice and actual practice: what was particularly surprising was the magnitude of the gap, which was extensive and covered all levels of practices and specialties. Similar evidence of quality gaps and measurement problems are also being found in other higher income countries (OECD 2004). In Scandinavia, about 12 percent of hospitalized patients

experience adverse effects 70 percent of which is preventable, over half of which lead to disability and increased length of stay. In England, 40 percent or 1.9 million hospital emergency admissions were avoidable if better primary care had been provided (WHO Regional Office for Europe: Briefing on Patient Safety April 2010). In the European Union, healthcare associated infections (HCAI) affect an estimated one in twenty hospital patients on average every year (estimated at 4.1 million patients). RAND estimates that strategies aiming to reduce adverse events in the EU would lead to the prevention of more than 750,000 harm-inflicting medical errors per year, leading in turn to the reduction of more than 3.2 million days of hospitalization, 260,000 fewer incidents of permanent disability, and 95,000 fewer deaths per year (Vilamoska, 2009).

Among the OECD countries, there is an emerging consensus to define and measure quality of healthcare along the following dimensions (Agency for Healthcare Research and Quality 2003; OECD 2004):

- safety (for patients and providers);
- effectiveness (clinical efficacy);
- timeliness;
- efficiency; and
- patient-centeredness (responsiveness to patient needs, preferences)

The proposed OECD and AHRQ framework presents a very comprehensive, highly complex and challenging set of dimensions to measure and evaluate. While this has stimulated new research in the OECD countries, the measurement instruments being developed in high income countries are costly and data-intensive, and may not always be affordable or feasible in a lower income setting. For health policy makers in the developing countries the situation presents a particularly difficult challenge: the proliferation of new approaches for measuring performance on quality and efficiency is making it difficult for policy makers to know where to start or how to select the most appropriate set of indicators, especially in a resource constrained context. At a minimum, it would be recommended that the countries start by reviewing the current status of their existing health system and identify how well they are doing in measuring performance against the five major dimensions identified above, and at the facility and patient/episode level. In the next section, we will review available data on how some of the MENA countries are performing from this perspective.

#### **E. Salient performance issues in MENA**

The MENA region has made a remarkable progress in expanding access to basic health services for its citizens over the past three decades and in improving health outcomes (Table 19). As discussed in the previous chapter, the MENA region now faces a major health transition with the increase in non-communicable diseases as the most prevalent burden of disease. This change in population health profile will bring about profound changes to the healthcare needs and demands, and will bring about changes in the volume, scope, nature, intensity and mix of health services that are required to meet them. This will mean that making sure that those services are of acceptable technical quality and responsive to populations' expectations.

**Table 19: Access to basic health services in selected MENA countries and performance of health outcomes (under 5 mortality rates and maternal mortality ratios) relative to health spending levels**

	Immunization, DPT in 2007 (% of children ages 12-23 months)	Immunization, measles in 2007 (% of children ages 12-23 months)	Births attended by skilled health staff (% of total births)	Year	Population with access to local health services (urban)	Population with access to local health services (rural)	Year	Under-5 mortality rate above (+) or below (-) predicted for the level of health spending	Maternal mortality ratio above (+) or below (-) predicted value for the level of health spending
Algeria	95	92	95.2	2006	..	..		+/-	+
Djibouti	88	74	92.9	2006	100	n/a	2002	+	+
Egypt	98	97	74.2	2005	100	100	2008	-	-
Iran	99	97	97.3	2005	100	95	2008	+	+
Iraq	..	..	88	2006	98	87	2008	n/a	n/a
Jordan	98	95	99	2007	100	96	2001	+/-	+/-
Lebanon	74	53	98	2004	99	97	2000	+	+
Libya	98	98	100	2006	100	100	2008	-	+
Morocco	95	95	61	2004	66	77	2008	+	+
Palestinian Terr.	..	..	98.9	2006	100	100	2008	n/a	n/a
Syria	99	98	93	2006	100	90	2008	-	-
Tunisia	98	98	95	2006	100	100	2008	-	+/-
Yemen	87	74	35.7	2006	80	25	2008	+	+
<b>GCC</b>									
Bahrain	97	99	99	2005	100	100	2003	-	+
Kuwait	99	99	98	2006	100	100	2003	+/-	-
Oman	99	97	98.1	2006	100	95	2008	-	+
Qatar	94	92	100	2006	100	100	2002	+	+
Saudi Arabia	96	96	96	2004	100	95	1996	+	-
United Arab Emirates	92	92	100	2006	100	100	2008	-	+

Sources: The World Bank, World Development Indicators, 2009; and WHO EMRO Health System Observatory Data Base.

A major challenge in assessing the quality and efficiency of health care in the MENA region is the lack of standardization in and fragmentation of the collection and reporting on key health indicators needed to measure overall performance. A review of the health systems performance in the MENA Region shows that the data on healthcare are generally focused on indicators related to inputs and supply of services, but the quality and efficiency dimensions of healthcare are rarely monitored routinely. While a number of initiatives are being taken to address these issues in the Region, the state of health care monitoring, research and evaluation in the areas of quality and efficiency remains very limited. For example, a review of a key supply side indicator – number of hospital beds per population – shows that this figure generally low in the MENA region relative to the rest of the world. Data on average bed occupancy shows variation across the region from 37 percent to 80 percent. Are these low rates indicative of an efficient use of hospital services, or do they point to inadequate investments in hospitals? A bed occupancy rate of less than 80 percent is generally considered inefficient, and is suggestive of underlying inefficiencies in the use of

resources. But care should be taken in interpreting these average figures; much more detailed information on the different dimensions of hospital performance will be needed to arrive at a meaningful conclusion about the quality and efficiency of care in these countries.

In the following section, we will review the evidence from the MENA region which provide some indications of the status of different dimensions of quality and efficiency in the healthcare system in the region. It is apparent that throughout the MENA region, there is a very serious paucity of data on service utilization, including quality and cost of care, and only partial picture emerges on the performance of healthcare in the region.

#### A. Management of non-communicable diseases – Diabetes Case Management in Egypt

To explore whether the current health systems are indeed capable of coping with the increasing burden of noncommunicable diseases, it is necessary to explore the data more deeply to determine how the MENA countries are dealing with the performance of healthcare with respect to this category of diseases. NCDs differ from communicable diseases in some important ways: NCDs generally require long-term follow up, often at primary care level if outcomes are to be acceptable and costs minimized, and they also often require long term use of pharmaceuticals. Treatment of NCDs, especially in late stages of the disease, can be very costly. It is important therefore, that there is an effective primary care network in place, tests and medications are affordable, and that best clinical practice is followed.

Diabetes is a good example of a noncommunicable disease that is often associated with unnecessary morbidity and cost. As part of the assessment of NCDs in the MENA Region, the World Bank and World Diabetes Foundation, in collaboration with the Egyptian Ministry of Health, convened a two-day work shop in Cairo entitled “Diabetes in Egypt: Towards a National Diabetes Program” on June 25-26, 2008. The following section summarizes the main findings and discussions from this national workshop.

**Prevalence of Diabetes and Related Risk Factors.** According to a survey conducted in 2006 by the Epidemiology and Disease Surveillance Unit of the Ministry of Health, the national prevalence of diabetes in Egypt is estimated to be 7.2% among persons aged 15-65 years of age, but more than 16% among 25-65 year olds – an extremely high rate by any standards.\*\*\* The same survey also reported on risk factors for chronic diseases (both diabetes and cardiovascular disease). The results indicate that there are numerous risk factors of high prevalence in the surveyed population. Overweight and obesity, in particular among women, was very widespread, with more than 72 percent reporting a BMI>25 (among men the corresponding percentage is 60). Almost 80% of the population consume less than the recommended servings of fruits and vegetables, more than half (51%) have a sedentary life style, and a third have elevated blood pressure, and 18% smoke (35 percent of men smoke). Overall, less than 3% of the population have none of five key risk factors (overweight/obesity, smoking, sedentary lifestyle, hypertension, and low intake of fruits and vegetables). This situation indicates that the prevalence of diabetes, along with cardiovascular diseases, will likely increase rapidly in the coming years.

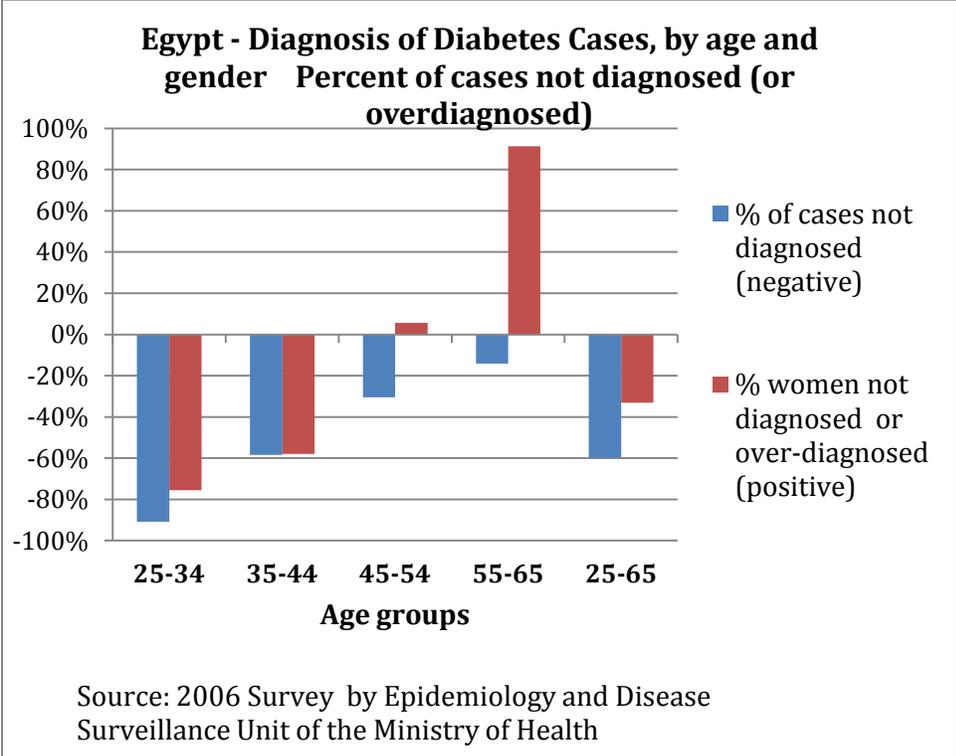
**Diagnosis, Management, and Complications of Diabetes.** Data from the 2006 diabetes survey suggest that diabetes is significantly under-diagnosed, with only 53 percent of diabetics actually diagnosed as such (Figure 34). However, this average hides very large variations both across sex

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\*\*\* The validity of this study has been questioned by the national diabetes specialists, although the survey methodology was technically sound and the survey was carried out in collaboration with WHO according to international standards.

and age-groups. Overall, men have much higher rates of under-diagnosis than do women, and younger age-groups have higher rates of under-diagnosis. Overdiagnosis appears to be a problem among older age groups. These data indicate an urgent need to improve diagnosis of diabetes, particularly among the younger age-groups, and especially among men.

**Figure 34: Egypt – Diagnosis of Diabetes Cases, by Age and Gender, 2006**



Source: Calculations made based on data from Egyptian Ministry of Health (2006), cited in World Bank mission report June 2008.

The management of diabetes in Egypt is characterized by limited information sharing and coordination of care, and there are no national data about how diabetes is managed in Egypt, nor are there national clinical guidelines or clinical pathways to assist clinicians in managing diabetic patients. Although many individual practitioners are making an effort to improve the situation, in the absence of adequate information systems and national programs to coordinate health care, these individual efforts are inadequate. For example, very few patients have their long-term metabolic control assessed (as measured by glycosylated Hemoglobin HbA1c) even once per year. Such a measurement is essential for effective clinical management of diabetes. Reasons given for this vary from absence of laboratory capacity to carry out tests to insufficient health insurance coverage. In the Health Insurance Organization (HIO) clinic, where such tests are both covered and ‘mandated’ by HIO guidelines, it was not possible to find evidence of compliance with such guidelines. There is also a need for much greater attention to be given to patient education about how to manage their condition, including preventive foot care and dietary advice.

**The Step-Wise Survey of Non-Communicable Diseases**, conducted by the Egyptian Ministry of Health in 2006, measured the self-reported complication rates among the persons diagnosed with diabetes. According to this survey, 21 percent of respondents reported “ocular complications” (12

percent of men and 28 percent of women), while 10 percent reported “foot complications” (8.7 percent of men and 11 percent of women). Since this survey included only patients who had been previously diagnosed with diabetes, and since diabetes is under-diagnosed as discussed above, it is likely that these reported complication rates are also significantly under-reported.

In summary, evidence suggests that diabetes in Egypt is significantly under-diagnosed, particularly among young age-groups, and among men. Furthermore, available information suggests that both process and outcomes of diabetes care in Egypt is inadequate on a number of dimensions, resulting in a high level of complications. This in turn leads to higher cost of treatment and greater productivity losses, as well as excess levels of morbidity, mortality, and disability among this group of patients. Given the high rates of risk factors and the growing prevalence of diabetes, it is urgent for Egypt to implement a national diabetes program to address these existing shortcomings and to shift resources towards patient education and to strengthening the quality and effectiveness of primary care services with respect to diabetes case management.

## **B. Measuring client satisfaction and quality of primary health care services in Alexandria and Menoufia Governorates, Egypt**

A health survey conducted in Egypt between April and December 2009<sup>†††</sup> offers an insight into the relationship between client satisfaction and quality of health care. This study included subjective assessments of patient satisfaction with technical quality measures, using a quality index based on structural observations of doctors. The survey included: (i) a facility survey covering all public health care facilities in the two Egyptian governorates of Alexandria and Menoufia, including questionnaires on service quality and management, and structured observations (real time, non vignette) of 8 consultations per facility; and (ii) a household survey of 5417 households living in the facilities’ catchment areas.

With regard to patient satisfaction, patients rated all aspects of their visit to the health facilities positively with rates close to or over 90 percent. The same observation holds when the question is asked more generally and people are asked to rate their overall satisfaction with the last visit to a health facility; approval ratings are relatively high (Table 20).

**Table 20: Client rating of aspects of their last visit to health**

Client opinion about...	% of respondents positive
Waiting Time	88.4
Cost	92.9
Friendliness	96.6
Staff Qualification	96.6
Staff Availability	96.9

<sup>†††</sup> The survey was conducted by the World Bank for the Ministry of Health of Egypt as part of the project completion evaluation of Egypt Health Sector Reform Program (1999-2009).

Comfort of waiting area	97
Location of Facility	95.9

Does this mean the people Alexandria and Menoufia receive outstanding quality of care? The answer has to be “probably not”, when looking at the quality index based on client observations for management of Diabetes Mellitus, Hypertension/Coronary Heart Disease (CHD), antenatal care, and sick child treatments. Based on the guidelines from the Ministry of Health (MOH), trained doctors observed a total of 5,040 provider/client interactions, looking at the adherence of physicians to basic elements of treatment of the respective health issues. For each of the four health interventions, information on adherence to protocols were compiled into a normalized index from 0 to 1, where 0 means none of the basic aspects of treatment were carried out and 1 that all aspects were carried out. Thus, a score over 0.5 means that the average provider carried out half of the procedures formulated in the guidelines.

The results are summarized in Table 21, below, which provides the mean and standard deviations of the quality scores for the four different health issues. The score on the quality index varies from 0.375 for CHD/Hypertension consultations to 0.632 for antenatal care. In other words, for the average consultation of a hypertension patient, the provider carried out only one third of the procedures required according to the guidelines of the Ministry of Health. These scores indicate that there is considerable scope for improving the clinical quality of care, and this quality gap is more pronounced in the management of chronic diseases, such as diabetes and hypertension. These findings are consistent with the findings on diabetes treatment discussed in the previous section.

**Table 21: Egypt Health Care Quality Index, by governorates**

	Alexandria		Menoufia		All	
	Mean	SD	Mean	SD	Mean	SD
Antenatal	0.654*	0.112	0.623	0.129	0.632	0.126
Sick Child	0.596	0.142	0.582	0.15	0.582	0.147
Diabetes	0.448*	0.111	0.389	0.159	0.392	0.151
CHD/Hypertension	0.421*	0.12	0.341	0.155	0.375	0.164
* = Significantly different at 95% confidence level						

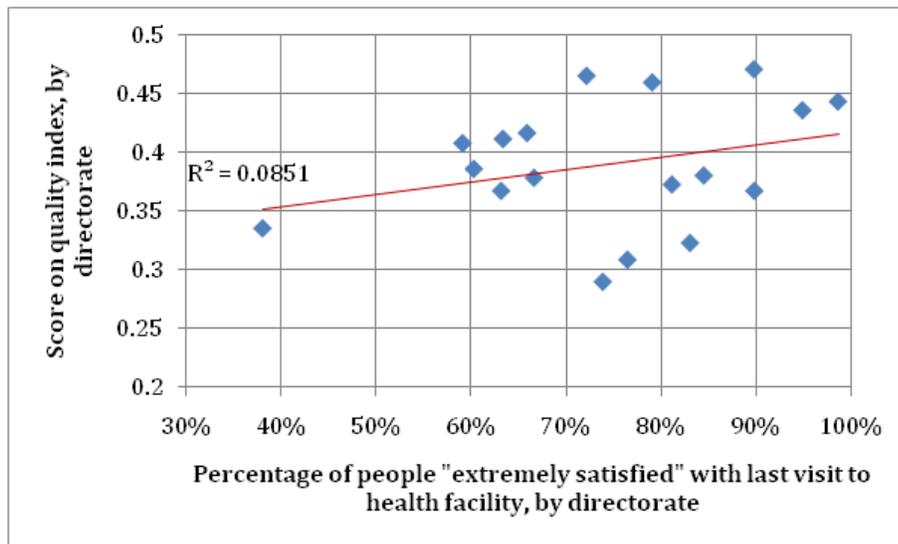
Table 22, below, summarizes the scores on patient satisfaction and clinical quality, by Governorates. It is interesting to note that the clinical quality does not necessarily correlate with patient satisfaction. The facilities in Menoufia governorate shows a higher patient satisfaction rate, but has a lower average score on quality of clinical care measured objectively by the specialists.

**Table 22: Summary of Patient Satisfaction Rates and Average Quality Scores, by Governorates**

By Governorate	Percentage of respondents indicating "extremely satisfied" with last visit	Average Quality Score
Alexandria	63.4%	0.411
Menoufia	81.2%	0.372

The results, presented in Figure 35, show the relationship between satisfaction rates and scores on quality index. Again, this shows little correlation between patient satisfaction and clinical quality of care, revealing the underlying information asymmetry which affects patient perception of quality.

**Figure 35: Egypt Clinical Quality Score vs. Patient Satisfaction Score in Primary Health Care Services, by Directorates in Alexandria and Menoufia Governorates, 2009**



### C. Improving the Quality and Efficiency of Hospital Services – A Tunisia Case

Tunisia is a middle income country with a population of over 10 million. The Tunisian health sector has performed relatively well over the past decades, and Tunisians enjoy a relatively high life expectancy, estimated to be 74 years in 2007 and a low infant mortality at 21 deaths per 1,000 live births. A study undertaken by the World Bank in 2005<sup>\*\*\*</sup> examined various aspects of the health system in Tunisia, including technical efficiency within the hospital system. That study found indications of a mismatch between the distribution of hospital beds and current patterns of inpatient service utilization. While the average bed occupancy rate in the teaching hospitals was 79.3 percent, with some hospitals recording as high as 102.5 percent occupancy rate, the average

<sup>\*\*\*</sup> Republic of Tunisia Health Sector Study Report, the World Bank, 2005

occupancy rates for lower level hospitals remained very low, ranging from 36 percent for district hospitals to between 50 – 64 percent among regional hospitals. This pattern of hospital occupancy rate would suggest that beds are not allocated efficiently between levels of care, at least in regards to current medical practice, with some of the cases treated by university hospitals perhaps being more appropriately handled at lower levels of care, or be avoided altogether. For example, amputations of diabetic patients’ limbs are almost completely preventable if the patient care is managed well at the primary care level. Yet recent estimates in Tunisia indicate that approximately 75 percent of all amputations are to diabetics, suggesting poor diabetes management.

To understand better the performance of the government healthcare providers, in 2008/2009 the Tunisian Ministry of Health, in collaboration with the World Bank, commissioned a report evaluating the quality and cost of four public hospitals, including a university hospital center, a regional hospital, a district hospital and a teaching hospital. The following section summarizes the main findings which are described in the report the “Performance of Tunisia’s Public Health Facilities”. Part of the study involved the assessment of cost differences and treatment modality differences between the various facilities. Two indicator pathologies - high risk pregnancies and coronary heart disease - were examined in detail for this purpose. The average cost of an episode of patient care for high risk pregnancies and coronary heart disease are summarized respectively in Table 23 and Table 24.

**Table 23: High Risk Pregnancies: average age of patients, length of stay and total cost of episode**

	Age of Patient	Length of Stay (days)	Total Cost of Episode (Tunisia Dinars)
University Hospital B	30.7	14.8	1,458
Regional Hospital	30.3	3.2	254
District Hospital	29.1	3.1	479
Overall Average	30.0	6.5	679

**Table 24: Coronary Failures: average age of patients, length of stay and total cost of episode**

	Average Age of Patient	Average Length of Stay (days)	Total Cost of Episode (Tunisia Dinars)
University Hospital A	62.4	11.2	2917
University Hospital B	57.3	9.6	2752
Regional Hospital	59.2	8.9	800
Overall Average	59.5	9.8	2119

Source: University of Montreal. “Performance of Tunisia’s Public Health Facilities”. Study commissioned by the World Bank for the Government of Tunisia, 2009.

In addition, the study developed a standardized treatment protocol for these two interventions, and estimated the total cost of episode if the full standard protocols were followed

within each hospital setting. These estimations are shown in Table 25, below. They show that actual treatment of coronary heart diseases in the university hospitals appear to be 15-20 percent below the cost of standardized treatment, and high risk pregnancies treated in the district hospital is 32 percent below the cost of standardized treatment.

These figures suggest that these hospitals may be under-treating the patients or not following the standard protocols, an indication of potential problems with the quality of care. Alternatively, the providers suggested that this might also indicate that some of the costs of care are being cost-shifted to the patients, who are required to pay out-of-pocket to supplement the total cost of care, e.g., by purchasing medication and medical supplies which may not be available or out of stock at the hospital. This is supported by the results of the patient surveys which were carried out at the same time (see **Error! Reference source not found.**). The survey found that lack of pharmaceuticals was reported as a serious problem by 64 percent of respondents in the district hospital, and lack of medical supplies was reported among 22 percent of respondents at the University Hospital A.

**Table 25: Estimated Cost for Therapeutic Standards vs. Observed Cost of Care, Tunisia For Coronary Failures**

	<b>Statistics</b>	<b>Total Cost of Episode (Tunisia Dinar)</b>
University Hospital B	Standardized Cost	3,307
	Observed Cost	2,752
	% standardized/ observed cost	120%
University Hospital A	Standardized Cost	3,328
	Observed Cost	2,917
	% standardized/ observed cost	115%

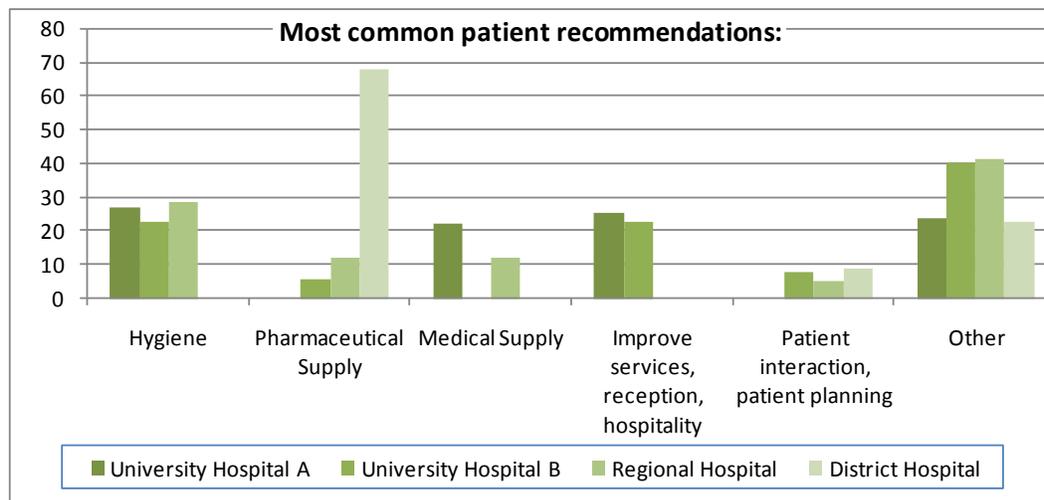
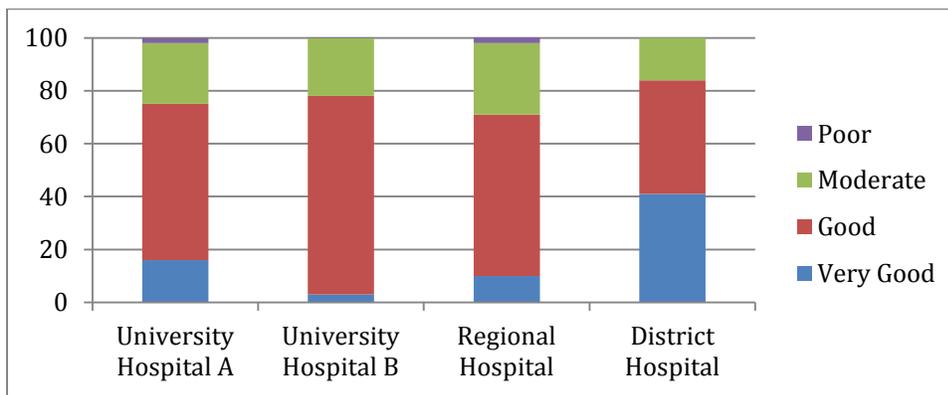
**For High Risk Pregnancies**

	<b>Statistics</b>	<b>Total Cost of Episode (Tunisia Dinar)</b>
Regional Hospital	Standardized Cost	262
	Observed Cost	254
	% standardized/ observed cost	103%
District Hospital	Standardized Cost	633
	Observed Cost	479
	% standardized/ observed cost	132%

If these hospitals were required to follow the standard treatment protocols, and to fully finance the treatment and not cost-shift to patients, then the total cost of treatment will be expected to increase if the same utilization patterns at each of the hospitals were maintained. However, according to the clinicians working on site in University Hospitals A, it is estimated that about 30 percent of the patients could have been treated at a lower level of care, primarily in Regional

Hospitals with cardiology specialty. Given that the cost of episode at the sample Regional Hospital is less than 30 percent of the cost of care at a University Hospital, the potential for cost savings is significant. The relatively high unit cost of operations in the district hospital is another area for potential improvements. Since the unit costs were derived for each facility using its current operating expenses, it is likely that the high unit cost of the district hospital reflects its low utilization rate. But in order to have more patients make use of these district hospitals, it will be necessary to invest in improving the quality of care, including the availability of drugs. Overall, there is scope for the Ministry of Health to improve the quality of care (which would require additional resources) and improve efficiency at the same time, which would serve to contain costs.

