

Country report Lebanon – October 2014



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I. Structure of Health Care in Lebanon

Basic information

The Republic of Lebanon is a parliamentary democracy, having declared independence in 1943. The first evidence of civilisation predates recorded history, and the earliest mention of the name Lebanon dates back more than 4,000 years ago. In ancient times it has been the historical home of the Canaanites (later called Phoenicians), and has had a rich history at the cross-roads of cultures from the Mediterranean, Middle East and Asia.

A small country, Lebanon has endured numerous occupations, and more recently suffered in the 1975-1990 war, which damaged much of the infrastructure and led to considerable emigration. The country has undergone considerable tension since 2005 due to political standoffs between political parties, in part as a result of the general political situation in the region. With more than 20% of the current inhabitants being refugees governmental and civil institutions are stretched in terms of both human resources and finances to cope with the current situation. Despite isolated violent incidents between militants and the army on border areas with Syria, the majority of the country is stable security-wise.

Lebanon is at present a middle-income country with a population of 4.6 million inhabiting a land of 10,452 km². Due to the conflict in neighbouring Syria, an additional 1.2 million refugees have entered Lebanon since 2011. Almost two-thirds of the population is between ages 15-64 years, while 22% is under 15 year and 12% above 65years. Lebanon has one of the highest proportions of elderly in Middle East North African (MENA) region. About 87% of the population lives in urban areas.

Reforms over the past two decades have helped rebuild and develop much of the country; however challenges remain due to the political instability in the past nine years. Nevertheless development in the face of adversity has been a consistent trend in Lebanon, and numerous advances have been made, including in improved health services and key indicators such as life expectancy and maternal and child mortality.

Structure of health care

The healthcare sector in Lebanon is a mix of public and private stakeholders. The total health expenditure has decreased in recent years and is currently at 7.3% of gross domestic product (GDP), or \$2.8 billion. Out-of-pocket expenditure as a percentage of private expenditure on health is 43%, also having decreased considerably due to reforms undertaken over the past decade. For these improvements in the healthcare system Lebanon has been cited by WHO as a case study. Life expectancy in Lebanon has increased over the past two decades and is now at 76.2 years for men and 78.9 years for women.

The focus of the healthcare system has traditionally been heavily on curative services; however recent reforms have sought to include prevention-focused programs.

Lebanon has a highly fragmented healthcare system, with a majority of the population receiving healthcare services from private providers, many of whom are dependent on public financing. Since 1962 all citizens that are not covered by any formal insurance scheme is entitled to hospitalisation coverage by the Ministry of Public Health (MoPH), thus the ministry acts as an insurer of last resort to about 53% of the population. Formal insurance schemes include the National Social Security Fund (NSSF) – mandatory for formal sector workers and students, Civil Servants Cooperative (CSC), and four separate schemes for army/police branches. The NSSF covers about 23% of the population, CSC 4%, and all army/police schemes about 9% altogether. Private insurance coverage is only 7% of the population. The MoPH is currently contracted with 24 public and 106 private hospitals to cover about 240,000 hospitalizations annually. The current system of contracting is being developed from one linking reimbursement rates to accreditation results only, to one that includes hospital Casemix and performance indicators.

Primary care: the Ministries of Public Health and of Social Affairs both subsidise and operate numerous Primary Healthcare Centres (PHCs), many in collaboration with local municipalities Non-Governmental Organisations (NGOs). Maternal and child health, vaccination and essential medications are prioritised in terms of services covered. The impact of PHCs has been considerable, given the modest resources needed to run them. The PHC network has doubled since 2009, now including 182 centres which provide a basic package including:

- Immunisation
- Maternal and child health
- Reproductive health
- General medical care
- Dental care
- Essential medication for chronic conditions (provided by MoPH).

The network currently has about 1.1 million visits annually (excluding refugees which have limited coverage). The PHCs charge a fee of about \$10 per visit, which is waived based on assessed ability to pay. Inability to pay for primary care visit is not a reason for refusal of service. Ambulatory care is generally provided by the private sector and constitutes a major source for out of pocket payment, as it is not covered by most insurance schemes.

