

Country report State of Libya – April 2018



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Baseline information about Libya

Libya is located in North Africa on the southern coast of the Mediterranean Sea between 18° and 33° north latitude and 9° and 25° east longitude. It has a land area of 1,665,000 square kilometers and coast length on the Mediterranean 1770 KM. The estimated population of Libya is 6.5 million people 2017 census. The population living in urban areas is high at 88%.

Libya is bordered by Tunisia to the west, the Mediterranean to the north, Egypt to the east Sudan to south east Chad and Niger to the south. It is a parliamentary state with prime minister as head of government however a permanent system has not been settled yet. It is a member state of the United Nations, the African union and league of the Arab states. Its capital and largest city is Tripoli. The second city is Benghazi, the official language is Arabic. It has Mediterranean climate. The Libyan economy depends primarily upon revenues from the oil sector, which contributes 95% of export earnings. Life expectancy at birth was 75 years in 2012.

I. Structure of Health care in Libya

Libya's health care system has come a long way since 1951, when it started functioning with meagre resources: 14 hospitals (1,600 bed capacity) and a small number of health centres.

Currently health system in Libya is composed of a public and private sector. The public sector is the main health services provider. Health care including preventive, curative and rehabilitation services are provided to all citizens free of charge; at present, almost all levels of health services are decentralised except central hospitals and specialised centres.

The Ministry of Health MOH operates through an administrative and a technical workforce and has an extensive central organisational structure, headed by the Minister of Health, who directly supervises the following central institutions:

- Health Information Center (HIC)
- National Center for Disease Control (NCDC)
- National Council for Medical responsibilities (NCOMR)
- National program for organ transplantation (NPOT)
- Libyan board for medical specialties
- Medical Supply Organization (MSO)
- The center for human resource development
- Authority of ambulance services
- Hospitals and Medical Centers
- Directorates of health services at the municipality level

Health care is delivered through a series of primary health care units, centers, dispensaries, polyclinics, rehabilitation centers, and general hospitals in urban and rural areas, in addition to a number of tertiary care specialised hospitals. The health care delivery system operates on three levels:

The first level: consists of the Primary Health Care (PHC) units (which provide curative and preventive services for 5,000 to 10,000 citizens); Primary Health Care centers (serve from 10,000 to 26,000 citizens); and polyclinics, staffed by specialised physicians and containing laboratories as well as radiological services and a pharmacy. These polyclinics serve approximately 50,000 to 60,000 citizens

General practice doctors play an important role in diagnosing, detecting early stages of cardiovascular disease (CVD) and or in referring the patients to the cardiovascular (CV) specialists

The second level: there are general hospitals in rural and urban areas where care is provided to those referred from the first level. In some of the general and rural hospitals there are small cardiac departments which provide only the emergency cardiac services the patient will then be referred to the nearest cardiac center.

The third level: comprises of tertiary care specialised hospitals and medical centers, including the cardiac centers, CVD services provided in **five main cardiac centers:** the national heart center Tajura, Tripoli medical center, Benghazi cardiac center ,Benghazi medical center and Albutnan Medical center

The number of physicians per 100,000 inhabitants was relatively low and the number of cardiologists is about 1.8 per 100,000 population.

Secondary and tertiary care is provided through a network of general hospitals in rural and urban areas and specialised hospitals. There are total of **96 hospitals** according to WHO report 43% of these hospitals either partially functional or not functional at all due to an acute shortage of life-saving medicines, medical supplies and equipment along with critical shortages of human resources, particularly specialised nurses, midwives and technicians. As a consequence, the tertiary hospitals are overloaded with patients

seeking help for common illnesses, and are unable to meet the demand at the first or second level due to the conflict and the political instability.

Situation before the conflict: The real total bed capacity are 19,950 beds (3.7 beds per 1000 population). In 2008 there were 18 physicians, 3.3 dentists, 3.6 pharmacists and 54 nurses and midwives per 10,000 population. There is an imbalance in the distribution of health personnel, as many favor urban areas and hospital practice. Systematic performance appraisal and periodic recertification testing are not in place.