**Figure 36: Patient Survey on Quality of Services in selected hospitals, Tunisia 2008**



#### D. Measuring Quality of Care - Patient Responsiveness

In 2000, the WHO launched the Multi-country Survey Study on Health and Health System's Responsiveness (MCSS) in order to develop a consistent methodology for measuring health system responsiveness in the developing country context. The study involved 70 surveys conducted in 60 countries and used a common survey instrument in nationally representative populations, with modular structure for assessing the different domains of health system responsiveness. While

much work has been done on the measurement of patient satisfaction at health unit and country level, no internationally comparable survey instrument existed other than the work done by Donelan, Blendon et al (1996, 1998) in selected high income countries. As such, the WHO MCSS represents the first standardized responsiveness survey conducted in developing country context, and its objective, among others, was to determine the features and functions of the health system which enhance patient responsiveness.

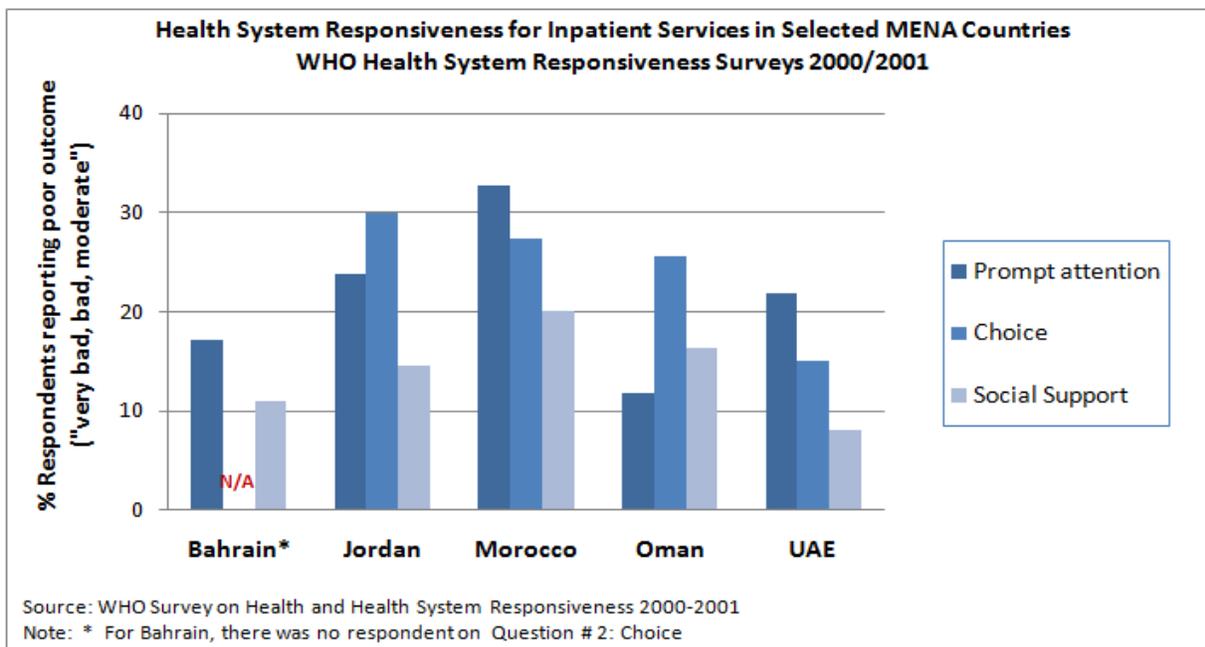
Responsiveness survey differs from patient satisfaction surveys in the following ways: First, the scope of patient satisfaction is usually limited to clinical interaction in a specific health care setting whereas responsiveness survey seeks to evaluate the health system as a whole. Secondly, the range of issues considered by patient satisfaction often combines both medical and non-medical aspects, but responsiveness survey focuses only on the non-medical aspects of the health system. Thirdly, while patient satisfaction represents a purely subjective perception of health care, responsiveness evaluates individuals' experiences with the health system against a universally defined expectation of responsiveness. To this end, all questionnaires on responsiveness included vignettes designed to provide some measure of standardization in the evaluation process. Vignettes are short descriptions of hypothetical scenarios about people's experiences with the health care system as they relate to the different domains of responsiveness. Respondents were asked to provide their rates applying the same rating scale used in the responsiveness description questions ("very good" to "very bad").

The seven domains of responsiveness, described below, were identified through literature and expert reviews, and were aimed at identifying dimensions reflecting respect shown toward patient rights and dimensions affecting patient perception of convenience and ease of use.

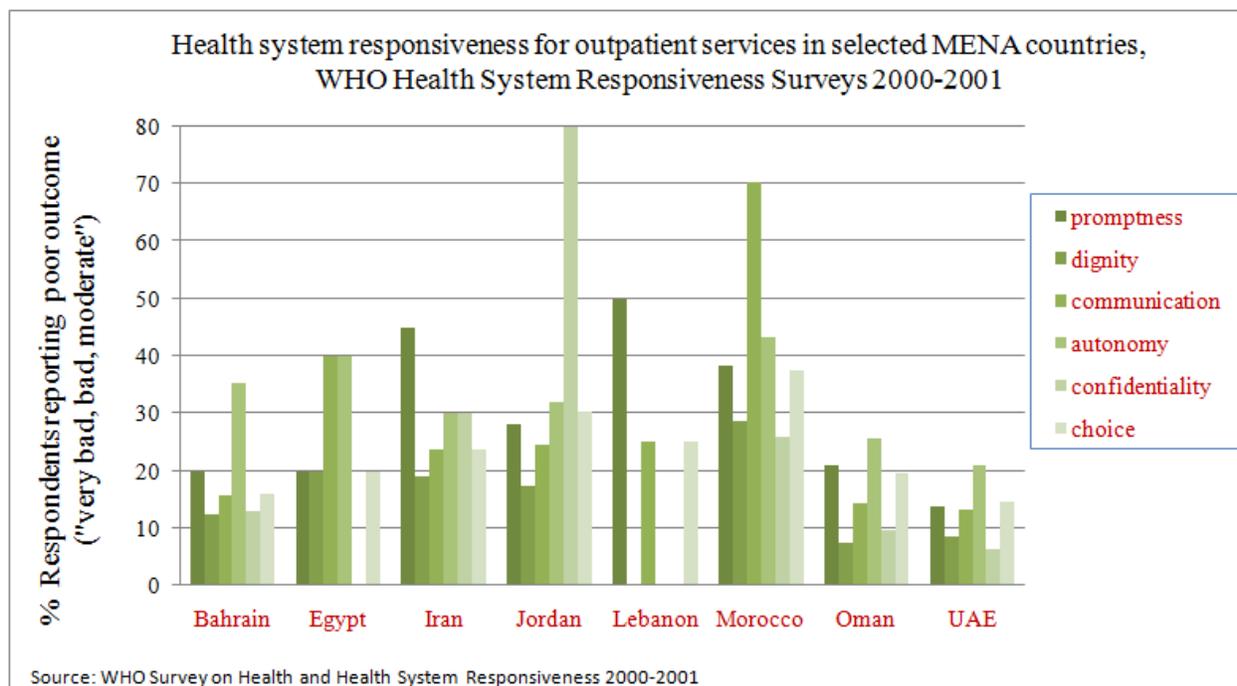
**Table 26: Domains of Health System Responsiveness – categories used in WHO Multi-Country Survey Study**

<b>Domain Label</b>	<b>The Question addresses:</b>
Dignity	Respectful treatment
Autonomy	Involvement in decision making
Confidentiality	Confidentiality of personal information
Communication	Listening, enough time for questions, clear explanations
Prompt attention	Convenient travel, short waiting times
Social Support	In hospitals – visits allowed, having special foods, religious practice respected
Quality of Basic Amenities	Cleanliness, availability of space and air
Choice	Being able to use provider of your choice

**Figure 37: Health system responsiveness in selected MENA countries – for inpatient services, 2000/01**



**Figure 38: Health system responsiveness in selected MENA Countries for outpatient services, 2000-01**



The results of the survey on inpatient and outpatient services in the MENA countries are respectively shown in and Figure 38. The average scores suggest that the higher income countries (Gulf Cooperation Countries) do relatively well, but higher income level and higher health care spending level is necessarily always correlated with better scores. However, the results of the Multi-Country Survey found that the respondents also gave higher importance to Promptness (40 percent), Dignity (19 percent) and Communication (19 percent). The appropriate weighting and interpretation of the responsiveness surveys will require further analysis and investigation on the reasons behind patient dissatisfaction with the services.

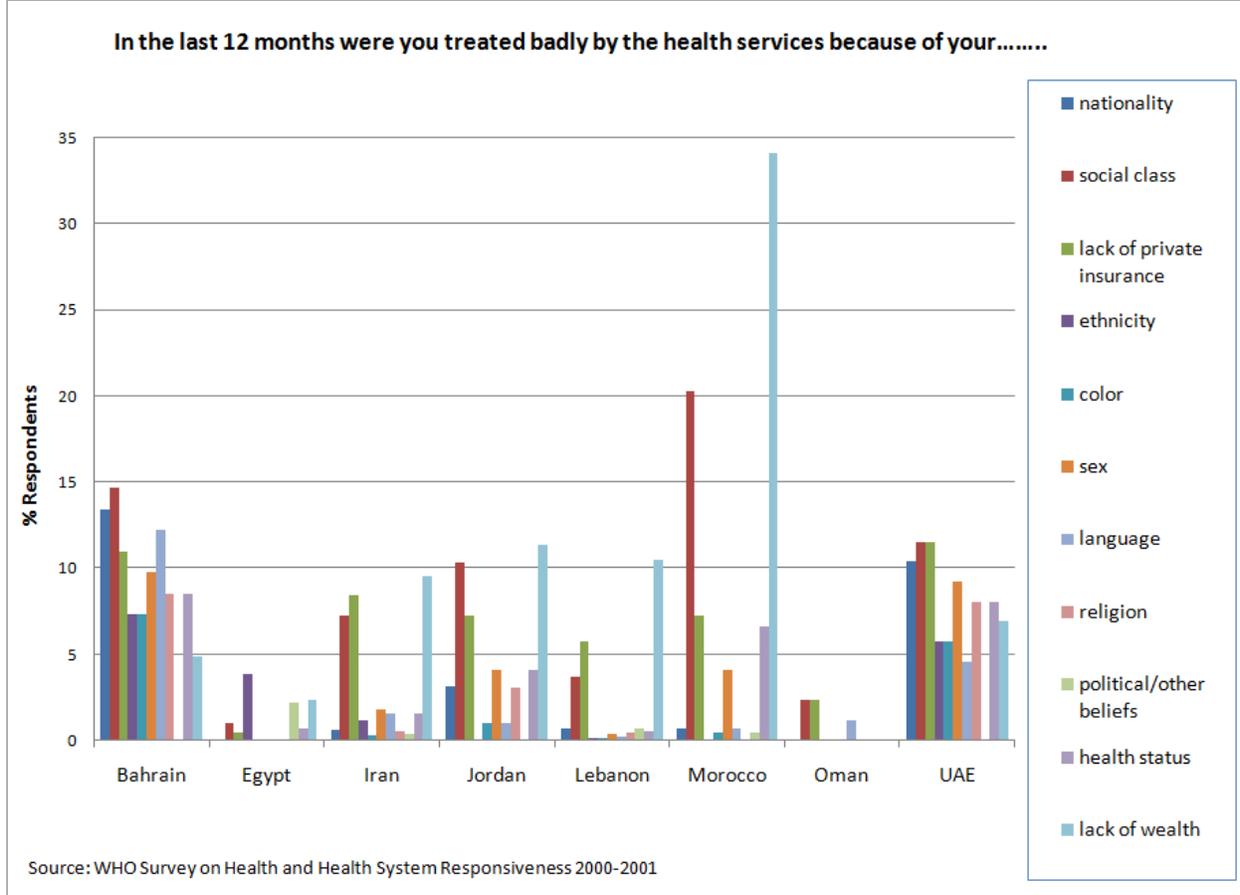
A Key Informant Survey (KIS) containing similar responsiveness questions was launched at the same time in 35 countries (including Egypt and UAE). It was administered to “key informants” (e.g. providers, consumers, policy makers, media workers), who gave their opinions of their health system responsiveness of the public and private sectors. KIS found that the relationship between health care expenditure and dignity and confidentiality is very unclear, whereas some positive relationship was found between health care expenditures and prompt attention and quality of basic amenities.<sup>§§§</sup> These trends suggest that a country's attainment with regard to responsiveness is not necessarily dependent only on the financial resources at its disposal. Even with limited resources, it may be possible for countries at lower income levels to achieve a higher level of patient responsiveness if appropriate incentives and support systems are in place.

Improving health system responsiveness is expected to increase the confidence of the patients in health care and would be expected to contribute to increasing the use of services.

<sup>§§§</sup> De Silva, A., Valentine, N. (2001), “Measuring Responsiveness: Results of a Key Informants Survey in 35 Countries”, GPE Discussion Paper Series: No.21; WHO.

Whether this would lead to more efficient and appropriate use of services, for example, by encouraging patients to seek care early or improving compliance with treatment protocols, will require further investigations on the patient use of services. This point is highlighted by the additional survey undertaken by the MCSS, which asked respondents specifically for reasons they felt they were being treated badly by the health care provider (see Figure 39). These questions reveal yet another aspect of health system responsiveness: according to this survey, patients in the Gulf Cooperation states of Bahrain and UAE express higher levels of concerns regarding socio-economic discriminations than in the other MENA countries in the survey. Moroccan respondents report on very high rates of perceived discriminations due to social status and wealth. This finding is consistent with the pervasiveness of informal payments that appear to affect access to healthcare at all levels of services in Morocco (unpublished report).

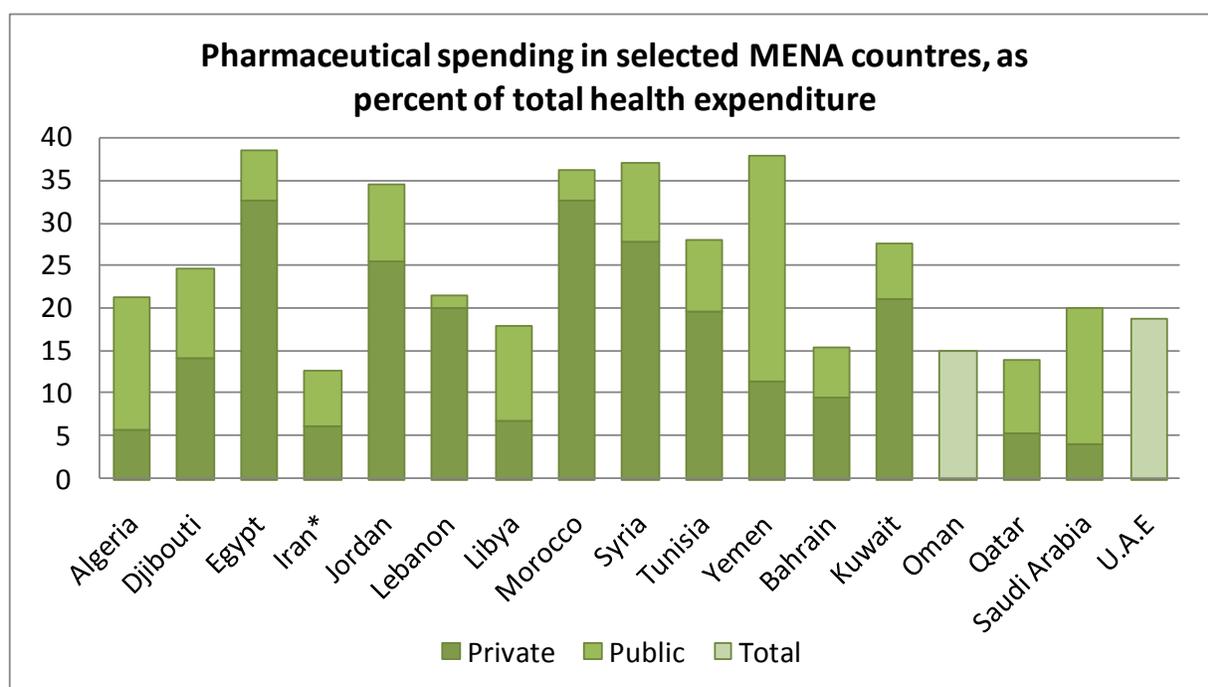
**Figure 39: Reasons for being treated badly by health service provider in selected MENA countries**



## E. Measuring Quality and Efficiency in the Pharmaceutical Sector

Pharmaceutical spending represents a relatively significant share of health spending in most countries in the MENA region, ranging from 13% in Iran (which is likely to be an underestimation due to subsidized prices) to as high as 60% in Morocco (see Figure 40, below). There is a wide variation in the share of public and private spending on pharmaceuticals. For those countries where a significant portion of the pharmaceutical expenditures is incurred in the private sector, such as in Jordan, Morocco and Lebanon, where private sector prices are high while public sector availability is low, the households could face significant barriers to accessing affordable medicines.

**Figure 40: Pharmaceutical Spending in selected MENA countries, as a share of total health expenditure around 2000-2004.**



Sources: Data from The World Medicines Situation, World Health Organization (2004) for data from 2000, unless otherwise indicated below:

Syria – Authors’ estimates based on 2004 Government statistics and household survey data provided in "Towards a Framework for Sustainable Health Financing in Syria", Detlef Schwefel, Health Sector Modernisation Programme (European Union Project) for the Ministry of Health of Syria, 2007.

Yemen - Authors' estimation using 2005 Household Budget Survey and Government Public Expenditure data. Libya - Author's 2002/3 Libya household budget survey and Ministry of Health, Public Expenditure Review 2008/9.

Note: \* In Iran, pharmaceutical products (both locally produced and imported) are heavily subsidized. The spending figures shown here do not include the subsidized amount, and therefore probably underestimate the actual value of the pharmaceutical spending\*\*\*\*

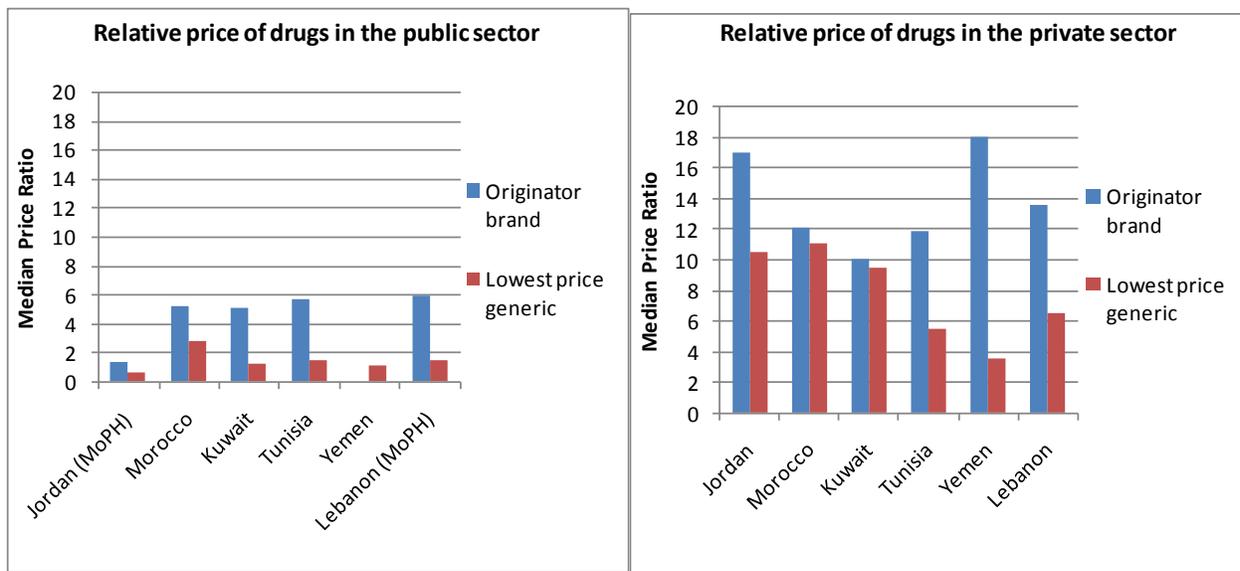
\*\*\*\* See Cheraghali, A.M. "Iran Pharmaceutical Market", Iranian Journal of Pharmaceutical research (2006) 1: 1-7; and The World Bank, Iran Health Sector Study, Volume 2 (2007): Washington DC.

**Pharmaceutical Pricing.** In this section the pharmaceutical pricing and costs in the MENA region are reviewed. The analysis is based primarily on the results of the relevant World Health Organization (WHO) and Health Action International (HAI) pharmaceutical pricing, affordability and availability surveys. The WHO/HAI methodology involves surveys being undertaken using a standard approach to measuring pharmaceutical prices. Specifically, the study examined a group of 30 medicines, with pre-set dosage forms, strengths and pack sizes that are relevant to the global burden of disease, with selected medicines of national importance. For each medicine the originator brand and the lowest price generic were identified in both public and private facilities.

The WHO/HAI methodology presents prices as Median Price Ratio (MPR), which is defined as the local price divided by the international reference price (International Drug Price Indicator Guide converted to local currency). These reference prices were derived as the medians of recent prices by for-profit and not-for-profit international suppliers of generic products to developing countries. Thus, a “MPR” of 2 means that the local price is twice that of the international reference price. In addition, the WHO/HAI defined “Affordability” as the number of days an unskilled government worker would have to work to pay for a course of treatment for an acute condition, defined as one month’s treatment of a chronic condition.

Figure 40, below, shows the information on public and private sector prices for the originator drugs and lowest price generics for the MENA countries where data were collected. Public sector prices for lowest price generics appear to be generally competitive, but for originator brands generally appears to be excessively high. Lower prices in the public sector are only of value if they are available to the population that needs them. It is evident that the private sector prices are high particularly for originator drugs, but the generic prices are also high.

**Figure 41: Relative drug prices in selected MENA countries, public and private sectors**

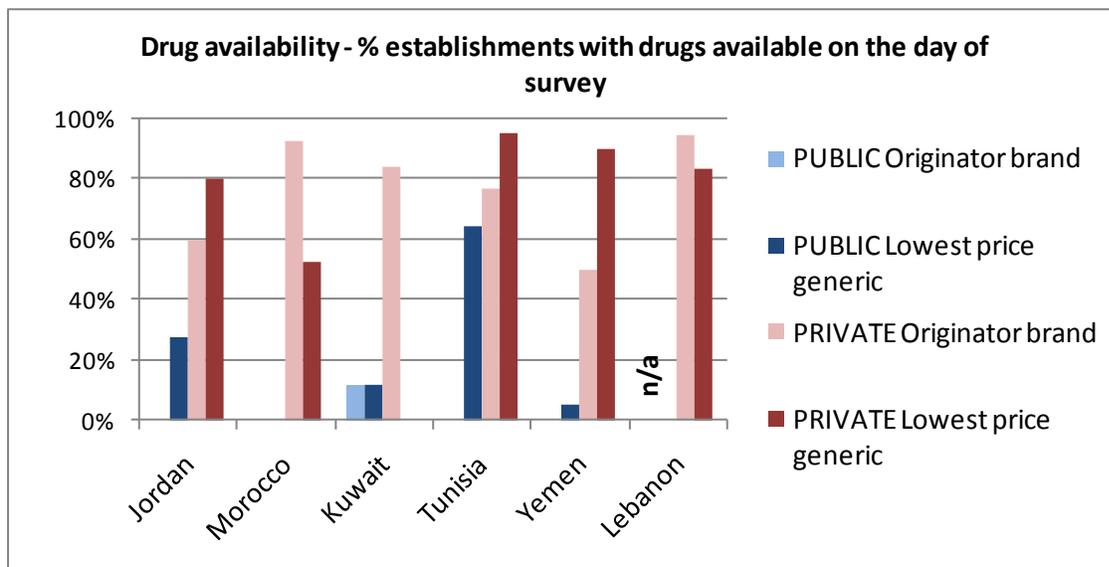


Note: 1. In the case of Jordan there are very few originator drugs sold in the public sector facilities, hence the MPR of 5.95 was for a single drug (Phenytoin), which cannot be regarded as a representative figure.

Figure 42, below, shows the availability of pharmaceuticals in the public and private sectors. Under the WHO/HAI survey methodology the availability is based on the percentage of establishments where an individual medicine was found on the survey day. The results suggest that

availability of public sector drugs is very low, while availability in the private sector appears to be relatively high.