A major limitation has been decreased governmental spending on healthcare, with the budget of the MoPH receiving a continually decreasing share of the governmental budget. This has been exacerbated by the Syrian refugee crisis. Though most refugees are covered by UN or NGO schemes, the MoPH subsidises essential medication. As a result MoPH spending on medication increased 9% from 2012 to 2013 alone.

II. Risk factor statistics

Non-communicable diseases (NCDs) are estimated to account for 85% of total deaths in Lebanon, with cardiovascular diseases accounting for 47% of deaths alone, followed by cancers (22%), chronic respiratory diseases (4%), diabetes (4%) and other NCDs. Of the total mortality, ischemic heart disease accounts for about 24% deaths, cerebrovascular disease 9%, hypertensive heart disease 5% and inflammatory heart disease 2%. There is a strong need for more reliable death certification, so as to allow more accurate and regular estimates of mortality causes and risk factors in Lebanon.

Lebanon has among the highest prevalence of tobacco use in the Middle East North African (MENA) region, with 43% of men and 32% of women smoking any form of tobacco. Due to the re-emergence of waterpipe smoking since the mid 1990s, a considerable proportion of the youth has taken up waterpipe smoking. This results in a double burden due to both cigarette and waterpipe smoking. Cigarette smoking alone is estimated to be responsible for 22% of national mortality, three-fourths of which due to cardiovascular disease.

The prevalence of obesity in Lebanon has been on an increasing trend, with the high migration to urban areas suggested as an important factor, along with the consumption of unhealthy food and beverages and physical inactivity.

Lifestyle and risk factors	Male	Female	Remarks	Sources*
Smoking, any tobacco	43.2%	33.8%	≥18y	NTCP, 2012
Smoking, cigarette	32.3%	20.5%	≥18y	NTCP, 2012
Smoking, youth, any tobacco	41.9%	31.4%	13-15y	GYTS, 2011
Smoking, youth, cigarette	17.7%	6.0%	13-15y	GYTS, 2011
Obesity (BMI>30)	26.4%	29.7%	≥20y	WHO, 2008
Diabetes	13.8%		≥30y	Tohme <i>et al.</i> , 2004
Raised blood pressure	33.9%	26.1%	≥25y	WHO, 2008
Raised blood glucose	13.0%	11.0%	≥25y	WHO, 2008
Physical activity - inactive	46.7%		≥25y	WHO & Sibai <i>et al.</i> , 2013
Physical activity - moderate	31.1%		≥25y	WHO & Sibai <i>et al.</i> , 2013
Physical activity - health enhancing activity	22.1%		≥25y	WHO & Sibai <i>et al.</i> , 2013
Salt intake in grams/day	8.6	5.9	≥20y	Nasreddine <i>et al.</i> , 2008
Alcohol consumption, per capita in liters of pure alcohol	3.9	0.8	≥15y	WHO, 2010
Alcohol consumption, per capita in liters of pure alcohol, drinkers only	30.9	11.1	≥15y	WHO, 2010

*see list of references page 11

In a recent survey among 25-64 year olds it was shown that:

- 16.1% have never had their blood pressure measured by a doctor or other health worker
- 29.6% have never had their blood glucose measured
- 16.5% have been told that they have elevated cholesterol and among these 41.2% are taking cholesterol medications; 74.5% are following a special diet; 58.3% are doing exercise after being told of their raised cholesterol

III. Prevention methods and main actors

There are several main actors related to prevention of cardiovascular disease in Lebanon. These include:

- The [Ministry of Public Health](#) (MoPH)
- Municipalities
- The [Lebanese Order of Physicians](#) (*in Arabic language only*)
- [Lebanese Society of Cardiology](#) (LSC)
- [Lebanese Order of Nurses](#)
- [Syndicate of Private Hospitals](#)
- NGOs
- WHO country office
- Public health professionals at various institutions.

However an important challenge is to develop collaboration among these main actors at least at the strategic level.