Health care informatics expertise is inadequate. The information and telecommunication infrastructure in health care institutions is weak. Most hospitals primary health care centers and other health facilities do not have the necessary infrastructure to benefit from e-health solution

General availability and readiness due to war and political instability after 2011

Libya has gone through a difficult situation after the conflict in 2011. According to the WHO report: of the 96 public hospitals, 1,355 primary health care facilities (primary health care units, centers and polyclinics), and 204 other specific health service facilities in Libya, 19% were closed at the time of survey. This includes 17 hospitals (18%), 273 primary health care facilities (20%) and 18 other specific health services (8%). The main reason for closure of a facility was maintenance: 51% of the 308 closed facilities, followed by inaccessibility due to conflict (20%), damage (19%), and other reasons (11%).

Although nearly half of the hospitals and PHC facilities in Libya supposed to provide diagnosis and management of cardiovascular diseases (CVD), and 96% of municipalities have at least one facility offering CVD care, the readiness scores of 24% for PHC facilities and 42% for hospitals reflect the existence of a great shortage of well-trained staff and essential medicines for the diagnosis and treatment of CVDs.

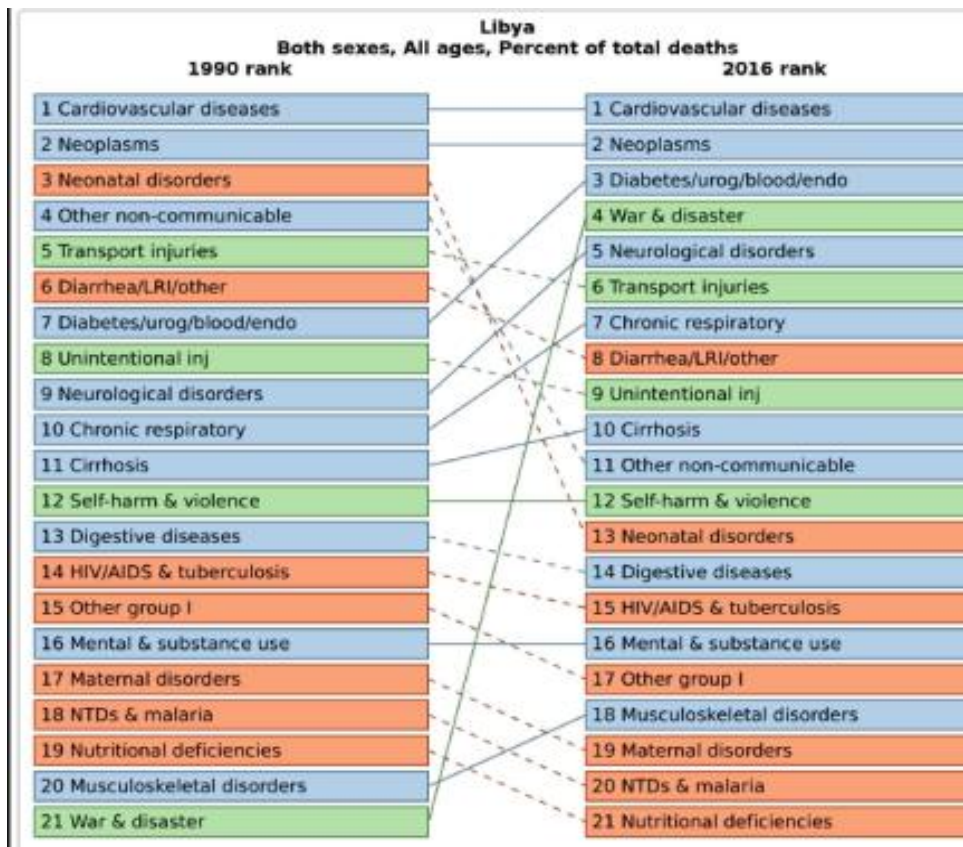
Private Sector

Private Sector has started to grow in the past few years, in the form of clinics and hospitals which provide general cardiac services. Libya has six private centers which do interventional cardiology including stents and pacemakers, four of these centres in Tripoli and two in Benghazi. Electrophysiological investigations are not available in Libya.