**Figure 42: Drug Availability in Public and Private Sectors, Selected MENA Countries**



From these data, it would appear that in the MENA countries where data were collected, the prices of pharmaceuticals obtained in the public sector appear to be relatively competitive, but their availability is low. By contrast, the prices in the private sector are much higher while the availability is generally more extensive. The consequence of these trends is that the patients who are eligible to receive drugs in the public sector may face shortages and are being obliged to seek them in the private sector. This is consistent with the findings that in most low and middle income MENA countries there is a high rate of direct household spending on healthcare, most of it on pharmaceuticals. Furthermore, there is some evidence of under-financing of Government funded services in a number of these countries, and that this might be contributing to inadequate supply of medicines and potential cost-shifting to patients who will be required to pay for them directly out-of-pocket. These findings show the importance of monitoring the use and prices of pharmaceuticals and investigate whether patients are not gaining access to necessary medications in the government-covered services and having to pay for these from private markets. There is also significant scope for improving efficiency and reducing the overall cost of healthcare by introducing more competitive pricing in the private market.

#### F. Patient Safety in MENA

In the MENA Region, an area that appears to have received relatively little attention is on Patient Safety. Box 1, below, provides a brief summary of the patient safety initiative in Saudi Arabia. Patient safety issues, including mitigation of medical errors, will likely become a major topic of interest as public awareness of medical safety issues become more prominent and more regularly reported. It will have important implications on the rights and responsibilities of patients and providers, and an essential aspect of health system responsiveness.

**Box 6: Patient Safety in Kingdom of Saudi Arabia**

All health care systems have the potential to unintentionally harm the people they are trying to help through inappropriate decision and medical errors. Since the 1990s, a powerful body of scientific evidence analyzing the occurrence and impact of adverse events occurring world-wide has accumulated. Although there is much debate about the exact size of the problem, few would disagree that it is an important source of morbidity and mortality (Didier, 2005). As the research evidence has grown, an increasing number of countries have placed systematic action on patient safety on their political agenda as a policy priority. Since the 1999 publication of the Institute of Medicine's "To Err is Human: Building a Safer Health System," patient safety has become a critical area of focus for healthcare providers. This study shocked the US healthcare industry with the reported large number of near-misses and adverse events that threatened the health of patients in the US: according to the report, errors result in the deaths of 44,000 to 98,000 hospitalized patients and greater than 1 million injuries per year in the United States.

In addition to the obvious negative impact on patient safety, medical errors also burden healthcare institutions with significant financial costs. In the US it is estimated that on average, one adverse drug event adds \$2,000 or more to the total hospitalization cost. The total economic cost is even higher when one includes indirect costs such as reductions in employee productivity. Regulatory agencies and accreditation systems around the world have been developing and publishing a variety of mandates and recommendations to improve patient safety, and there is no shortage of guidelines and standards on this subject. However, healthcare providers face a challenge not only to keep up with the growing number of guidelines, but to find a supportive environment in which an open evaluation of their performance against such standards would not lead to sanctions or restrictions in the event of poor outcomes.

In recent years, medical errors and adverse events have come under increasing media attention in Saudi Arabia, raising public awareness and concern with this issue. In response, a number of health care organizations in Saudi Arabia have initiated efforts to improve patient safety and quality of care through implementation of safety systems and to create a culture of safety (Al-Ahmadi, 2010a). A recent survey conducted in 13 general hospitals in Riyadh City, Saudi Arabia offers an insight into the state of patient safety in Saudi Arabia. The questionnaire contained mainly closed ended questions on several topics linked to leadership and safety culture. The total number of participants was 1200 hospital workers including: physicians, nurses, technicians, and managers. Results indicated an urgent need to improve leadership role in promoting safety in Saudi hospitals. Despite the fact that most respondents (74%) thought the actions of hospital management showed that patient safety is a top priority, a majority of respondents (51%) thought their hospital management seemed interested in patient safety only after the occurrence of an adverse event, and more than half of respondents (55%) thought that managers overlooked safety problems that occurred repeatedly (Al-Ahmadi, 2010a).

It is recognized that efforts to reduce medical errors and adverse events are not effective in the absence of an environment which promotes open communication and supports continuous and constructive learning from errors. National initiatives are being proposed with these address these concerns, including: establishing the national focal point for patient safety, a national reporting system and adverse event notification, improving awareness on patient to patient safety, and set a national plan for continuous medical education (CME) and training for all personnel working in the health sector and in all aspects of patient safety.

## VII. Summary of Evidence and Next Steps

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Nationally representative information on quality and efficiency of healthcare is generally lacking in the MENA Region, and data related to quality and efficiency of healthcare are not collected on a routine basis or available for evaluating the performance of different segments of the health sector on a continuous basis. Where they do exist, they are generally collected as part of specialized surveys or studies, and offer only partial pictures of the health system performance. The absence of monitoring is itself an indication of inadequacies in the system, since healthcare requires continuous monitoring and evaluation in order to maintain a high level of healthcare and

to counteract the risks associated with information asymmetry and uncertainties in the sector. Due to the paucity of data on service utilization and quality, including cost of care, only a partial picture emerges as to the performance of healthcare in the region. The available evidence suggests the following issues:

- (i) Patient safety issues, while assumed to be part of the regular management and operations at the facility level, are not yet part of the national priorities in most MENA countries. Key indicators such as adverse drug effects, nosocomial infection, and other iatrogenic errors are not regularly monitored or publicly reported and the magnitude of the problem remains largely unknown.
- (ii) While most countries have introduced some standards for clinical guidelines and protocols, their application in evaluating the performance of the healthcare system remains limited. These efforts also appear to be fragmented by different specialities or disease groups, and few countries in the region have taken the initiative to prioritize the development of national guidelines based on epidemiological trends analysis, or to link their use with performance evaluation and payment or resource allocation mechanisms.
- (iii) Timeliness of care includes not only the waiting times at the point of service, but the patient access to early screening and treatment. There is evidence that chronic disease patients are not diagnosed in the early stages of the diseases, and enter healthcare only at the later stages of the disease when treatment becomes much more costly and prognosis poor. Many patients, especially among the lower income groups, may be foregoing care due to financial reasons or for other socio-cultural barriers to care: the implications of this foregone care on their burden of disease and subsequent social and economic conditions remain uncertain and warrant further examination.
- (iv) Most public sector healthcare providers do not have the capacity or the organizational structure to evaluate the actual cost of care (versus budget expenditures) for a service output or to compare the quality and appropriateness of the outputs against quality standards. Thus, neither the healthcare provider nor the payer are certain whether they are overpaying or under-financing services, or whether the healthcare providers are meeting the quality standards in the most efficient manner. There is also very little monitoring and evaluation of the efficiency and quality of care in the private sector. This is particularly notable in the pharmaceutical sector, where prices in the private sector in many MENA countries are significantly above international prices, and the use of generics is limited. Since a significant share of out-of-pocket health expenditure in the MENA region occurs for the purchase of pharmaceuticals, this has implications on people's access to healthcare.
- (v) A number of countries are beginning to require healthcare providers to collect information on patient satisfaction and responsiveness. However, it is unclear how or whether this information is being used to influence the performance of the healthcare providers and to empower patients and improve their experience with the healthcare providers.

What evidence there is suggests there is scope for significant improvements in quality and efficiency at all levels of care, and that the system may not be well prepared to deal with the expected rise in cost and complexity of healthcare in the near future. Based on the limited information, the following issues emerge as possible areas for future policy development and health system research in the MENA region:

## *Reorienting healthcare delivery system*

**Changing roles of hospitals and primary care providers.** In most MENA countries the primary care physicians do not act as gatekeepers to the health system, and by-passing of primary health care for hospital services is quite common. Low utilization at the primary care level – whether due to lack of knowledge among the patients or poor quality of services - leads to under-diagnosis and late identification of chronic conditions, and much more costly treatment at the higher hospital levels. This may reflect under-financing of services at the primary care levels, resulting in lack of human resources, poor supply chain management and overall poor quality of care at these levels. In some cases, this under-financing might lead to cost-shifting of expenses to the patients, which further discourages the use of services at these levels. In other cases, it may not be affordable or feasible to establish health facilities in every community, and a more affordable and feasible alternative solution is needed, such as the expansion of community outreach programs in lieu of fixed facilities.

**Case Management of Noncommunicable Diseases.** In a number of MENA countries indications are that patients with NCDs are generally not followed up as regularly as needed and that many conditions are being detected late. Chronic diseases management require adherence to best practice and regular follow up, and are much more cost-effective as well as more effectively treated when detected early. The roles and resources of primary care services are variable throughout the region, but their capacities will need to be strengthened to ensure early detection and management of NCD cases as well as promotion of preventive care.

**Need for Quality Standards and Protocols.** Most MENA countries have initiated the development of quality standards and protocols, but these tend to be undertaken separately and independently by different subsectors (ministry of health, social security administration, private sector, university hospitals) and there is as yet little or no coordination at the national level to identify priority needs or to ensure consistent standards across the subsectors. Moreover, these standards and protocols are not being used to inform resource allocation decisions, provide incentives to providers or identify quality shortcomings that may require additional training, capacity building or investments.

**Pricing and Costing of Healthcare Services and Goods.** It is evident that substantial improvements are needed throughout the region on how services and goods are purchased and priced, and on how to monitor the actual cost of an episode of care. In most government-run services, the financial data are generally available only as expenditures by categories of inputs, and the system is not set up to allow estimation of actual costs by outputs, such as by episodes of care. These analyses require expensive, in-depth studies (e.g., Tunisia hospital study) in which the cost per episode of care have to be built up from the medical records as well as estimated production costs by each category of inputs. Thus, most government-run services are unable to provide timely estimates of costs of care by different categories of health service outputs (as opposed to inputs), which makes it impossible to monitor and compare how efficiently these services are being provided by different providers. There is also evidence of under-financing of services, in which part of the cost of services are shifted to patients, e.g., by having the patients purchase medicines and supplies or requiring informal payments to be made to health workers to augment staff income. Such practices not only obscure the actual cost of care as opposed to expenditures, but it severely undermines quality of care and patient trust in health services.

**Pharmaceutical pricing and appropriate prescribing practices.** Optimizing the pricing and availability of pharmaceuticals in the MENA region is crucial as it can represent a large component

to the total health spending in the country, and represents a large share of out of pocket expenditures. In the MENA region, most governments are responsible for organizing the procurement of drugs for the public sector, and they are also responsible as for setting the price for drugs available in the private sector, such as agreements on the profit margin for the various participants in the supply chain. That the private sector is allowed to sell higher profit items, such as originator drugs, and not provide for lower cost generic drugs, raises questions about the primary objectives of the government pricing policies.

### *Investing in Enabling Capacities and Tools*

**Health Management Information System.** In the majority of the MENA countries the process of gathering essential data and managing claims remains relatively basic, with most systems still being paper based. Although a number of initiatives are being planned or partially underway to introduce electronic health management information systems, the majority of these initiatives have yet to produce significant results. Healthcare services involve very large number of patient encounters with numerous interventions and permutations on the combination of interventions. If services are to be effectively monitored and continuously evaluated, then it is necessary that the required information is gathered and managed electronically, preferably directly from the source, such as the service providers. Paper based systems have a number of well-recognized weaknesses such as being prone to error, difficulty in consistently applying the rules, weaknesses in fraud and misuse detection, and difficulty in generating management reports. Such systems do not support the operation of effective utilization control measures.

**Establishing the Role of Independent Assessment Agencies in Promoting Quality and Efficiency.** In recent years, there has been a rapid growth in the use of independent assessment agencies across the globe as a way of improving the quality of services provided by healthcare organizations in both developed and developing countries. This trend reflects the acknowledgement of the increasing complexity and dynamic nature of healthcare, and the inability of governments alone in regulating and assuring optimal performance at all levels of healthcare. The role of independent assessment agencies, such as accreditation organizations, food and drug authorities, and health technology assessment agencies, are growing in number and influence around the world to provide independent and professional assessment of various aspects of healthcare. A number of MENA countries are in the early stages of establishing such agencies within the context of the health system. There is considerable scope for such agencies to play a critical role in improving accountability in the health system, and in providing an independent and credible assessment of healthcare performance for both private and public sectors.

### *Citizens empowerment and patient protection.*

Finally, and not the least, the role of patients as active participants in their own healthcare must be emphasized. While a number of initiatives have been started to measure patient satisfaction and health system responsiveness, it is not evident that the results of these findings are being applied effectively to influence policies or management practices. Programs to inform and educate the general public about prevention and health promotion could be significantly expanded, especially with respect to the new risks associated with NCDs as well as continuing this work to promote maternal and child health and nutrition in low income settings. There is also little public reporting on the performance of healthcare providers or on patient rights and responsibilities, and relatively little attention has been given to monitoring and enforcing patient safety.

The demographic and epidemiologic transition in MENA made it imperative that the performance of health systems will be measured in terms of how well they perform in managing chronic non communicable diseases. This means that it will no longer be sufficient to report on mortality alone as outcome, but also document all aspects of health-related quality of life in patients with chronic diseases, thus the importance of measuring technical and psycho social aspects of health care, its integration, coordination and responsiveness, together with patient satisfaction and re-designing the healthcare system in such a way so as to redefine professional leadership on care management, align incentives in the healthcare system and engage community and business leaders as effective partnership in healthcare (Ham, 2010).

## Chapter 6. Creating Incentives for Better Results – Health Financing Reforms in MENA

### I. Regional Trends in Health Care Financing

This section summarizes the trends in health financing indicators over the past 15 years, and reviews the extent to which the health financing systems of the countries have been performing, and what areas of strengths and weaknesses exist that will affect their performance in the coming decade. The key indicators are summarized in Table 27.

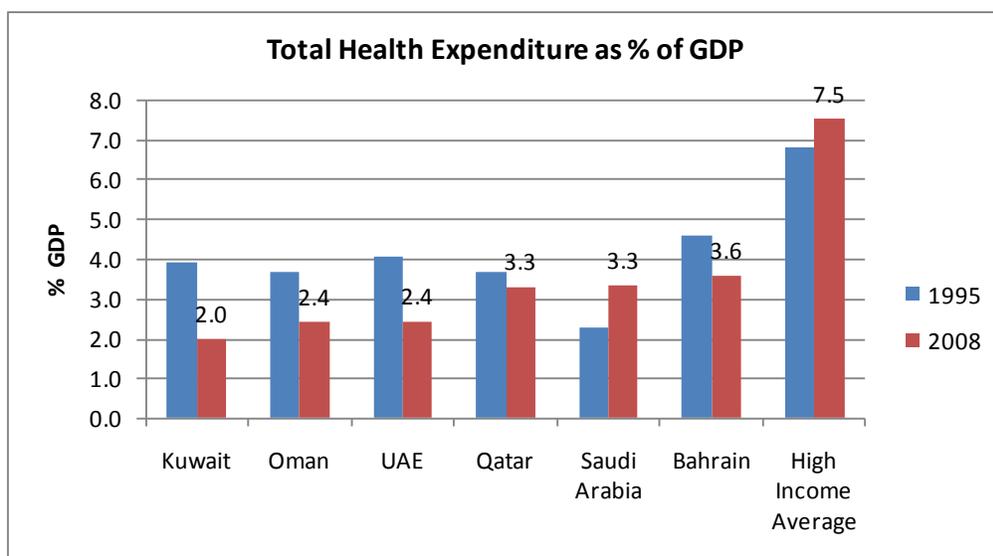
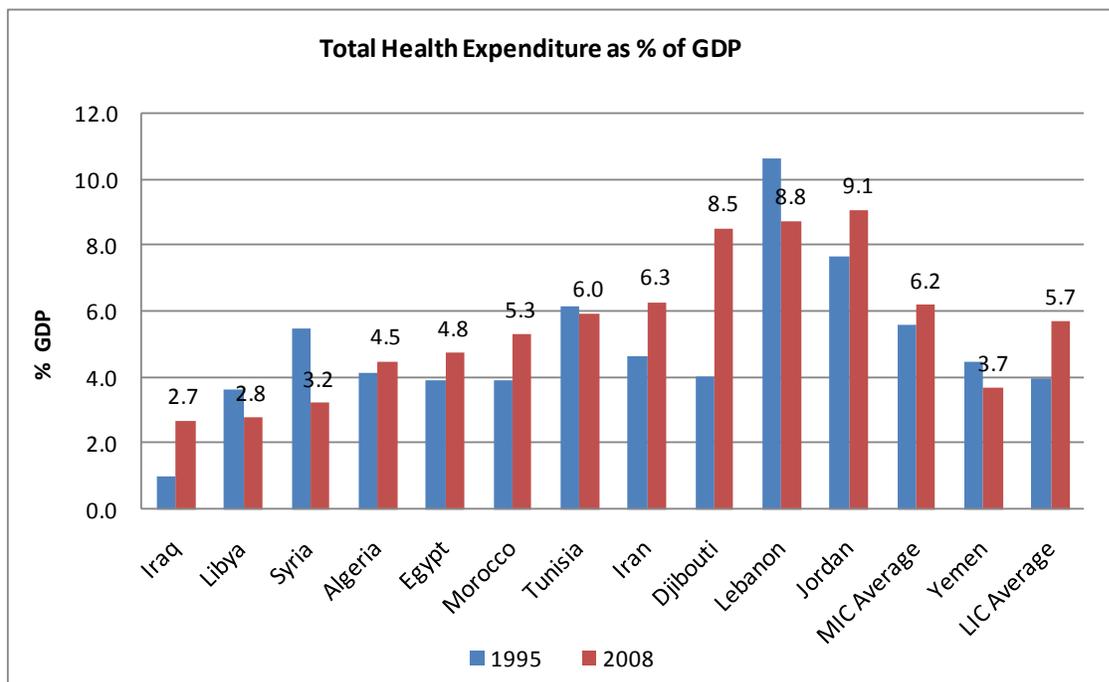
**Table 27: Key health financing indicators in the MENA region and the global averages by income groups, 2008**

	MENA Average	Global Average
<b>Income Group:</b>	<b>Health expenditure % GDP</b>	
<b>Low-income countries</b>	3.76	5.72
<b>Middle-income countries</b>	5.63	6.21
<b>High-income countries</b>	2.84	7.52
	<b>Per capita health expenditure (US\$ PPP)</b>	
<b>Low-income countries</b>	46	31
<b>Middle-income countries</b>	211	273
<b>High-income countries</b>	1,162	3,066
	<b>Public spending on health as % total health expenditure</b>	
<b>Low-income countries</b>	41	42
<b>Middle-income countries</b>	58	60
<b>High-income countries</b>	72	72
	<b>Public spending on health as % total Government expenditure</b>	
<b>Low-income countries</b>	4.5	9.6
<b>Middle-income countries</b>	8.8	10.6
<b>High-income countries</b>	8.0	14.0
	<b>Private out-of-pocket as % total health expenditure</b>	
<b>Low-income countries</b>	58.0	45.8
<b>Middle-income countries</b>	38.1	32.2
<b>High-income countries</b>	22.7	20.1

Source: WHO-WHOSIS National Health Accounts; accessed May 2010. See Statistical Annex for country level details.

By comparing the trends in healthcare financing in MENA region with the global trends, the following salient features emerge. At all levels of income, the MENA countries have been spending a relatively smaller share of the economy on health (measured as a percentage of GDP). What is particular to the MENA region is that while the rest of the world has shown a significant increase in the level of spending on healthcare between 1995 and 2008 as a share of GDP at all levels of income (+11 percent increase among middle and high income countries and +43 percent increase among low income countries), the MENA countries on average have shown a relative *decrease* in health spending as a share of the total economy (-23 percent decrease in GCC countries, -1 percent decrease in MENA middle income countries, and -18 percent in Yemen). At the same time, the level of public spending on healthcare as a share of total government spending has been low relative to the rest of the world, while private out-of-pocket spending has been high.

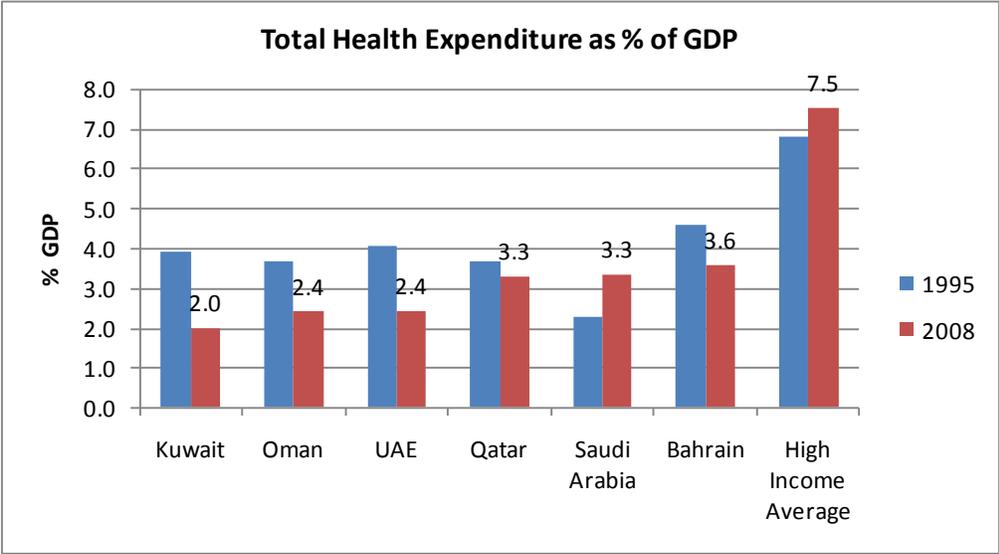
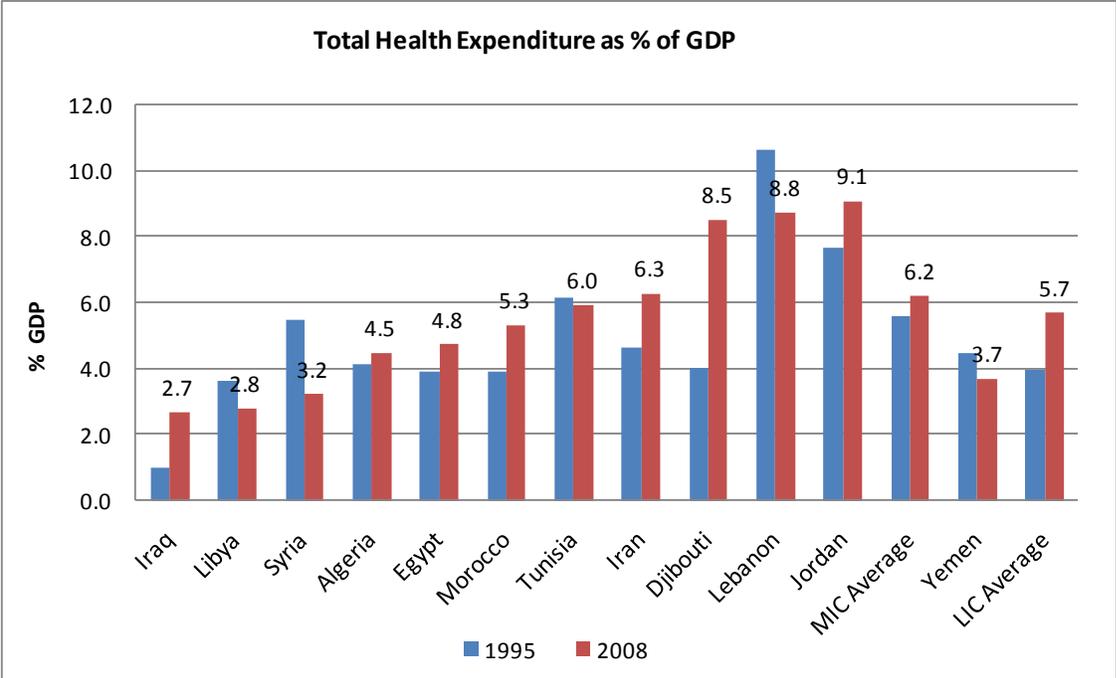
Figure 43: Total Health Expenditure as % GDP in MENA countries, 1995 and 2008



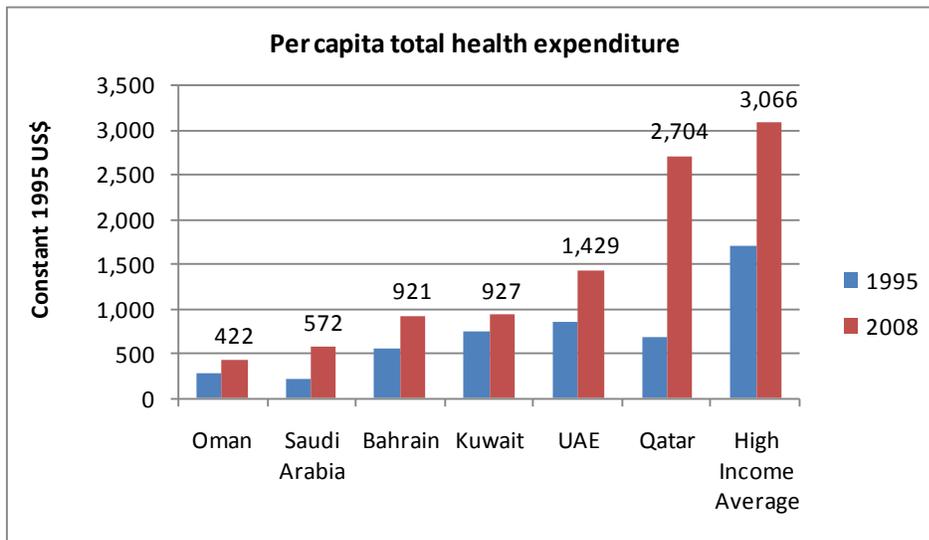
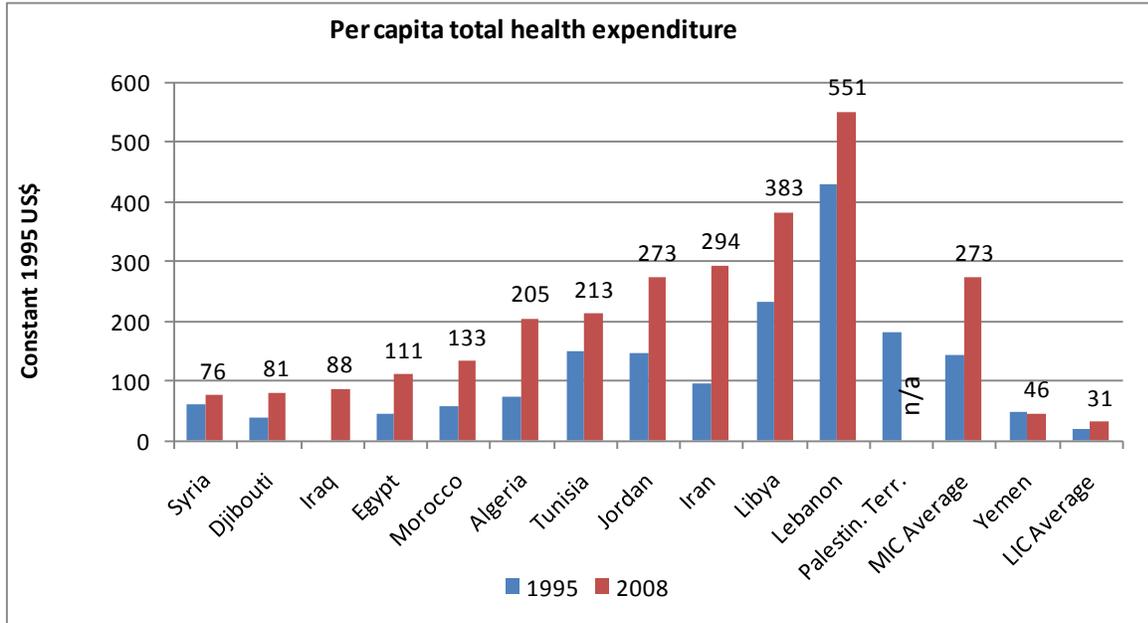
(a) It should be noted that there has been a real increase in per capita healthcare spending in the MENA Region. However, last decade was a period of relatively high GDP growth rates in the MENA Region: the overall rate of increase in health spending did not keep pace with the economic growth rates, resulting in an overall slight decline of health spending as a share of GDP.