The MoPH has possibly the largest role to play, in part through its country-wide network of Primary Healthcare Centres (PHCs) which is in collaboration with NGOs. Almost all citizens could have easy access to a PHC, however the services currently offered at these centres are limited, and there is wide variation in quality of services. To this end the MoPH is currently undertaking reforms to the PHC network. A limitation is that there currently is no specific NCD department at the MoPH, and initiatives tend to run independently under different programs such as tobacco control and primary healthcare.

The involvement of medical and public health professionals, particularly general practitioners, cardiologists and health behaviour specialists would be an important component of any national approach. Given the decentralisation of some governance to municipalities Lebanon, they are especially influential actors that could play a far greater role in prevention activities. Some municipalities currently subsidise or support PHCs and sponsor local health activities such as diabetes screening or running events.

Municipalities also have a role in regulating the use of outdoor diesel generators that are widespread in Lebanon, and likely to be an important contributor to cardiovascular and respiratory disease, as well as having a role in ensuring enforcement of the new tobacco control law which banned smoking in all indoor public places and all tobacco advertising, promotion and sponsorship.

NGOs have an important role to play, particularly in awareness activities which are often held in conjunction with international health days on issues such as diabetes, healthy diet, tobacco control, drug abuse, mental health and others. They are particularly active in engaging schools, however the methods used are not always those considered to be cost-effective so there remains room for improvement.

Over the past decade there has been curriculum updates in some medical schools to include greater material on preventive cardiology. This varies by medical school, and there is no national standard set, though some programs have US/French/other international accreditation. The same applies to cardiology residencies.

IV. Main prevention activities

Examples of recent national initiatives include the new tobacco control law #174 which was legislated in 2011, whose measures included banning all smoking in indoor public places (100% smokefree), all tobacco advertising, promotion and sponsorship, and increasing the tobacco products warning label to 40% for both sides. This initiative was led by the [National Tobacco Control Program](#) at the MoPH, supported by an alliance of NGOs and concerned health professionals and citizens. Compliance with the indoor smoking ban was at 69% in the summer of 2013, however with the ongoing refugee crisis and precarious political situation governmental authorities are in general not prioritising its enforcement, and this issue is likely to require much effort to ensure compliance with all aspects of the law increases. The tobacco industry has also been particularly active in trying to circumvent the implementation of the law, including by placing indirect advertising in supermarkets and requesting 'non-binding' legal opinions from specific judges in order to confuse the public.

Other recent initiatives also include the Lebanese Action on Sodium and Health, which aims to reduce salt consumption in Lebanon, as well as national activities and campaigns on World Health Day, Heart Failure campaign, Anti-Drugs campaign, the Beirut Marathon and the Walk-for-Diabetes.

The quality of preventive cardiology at primary health centers varies and private providers often over-exploit this to gain patients. Preventive services are included at PHCs, however this is also limited, for example most healthcare professionals are not trained to provide smoking cessation advice. Nutritional counseling is more widely available however, though individually-tailored counseling is limited. Medications for CVD prevention are accessibly to most patients, regardless of ability to pay.

Since 2003 the LSC in collaboration with the MoPH has run the Lebanese Interventional Coronary angiographies and angioplasties Registry (LICOR). This registry has been functioning over the past decade with the following aims:

- Monitoring the extent and pattern of use of coronary angiographies and to examine appropriateness of performing the procedure in the country.
- Evaluate the extent to which clinical practice in Lebanon correlates with European and international figures.
- Assess whether or not there are discrepancies in clinical practice across various hospitals throughout the country.
- Establish a quality assurance program for clinical practice in each hospital and to help benchmark individuals and institutions to the national standard of care.
- Have an objective tool to build up and improve health care policies in this field in the country.

LSC has also been active in promoting and offering trainings on ESC clinical guidelines to cardiologists and healthcare professionals.

V. Cardiac Rehabilitation

There is currently no national strategy regarding cardiac rehabilitation, and initiatives vary among various healthcare institutions. The below is an example of one initiative at one of the largest hospitals in Lebanon.