Finances

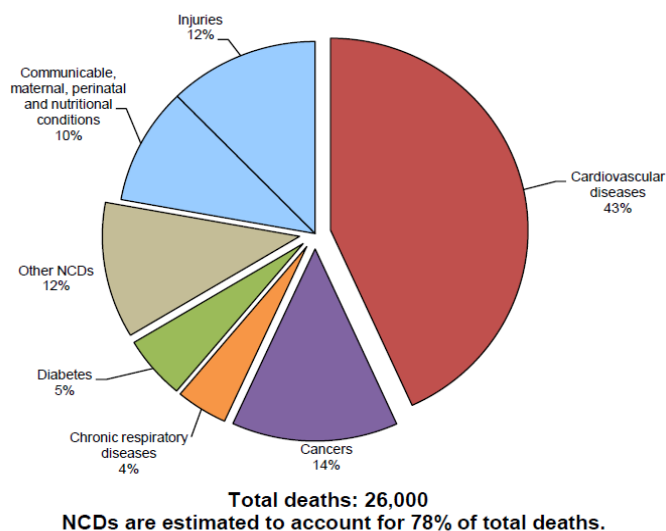
In the government sector the expenses for all health facilities are covered by the government through ministry of health so all medical services including surgery and medications are provided free to the patients. In the private sector contributions are paid either by health insurance, by employers and employees, or by the patients themselves.

CVD Mortality



Source: http://who.int/gho/mortality_burden_disease/en

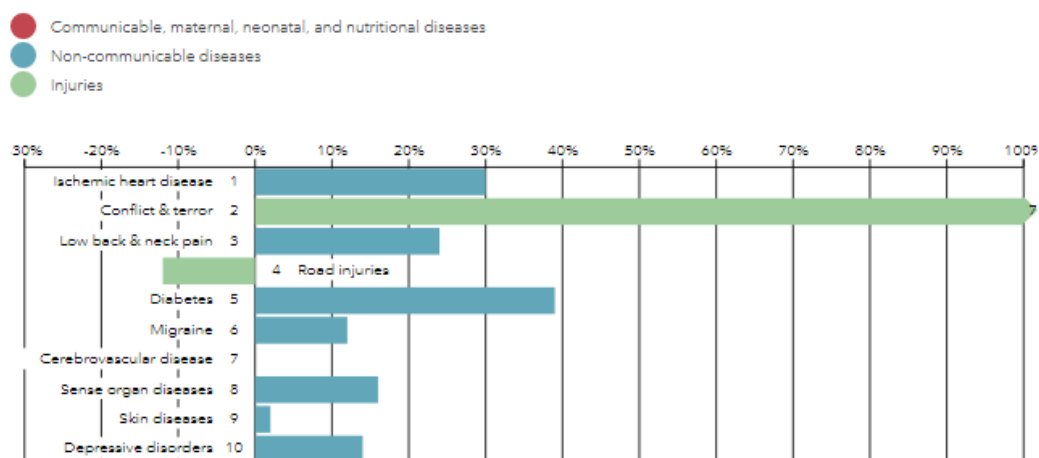
Proportional mortality (% of total deaths, all ages, both sexes)*



Mortality from cardiovascular disease (CVD) it's still high 47%. Ischemic heart disease (22%), Stroke (13.3%) hypertension and other cardiac causes 7%