- (b) The share of public spending on healthcare as a percentage of total government expenditures in the MENA region is significantly lower than the global average. Among the low and middle income countries, Tunisia, Egypt, Morocco, Syria, Libya, Iraq and Yemen were significantly below the global average for their income group in 2008. On one hand, this would suggest that these governments have managed to contain costs and potentially delivered services efficiently. However, among these countries, Egypt, Morocco and Tunisia also showed significant increase in out-of-pocket spending as a share of total health spending. These trends would indicate that at least in these countries, the tight cost control over government spending on health care might in fact be leading to shifting an increasing share of healthcare costs to the patients.
- (c) In the MENA region, the share of out of pocket spending as a percentage of total health expenditures is relatively high when compared with the global averages. Over the last 15 years, there has been a small decline on average in the share of OOP spending. However, in a number of countries (Egypt, Morocco, Iran, Tunisia, Jordan and Yemen) the share of OOP is not only above the global average, but it has been increasing as a share of total health expenditure. As indicated above, this would suggest that the risk pooling mechanisms are not keeping pace with the rising demand for healthcare in these countries. Syria and Lebanon are also countries with OOP significantly above the global average, but the share of OOP has been declining over the past years.

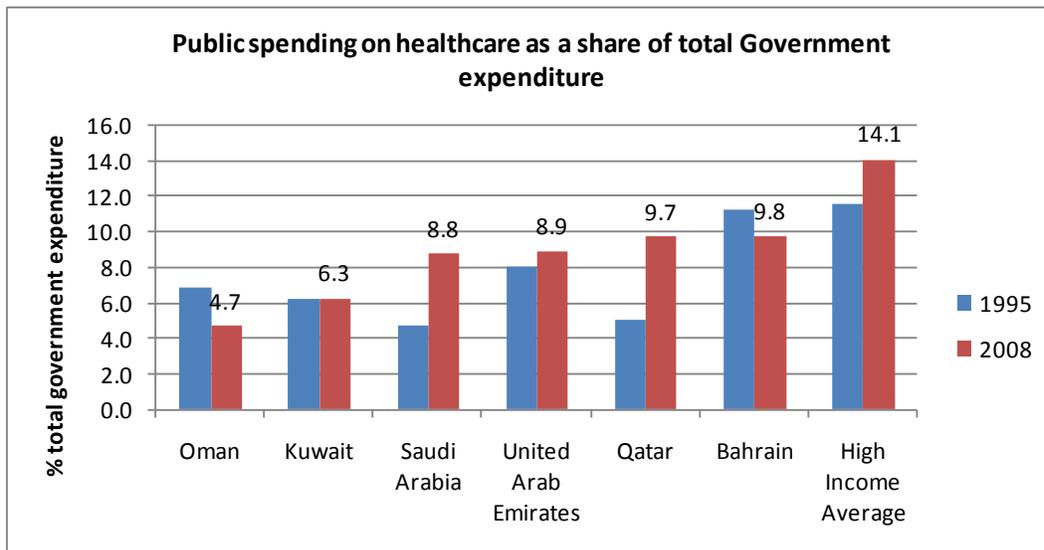
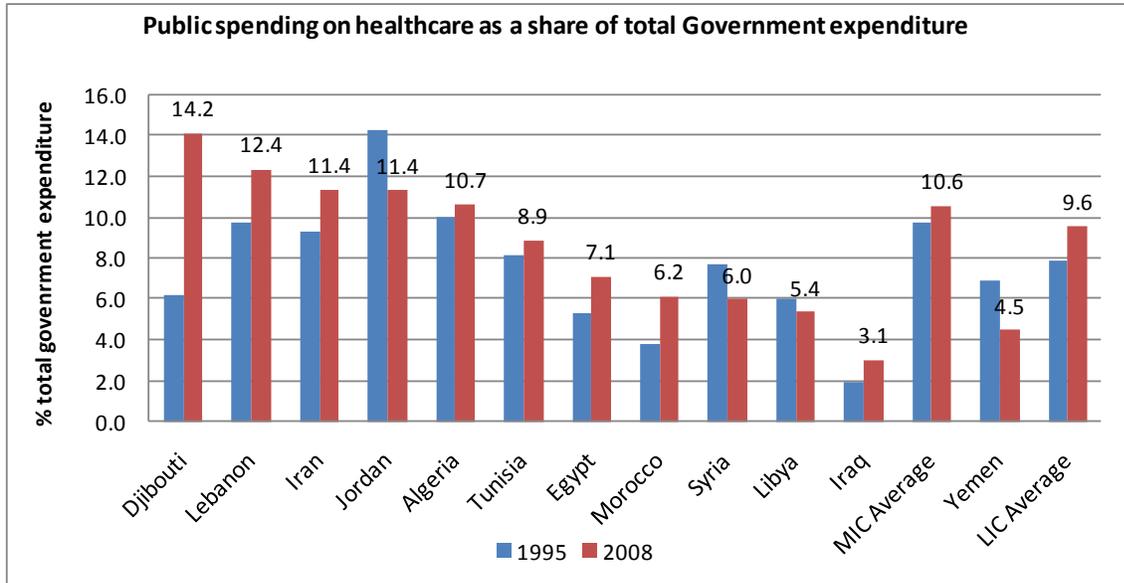
**Figure 44: Total Health Expenditure as % of GDP in MENA countries and Global Averages, 1995-2008**



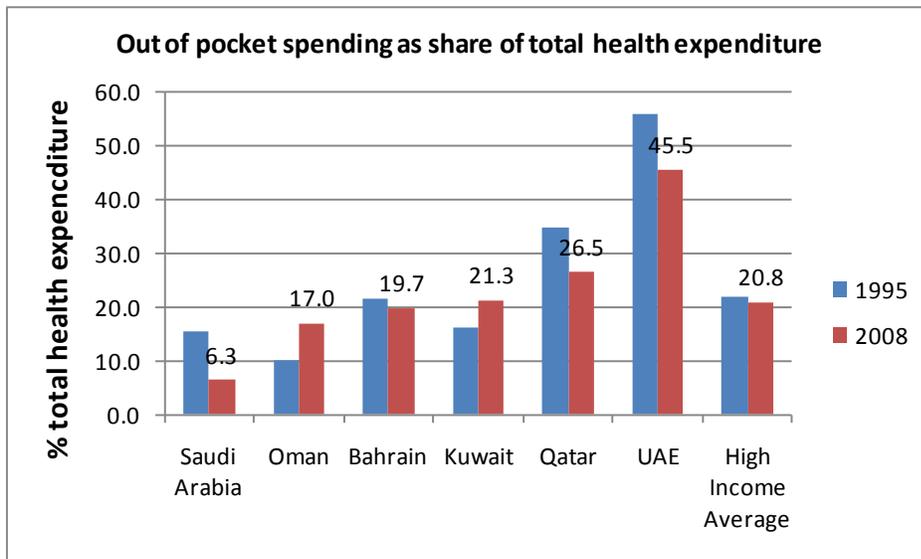
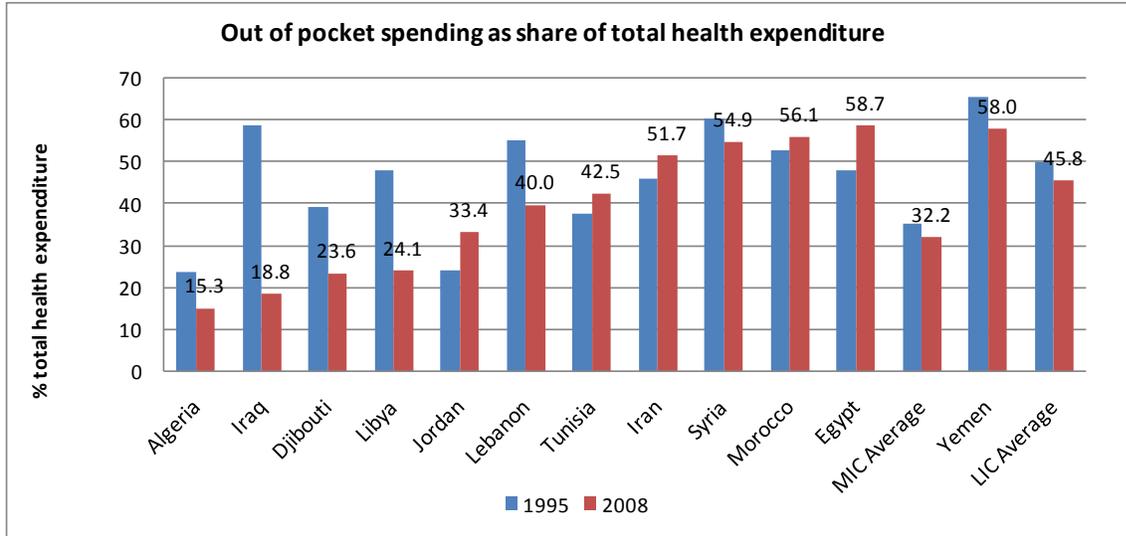
**Figure 45: Per Capita Total Health Expenditure in Constant 1995 US\$ for MENA Countries and Global Averages, 1995 - 2008**



**Figure 46: Public Spending on Healthcare as Share of Total Government Expenditure in MENA Countries and Global Averages, 1995-2008**



**Figure 47: Out of pocket spending as share of total health expenditure in Middle Income MENA Countries, 1995 - 2008**



**Table 28: Summary of Health Financing Trends over 1995-2008 and in comparison to Global Averages by Income Groups in 2008**

	Total Health Expenditure as % GDP		Public Spending on Health as % Government Expenditure		OOP as % Total Health Expenditure		Private Insurance as % of Total Private Expenditure	
	Δ 1995 -2008	vs. global average	Δ 1995 -2008	vs. global average	Δ 1995 -2008	vs. global average	Δ 1995 -2008	vs. global average
<b>GCC Countries</b>								
Bahrain	-	Low	-	Low	-	Average	-	Low
Kuwait	-	Low	+/-	Low	+	Average	-	Low
Oman	-	Low	-	Low	+	Low	+/-	High
Qatar	-	Low	+	Low	-	High	+/-	None
Saudi Arabia	+	Low	+	Low	-	Low	+	High
UAE	-	Low	+	Low	-	High	+	High
<b>GCC Average</b>	-	<b>Low</b>	<b>+</b>	<b>Low</b>	-	<b>High</b>	<b>+</b>	<b>Average</b>
<b>Middle Income Countries</b>								
Algeria	+	Low	+	Average	-	Low	+	Low
Egypt	+	Low	+	Low	+	High	-	Low
Iran	+	Average	+	Average	+	High	+	Low
Jordan	+	High	-	High	+	Average	+	Low
Libya	-	Low	-	Low	-	Low	0	None
Morocco	+	Low	+	Low	+	High	-	High
Syria	-	Low	-	Low	-	High	0	None
Tunisia	-	Average	+	Low	+	High	-	High
Lebanon	-	High	+	High	-	High	-	High
Djibouti	+	High	+	High	-	Low	-	Low
Iraq	+	Low	+	Low	-	Low	0	Low
Palestinian Territories	n/a	n/a	n/a	n/a		n/a	n/a	n/a
<b>MENA MIC Average</b>	-	<b>Low</b>	<b>+</b>	<b>Low</b>	-	<b>High</b>	-	<b>Low</b>
<b>Low Income Country</b>								
Yemen	-	Low	-	Low	-	High	-	Low

Note: "Low" refers to below the income group average for the indicator, "average" refers to those close to income group average; and "high" indicates above the income group average.

## **II. An Overview of the Health Financing Systems in the Region**

### **B. Predominance of Government-administered Healthcare Services**

The health systems of the MENA region are partly a reflection of the diversity of the Region itself. MENA countries rely on a broad range of approaches to mobilize resources for health and organize the delivery of services. Generally, the countries in the region have relied on government-run healthcare services to deliver a set of basic health benefits nominally guaranteed by the State. In most countries, the publicly funded or subsidized services continue to be delivered primarily through the traditional administrative system in which the health professionals are salaried public employees or government civil servants, and resources are allocated to the providers through a centralized annual budget process that focuses on factors of inputs and quantity.

This form of hierarchical administration defines resource allocation in terms of historical supply rather than on strategic outcomes and quality of services. This approach limits the scope for engendering greater accountability on the part of the health care providers towards agreed performance criteria, and creating incentives to achieve better results for the beneficiaries. A number of countries are beginning to introduce reforms within the government financed healthcare systems to improve performance. For example, in Lebanon the Ministry of Public Health (MoPH) is taking the lead in allowing greater autonomy in public hospitals and introducing performance-based contracts with both public and private facilities.

In the Palestinian Territories, the Palestinian Authority has recently introduced prospective contracts with selected private and nongovernmental healthcare providers to extend the coverage of subsidized services through these providers as well as through the public health facilities. In Egypt, the Ministry of Health has piloted performance-based payments on a limited basis through the pilot Family Health funds which covered integrated primary health care services in a few selected reform governorates. Morocco initiated autonomy in public hospitals a decade ago, but its implementation has been slow. Among the lower income countries, Djibouti in the process of introducing hospital autonomy in the Peltier Hospital, its main tertiary care hospital, but performance based payment systems have yet to introduced. The experiences within the Region will offer important lessons. The expansion strategic approaches to allocating resources and paying providers will constitute central components of health financing reform in the MENA region in the decade to come.

### **G. Challenge of Expanding and Diversifying the Revenue Base for Health**

Most of the low and middle income MENA countries are facing severe fiscal constraints due to the substantial food and energy subsidies on which governments spend public funds (The World Bank, 2009). These fiscal constraints are not expected to be lifted soon, and therefore, there will be limited scope for financing the expansion of healthcare coverage through the general revenue base. Most low- and middle-income countries of the MENA region will need to identify alternative options to mobilize additional resources to meet the expected increase in the cost of, and demand for, health care as a result of the health transition, as discussed in the preceding sections.

The high income GCC countries, in contrast to the low and middle income MENA countries, have relatively ample fiscal space to expand their expenditures on healthcare. Nevertheless, many of the GCC countries are seeking ways to diversify their revenue base for financing healthcare, especially for their large expatriate workforce, and to increase the contributions from employers and employees to the new health programs. This movement is part of the efforts by the GCC

Governments to move away from the welfare model and over-reliance on oil revenues towards greater social participation and social responsibilities by the population. A number of new health insurance schemes being developed and actively debated in the GCC countries involve some form of mandatory employer-employee contributions to cover new health plans.

#### **H. Expansion of Social Health Insurance Programs in the MENA Region**

Social security administered healthcare systems already play an important role in a number of MENA countries, including Morocco, Algeria and Tunisia, Egypt, Lebanon and Iran. However, the existence of large informal workforce and high unemployment rates is presenting a major obstacle to the expansion of these social insurance schemes beyond the current base of formal sector workers. Consequently, there is a continuing reliance on the government-run health care facilities to provide subsidized care for the uninsured population.

The parallel existence of social insurance system and government subsidized healthcare system creates its own set of challenges. First, the availability of free or highly subsidized government healthcare reduces the motivation among informal sector workers to participate in a social insurance scheme. But closing access to subsidized government services can be politically difficult, and in the absence of a well-functioning social safety net system to target and exempt the poor and near-poor population, the closure of the subsidized system could result in excluding these vulnerable population groups altogether from accessing healthcare. Secondly, if the social security beneficiaries are also allowed to make use of the subsidized government health services, then a mechanism needs to be in place to ensure that the social security funds are charged for the cost of care. Otherwise, the government services will end up subsidizing those who are already covered under social insurance, and thus inadvertently transferring government subsidies for these categories of beneficiaries who are usually not the poorest nor the most vulnerable groups. Thirdly, it is possible that high risk patients, i.e. those who are the most seriously ill and likely to incur the highest cost of care, are encouraged to exit social insurance and avail of the government subsidized care, thereby shifting all the risks to the Government services which are already facing fiscal constraints. Finally, the existence of multiple health funds with different payment systems and coverage schemes significantly increases the administrative costs for both the payers and providers, and makes it more difficult to monitor and evaluate the quality and efficiency of services.

Some countries have introduced measures to counter these issues in various ways. Lebanon has introduced a “visa” billing-system which undertakes eligibility checking of MoPH beneficiaries, excluding those who are already covered under other social insurance schemes. Furthermore, Lebanon is also initiating policy dialogue to harmonize the payment systems among the different social insurance schemes, including the Ministry of Health, in order to reduce the administrative costs, introduce greater transparency in measuring the performance of the providers, and reduce risk shifting across different plans. Tunisia has increased the reimbursement rate from the social security agency to the Ministry of Health for social security patients who are treated in government hospitals. However, the Tunisian Ministry of Health does not have the financial system in place that accurately estimates the actual production costs of treating patients. Tunisian public hospitals will need to develop capacities to evaluate its production costs and be able to demonstrate its ability to provide value for patients, especially in the face of the growing private sector.

## **I. Limited Role of the Private Sector in the Provision and Financing of Healthcare**

While the private healthcare providers and private health insurers have been expanding to some extent in a number of MENA countries, their growth has been relatively slow. In addition, many countries report that the private health markets are only partly or weakly regulated. As will be discussed in more detail below, the MENA region also has limited private insurance market, with preponderance of private spending still coming from direct household out-of-pocket spending at the point of services as was described above.

In most MENA countries the regulatory environment for private health insurance market is weak, and insurance companies face many barriers to access. For example, in Egypt entry requirements for private health insurance is prohibitive for most companies (e.g., approximately US\$5 million capitalization is required (see (Nassar & El-Saharty, 2010)), and the professional skills required to manage health insurance plans, such as medical actuaries, raters and underwriters, are lacking. There are exceptions, for example, Lebanon which has an active private health insurance market and companies that have developed considerable experience and skills in managing medical insurance plans. But in general this area remains underdeveloped in the low and middle income MENA countries. In the GCC countries, private health insurance markets are beginning to be tapped into as a means of extending mandatory employer-based insurance coverage. These initiatives are still in the early stages of design and implementation, and the further evolution of private health insurance markets in these countries remains to be seen.

Given the limited availability and coverage by private health insurance, and lacking access to social health insurance or state-subsidized funds, the private healthcare providers in the MENA region face significant barriers to expansion, especially for services that involve high cost treatment and interventions. As noted above, some of the health reform initiatives in the region are expanding contracting of private providers by social insurance funds, but apart from Lebanon, the scope remains limited.

A preponderance of private providers in the region are small-scale dispensaries and physician offices, many of which are run by public-sector physicians conducting private practice after hours. With the growth in income and demand for care among the population, there is an opportunity in the region to support a growing number of organized, large-scale private health care providers that could offer effective alternatives, or complements, to publicly administered healthcare system. Again, very few countries in the region explicitly include the private sector providers as an integral part of the national strategic plan to expand coverage and improve the performance of the healthcare system as a whole. These are potentially missed opportunities for engaging all the stakeholders in the sector towards the achievement of the national goal- that of ensuring access to and use of quality healthcare for all the population.

## **III. Preparing the Health Financing Systems to Meet the Emerging Challenges of Health Transition in MENA**

This Report has demonstrated that the MENA countries face several critical health transitions over the coming decades. The demographic and epidemiological transitions will determine much of the health care needs as countries move from the current demographic profile of relatively young populations to one with a considerably larger share of middle-aged and elderly people. In parallel, the burden of disease is shifting toward more chronic non-communicable diseases and injuries and accidents. These transitions will put additional cost pressures on the health systems. Furthermore, the demand for more and more expensive health care will rise and

the supply of increasingly more sophisticated health technologies will also add to the health care costs. Compounding the situation is the limited fiscal space for health that many countries in the Region face. MENA countries will therefore need to identify alternative options for health financing in the years to come. Below is a brief discussion of some of those options and their particular advantages and risks, organized around mobilization of resources, organization of risk pools, and allocation of resources.

#### **A. Expanding the revenue base to meet the expected rise in demand for healthcare and expansion in supply of healthcare services**

With the advent of noncommunicable diseases and ageing effects on top of income growth, it is expected that the demand for healthcare will grow, and Governments in the Region will come under increasing pressure to expand the depth of the benefits covered under state-guaranteed health plan that will include a wider range of high cost medical interventions. At the same time most MENA countries will need to aim at reducing the share of direct out-of-pocket health spending by individuals and either organize them under some form of prepayment risk-pooling schemes or replace them with subsidies if they are poor or vulnerable. Given that most MENA low and middle income countries have very limited fiscal space to increase the fiscal allocation to cover these additional resource requirements, alternative options will need to be considered:

- (i) There are opportunities to organize at least part of the current relatively large out-of-pocket expenditures – which represent the household’s willingness to pay for services – into better organized risk pools. One option being considered by a number of countries in the region is to introduce new, or expand the existing, social health insurance schemes. However, this approach carries a number of risks, especially in most low and middle income MENA countries which have large unemployed and informal laborforce. A contributory social insurance system risks excluding from the risk pool the poor and unemployed who are unable to contribute, introducing distortions in the labor market, e.g., by discouraging workers from participating in the formal sector to avoid the additional tax on labor, and increasing administrative complexity by adding another level of organizational structure for collection and management of funds.
- (ii) Another option would be to improve the organization and regulation of the private health insurance market to enable households to direct their out-of-pocket spending on health into the purchase of a prepayment program. Some groups could be encouraged to purchase supplementary health insurance to provide coverage for services outside of the state-guaranteed benefits package. But this will require considerable investments in institutional capacity and regulatory systems in order to achieve effective results and avoid the risks of market failure, including adverse selection and moral hazard problems.
- (iii) There are also opportunities to broaden the revenue base for health through the introduction of taxes on certain goods and services that have a direct impact on public health. This could include tobacco excise taxes and VAT, which would have the effect of reducing the demand for tobacco. The revenues from this source could be applied towards subsidizing health care for priority public health programs (e.g., tobacco cessation program) and to subsidize priority population groups. In the MENA region, the current price of cigarettes inclusive of tax is extremely low, and other forms of tobacco (e.g., the use of shisha) are not taxed. Hence there is considerable scope for increasing revenues through this mechanism in the MENA region.

## **B. Improving the organization of risk pools for extending financial protection and health service coverage more efficiently**

This Report has shown that most countries in the Region have segmented health systems and multiple risk pools that operate independently from each other and with limited coordination or harmonization of rules across the different funds. This not only increases to the administrative complexity and overall cost of the health system, but also creates barriers for the citizens who must move across the different risk pools (e.g., moving from student status to informal employment, formal employment, and unemployment, and eventually to retirement) would benefit from ease of portability of benefits across these different categories. Lack of consistent or transparent rules and regulation among the different systems also complicates the task of monitoring and evaluating the performance of the different risk pools, and opens the system to influence by different interest groups whose objectives may not always coincide with the national goals of ensuring equitable, affordable and quality healthcare for all the citizens.

A number of countries in region are beginning to take steps to address this issue. Tunisia recently integrated their two social insurance funds under a single social health insurance fund (*conseil national d'assurance maladie* - CNAM); Lebanon is taking an incremental approach to harmonizing the rules across the different social insurance funds including the Ministry of health; and Saudi Arabia has established a Council of Cooperative Health Insurance (CCHI) to coordinate and regulate the expansion of health insurance coverage for the expatriate workers through a multi-payer system.

It is worth mentioning here that the parallel existence of social insurance system and government subsidized healthcare system creates its own special set of challenges. First, the availability of free or highly subsidized government healthcare reduces the motivation among workers to participate in a social insurance scheme. But closing access to subsidized government services for those covered under the social health insurance plan can be politically difficult to achieve. Secondly, if the social security beneficiaries are also allowed to make use of the government health services, then a mechanism needs to be in place to ensure that the social insurance funds are charged for the cost of care. Otherwise, the government services will be subsidizing those who are already covered under social insurance, and thus inadvertently transferring government subsidies to this group of beneficiaries who are less likely to be among the poor. Thirdly, it is possible that high-risk patients, i.e. those who are elderly or seriously ill are encouraged to exit social insurance and avail of the government subsidized care, thereby shifting all the risks to the Government services which are already facing fiscal constraints.