The Physical Therapy Department (PTD) at the American University of Beirut Medical Centre (AUBMC) is the only centre in Lebanon providing cardiac rehabilitation (CR) for adult patients. The program started in January 2014 and is divided into two parts:

- **Primary prevention** addressing patients whose medical condition constitutes a risk factor for the development of cardiac problems i. e. diabetes mellitus, hypercholesterolemia.
- **Secondary prevention** provided in four phases, addresses patients who have had a cardiac incident and starts in October 2014.
 - Phase I: rehabilitation is provided at patient's bedside and consists of flexibility exercises and ambulation. Patient is monitored by telemetry. The intensity of exercises is based on the "Rate of Perceived Exertion".
 - Phase II: provided on outside basis in the PTD. Patient is monitored by telemetry. The intensity of exercises is based on the stress test results.
 - Phase III: patient will exercise in the PTD and is monitored by printing a short strip of ECG through the defibrillator paddles.
 - Phase IV: patient is educated about monitoring his/her vital signs and asked to exercise in a gymnasium.

The Guidelines of the American Association for Cardiovascular and Pulmonary Rehabilitation (AACVPR) are implemented in the assessment and therapeutic processes of care.

Organisation of the Program: The program is provided on group basis, four patients per group. Currently one group is performing in the primary prevention. Ten patients received treatment to date with a course of 12 sessions. It is expected to have two groups starting October 2014. The secondary prevention, based on the medical centre cardiologists' survey, is expected to start with two groups with a course of 20 sessions distributed over a period of two months.

Human Resources: One part time physiotherapist specialised in CR is running the program. He will be on full time basis with the opening of the secondary prevention program. One part time nurse specialised in critical care and working at the Coronary Care Unit is assisting the therapist in monitoring patients. Nutrition counselling is available for every new group. One Cardiology fellow is present during the sessions for any emergency. There is a need to train two more physiotherapists and to ensure a continuing education program for the therapists and the nurse.

Equipment: For emergency and unexpected incidents an emergency carriage including a defibrillator is available in the treatment room and checked out daily. Oxygen tanks, gluco-test machine and machines to check the blood pressure during exercises are available.

Therapeutic equipment: one treadmill, one ergometer and one hand ergometer, dumbbells and elastic bands of different weights and resistances are available for aerobic and resistance exercises. There is a need for one recumbent stepper with upper extremities (Nu step). Patient education material is available in English and Arabic languages.

Outcome measures and fees: Decrease in hospital admission, improvement in metabolic profile, and endurance capacity are checked by auditing patients' files. Patients pay out of pocket. Third party coverage is unavailable which impacts negatively the referral rate to the program.

VI. The future

1. Strategy: Lebanon lacks a comprehensive strategy for tackling cardiovascular diseases. The current fragmented approach of various actors is a considerable challenge to overcome, however increased collaboration and effective leadership is essential. This may fall under the responsibilities of the MoPH, LSC and other major stakeholders.

2. Training: The training of public health and medical professionals in cost-effective prevention strategies is also an essential factor to ensure success. Various NGOs invest considerable effort in activities that could have greater and long-lasting impact if supported by evidence-based approaches.

3. Cardiac rehabilitation: There is a clear need to encourage hospitals to invest in establishing rehabilitation services as this is currently only found in one hospital in Lebanon.

4. Coordination needed: Greater coordination among stakeholders and utilisation of low cost and effective approaches tailored for the local population may be the most appropriate response to the challenges being faced by health advocates in Lebanon today. It would also be important to coordinate with UN agencies and NGOs involved in the response to the Syrian refugee crisis so that any national strategy does not only include the citizen population, but also refugees.

And last but not least: It is important to work together with media professionals and regain the public attention on prevention activities. The current political/security situation has diverted much of the media's attention, as well as that of most policymakers. This is despite the fact that isolated border incidents or bombings have altogether claimed fewer lives in the past four years than cardiovascular disease does in one week!

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