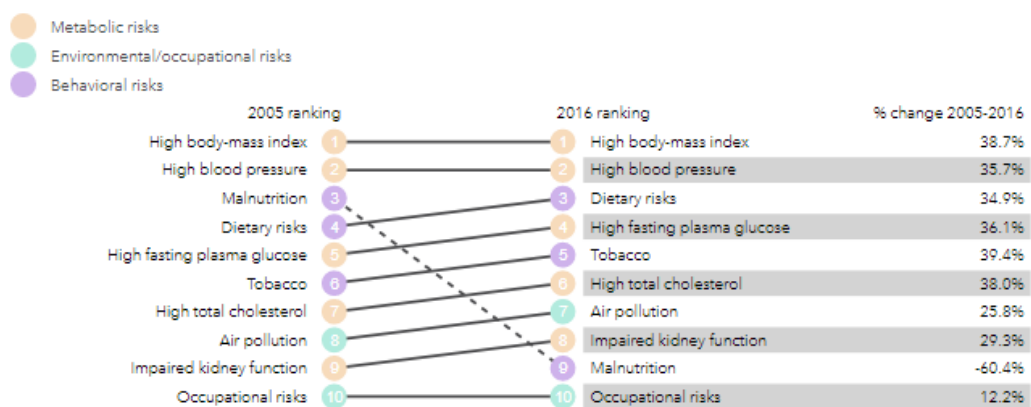
Source: http://who.int/gho/mortality_burden_disease/en

What causes the most death and disability combined?



Top 10 causes of disability-adjusted life years (DALYs) in 2016 and percent change, 2005-2016, all ages, number

What risk factors drive the most death and disability combined?



Source: www.healthdata.org/libya

II. Risk factor statistics

Prevalence of non-communicable disease risk factors in Libya (WHO STEPS study), 2009:

Risk factor	Total	Male	Female
Daily smokers (%)	23.8	47.6	0.1
Daily smokers smoking manufactured cigarettes (%)	88.8	88.8	—
Consumption of less than 5 servings of fruit and/or vegetables on average per day (%)	97.4	97.0	97.9
Low levels of activity (< 600 metabolic equivalent minutes per week) (%)	43.9	36.0	51.7
Not engaging in vigorous activity (%)	78.4	69.3	87.4
Overweight (body mass index \geq 25 kg/m ²) (%)	63.5	57.5	69.8
Obesity (body mass index \geq 30 kg/m ²) (%)	30.5	21.4	40.1
Raised blood pressure (systolic blood pressure \geq 140 and/or diastolic blood pressure \geq 90 mmHg or currently on medication for raised blood pressure) (%)	40.6	45.8	35.6
Raised blood pressure (systolic blood pressure \geq 140 and/or diastolic blood pressure \geq 90 mmHg) who are not currently on medication for raised blood pressure (%)	59.7	68.4	48.5
Raised fasting blood glucose or currently on medication for raised blood glucose (%)	16.4	17.6	15.1
Raised total cholesterol (\geq 5.0 mmol/L or \geq 190 mg/dl or currently on medication for raised cholesterol) (%)	20.9	19.0	22.7
None of the above risk factors (%)	0.2	0.4	0.1
Three or more of the above risk factors, aged 25 to 44 years (%)	51.2	57.4	44.5
Three or more of the above risk factors, aged 25 to 54 years (%)	78.0	80.2	67.0
Three or more of the above risk factors, aged 25 to 64 years (%)	57.4	68.3	52.2

Source: According to a STEPS study in 2009 the prevalence of the risk factors <http://www.who.int/ncds/surveillance/steps/libya/en>

Percutaneous coronary intervention (PCI)

In Libya there are in total 11 percutaneous coronary intervention (PCI) centers (6 in Tripoli, 4 in Benghazi and 1 in Albutnan center). The number of PCI centers is 1.67 per 1 million inhabitants. PCI can be done in five public cardiac centers and six private centers.

III. Main actors and Prevention methods

The main actors in CVD prevention in Libya are the Ministry of Health MOH, The National Centre for Disease Control NCDC, Libyan Cardiac Society LCS, Cardiac Centers, Public Health department

Cardiovascular preventive care in Libya is mainly delivered both by general practice doctors who are employed at PHC center and polyclinic and by cardiologists, who are employed at the state medical services (hospitals, out-patient clinics) and in private medical centers or clinics.