Some countries have introduced measures to counter these issues in various ways. Lebanon has introduced a “visa” billing-system which undertakes eligibility checking of Ministry of Public Health beneficiaries, excluding those who are already covered under other social insurance schemes. Tunisia has also increased the reimbursement rates from the social insurance fund to the Ministry of Health for social insurance patients who are treated in government hospitals. However, the Tunisian Ministry of Health does not have the financial system in place that accurately estimates the actual production costs of treating patients and does not know how much of the patient costs they are subsidizing. Tunisian public hospitals will need to develop capacities to evaluate its production costs and be able to demonstrate its ability to provide value for patients, especially in the face of expected competition from the growing private sector.

### **C. Improving the value for money through strategic allocation of health resources and strategic purchasing of health services**

Most governments in the MENA region still operate through administrative, line-item budget process that focuses on limited categories of inputs (wages, operating expenses and capital investments), and which does not allow much scope for resource allocation based on performance. This also holds for the health sector, and there is evidence to suggest that this form of administrative structure and process is not effective at monitoring and detecting deficits in the performance of the healthcare services, or to take corrective action when they occur. International experiences show that allocating resources based on outcome and performance targets can have a large impact on the quality of health services, reduce unnecessary or wasteful use of services, and thereby add value for both patients by providers. Opportunities exist for most MENA countries to improve the performance of the health sector benefit by moving towards more strategic allocation of health resources within the existing envelope of resources. Against the expected substantial increase in the overall spending on healthcare in the coming decade, it will be even more critical to ensure that the capacities and mechanisms are in place to improve performance before further adding to the scope of services.

Specific in this area include performance based commissioning and contracting for services, development of payment mechanisms based on case and episodes of care, and review and continuous evaluation of the benefits package based on needs and cost-effectiveness of interventions. In most MENA countries, the introduction of strategic allocation of resources and performance-based payment of providers would require changes to the budget formation and allocation process, as well as the way the civil service is managed and regulated. Given that such reforms often take time, the health system could introduce gradual changes to the way hospitals are run and providers are remunerated.

An effective way to implement provider reform is by means of pilot projects that are well planned and implemented phases, and whose impacts are rigorously evaluated to provide guidance as to the further expansion of the payment and performance management reforms. Some countries have initiated changes in this area and but these need to be more sustained and scaled up, as the advent of noncommunicable diseases and technically more complex healthcare interventions will be introduced in the coming years. They will necessitate a much tighter and explicit control on costs and quality of care.

In addition, introducing contracting would open up the possibility to create more efficient markets for health care where private providers can operate and provide the mandatory services along with public providers. This could potentially increase the supply of core services that can meet the increasing demand as incomes grow and disease patterns change.

## Part 4. Meeting the Challenges – Charting the Way Forward

### Chapter 7: Building Partnerships for Results – Time for Strategic Action

#### I. Window of Opportunity

This report has highlighted the many impressive improvements in population health across the MENA region over the past decades. These achievements are due to many factors, including investments in education, water and sanitation, and broad access to basic health care for most citizens. The report has identified a number of critical areas of *unfinished agenda* and *emerging challenges* associated with the health transition which require urgent attention. A review of the performance of the existing health systems also reveals a number of systemic constraints that limit the nation’s capacity to respond effectively to these emerging health transition challenges. The MENA region has the window of opportunity to address these issues in the coming decade, during this period of “demographic dividend” while the population remains relatively young and not yet exhibiting the full effects of the health transition. Actions taken today will have the salutary effect of preventing premature mortality and morbidity in the future, and avoiding the high costs of treatment and long-term care of chronic conditions among the current cohort in the “youth bulge” which will shortly transition into “middle age bulge”. Table 29, below summarizes the nature of these risks by priority population groups

**Table 29: Major Risks Associated with Health Transition in the MENA Region, by Key Population Groups**

Population Groups/ Risk Factors	Risks	Potential Impact
<p><b>Children</b></p> <p>High rates of child malnutrition, especially poor fetal growth or stunting in the first 2 years of life, micronutrient deficiencies</p> <p>Low birthweight</p> <p>Increasing prevalence of childhood obesity</p>	<p>Irreversible damages due to undernutrition in terms of:</p> <ul style="list-style-type: none"> <li>• lower achievements in schooling, reduced adult income</li> <li>• higher risk of illness, including non-communicable diseases</li> <li>• greater risk of low birthweight in offspring</li> </ul> <p>Higher risk of non-communicable diseases among obese children</p>	<p>Lower productivity– as much as 10 percent of the child’s future earnings</p> <p>Increased rates of noncommunicable diseases during adult years</p> <p>Offspring born with low birthweight - inter-generational transfer of poor health risks</p>

<b>Population Groups/ Risk Factors</b>	<b>Risks</b>	<b>Potential Impact</b>
<p><b>Youths</b></p> <p>Sedentary lifestyles and poor diet leading to higher rates of obesity, physical inactivity</p> <p>Increasing prevalence of tobacco smoking</p> <p>Risky sexual behavior, exposure to substance abuse</p> <p>High exposure to road traffic fatalities and injuries</p>	<p>Significantly higher risk of noncommunicable diseases among the current cohort of youths as they enter middle-age years</p> <p>Potential bridging of HIV epidemic from high risk groups to general population through youths</p> <p>Increase in road traffic injuries due to the growing size of youth cohort</p>	<p>Rising cost of health care as the “youth bulge” transitions to “middle age bulge”</p> <p>Potential impact on future labor productivity due to expected rise in disabilities rates among working age population from noncommunicable diseases</p> <p>Outbreak of HIV/AIDS epidemic to general population would substantially increase the cost of healthcare, reverse the gains in health outcomes, and raise the burden on the economy</p> <p>Increased burden on families and society and due to deaths and disabilities from road traffic injuries</p>
<p><b>Women</b></p> <p>Persistence of social and economic barriers to access to healthcare</p> <p>Malnutrition among women in child-bearing years, especially micronutrient deficiency and overweight</p> <p>Very high rates of obesity among women</p> <p>Increasing rates of tobacco smoking among women</p>	<p>Women continue to face barriers to access healthcare in a timely manner – leading to late or foregone treatment</p> <p>Poor nutrition among women of child-bearing years leads to higher health risks for both mothers and their children</p> <p>Higher risk of non-communicable diseases due to higher rates of risk factors, including obesity</p> <p>Potentially higher risk of HIV/AIDS transmission, due to lack of knowledge and information</p>	<p>Higher rates of avoidable mortality and morbidity among women and their offspring due to: foregone or late access to healthcare; poor nutrition; and heightened risk of noncommunicable diseases later in life</p>

The MENA countries have the opportunity to develop programs in order to mitigate these risks, and to ensure that the next generation of children and youth will have the opportunity to participate fully in the social and economic life of their community.

**Table 30: Key Issues and Desirable Actions in the Health Sector in MENA Region**

Key Issues	Desirable Actions
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Key Issues	Desirable Actions
<i>Mobilizing political support for population-based public health programs to mitigate key risk factors</i>	Engage citizens, communities and business leaders in reducing risks, promoting healthy lifestyles and safe environments (e.g. safe roads)
<i>Understanding and addressing socio-cultural barriers to healthcare and healthy lifestyles</i>	Encourage research in understanding social, including gender specific, aspects of health and health care, and implement social policies and programs
<i>Reorienting healthcare towards greater emphasis on primary prevention and continuity of care</i>	Shift from hospital and specialist centered care which focus on treatment of patients only while they are within their facility, to 'patient-centered health care' which gives attention to continuity of care and the patient as a whole, both in and out of healthcare setting. This will include empowerment of primary health care services to promote preventive care and patient case management
<i>Enhancing professional accountability on quality of care and creating incentives for quality and productivity</i>	Identify solutions, with the full engagement of the professional groups, business community and civil society, in mitigating the risk of supply-induced demand and inappropriate, unnecessary care; promote culture of continuous quality improvement and patient-centered approach.
<i>Extending financial protection – making strategic use of limited resources with priorities for the most vulnerable groups</i>	Ensure that expansion of healthcare coverage is closely linked with social targeting mechanisms and social programs that help to direct subsidies to poor and near-poor and assure their access to better care; and extend insurance coverage to non-poor

Health system is a highly complex and dynamic sector, and that this will become increasingly so as MENA countries undergo epidemiological/demographic and economic transition. Due to the interactive and unpredictable nature of the sector, it will not be possible to identify a single blue-print solution to achieving high performance, and the traditional administrative system -- which had worked well so far in achieving relatively good health outcomes -- will no longer suffice to meet the emerging challenges. Rather, success will depend on countries setting up an effective institutional structure and processes that will enable different stakeholders to come together on a shared agenda: to agree on common goals, standards and actions, continually adapt to the changing needs of the population and demands created by new technologies, and be accountable to each other with respect to their own areas of responsibility and expertise. Delaying actions at this time will surely place all the good achievements of the past into jeopardy.

## II. Building Partnership for Results

A major shortcomings of the past health policy reforms comprehensive approach to defining and measuring healthcare performance is the underlying assumption that the behavior of the healthcare system can be deterministically defined, and given sufficient details, made predictable. For many years, quality of healthcare has been defined along the model proposed by

Donabedian (Donabedian, 1978), in which healthcare performance is described and assessed in terms of structure, process and outcome indicators. This represents an “engineering” approach to finding an optimal solution, in which the system is deconstructed into a production process involving a well-defined set of inputs, outputs and technology. The approach has provided a valuable framework for assessing healthcare performance in a context where the services are well defined and provided in a well-controlled environment.

However, there is an emerging consensus among many health policy analysts<sup>††††</sup> who find that the performance of a highly complex and dynamic system such as healthcare cannot be adequately described using the engineering approach alone. They argue that this approach misses the important dimensions of multi-stakeholder perspectives and motivations that play such a fundamental role in decision-making in the health sector, and whose preferences do not always line up with the optimal “engineering” solutions. These behavioral dimensions are better captured in terms of inter-related models of accountability which identify and explicitly acknowledge the existence of these distinct - and often competing - interests and motivations among the multiple stakeholders in the system. The objective of this approach is to make the underlying motivations of the stakeholders more explicit, and allow the trade-offs among these competing interests to be conducted in a more transparent manner while holding each stakeholder accountable for carrying out their part in contributing to common goals.

In healthcare, three models of accountability operate in a complementary manner and which play an important role in defining the varying perspectives and motivations of its key stakeholders. They consist of: (i) professional, (ii) economic, and (iii) social models of accountability (see Table 31). The “professional” model of accountability has historically played the dominant role in health care, based on the traditional view that the medical professional plays the leading, if not the sole, decision making role in determining the scope of services and ensuring quality of care. The medical professional groups (e.g., in the form of medical associations) are expected to establish and enforce self-regulation upon their own members who need to adhere to the minimum standards of practice in order to maintain their membership.

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<sup>††††</sup> See the framework proposed by the Agency for Healthcare Research and Quality, described in “Identifying, Categorizing, and Evaluating Health Care Efficiency Measures,” prepared by Southern California Evidence-based Practice Center—RAND Corporation, Santa Monica, CA for AHRQ, April 2008.

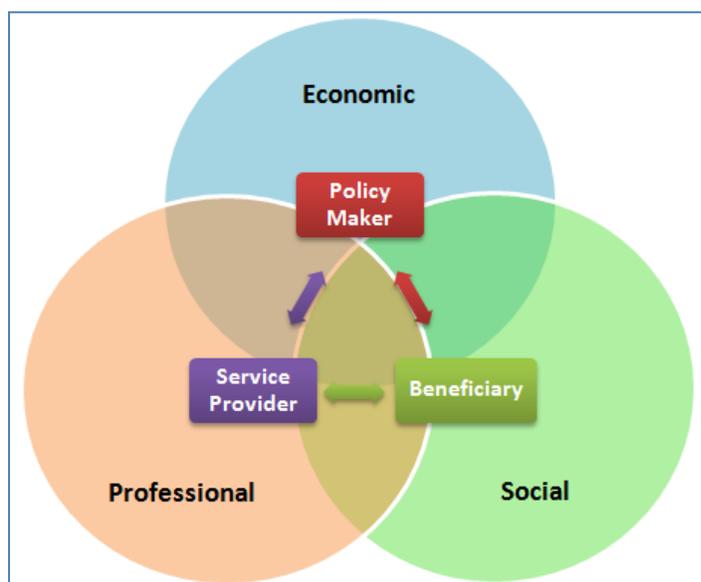
**Table 31: Models of accountability in healthcare setting**

	<b>Concept of “Beneficiary”</b>	<b>Domain for action</b>	<b>Mechanisms / instruments</b>
<b>Professional</b>	Recipient of professional services	Professional associations and regulation	Licensure, registration Certification, continuing education Accreditation
<b>Economic</b>	Consumer of health care services	Marketplace and regulation	Consumer choice and “exit” Performance-based contracts, commissioning of services, or internal financial and non-financial incentives Pricing regulation (medical tariffs)
<b>Social</b>	Citizen receiving public goods	Patient engagement and empowerment Consumer /patient associations Community leadership	Public information and reporting on performance Public health programs Enacting patient charters/ rights

Source: Adapted from (Leatherman, 2002).

With the rising costs and complexity of healthcare, the professional model of accountability is no longer regarded as sufficient. There is a growing role of the state, the employers, the insurers, and other economic entities which increasingly play an active role in paying for healthcare, and these stakeholders have become important players in determining the scope of healthcare and demanding greater economic accountability in the health sector. The state would like to ensure that any public outlays are justifiable from political and social welfare perspectives, as well as fiscally affordable and sustainable. Employers and business leaders would like to minimize their exposure to financing the cost of healthcare for their workers, and insurers will want to maximize value for money and contain costs. From this perspective, the establishment of a health insurance system – in which “money follows the patient” – is often viewed as a way to introduce greater economic accountability into health care. However, this is not the only way in which economic accountability can be introduced. For example, the introduction of performance contracts by the Ministry of Health with autonomous public hospitals or with private or nonprofit health care providers is another pathway by which greater economic accountability and incentives can be introduced without necessarily creating a separate health insurance fund. Lebanese Ministry of Public Health and the Palestinian Authority are among those in the region taking initiatives in this direction.

**Figure 48: Schematic diagram of the intersecting models of accountability in the health sector and the key stakeholders**



Economic model of accountability is predicated on the notion that competition, exercised through choice and exit by the consumer, can be an effective mechanism for enforcing accountability, particularly in ensuring an efficient allocation of resources. However, in healthcare it is well known that the sector is highly prone to market failure due to information asymmetry among providers, patients and insurers and uncertainties in treatment outcomes. For this reason, economic accountability will need to be balanced by professional accountability that will assure the quality and safety of healthcare services, since these dimensions of healthcare cannot be easily defined or perceived by the consumer through pricing mechanisms alone.

The third model of accountability views the role of the citizen as beneficiary of “public good”, with the role of the state as one of compelling accountability through the instrument of “voice” and policy. The patient/beneficiary has been traditionally viewed as a passive recipient of health care. There is a growing appreciation for the role of the patients as an active participant and stakeholder in managing their own health as well as in making an effective and appropriate use of healthcare and in influencing their performance. Their good health and healthy lifestyles will also have externalities that go beyond the individual values: The patient may not necessarily perceive the clinical quality of care and therefore, will need to rely on professional accountability to ensure this aspect of healthcare. A beneficiary of health insurance plan or subsidized government health services will also not be aware of the full cost of providing care, and are liable to “moral hazard” – i.e., excessive or unnecessary use of health services. The patients also need to be protected from the poor quality care, which they will not be able to perceive or have the information to detect, but which could have detrimental effect on their health (e.g., adverse drug effects, hospital-acquired infections).

For these models of accountability to function, there is a need for explicit measures of performance, supported by public reporting of these measures. As illustrated in Figure 48, the policy maker will have to address all three perspectives in designing health policies and programs. The introduction of economic and social accountability has been generally resisted by the health

professionals, who view these as an intrusion into their professional independence. Creating and maintaining an open and constructive dialogue among these competing interests is a significant and continuing challenge faced by health policy makers around the world.

In the MENA region, the Ministries of Health have traditionally carried the primary responsibility for implementing public health programs and providing the basic healthcare services for the nation. This task can no longer be carried out effectively either through a single, centralized command-and-control management structure represented by the traditional role of the Ministry of Health or by leaving the process entirely to the market system. The task will require the development of a new, more diversified governance structure that will enable communities representing the key stakeholders to come together around shared goals, and where trade-offs among these groups are carried out in a constructive manner.

Several recent reports have noted the absence of systematic data collection and public reporting on service performance in the MENA region (World Bank, 2009c). Among all the regions in the world, the MENA region has the lowest score (see Table 32) on “Voice and Accountability” (score of 18 out of 100). This paucity of data and public reporting also applies to nearly all dimensions of the health sector. There is a need for investing in surveillance systems for early detection and management of citizens with NCDs or with high risk of NCDs; obtaining timely and accurate reporting on road traffic accidents; or measuring and tracking different dimensions of malnutrition among mothers and children. There are very few sources of patient registry and quality and utilization assessments at the healthcare provider levels. These are of critical importance for the effective monitoring of the quality and cost-effectiveness of health service delivery and, importantly, for the introduction of strategic approaches to resource allocation or purchasing of health services.

**Table 32: Indicators of governance for MENA and Global, 2007**

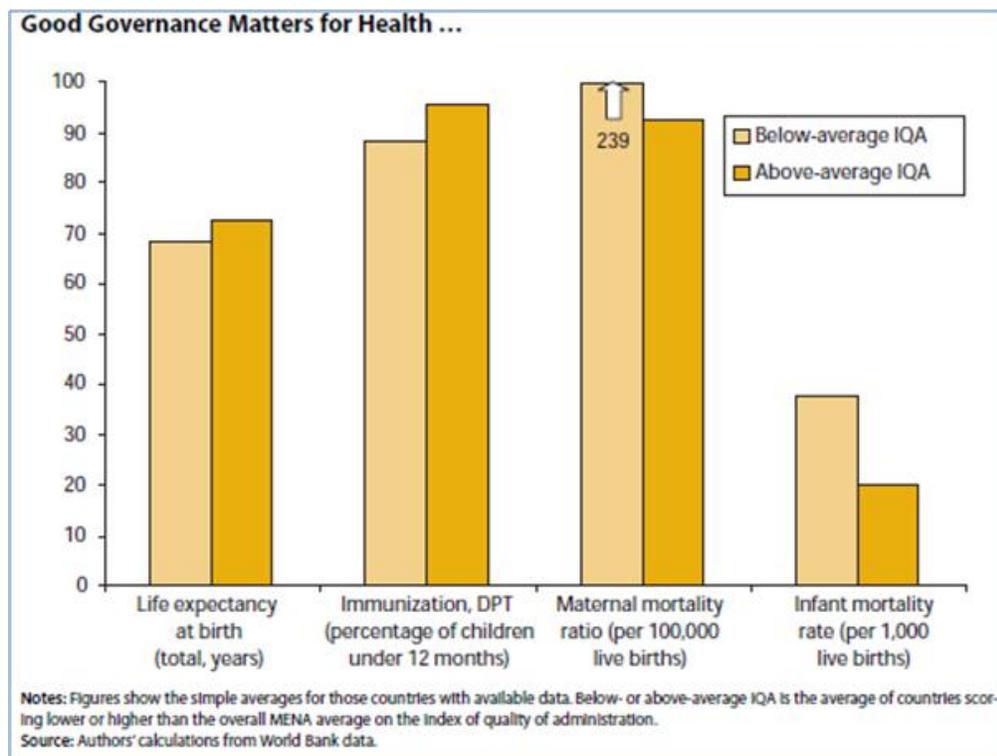
	Voice and Accountability	Political Stability	Government Effectiveness	Regulatory Quality	Rule of Law	Control of Corruption
<b>MENA</b>	18	34	41	41	46	48
<b>GCC</b>	23	57	64	67	70	73
<b>Non-GCC MENA</b>	16	23	29	29	35	36
<b>East Asia Pacific</b>	34	44	47	44	43	37
<b>Europe Central Asia</b>	48	46	49	54	43	43
<b>Lain America Caribbean</b>	58	48	53	52	46	53
<b>South Asia</b>	26	25	35	31	34	32
<b>Sub-Saharan Africa</b>	33	34	27	28	28	31
<b>High Income OECD</b>	90	78	91	91	90	90
<b>World</b>	50	50	50	50	50	50

Source: World Bank Governance Matters Database.

Note: Index values represent country's placement in a worldwide distribution of countries based on that indicator, with 100 representing the country with the “best” governance, and 0 representing the country with the “worst” governance.

Good governance does matter, and have an impact on the ultimate outcomes. For example, within the MENA region, there is correlation between countries which have higher scores on quality of administration and health outcomes as well as access to basic healthcare (see Figure 49).

**Figure 49: Correlation between Health Sector Performance and Governance Indicator (Quality of Administration) in the MENA region**



Source: (The World Bank, 2003)

### III. Recommendations for Strategic Action

#### ***An ounce of prevention is better than a pound of cure: promoting primary prevention through intersectoral action and primary health care***

A healthy transition from the Youth bulge to Adult age bulge is imperative for MENA countries if they are to maximize their social and economic gains from the demographic dividend and generate wealth. Health systems have a major role to play in this regard, not only through the provision of quality health services, but and perhaps equally importantly through a well conceived vision, strategy and public policies. Primary prevention, the avoidance or mitigation of the occurrence and incidence of a disease, plays a very important, if not primordial, role in this regard. There are really two sides to the coin of primary prevention in anticipation of the emerging NCD epidemic: (i) through healthy intersectoral public policies aiming at promoting population health, aiming at the four behavioral risk factors, namely smoking, physical inactivity, inappropriate diet (including both under nutrition and obesity) and risky driving; and (ii) through interventions aiming at improving

health of the individuals, namely, screening, counseling and primary care services to advocate for behavioral change.

Primary prevention is not always less costly, if health benefits as measured in terms of quality adjusted life years (QALYs) are assessed against direct (health care) costs. About 20 percent of some 300 preventive interventions are considered to save costs in the long run. However, primary prevention is almost always cost effective, especially it is well targeted to high risk population groups and if indirect costs due to loss of productivity are also accounted for.

MENA countries are well positioned to advocate for primary prevention for a number of reasons. The literacy rates are high for mass scale public information education and communication (IEC) programs, and the region has relatively good media coverage. School enrollment rates are high for targeted interventions on tobacco control, diet and nutrition. Institutional capacity for improved road safety is existent. And health systems are relatively well endowed for primary prevention in primary care setting. The challenges therefore is more about leadership in setting the right vision and strategies for effective advocacy for healthier public policies and gradual transformation of health systems to make them more attuned to providing primary care.

### ***Linking priority public health programs and the expansion of health coverage for the vulnerable population***

A number of countries in the region are beginning to address the need to improve the social targeting mechanisms and ensure a more effective allocation of subsidies. As these subsidy reforms are introduced and implemented, it would be important to ensure that the priority health policies and programs are explicitly included as the recipients of these additional resources. This will require strong justifications in terms of the cost-effectiveness of the interventions and the long-term benefits in terms of economic impact and social welfare gains that will accrue as a result of investing in these health policies and programs. Among the priority programs that should be in this list would include funds to subsidize access to basic health coverage for the poor and the near-poor, as well as public health programs that will promote healthy lifestyles and prevent health risks.

It should be emphasized that social targeting on its own - while *necessary* - will not be *sufficient* for achieving behavioral changes on the part of both the beneficiaries and healthcare providers. The actual availability of services in the under-served areas and the appropriate use of healthcare services by under-served population groups will require an active program of incentives to the providers to be responsive to patient needs and preferences, and empowerment of the citizens.

### ***Expanding the revenue base and improving risk pooling to meet the expected rise in demand for healthcare***

With the advent of noncommunicable diseases and ageing effects on top of income growth, it is expected that the demand for healthcare will grow, and Governments in the Region will come under increasing pressure to broaden the benefits covered under state-guaranteed health plan to include a wider range of high cost medical interventions. At the same time most MENA countries will need to aim at reducing the share of direct out-of-pocket health spending by individuals and either organize them under some form of prepayment risk-pooling schemes or replace them with subsidies if they are poor or vulnerable. Given that most MENA low and middle income countries have very limited fiscal space to increase the fiscal allocation to cover these additional resource requirements, alternative options will need to be considered:

- (i) There are opportunities to organize at least part of the current relatively large out-of-pocket expenditures – which represent the household’s willingness to pay for services –

- into better organized risk pools. One option being considered by a number of countries in the region is to introduce new, or expand the existing, social health insurance schemes. However, this approach carries a number of risks, especially in most low and middle income MENA countries which have many unemployed and informal labor markets. A contributory social insurance system risks excluding from the risk pool the poor and unemployed who are unable to contribute, introducing distortions in the labor market, e.g., by discouraging workers from participating in the formal sector to avoid the additional tax on labor, and increasing administrative complexity by adding another level of organizational structure for collection and management of funds.
- (ii) Another option would be to improve the organization and regulation of the private health insurance market to enable households to direct their out-of-pocket spending on health into the purchase of a prepayment program. Some groups could be encouraged to purchase supplementary health insurance to provide coverage for services outside of the state-guaranteed benefits package. But this will require considerable investments in institutional capacity and regulatory systems in order to achieve effective results and avoid the risks of market failure, including adverse selection and moral hazard problems.
  - (iii) There are also opportunities to broaden the revenue base for health through the introduction of taxes on certain goods and services that have a direct impact on public health. This could include tobacco excise taxes and VAT, which would have the effect of reducing the demand for tobacco. The revenues from this source could be applied towards subsidizing health care for priority public health programs (e.g., tobacco cessation program) and to subsidize priority population groups. In the MENA region, the current price of cigarettes inclusive of tax is extremely low, and other forms of tobacco (e.g., the use of shisha) are not taxed. The exact scope for increasing revenues through this mechanism in the MENA region needs to be assessed in each country and given the cost-effectiveness of tobacco excise taxes, it is recommended that this is done across the region.

Furthermore, the Report has shown that most countries in the Region have segmented health systems and multiple risk pools that operate independently from each other and with limited coordination or harmonization of rules across the different funds. This not only increases the administrative complexity and overall cost of the health system, but also creates barriers for the citizens who must move across the different risk pools (e.g., moving from student status to informal employment, formal employment, and unemployment, and eventually to retirement). These groups would benefit from ease of portability of benefits across the different categories. Introduction of consistent and transparent rules and regulation across the different health funds or health subsystems will facilitate the monitoring and evaluation of the performance among these different risk pools, and ensure their contributions towards the national goals of ensuring equitable, affordable and quality healthcare for all the citizens.

### ***Improving quality of care – engaging the professionals in the continuous quality improvement process and creating incentives towards patient-centered care***

Most governments in the MENA region still operate through an administrative, line-item budget process that focuses on limited categories of inputs (wages, operating expenses and capital investments), and which does not allow much scope for resource allocation based on performance. This also holds for the health sector, and there is evidence to suggest that this form of administrative structure and process is not effective at monitoring and detecting deficits in the performance of the healthcare services, or to take corrective action when they occur. International

experiences show that allocating resources based on outcome and performance targets can have a large impact on the quality of health services, reduce unnecessary or wasteful use of services, and thereby add value for both patients and providers. Opportunities exist for most MENA countries to improve the performance of the health sector benefit by moving towards more strategic allocation of health resources within the existing envelope of resources. Against the expected substantial increase in the overall spending on healthcare in the coming decade, it will be even more critical to ensure that the capacities and mechanisms are in place to improve performance before adding to the scope of services.

Specifically, this will involve the introduction of performance based payments or contracting of services, either with private providers, or through internal allocation of resources within the public sector. Paying providers based on performance will require changes to the way the civil service is managed and regulated in many countries. Furthermore, introducing contracting would open up the possibility to create more efficient markets for health care where private providers can operate and provide the state-financed services along with public providers. This could potentially increase the supply of core services that can meet the increasing demand as incomes grow and disease patterns change.

The complexity and dynamic nature of healthcare will be accelerated by the advent of noncommunicable diseases and the growing demand for greater choice and access to high-technology healthcare. In the middle and high income countries around the world, there is a growing trend towards the establishment of independent assessment agencies as a way of independently monitoring and evaluating the quality of services provided by healthcare organizations. Examples of such agencies include accreditation organizations, food and drug authorities, and health technology assessment agencies. These types of agencies are growing in number and influence around the world and they provide valuable professional assessments of various aspects of healthcare. The governance structure of these entities will be critical: ensuring a balanced representation of stakeholders will make certain the credibility and independence of these agencies. Such agencies can play a critical part in enhancing accountability, by developing locally adapted performance standards, benchmarking health care providers against these agreed standards, and providing educational support for the professionals operations. A number of countries in the MENA region are beginning to initiate the establishment of such organizations, for example, accreditation agencies and food and drug authorities, but the process may need to be accelerated.

### ***Strengthening Health Intelligence for sound decision making and evidence based partnership***

Timely and accurate information is a necessary, although not always sufficient condition for sound decisions. This is all the more critical in pluralistic health care systems to function effectively where market conditions are not always ideal and that there usually is a asymmetry of information among its multiplicity of partners. Policy makers, healthcare managers, health insurance fund holders, and the patients need to assess how well the healthcare system is performing, what are its strengths and weaknesses, and what actions need to be taken to address deficits in performance. This will require a fundamental shift from the traditional approaches to health information systems, which invariably focus on inputs to account for the budget, payroll, infrastructure, consumables towards a more user friendly, timely and relevant information system on service use in all its facets (volume, intensity, distribution, mix, technical quality, appropriateness, timeliness etc) and on patient health outcomes. Moreover, data would have to be aggregated or dis-aggregated (e.g., region, hospitals, primary care, diabetic patients, etc) in

accordance with the needs and demands of various partners. In addition, there is a growing need for population based information as a result of increased concern for global health security (e.g., Avian influenza, H1N1 etc).

Finally, it is equally important to gauge the health status of the populations through periodic and issue-specific (e.g. nutrition, maternal health, etc) surveys to complement the information base and triangulate administrative data with primary data for drawing a better and more accurate and precise picture of the health, use of health services, and health system performance. A modern health management information system will enable managers to undertake concurrent review and assessment of the service performance, and allow better control and timely decisions over clinical management process (for managers of health facilities), the healthcare financing process (for healthcare payers), and public health reporting (for surveillance and other public reporting requirements such as international health regulations). Investments in these tools, both in infostructure (hardware) and the institutional and human capacity to collect, compile, synthesize, report and interpret the information (software) for decision making at all levels of care will be vital for improving accountability in the system and evaluating performance on a continuous basis.

#### **IV. Building Partnership for Results – Time for Strategic Action**

This report has highlighted the many impressive improvements in population health across the MENA region over the past decades. These achievements are due to many factors, including investments in education, water and sanitation, and broad access to basic health care for most citizens. At the same time, it identified a number of critical areas of *unfinished agenda* and *emerging challenges* associated with the health transition that warrant attention by policy makers and other stakeholders.

The MENA region has the window of opportunity to take strategic action now, during this period of “demographic opportunity”, while the population is relatively young and healthy and the risks can be modified or averted. Actions taken today will have the salutary effect of preventing premature mortality and morbidity in the future, thus avoiding the future costs of treatment and long-term care of chronic conditions.

This will require foresight and committed leadership at all levels of the society, and a greater understanding of the underlying causes of the risk factors in the MENA context. The rise in the prevalence of many of the risk factors can be traced to behavioral consequences of a multiplicity of causes: increased international trade (e.g., access to tobacco products, processed foods), migration (urbanization and sedentary lifestyle), changes in living conditions (e.g., sedentary work and living environment) and in the production, marketing and availability of goods (e.g., processed food).

Potential solutions are bound to be context specific, but in all cases it will require partnerships among the key stakeholders: policy makers, professionals, business leaders, communities and the public. Success will depend on countries setting up effective institutional structures and processes that will enable different stakeholders to come together on a shared agenda: to agree on common goals, standards and actions, continually adapt to the changing needs of the population and demands created by new technologies, and be accountable to each other with respect to their own areas of responsibility and expertise. Delaying actions at this time will surely place the well-being of the next generation of children and youth into jeopardy. The time for strategic action is now to ensure that they will have the opportunity to participate fully in the social and economic life of their community.

**Table 33: Summary of Recommendations: Policy Goals, Meeting Challenges and Forging Partnerships**

Policy Goals	Meeting the Challenges	Forging Partnerships
<i>Raise public awareness</i>	Raise public support for and mobilize political leadership to support preventive health	Forge new partnerships with media, civil society, business leaders, political leaders.
<i>Enhance economic and fiscal sustainability</i>	Link expansion of priority public health programs and health coverage with ongoing national strategies on subsidy and social safety net reforms; include strategic public health programs for priority investment	Engage Ministries of Finance, Commerce, Social Affairs, Labor
<i>Mitigate health risks risks of poverty and extend social protection for health</i>	Ensure that expansion of healthcare coverage is closely linked with social targeting mechanisms and social programs that help to direct subsidies to poor and near-poor and assure their access to better care; and extend insurance coverage to non-poor	Engage Ministries of Finance, Commerce, Social Affairs, Labor
<i>Mitigate risk factors</i>	Improve the knowledge and understanding of the socio-cultural and environmental factors that affect behavior and exposure to health risks, and develop effective social policies and programs that have impact.	Undertake behavioral research with social scientists and design public health programs that affect behavior; design safe roads with transport engineers; monitor progress with interested stakeholders  Engage Ministries of Education, Agriculture, Industry, Commerce, Interior
<i>Mobilize business and community leaders to support public health goals</i>	Foster Corporate Social Responsibility towards safe and healthy work environment and healthy school environment; expand community outreach programs	Promote private-public partnerships, engage local community organizations and NGOs
<i>Reorient health systems</i>	Create incentives for preventive primary care among health professionals and promote patient-centered care; instill culture of continuous quality improvement and greater accountability on health care performance.	Engage medical schools, professional associations, health insurers/payers.

## Annex 1: World Bank Classification of Countries

**Table 34: World Bank Group Classification of MENA Countries, by income levels**

<p style="text-align: center;"><b>Middle Income Countries</b></p> <p>(GNI per capita between US\$976 and US\$11,905 in 2008)</p> <p>Algeria Djibouti (IDA eligible/<sup>a</sup>) Egypt, Arab Republic Iran, Islamic Republic Iraq Jordan, Hashemite Kingdom Lebanon Libya, Arab Jamahiriya Morocco Syria Tunisia</p>	<p style="text-align: center;"><b>High Income Countries</b></p> <p>(GNI per capita above US\$11,906 in 2008)</p> <p><i>Members of the Gulf Cooperation Council</i></p> <p>Bahrain Kuwait Oman Qatar Saudi Arabia, Kingdom of United Arab Emirates</p>
<p><b>Low Income Countries</b></p> <p>(GNI per capita below US\$975 in 2008)</p> <p>Yemen (IDA eligible/<sup>a</sup>)</p>	

Note. a. IDA eligible countries are those that had a GNI per capita in 2008 of less than \$1,135 and lack the financial ability to borrow the World Bank's IBRD (non-concessional) loans.

## Annex 2: Health Data for Chapter 1 – Maternal and Child Health

**Table 35: Progress on Millennium Development Goal for Reducing Under-5 Mortality Rates per 1,000 live births, for MENA Countries**

	1980	1990	2000	2010	<i>MDG target for 2015</i>	Estimated U5MR in 2015 if same annual rate of change maintained as 1990-2010	Annual rate of U5MR reduction between 1990-2010
<b><u>Non-GCC MENA Countries</u></b>							
Algeria	100.9	52.4	34.1	19.3	17	15	-5.1%
Egypt	157.9	85.4	45.6	24.7	28	18	-6.4%
Djibouti	111.3	110	89.6	66.7	37	59	-2.5%
Iran	107.2	65.5	46.7	31.1	22	26	-3.8%
Iraq	78.2	58.4	42.7	31.6	19	27	-3.1%
Jordan	54.4	33.4	23.7	14.1	11	11	-4.4%
Lebanon	43.4	31.4	13.8	10.2	10	8	-5.8%
Libya	61.8	37.6	22.1	12.9	13	10	-5.5%
Morocco	124	76.9	50.5	32.4	26	26	-4.4%
Palestinian Territory	70.6	41.9	29.3	22.1	14	19	-3.3%
Syria	48.2	31.8	18.8	11.4	11	9	-5.3%
Tunisia	80.7	47.4	27.2	15.2	16	11	-5.9%
Yemen	188.1	128.3	93.2	60	43	49	-3.9%
<b><u>GCC countries</u></b>							
Bahrain	29.6	19	12.2	7.4	6	6	-4.8%
Kuwait	35	12.8	12.4	7.8	4	7	-2.5%
Oman	97.6	37.1	15.9	9.3	12	6	-7.2%
Qatar	27.5	15.9	12.8	10.5	5	9	-2.1%
Saudi Arabia	71.9	29.5	21.8	15	10	13	-3.4%
United Arab Emirates	38.1	16.1	7	3	5	2	-8.8%

Source: (Rajaratnam, et al., 2010)

Notes:

- a. Under-5 mortality rates were estimated using available sources, including vital registration systems summary birth histories in censuses and surveys, and complete birth histories. Gaussian process regression was used to generate estimates of the probability of death between birth and age 5 years (see Source for details).

**Table 36: Trends in Maternal Mortality Ratio/<sup>a</sup> per 100,000 live births in MENA Countries from 1980-2015 and Millennium Development Goal targets**

	1980	1990	2000	2008	MDG target for 2015	Estimated MMR in 2015 if same average annual rate of reduction maintained as 1990-2008/ <sup>b</sup>	Average Annual Rate of Reduction (in %)
<b><u>Non-GCC MENA Countries</u></b>							
Algeria	396	189	94	66	47	43	-6.0%
Egypt	352	195	74	43	49	23	-8.8%
Djibouti	641	607	565	462	152	415	-1.5%
Iran	101	64	35	28	16	20	-4.7%
Iraq	241	212	174	130	53	107	-2.8%
Jordan	214	103	59	35	26	22	-6.2%
Lebanon	124	76	37	24	19	15	-6.6%
Libya	148	124	63	40	31	25	-6.5%
Morocco	601	384	262	124	96	78	-6.5%
Palestinian Territory	181	92	52	46	23	35	-3.9%
Syria	251	156	67	50	39	31	-6.5%
Tunisia	294	141	56	36	35	20	-7.9%
Yemen	808	582	383	269	146	197	-4.4%
<b><u>GCC countries</u></b>							
Bahrain	132	89	49	36	22	25	-5.2%
Kuwait	51	48	31	26	12	20	-3.5%
Oman	174	85	41	24	21	14	-7.3%
Qatar	52	49	26	14	12	8	-7.2%
Saudi Arabia	135	94	47	28	24	17	-7.0%
United Arab Emirates	41	31	14	9	8	5	-7.1%

Source: (Hogan, et al., 2010). Countries are “on track” to meet the MDG 5 Goal of reducing MMR by 75 percent between 1990- 2015 if they reach an average annual rate of change at or below - 5.5 percent.

Notes: a. Maternal mortality ratio is the number of women who die during pregnancy and childbirth, per 100,000 live births. The MMR data were estimated by Hogan et al., with a regression model using information on total fertility rate (TFR), gross domestic product (GDP) per capita, HIV seroprevalence, neonatal mortality, age-specific female education, and indicators for 5-year age-groups (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, and 45–49 years).

**Table 37: Total Fertility Rates (births per woman), MENA Countries 1970 - 2008**

YEAR	1970	1980	1985	1990	1995	2000	2006	2008
<i>Non-GCC MENA</i>								
Algeria	7.4	6.8	5.8	4.6	3.4	2.7	2.4	2.4
Djibouti	7.4	6.7	6.5	6.1	5.4	4.8	4.1	3.9
Egypt, Arab Rep.	6.1	5.4	5.0	4.3	3.7	3.3	2.9	2.9
Iran, Islamic Rep.	6.6	6.6	6.0	4.8	3.3	2.3	2.1	1.8
Iraq	7.2	6.5	6.2	5.9	5.5	..	4.2	4.1
Jordan	7.9	7.0	6.2	5.4	4.6	3.8	3.6	3.5
Lebanon	5.0	4.1	3.5	3.1	2.8	2.5	1.9	1.9
Libya	7.5	7.3	6.3	4.7	3.7	3.2	2.8	2.7
Morocco	7.0	5.6	4.8	4.0	3.3	2.6	2.4	2.4
Syria	7.6	7.3	6.6	5.4	4.4	3.7	3.4	3.3
Tunisia	6.4	5.2	4.3	3.5	2.7	2.1	2.0	2.1
Palestinian Terr.	..	..	..	..	5.8	5.1	5.3	5.0
Yemen, Rep.	8.6	8.7	8.5	8.0	7.1	6.3	5.5	5.2
<b>Non GCC AVERAGE</b>	<b>6.8</b>	<b>6.3</b>	<b>5.7</b>	<b>4.8</b>	<b>3.9</b>	<b>3.3</b>	<b>3.0</b>	<b>2.8</b>
<i>GCC Countries</i>								
Bahrain	6.4	4.9	4.3	3.6	3.0	2.6	2.3	2.3
Kuwait	7.1	5.3	4.3	3.5	2.9	2.6	2.2	2.2
Oman	7.2	7.2	7.0	6.5	5.6	4.3	3.1	3.1
Qatar	6.8	5.7	5.0	4.3	3.7	3.1	2.6	2.4
Saudi Arabia	7.3	7.1	6.6	5.9	5.0	4.1	3.3	3.1
U.A.E.	6.5	5.4	5.0	4.3	3.4	3.0	2.1	1.9
<b>GCC AVERAGE</b>	<b>7.2</b>	<b>6.8</b>	<b>6.2</b>	<b>5.5</b>	<b>3.9</b>	<b>3.9</b>	<b>3.1</b>	<b>3.0</b>

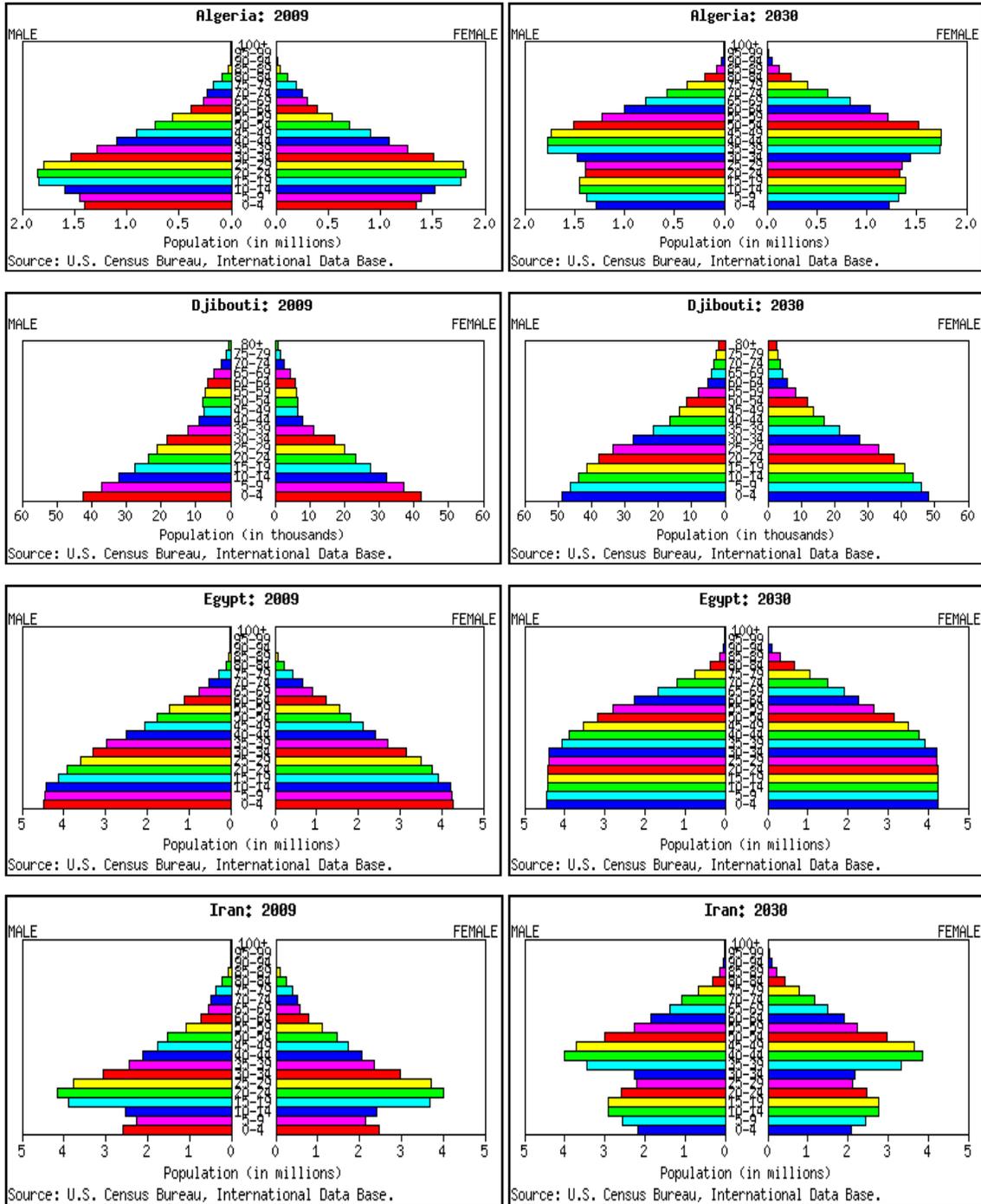
Source: World Development Indicators, The World Bank, 2010.

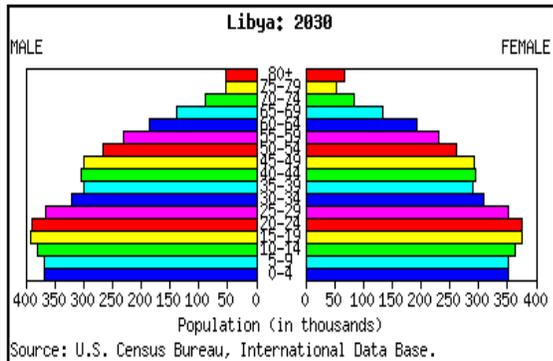
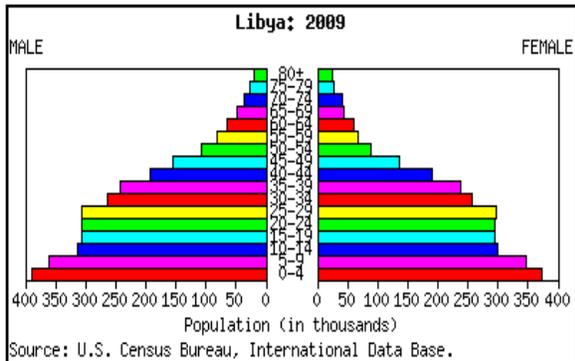
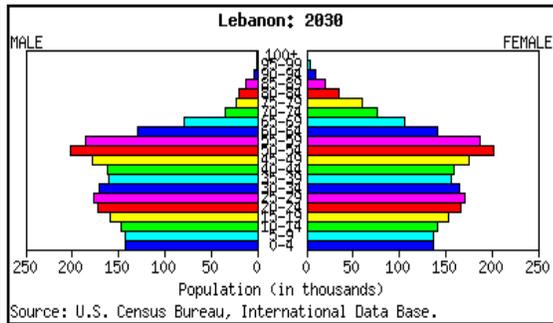
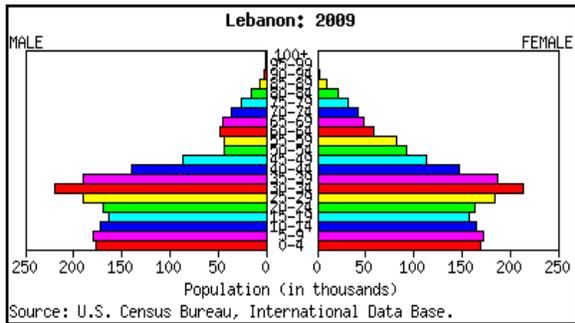
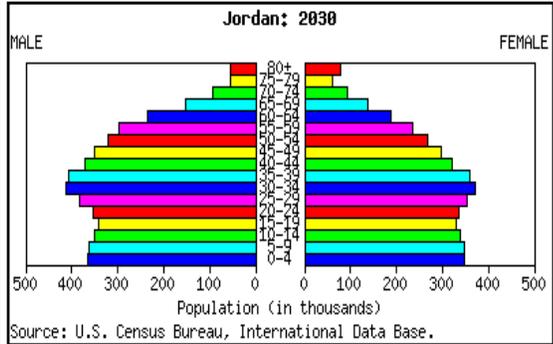
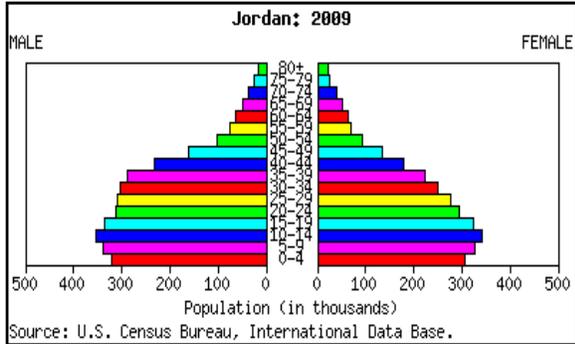
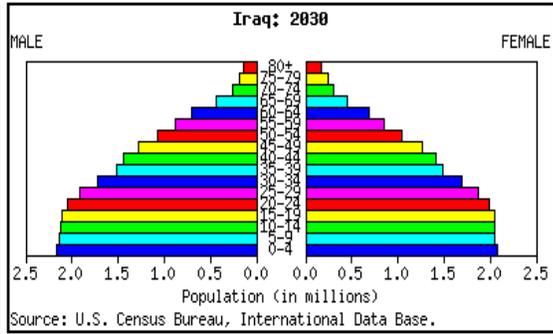
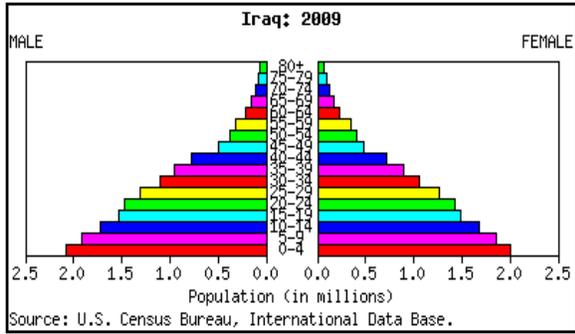
**Table 38: Health Inequities by Place of Residence and Income Quintiles, MENA Region**

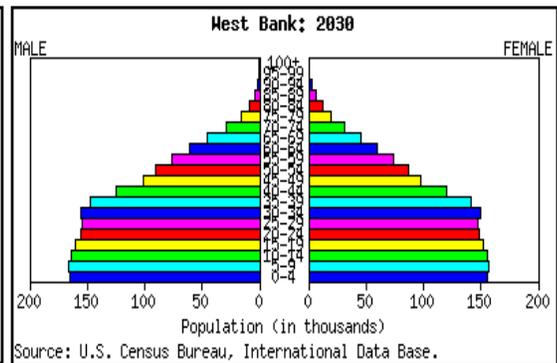
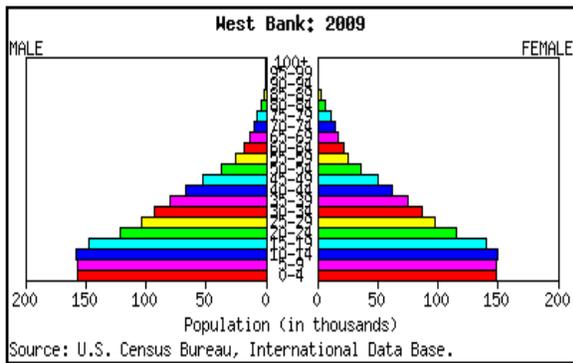
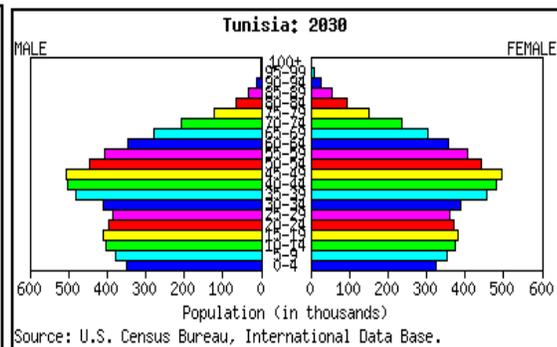
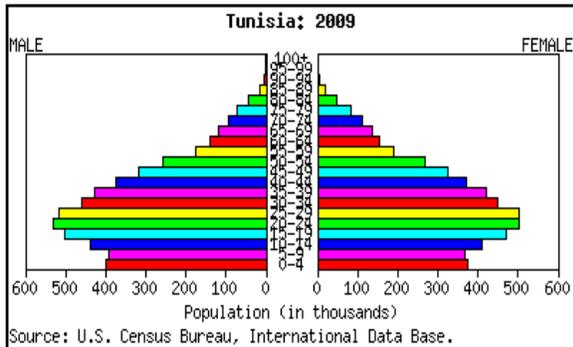
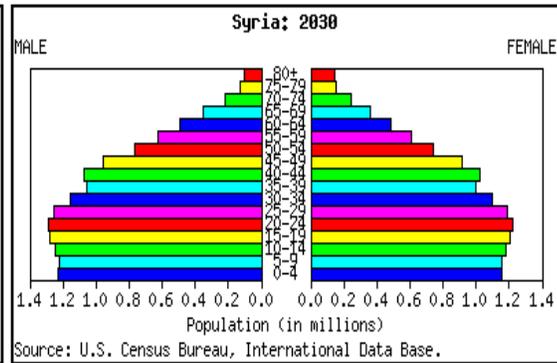
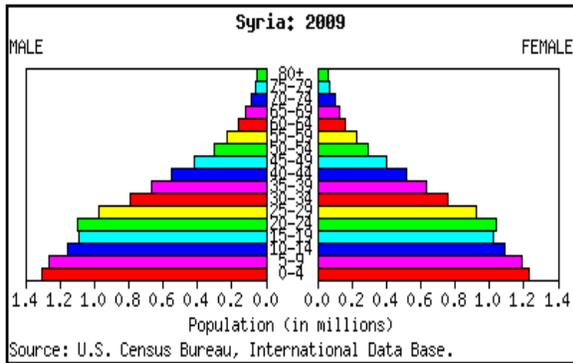
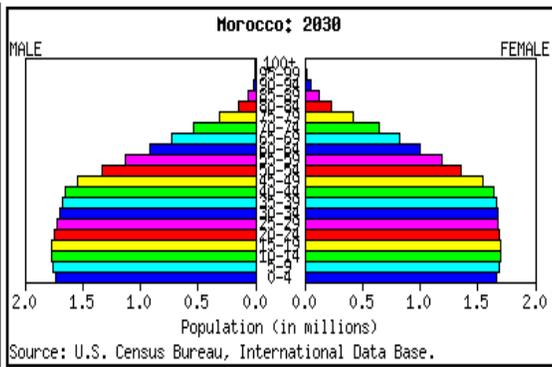
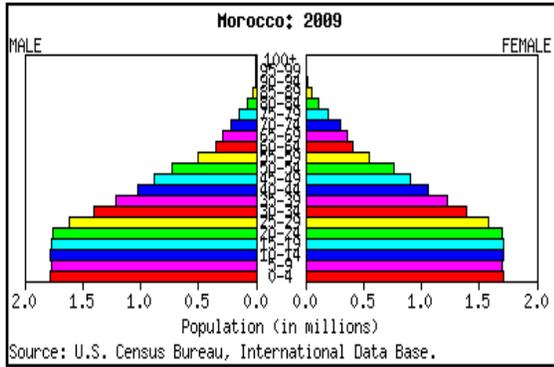
Country	Year	Births Attended by Skilled Health Personnel (%)						Under-five mortality rate (probability of dying by age 5 per 1,000 live births)					
		Place of Residence			Income Quintile			Place of Residence			Income Quintile		
		Rural	Urban	urban/rural	Lowest	Highest	highest/lowest	Rural	Urban	rural/urban	Lowest	Highest	lowest/highest
Algeria				n/a			n/a			n/a			n/a
Djibouti	2006	40	95	2.4	89	98	1.1	73	95	1.3			n/a
Egypt	2008	72	90	1.3	55	97	1.8	36	29	1.2	49.0	19.0	2.6
Iran, Islamic Republic				n/a			n/a			n/a			n/a
Iraq	2006	78	95	1.2			n/a	41	41	1.0			n/a
Jordan	2007	99	99	1.0	98	100	1.0	43	30	1.4			n/a
Lebanon				n/a			n/a			n/a			n/a
Libya Arab Jamahiriya				n/a			n/a			n/a			n/a
Morocco	2003/4	40	85	2.1	30	95	3.2	69	38	1.8	78.0	26.0	3.0
Palestinian Territories				n/a			n/a			n/a			n/a
Syria	2006	88	98	1.1	78	99	1.3	24	19	1.3	22.0	20.0	1.1
Tunisia				n/a			n/a			n/a			n/a
Yemen	2006	26	62	2.4	17	74	4.4	86	57	1.5	118.0	37.0	3.2

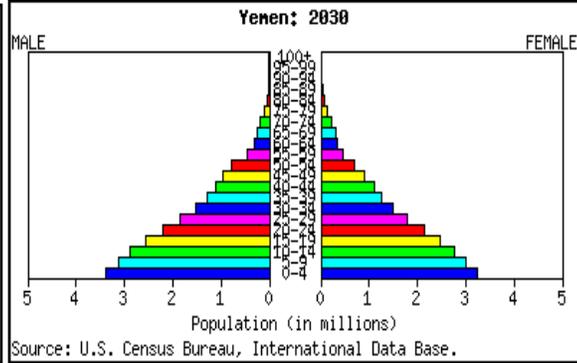
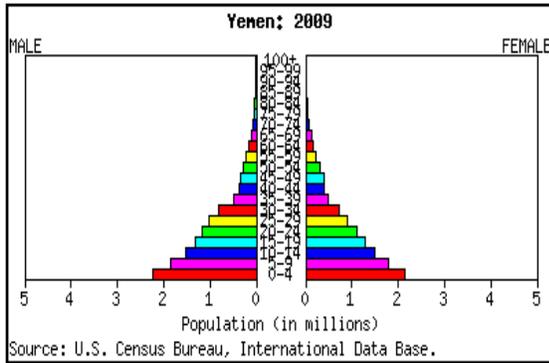
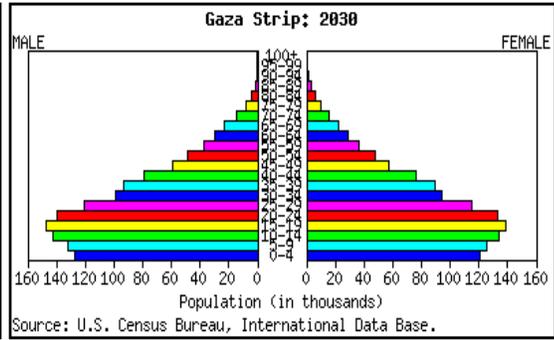
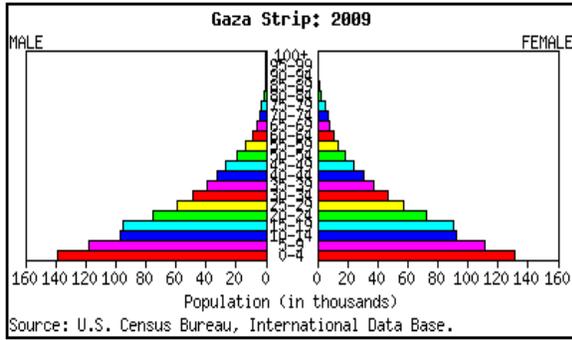
Source: Table 8, World Health Statistics, 2010 (World Health Organization, 2010b).

### Annex 3: Population Pyramids for MENA Countries, 2009 and 2030

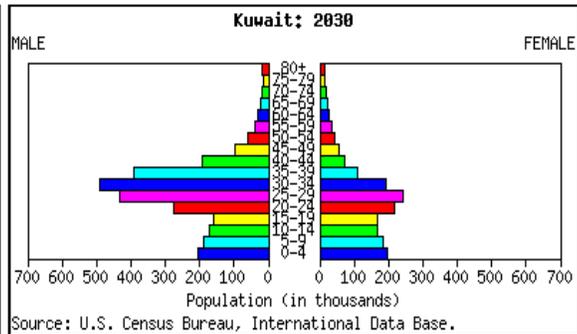
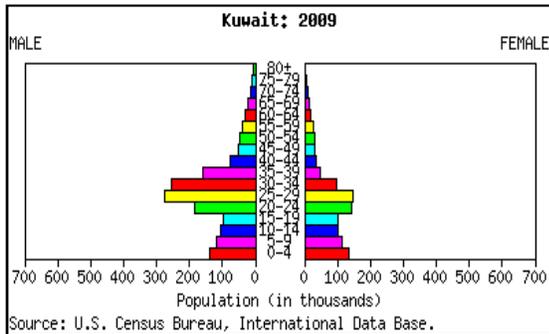
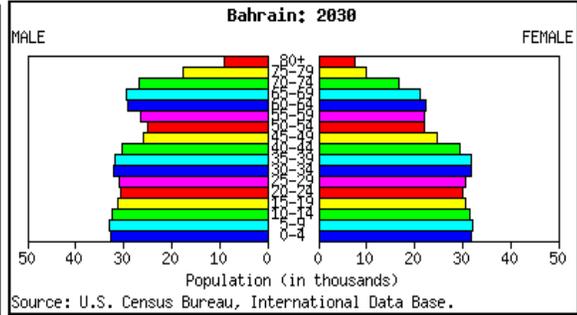
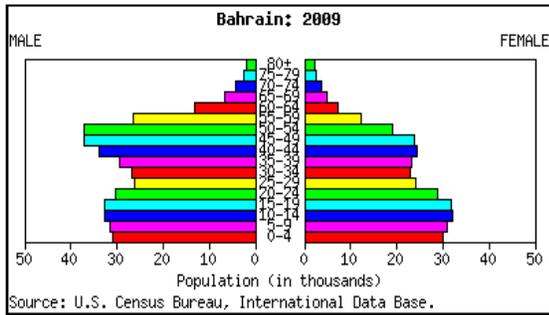


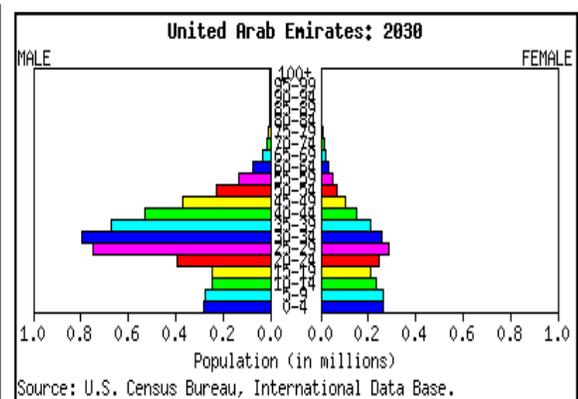
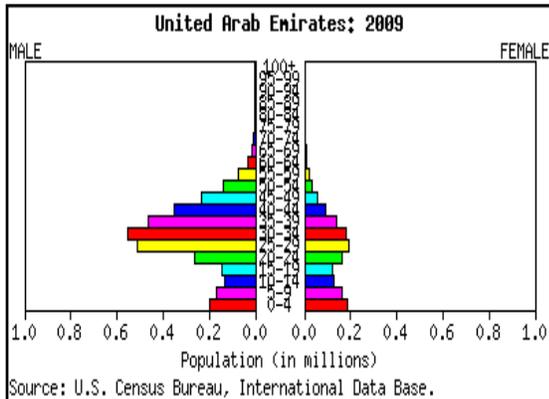
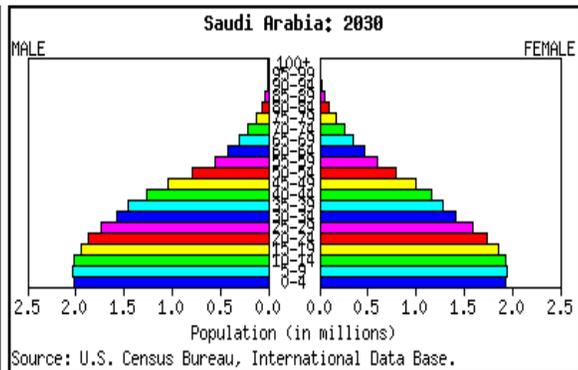
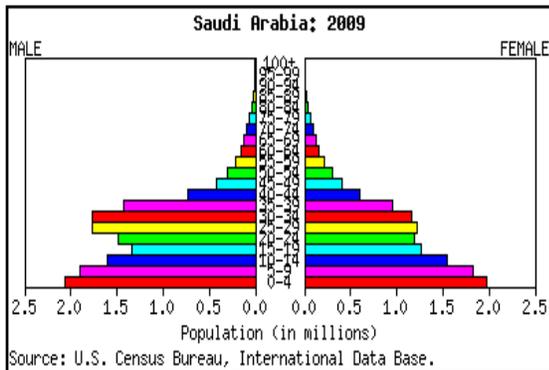
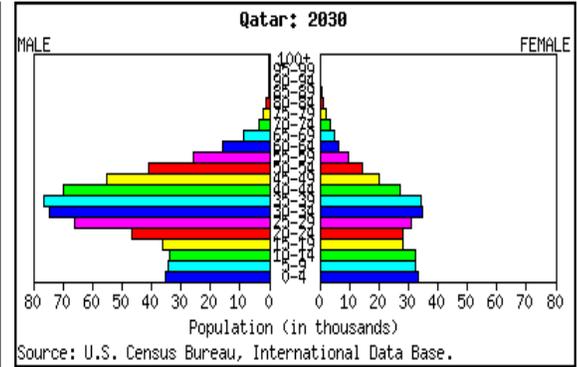
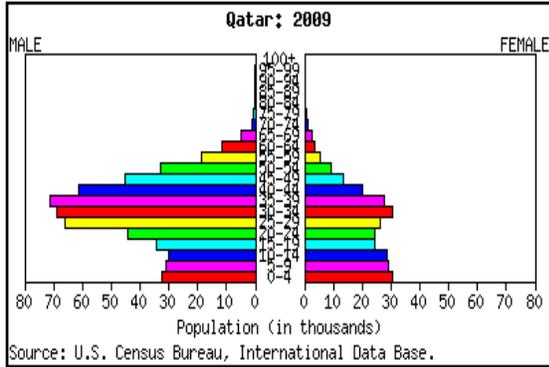
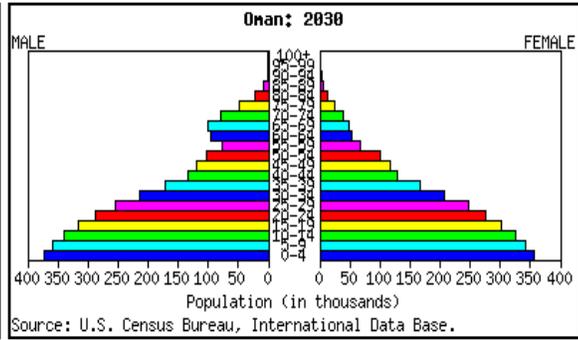
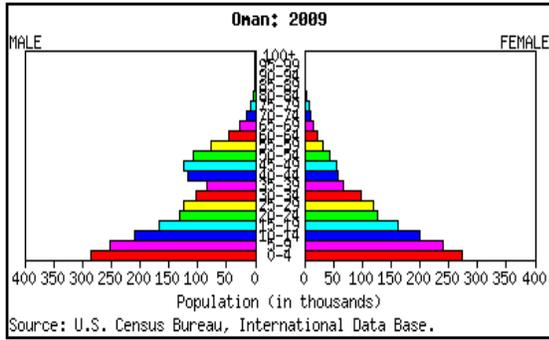






## Population Pyramids for GCC Countries





## Annex 4: Data and Background for Child Malnutrition

### Box 7: Glossary of Technical Terms for Nutrition

**Anemia:** defined according to a hemoglobin  $< 110\text{g/L}$ , as reported in *WHO Worldwide Prevalence of Anemia 1993-2005: a Global Database on Anemia*.

**Low birthweight:** a birth weight less than 2500 g.

**Malnutrition:** A broad term commonly used as an alternative to undernutrition, but technically it includes both undernutrition and overnutrition.

**Obesity:** In adults: a Body Mass Index  $>30\text{ kg/m}^2$ .

**Overweight:** In children: a weight-for-age of  $+2$  z scores or more above the 2006 WHO Child Growth Standards. In adults: a Body Mass Index  $> 25\text{ kg/m}^2$ .

**Stunting:** height-for-age of  $-2$  z scores or more below the 2006 WHO Child Growth Standards.

**Undernutrition:** Defined as the outcome of insufficient food intake and repeated infectious diseases. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted), and deficient in vitamins and minerals (micronutrient malnutrition).

**Underweight:** weight-for-age of  $-2$  z scores or more below the 2006 WHO Child Growth Standards.

**Vitamin A deficiency:** defined according to a serum retinol  $< 0.70\text{ }\mu\text{mol/L}$ , as reported in the *WHO Global Prevalence of Vitamin A Deficiency in Populations at Risk 1995-2005: WHO Global Database on Vitamin A Deficiency*.

**Wasting:** weight-for-height of  $-2$  z scores or more below the 2006 WHO Child Growth Standards.

**Table 39: Top Ten Targeted Nutrition Interventions**

			For Djibouti, Egypt, Iraq, Morocco, and Yemen		
Intervention	Unit Cost (US\$)	Approximate Return on Investment (%) or cost effectiveness (US\$) <sup>12, 20,21,22</sup>	Total Cost of Scaling Up (US\$)	Numbers of children or people currently uncovered who will be reached by scaling up the interventions	Costs as % of Government Health Expenditures <sup>28</sup>
1. Community nutrition programs for behavior change	16.50/child under 5/year	1400	342,853,500	21 million children under 5 years of age	2%
2. Vitamin A supplementation for children aged 6-59 months	2.64/child aged 6-59 months/year	1700	24,975,743	9.5 million children 6-59 months of age	<0.5%
3. Therapeutic zinc supplementation for children 6-59 months	2.20/child aged 6-59 months/year	Up to 1370	40,685,282	18.5 million children 6-59 months of age	<0.5%
4. Multi-micronutrient powders	7.92/child aged 6-23 months/year	3700 (iron) \$12.20 per DALY saved	41,063,807	5.2 million children 6-23 months of age	<0.5%
5. Prophylactic deworming	0.55/child aged 12-59 months/year	600	2,962,868	5.387million children aged 12-59 months of age	<0.5%
6. Iron-folic acid supplementation for pregnant and lactating women	4.40/pregnant or lactating woman/year	\$65-115 per DALY saved	12,467,884	2.8 million pregnant and lactating women	<0.5%
7. Iron fortification of wheat flour	0.20/person/year	800	9,599,000	48.0 million people	<0.5%
8. Salt iodization and iodized oil capsules	0.05/person/year	3000	2,926,262	58.5 million people	<0.5%
9. Complementary food for the prevention and treatment of moderate acute malnutrition	0.40/underweight child 6-23 months of age/day		85,958,973	1.7 million children of 6-23 months of age	0.5%

			For Djibouti, Egypt, Iraq, Morocco, and Yemen		
Intervention	Unit Cost (US\$)	Approximate Return on Investment (%) or cost effectiveness (US\$) <sup>12, 20,21,22</sup>	Total Cost of Scaling Up (US\$)	Numbers of children or people currently uncovered who will be reached by scaling up the interventions	Costs as % of Government Health Expenditures <sup>28</sup>
10. Treatment of severe acute malnutrition	200/child treated	\$41 per DALY saved	87,674,683	438,000 children 6-59 months of age	0.5%
<b>TOTAL</b>			651,168,000		3.8%

Source: The set of interventions, unit costs, and return on investment estimates were obtained from *Scaling Up Nutrition: What will it cost?*<sup>16</sup>. Methodology for the cost estimates can be found at: [www.worldbank.org/nutrition/profiles](http://www.worldbank.org/nutrition/profiles)

**Table 40: Country-specific costs of scaling-up 10 key nutrition interventions from existing coverage levels to full coverage of the target population (US\$ per year)**

	<b>Djibouti</b>	<b>Egypt</b>	<b>Iraq</b>	<b>Yemen</b>	<b>Morocco</b>
1. Community nutrition programs for behavior change	1,782,000	155,875,500	73,425,000	61,594,500	50,176,500
2. Vitamin A supplementation for children aged 6-59 months	208,334	19,444,284	NA - targeted	NA - targeted	5,323,125
3. Therapeutic zinc supplementation for children 6-59 months	211,464	18,497,226	8,713,100	7,309,214	5,954,278
4. Multi-micronutrient powders for children 6-23 months	174,630	20,222,414	9,495,086	4,878,580	6,293,096
5. Prophylactic deworming for children 12-59 months	40,928	NA	NA	1,612,562	1,309,378
6. Iron-folic acid supplementation for pregnant and lactating women	98,208	3,635,060	3,572,096	3,201,264	1,961,256
7. Iron fortification of wheat flour	169,800	4,905,400	4,219,200	183,400	121,200
8. Salt iodization	42,450	856,034	1,083,456	802,095	142,227
9. Complementary food for the prevention and treatment of moderate acute malnutrition	947,468	19,039,333	9,364,126	47,685,260	8,922,787
10. Treatment of severe acute malnutrition	1,461,024	33,631,320	17,109,360	13,821,059	21,651,920
<b>TOTAL</b>	<b>5,136,306</b>	<b>276,106,571</b>	<b>126,981,424</b>	<b>141,087,934</b>	<b>101,855,767</b>

## Annex 5: Statistical Data for Chapter 3 - Emerging Challenges

**Table 41: Age-Standardized Disability Adjusted Life Years (DALYs) per 100,000 population, by cause for MENA Countries, 2004**

	All causes	Communicable, maternal, perinatal and nutritional conditions		Noncommunicable Diseases		Injuries	
		DALY per 100,000	% total	DALY per 100,000	% total	DALY per 100,000	% total
<i>Non GCC MENA</i>							
<b>Algeria</b>	17785	5307	30%	10719	60%	1759	10%
<b>Djibouti</b>	35070	17871	51%	14329	41%	2870	8%
<b>Egypt</b>	20261	3891	19%	14927	74%	1443	7%
<b>Iran, Islamic Republic</b>	19432	3928	20%	12416	64%	3088	16%
<b>Iraq</b>	50618	12103	24%	19148	38%	19367	38%
<b>Jordan</b>	17042	2748	16%	12353	72%	1941	11%
<b>Lebanon</b>	18881	3050	16%	13053	69%	2778	15%
<b>Libyan Arab Jamahiriya</b>	16177	2835	18%	11562	71%	1780	11%
<b>Morocco</b>	17780	4638	26%	11340	64%	1803	10%
<b>Syrian Arab Republic</b>	16167	2395	15%	12315	76%	1456	9%
<b>Tunisia</b>	15873	4216	27%	9989	63%	1668	11%
<b>Yemen</b>	32541	11684	36%	16153	50%	4704	14%
<i>GCC Countries</i>							
<b>Bahrain</b>	14130	1413	10%	11428	81%	1289	9%
<b>Kuwait</b>	11659	1157	10%	9427	81%	1076	9%
<b>Oman</b>	14459	1529	11%	11544	80%	1386	10%
<b>Qatar</b>	11999	1351	11%	9507	79%	1141	10%
<b>Saudi Arabia</b>	17639	2532	14%	12257	69%	2849	16%
<b>United Arab Emirates</b>	11858	1490	13%	9247	78%	1121	9%

Source: World Health Organization -Department of Measurement and Health Information, compiled from the Global Burden of Diseases statistical database available on [www.who.int/evidence/bod](http://www.who.int/evidence/bod).

Notes:

1. Data for the Palestinian Territories were not available.
2. The Disability Adjusted Life Year or DALY is a health gap measure that extends the concept of potential years of life lost due to premature death (PYLL) to include equivalent years of 'healthy' life lost by virtue of being in states of poor health or disability (1). The DALY combines in one measure the time lived with disability and the time lost due to premature mortality. One DALY can be thought of as one lost year of 'healthy' life and the burden of disease as a measurement of the gap between current health status and an ideal situation where everyone lives into old age free of disease and disability.
3. Cause-specific death rates were age-standardized to the WHO global standard population (see Discussion Paper 31, [www.who.int/evidence](http://www.who.int/evidence)). Age-standardized death rates are calculated by applying age-specific death rates for the Member State to a global standard population. Comparison of cause-specific mortality risks across countries is facilitated by the use of age-standardized death rates to adjust for differences in population age distributions.

**Table 42: Death Rates per 100,000 population, by cause for MENA Countries, 2004**

	All causes	Communicable, maternal, perinatal and nutritional conditions		Noncommunicable Diseases		Injuries	
		deaths per 100,000	% total	deaths per 100,000	% total	deaths per 100,000	% total
<i>Non GCC MENA</i>							
<b>Algeria</b>	532	160	30%	321	60%	50	9%
<b>Djibouti</b>	1055	606	57%	375	36%	74	7%
<b>Egypt</b>	699	121	17%	546	78%	32	5%
<b>Iran, Islamic Republic</b>	548	80	15%	387	70%	82	15%
<b>Iraq</b>	1349	450	33%	491	36%	408	30%
<b>Jordan</b>	427	72	17%	307	72%	48	11%
<b>Lebanon</b>	750	77	10%	589	78%	85	11%
<b>Libyan Arab Jamahiriya</b>	451	73	16%	330	73%	49	11%
<b>Morocco</b>	552	112	20%	398	72%	42	8%
<b>Syrian Arab Republic</b>	388	56	14%	296	76%	36	9%
<b>Tunisia</b>	590	160	27%	382	65%	48	8%
<b>Yemen</b>	901	425	47%	382	42%	94	10%
<i>GCC Countries</i>							
<b>Bahrain</b>	355	32	9%	289	81%	34	10%
<b>Kuwait</b>	176	18	10%	130	74%	27	16%
<b>Oman</b>	310	25	8%	250	81%	35	11%
<b>Qatar</b>	189	23	12%	135	72%	30	16%
<b>Saudi Arabia</b>	425	69	16%	285	67%	71	17%
<b>United Arab Emirates</b>	156	25	16%	100	64%	31	20%

Source: World Health Organization -Department of Measurement and Health Information, compiled from the Global Burden of Diseases statistical database available on [www.who.int/evidence/bod](http://www.who.int/evidence/bod).

Notes:

1. Data for the Palestinian Territories were not available.

**Table 43: Access to basic health services in selected MENA countries**

	Immunization, DPT in 2007 (% of children ages 12-23 months)	Immunization, measles in 2007 (% of children ages 12-23 months)	Contraceptive prevalence (% of women ages 15-49)		Births attended by skilled health staff (% of total births)		Population with access to local health services (urban)	Population with access to local health services (rural)	Year
				Year		Year			
Algeria	95	92	61.4	2006	95.2	2006	..	..	
Djibouti	88	74	17.8	2006	92.9	2006	100	n/a	2002
Egypt	98	97	59.2	2005	74.2	2005	100	100	2008
Iran	99	97	78.9	2005	97.3	2005	100	95	2008
Iraq	..	..	49.8	2007	88	2006	98	87	2008
Jordan	98	95	57.1	2007	99	2007	100	96	2001
Lebanon	74	53	58	2005	98	2004	99	97	2000
Libya	98	98	53.7	2004	100	2006	100	100	2008
Morocco	95	95	63	2004	61	2004	66	77	2008
Palestinian Terr.	..	..	50.2	2006	98.9	2006	100	100	2008
Syria	99	98	58.3	2006	93	2006	100	90	2008
Tunisia	98	98	60	2006	95	2006	100	100	2008
Yemen	87	74	27.7	2006	35.7	2006	80	25	2008
<b>GCC</b>									
Bahrain	97	99	54	2006	99	2005	100	100	2003
Kuwait	99	99	50	2003	98	2006	100	100	2003
Oman	99	97	32	2000	98.1	2006	100	95	2008
Qatar	94	92	..	..	100	2006	100	100	2002
Saudi Arabia	96	96	32	2003	96	2004	100	95	1996
United Arab Emirates	92	92	..	..	100	2006	100	100	2008

Sources: The World Bank, World Development Indicators, 2009; and WHO EMRO Health System Observatory Data Base, 2010.

## Annex 6: Statistical Tables for Road Traffic Injuries Chapter

**Table 44: Road Safety Requirements and Compliance Rates, MENA Countries 2010**

Country	Maximum Urban Speed Limit		Drink-driving law			Motorcycle helmet			Seatbelt law		
	Km/h	Enforcement <sup>a</sup>	Legislative Status	% road traffic death due to alcohol	Enforcement <sup>a</sup>	Legislative Status	Compliance rate	Enforcement <sup>a</sup>	Legislative Status	Compliance rate	Enforcement <sup>a</sup>
Algeria											
Bahrain	50	4	Yes	8%	4	Yes	n/a	5	Yes	22%	4
Djibouti											
Egypt	60	6	Yes	n/a	4	Yes	70%	6	Yes	70%	7
Iran, I.R. <sup>b</sup>	50	6	Yes	n/a	1	Yes	13-15%	6	Yes	75-80%	8
Iraq	100	5	Yes	n/a	5	No	-	-	Yes	n/a	8
Jordan	50-80	6	Yes	n/a	3	Yes	n/a	4	Yes	65%	5
Kuwait	45	6	Yes	n/a	9	Yes	n/a	3	Yes	n/a	3
Lebanon	100	4	Yes	n/a	1	Yes	n/a	2	Yes	15%	4
Libya, Arab Jamahariyya	50	3	Yes	2%	5	Yes	n/a	7	Yes	5%	4
Morocco	60	5	No	3%	-	Yes	67%	4	Yes	75%	8
Oman	120	6	Yes	n/a	4	Yes	n/a	7	Yes	95%	9
Palestinian Territories	50	3	Yes	n/a	1	Yes	n/a	3	Yes	n/a	3
Qatar	100	7	Yes	n/a	6	Yes	90%	5	Yes	50%	7
Saudi Arabia	80	5	Yes	n/a	7	Yes	n/a	2	Yes	n/a	5
Syria	45-60	8	Yes	n/a	8	Yes	n/a	4	Yes	81%	9
Tunisia	50	5	Yes	1%	3	Yes	n/a	5	Yes	n/a	2
United Arab Emirates	60	7	Yes	n/a	8	Yes	n/a	8	Yes	61%	7
Yemen	n/a	3	Yes	n/a	n/a	No	-	-	No	-	-

- Enforcement score represents consensus based on professional opinion of respondents, on a scale of 0 to 10 where 0 is not effective and 10 is highly effective.
- Alcohol consumption is prohibited by law.
- km/h = Kilometers per hour.

**Table 45: Institutional Framework for Road Safety, MENA Countries in 2007**

Country	Lead Agency	Funded in National Budget	National Road Safety Strategy	Measurable Targets	Funded	Formal Road Safety Audits
Algeria						
Bahrain	General Directorate of Traffic	Yes	n/a	n/a	n/a	Yes
Djibouti						
Egypt	National Council for Road Safety	Yes	Yes	No	No	Yes
Iran, I.R.	Headquarter for Transportation and Fuel Management	Yes	multiple	n/a	N/a	Yes
Iraq	Supreme Council Road Safety	No	No (subnational)	n/a	n/a	No
Jordan	Road Safety Council	No	Yes	n/a	n/a	No
Kuwait	No	n/a	No	n/a	n/a	No
Lebanon	No	n/a	Yes	n/a	n/a	Yes
Libya, Arab Jamahariyya	No	n/a	No	n/a	n/a	No
Morocco	Interministerial Committee for Road safety	No	Yes	Yes	Yes	No
Oman	Yes (name n/a)	Yes	No	n/a	n/a	Yes
Palestinian Territory	No	n/a	No	n/a	n/a	No
Qatar	No	No	No	n/a	n/a	Yes
Saudi Arabia	High Council for Traffic	Yes	Multiple	n/a	n/a	Yes
Syria	National Committee for Road Safety	No	Multiple	n/a	n/a	Yes
Tunisia	National Observatory for Information, Training, Documentation and Study on Road Safety	Yes	Yes	Yes	Yes	No
United Arab Emirates	Ministry of Interior and National Transport Authority	Yes	Yes	Yes	Yes	Yes
Yemen	National Committee for Road Safety	No	Multiple	n/a	n/a	No

Source: National sources as reported in (World Health Organization, 2009b).

## Annex 7: Statistical Tables for NCD Chapter

**Table 46: Prevalence of Obesity (% of population, Body Mass Index  $\geq 30\text{kg}/\text{cm}^2$ ) MENA countries and selected comparator countries, 2002**

<b>Non-GCC MENA Countries</b>	<b>Males</b>	<b>Females</b>	<b>GCC countries</b>	<b>Males</b>	<b>Females</b>
Jordan	<b>19.6</b>	<b>40.2</b>	Bahrain	21.2	33.5
Egypt	19.6	39.3	Kuwait	<b>29.6</b>	<b>49.2</b>
Tunisia	7.7	28.8	United Arab Emirates	24.5	37.9
Iran, Islamic Republic of	9.4	25.0	Saudi Arabia	22.3	32.8
Lebanon	14.9	23.9	Qatar	16.6	27.9
Libyan Arab Jamahiriya	10.7	21.1	Oman	7.7	13.5
Syrian Arab Republic	10.5	20.8			
Morocco	3.7	19.0			
Algeria	4.5	11.9			
Djibouti	1.2	5.0			
Yemen	2.0	4.4			

<b>Comparator Countries</b>	<b>Males</b>	<b>Females</b>
Mexico	20.3	31.6
Costa Rica	10.6	22.7
Malaysia	1.6	6.8
Indonesia	0.2	2
Turkey	10.8	32.1
Japan	1.5	1.5

Source: Infobase WHO Accessed May 2010.

**Table 47: Taxes and Retail Price for a Pack of 20 Cigarettes in MENA, 2008**

Countries	Average price per pack	Specific excise tax per pack		Ad valorem excise tax		Total * taxation	Adult daily smoking prevalence
	US\$	(%)	US\$	(%)	US\$	(%)	Percent??
Algeria	0.98	53	0.52	0	0.00	68	27
Djibouti	0.68	0	0	44	0.30	44	...
Egypt	0.49	59	0.29	0	0.00	59	26
Iran	1.32	0	0.00	5	0.07	19	23
Iraq	0.63	0	0.00	9	0.06	23	19
Jordan	1.97	23	0.45	32	0.63	69	61
Lebanon	1.33	0	0.00	33	0.44	44	27
Libya	0.8	0	0	2	0.02	2	..
Morocco	2.16	1	0.02	50	1.08	66	28
Palestinian Terr.	2.1	..	..	..	..	...	..
Syria	0.62	3	0.02	11	0.07	30	41
Tunisia	1.3	2	0.03	47	0.61	65	56
Yemen	0.75	0	0	47	0.35	47	21
<b>GCC Countries</b>							
Bahrain	1.6	0	0	0	0.00	33	10
Kuwait	1.7	0	0	0	0.00	34	33
Oman	1.56	0	0	0	0	33	8
Qatar	1.65	0	0	0	0	33	..
Saudi Arabia	1.6	0	0	0	0	33	11
UAE	1.77	0	0	0	0	31	14
<b>High Income</b>	4.99	..	2.66	..	0.47	63	..
<b>Middle income</b>	2.06	..	0.73	..	0.28	49	..
<b>Low income</b>	1.06	..	0.27	..	0.14	39	..
<b>Global</b>	2.54	..	0.95	..	1.26	50	..

Source: Using data from (World Health Organization, 2009c)

Note: \* includes VAT and taxes other than excise tax; all data points are in 2008.

**Table 48: Population Goals for Nutrients and Features of Lifestyle Consistent with Major Public Health Problems in Europe**

Population goals for nutrients and features of lifestyle consistent with the prevention of major public health problems in Europe<sup>1</sup>.

Component	Population goals	Levels of evidence <sup>2</sup>
Physical Activity Levels (PAL)	PAL > 1.75 <sup>3</sup>	++
Adult Body Weight as BMI	BMI 21-22	++
Dietary Fat % E	<30 <sup>3</sup>	++
Fatty Acids % total E		
Saturated	< 10	++++
Trans	<2	++
Polyunsaturated (PUFA)		
n-6	4-8	+++
n-3	2 g linolenic + 200 mg very long chain	++
Carbohydrates Total % E	>55	+++
Sugary food consumption, occasions per day <sup>4</sup>	=< 4	++
Fruit and Vegetables (g.d <sup>-1</sup> )	>400	++
Folate from food (µg.d <sup>-1</sup> )	>400	+++
Dietary Fibre (g.d <sup>-1</sup> )	>25 (or 3g/MJ)	++
Sodium (expressed as sodium chloride) (g.d <sup>-1</sup> )	<6	+++
Iodine (µg/d)	150 (infants - 50) (pregnancy - 200)	+++
Exclusive Breast Feeding	About 6 months	+++

- Other nutrient goals, e.g. on iron, calcium, alcohol, water and vitamin D are important and are included in the text.
- Levels of evidence are based on those used in several guideline systems, e.g. the Cochrane System, the US Academy of Science scheme and the systems used in the assessment of diet in relation to cancer by WCRF (1997) and member state expert bodies. These other systems are included because it is often difficult to undertake dietary studies in a double blind placebo controlled manner as for drug trials. Thus the best evidence is considered as convincing by these expert groups when integrating meta-analyses of different types of study but are nevertheless classified as either ++ or only +.
  - ++++ Multiple double blind placebo controlled trials.
  - +++ Single study of double blind analyses or, for breast-feeding, a series of non-double blind analyses.
  - ++ Ecological analyses compatible with non-double blind intervention and physiological studies.
  - + Integration of multiple levels of evidence by expert groups.
 These trials and other analyses do not prove that only the precise values in Table 1 are correct, but the evidence from dietary change or differences support these values.
- Sedentary societies will probably need to be on a lower fat intake, e.g. 20-25% to avoid excessive weight gain. The PAL value is equivalent to 60-80 min. walking daily to avoid weight gain on high fat intakes; this includes the 30 min. goal for preventing cardiovascular diseases and diabetes.
- An occasion includes any episode of food and drink consumption in the day. This limited intake is compatible with many member states' limits on total sugar intake and the Nordic concern to limit the intake of children and those adults on low energy intakes to no more than 10%.

Source: European Commission, 2000

**Table 49: Incremental Cost-effectiveness of Selected Population-based and Clinic-based Interventions in the MENA Region**

Target	Risk factor type	Intervention	Range in cost per QALY averted (high to low effect)
<b>Population-based</b>	Tobacco	33% price increase	\$6 - \$89
		Nicotine replacement therapy	\$47 - \$750
		Non-price interventions	\$115 - \$1,432
	Diet	Saturated fat reduction	\$4,012
		Trans fats reduction by substitution	\$25 - \$2,259
		Salt reduction by legislation and public education	\$3,056
	Injury	Publicized traffic enforcement of seatbelts, child restraints, and breath test	\$1,365 - \$2,166
		Speed bumps at 10% of most lethal junctions	\$150 - \$238
<b>Clinic-based</b>	Complications		
	Heart attacks	Aspirin	\$17
		Aspirin +BP med	\$20
		Asprin+ BP med+streptokinase	\$715
		Aspirin+BP med +streptokinase +tissue plasminogen activator	\$15,893
	Diabetes	Blood Pressure control	Cost saving
		Foot care	Cost saving
		Improved blood glucose control (HbA1c < 9.0)	Cost saving

Source: (Jamison & Bremen, 2006).

Note: These models are based on the best available data but their usefulness may vary widely across countries and regions.

**Table 50: Tobacco Consumption Information for MENA and comparison countries, 2006**

Country	Age adjusted prevalence daily smokers per 100		Smoking among Youth age 13-15	
	males	females	males	females
<b>High Income</b>				
Bahrain	13.2	1.7	28.0	11.7
Kuwait	*	*	28.0	14.3
Oman	11.0	0.3	24.1	7.6
Qatar	*	*	21.1	12.7
Saudi Arabia	13.2	2.4	*	*
UAE	13.9	1.2	25.2	13.2
<b>Middle Income</b>				
Algeria				
Djibouti	*	*	17.2	10.7
Egypt	27.1	1.2	16.0	7.6
Iran, IR	23.1	4.0	17.6	8.9
Iraq	10.0	1.6	29.0	13.1
Jordan	62.7	9.8	31.6	24.0
Lebanon	27.5	7.0	65.8	54.1
Libya	*	*	16.8	8.1
Morocco	27.9	0.2	12.5	8.2
Palestinian Territories	*	*	37.8	17.4
Syria	42.0		22.9	15.0
Tunisia	49.2	1.9	24.9	6.0
<b>Low income</b>				
Yemen	*	*	19.7	13.7
<b>Benchmark Countries</b>				
Mexico	21	6	21	6
Costa Rica	9.9	2.4	25	6
Malaysia	42	2	42	2
Turkey	45	15	45	15

Source: (World Health Organization, 2009c)

## Annex 8: Tables and Data for Chapter on Equity and Out-of-Pocket Payments

**Table 51 Out of Pocket and Catastrophic Payments on Health – Data Sources and Descriptions**

Country	Year	Survey	Sample size (No. of households)	Survey Type	Recall period	Poverty Line
Yemen	2005/6	Household Budget Survey	13,136	National	1 month	World Bank poverty line of \$1.08/day
Libya	2002/3	Economic and Social Survey	11,111	National	1 month	National poverty line of one-third mean per capita income
Lebanon	2004/5	Multi-Purpose Survey of Households	13,000	National	1 month	National poverty line of \$4.4/day
Palestinian Territories	1998, 2004, 2005, 2006, 2007	Palestine Consumption and Expenditure Survey (PECS)	1,440	National	1 month	World Bank poverty line of \$2.15/day
Iran	1996, 2001, 2006	Household Expenditure and Income Survey	22,000 – 31,000	National	1 month	World Bank poverty line of \$2.15/day
Egypt	2006/7	User-Fee Exemption Program, Baseline and Follow-up Survey; <i>included for purposes of impact evaluation example</i>	2,954	Four governorates (Alexandria, Manoufieh, Qana, Suez); Regionally representative	1 month	National poverty line of LE 118.59/day
Tunisia	2005	National Health Survey (L'enquête nationale de santé)	6,538	National	1 month	World Bank poverty line of \$2.15/day

Sources: Yemen: Central Statistical Organization; Libya: National Corporation for Information and Documentation; Lebanon: Ministry of Social Affairs and Central Administration for Statistics; Palestinian Central Bureau of Statistics; Iran: Statistical Center of Iran; Egypt: Ministry of Health; Tunisia: Ministry of Public Health.

### Annex 9: Statistical Annex on Health Financing in MENA Region

**Table 52: Total Health Expenditures as a Percent of GDP, MENA Countries and Global averages, 1995 – 2008**

Countries/ Income Groups	1995	2008	% change	Annualized % change
<b>Gulf Cooperation Council Countries</b>				
Bahrain	4.6	3.6	-22%	-0.8%
Kuwait	3.9	2.0	-49%	-2.2%
Oman	3.6	2.4	-34%	-1.4%
Qatar	3.7	3.3	-10%	-0.3%
Saudi Arabia	2.3	3.3	47%	1.3%
United Arab Emirates	4.0	2.4	-40%	-1.7%
<b>GCC/ High Income Mean</b>	3.7	2.8	-23%	-0.9%
<b>High Income Mean (global)</b>	6.8	7.5	11%	0.3%
<b>Middle Income Countries</b>				
Algeria	4.2	4.5	8%	0.2%
Egypt	3.9	4.8	22%	0.7%
Iran	4.7	6.3	35%	1.0%
Jordan	7.7	9.1	18%	0.6%
Libya	3.7	2.8	-23%	-0.9%
Morocco	3.9	5.3	37%	1.1%
Syria	5.5	3.2	-42%	-1.8%
Tunisia	6.1	6.0	-3%	-0.1%
Lebanon	10.7	8.8	-18%	-0.7%
Djibouti	4.0	8.5	112%	2.5%
Iraq/ 1996 figure	1.0	2.7	170%	3.4%
Palestinian Territories	8.3	n/a	n/a	n/a
<b>MENA Middle Income Mean</b>	5.7	5.6	-1%	-0.04%
<b>Middle Income Mean (global)</b>	5.6	6.2	11%	0.3%
<b>Low Income Countries</b>				
Yemen	4.5	3.7	-18%	-0.7%
<b>Low Income Mean (global)</b>	4.0	5.7	43%	1.2%

Source: Calculated from WHO-WHOSIS National Health Accounts; accessed May 2010.

**Table 53: Total Per Capita Health Expenditures (in constant 1995 US\$)**

	1995	2008	Total Percent Change 1995-2008	Annualized Percent Change
<b>Gulf Cooperation Council Countries</b>				
Bahrain	556	921	66%	1.7%
Kuwait	740	927	25%	0.8%
Oman	279	422	51%	1.4%
Qatar	683	2,704	296%	4.7%
Saudi Arabia	214	572	168%	3.3%
United Arab Emirates	858	1,429	66%	1.7%
GCC/ High Income Mean	555	1,162	109%	2.5%
Global High Income Mean	1,697	3,066	81%	2.0%
<b>Middle Income Countries</b>				
Algeria	75	205	175%	3.4%
Egypt	44	111	151%	3.1%
Iran	96	294	208%	3.8%
Jordan	145	273	88%	2.1%
Libya	232	383	65%	1.7%
Morocco	58	133	131%	2.8%
Syria	60	76	27%	0.8%
Tunisia	149	213	43%	1.2%
Lebanon	431	551	28%	0.8%
Djibouti	39	81	110%	2.5%
Iraq	n/a	88	n/a	n/a
Palestinian Territories	181	n/a	n/a	n/a
Middle Income Mean	137	219	60%	1.6%
Global Middle Income mean	145	273	88%	2.1%
<b>Low Income Countries</b>				
Yemen	46	46	-1%	-0.04%
Global Low Income Mean	19	31	66%	1.7%

Source: Calculated from WHO-WHOSIS National Health Accounts; accessed May 2010.

**Table 54: Public Spending on Health as Percentage of Total Government Spending in MENA with Global Averages, 1995-2008**

Countries/ Income Groups	1995	2008	% change	Annualized % change
<b>Gulf Cooperation Council Countries</b>				
Bahrain	11.3	9.8	-13%	-0.5%
Kuwait	6.3	6.3	0%	0.0%
Oman	6.9	4.7	-32%	-1.3%
Qatar	5.0	9.7	94%	2.2%
Saudi Arabia	4.7	8.8	85%	2.1%
United Arab Emirates	8.1	8.9	10%	0.3%
<b>GCC/ High Income Mean</b>	7.0	8.0	14%	0.4%
<b>High Income Mean (global)</b>	11.6	14.1	22%	0.7%
<b>Middle Income Countries</b>				
Algeria	10.0	10.7	6%	0.2%
Egypt	5.3	7.1	34%	1.0%
Iran	9.3	11.4	23%	0.7%
Jordan	14.3	11.4	-21%	-0.8%
Libya	6.1	5.4	-12%	-0.4%
Morocco	3.8	6.2	63%	1.7%
Syria	7.7	6.0	-22%	-0.8%
Tunisia	8.2	8.9	9%	0.3%
Lebanon	9.8	12.4	26%	0.8%
Djibouti	6.2	14.2	127%	2.8%
Iraq/ 1996 figure	1.9	3.1	58%	1.7%
Palestinian Territories				
<b>MENA Middle Income Mean</b>	8.1	8.8	9%	0.3%
<b>Middle Income Mean (global)</b>	9.8	10.6	8%	0.3%
<b>Low Income Countries</b>				
Yemen	6.9	4.5	-35%	-1.4%
<b>Low Income Mean (global)</b>	7.9	9.6	22%	0.7%

Source: Calculated from WHO-WHOSIS National Health Accounts; accessed May 2010.

**Table 55: Out of Pocket Spending as % of Total Health Expenditure in MENA Region with Global Averages, 1995-2008**

Countries/ Income Groups	1995	2008	% change	Annualized % change
<b>Gulf Cooperation Council Countries</b>				
Bahrain	21.7	19.7	-9%	-0.3%
Kuwait	16.3	21.3	30%	0.9%
Oman	10.2	17.0	67%	1.7%
Qatar	35.0	26.5	-24%	-0.9%
Saudi Arabia	15.3	6.3	-59%	-2.9%
United Arab Emirates	56.1	45.5	-19%	-0.7%
<b>GCC/ High Income Mean</b>	25.8	22.7	-12%	-0.4%
<b>High Income Mean (global)</b>	22.1	20.8	-6%	-0.2%
<b>Middle Income Countries</b>				
Algeria	23.9	15.3	-36%	-1.5%
Egypt	48.0	58.7	22%	0.7%
Iran	46.3	51.7	12%	0.4%
Jordan	24.4	33.4	37%	1.1%
Libya	48.1	24.1	-50%	-2.3%
Morocco	52.7	56.1	6%	0.2%
Syria	60.3	54.9	-9%	-0.3%
Tunisia	37.9	42.5	12%	0.4%
Lebanon	55.3	40.0	-28%	-1.1%
Djibouti	39.3	23.6	-40%	-1.7%
Iraq/ 1996	59.0	18.8	-68%	-4.1%
Palestinian Territories/ 1996	46.1	n/a	n/a	n/a
<b>MENA Middle Income Mean</b>	43.6	40.0	-8%	-0.3%
<b>Middle Income Mean (global)</b>	35.4	32.2	-9%	-0.3%
<b>Low Income Countries</b>				
Yemen	65.5	58.0	-11%	-0.4%
<b>Low Income Mean (global)</b>	50.0	45.8	-9%	-0.3%

Source: Calculated from WHO-WHOSIS National Health Accounts; accessed May 2010.

**Table 56: Private Insurance as Percentage of Total Private Health Expenditure in MENA with Global Average, 1995-2008**

	1995	2008	% change	Annualized % change
<b>Gulf Countries</b>				
Bahrain	23.39	14.88	-36%	-1.5%
Kuwait	6.20	8.43	36%	1.0%
Oman	23.12	24.01	4%	0.1%
Qatar	0.00	0.00	0	0
Saudi Arabia	13.63	36.66	169%	3.4%
United Arab Emirates	19.66	22.23	13%	0.4%
<b>GCC/ High Income Mean</b>	14.33	17.70	24%	0.7%
<b>High Income Mean (global)</b>	17.59	17.96	2%	0.1%
<b>Middle Income Countries</b>				
Algeria	2.91	5.13	76%	1.9%
Egypt	1.02	0.22	-79%	-5.0%
Iran	1.96	3.80	94%	2.2%
Jordan	4.73	6.90	46%	1.3%
Libya	0.00	0.00	0%	0.0%
Morocco	22.19	13.69	-38%	-1.6%
Syria	0.00	0.00	0%	0.0%
Tunisia	19.94	16.58	-17%	-0.6%
Lebanon	20.36	17.30	-15%	-0.5%
Djibouti	1.70	1.37	-20%	-0.7%
Iraq	n/a	0.00	n/a	n/a
Palestinian Territories	n/a	n/a	n/a	n/a
<b>MENA Middle Income Mean</b>	7.48	6.50	-13%	-0.5%
<b>Middle Income Mean (global)</b>	8.86	8.24	-7%	-0.2%
<b>Low Income Countries</b>				
Yemen	2.21	1.60	-27%	-1.1%
<b>Low Income Mean (global)</b>	2.11	3.04	44%	1.2%

Source: Calculated from WHO-WHOSIS National Health Accounts; accessed May 2010.

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