The quality of preventive cardiology at primary health centers varies. Preventive services are included at PHCs. Their main role is to detect cardiovascular risk factors in the general population, make provisional diagnosis educate the patients, treat the emergency cases if possible and or refer the patient to the secondary or tertiary centers or to a private clinic according to the patient's wishes.

School doctors are also important for the implementation of a healthy lifestyle during childhood. However, most of the education is conducted through direct contact between doctors and patients.

The PHC network is supposed to address CVD; however, the program needs major development and strengthening. Special programs and approaches are needed to change health behavior, as well the criteria, procedures and protocol to deal with CVD diseases at PHC level.

The Libyan Cardiac Society has initiated a number of programs for promotion care and monitoring of CVD and these efforts are a good platform on which to build a strong preventive program.

In 2010 and based on the STEPS surveys result 2009, MOH decided that the National Centre for Infectious Diseases Control will also tackle NCD and named National Centre for Diseases Control NCDC. This may provide an innovative approach to consolidate promotion, prevention, education, monitoring and treatment of CVD and risk factors.

The NCDC contains different departments for NCD including department allocated for CVD prevention and control.

The Libyan Cardiac Society has also been active in promoting and offering trainings on ESC Clinical Practice Guidelines including the European Guidelines on CVD Prevention in Clinical Practice.

Education: In the public sector there are 9 medical schools, 7 dental schools and 6 pharmacy schools producing human resources for health. However, production is not planned or organised based on needs. The different fields of cardiovascular prevention are taught in educational programs in medical institutions/universities and postgraduate medical education. Libya plans to start post graduate study in the field of cardiology.

Guidance is obtained through the [European Guidelines on CVD Prevention in Clinical Practice](#) (ESC). They are presented in lectures, on conferences by the countries' leading

scientists-cardiologists and how the doctors use the [SCORE risk chart](#) (high risk chart) to the cardiologists and healthcare professionals.

The main aspects of prevention, diagnosis and treatment are included in national CVD protocols of the MOH and NCDC and LCS. Libya is engaged in tobacco control-related activities, such as the Global Youth Tobacco Survey (GYTS) under supervision of WHO.

Who delivers: General practitioners are the key actors of primary prevention; their main role is to detect cardiovascular risk factors in the general population.

As we mentioned before school doctors are important for the implementation of a healthy lifestyle during childhood.

Secondary prevention is provided through departments of Cardiology and Internal Medicine. During admission and before discharge the patient receives recommendations for the prevention and treatment of the main cardiovascular risk factors and the same in private section mainly by cardiologist.

Libyan cardiac society LCS and NCDC made a habit of initiating public campaigns targeting the detection of cardiovascular risk factors and promotion of physical activity, on a yearly basis with the occasion of the World Heart Day. The main radio stations and TV channels are also involved in advertising for a healthy lifestyle, cardiovascular prevention, quitting smoking, hypertension etc. LCS is also promoting the use of the SCORE risk charts.

Where: Although nearly most of the hospitals, polyclinics, and PHC facilities in Libya can provide provisional diagnosis of cardiovascular diseases (CVD), there is a great shortage of well-trained staff and essential medicines for the diagnosis and treatment of CVDs.

Quality control

Unfortunately in Libya we do not have a regular continuous audit system to evaluate the results of national cardiovascular prevention.

IV. Main Prevention activities

NCD make the greatest proportion of the total burden of disease affecting the most productive years of life. According to WHO 2012 Health Report, NCD account for nearly 78% of all deaths, among them 43% due to CVDs.

Among CVDs the biggest share in terms of mortality and morbidity falls on Ischemic heart disease (22%), Stroke (13.3%), hypertension and other cardiac disease 7.7%. For the effective prevention and control of NCDs it is essential to have timely access to precise and reliable information, to monitor and interpret health indicators, to monitor and evaluate the impact of interventions. For effective NCD surveillance Libya implemented the WHO STEP-wise approach in 2009.

The MOH State Program on Health Promotion, the largest component of which is tobacco control, which includes a media campaign.

Based on the STEPS and other survey data and according to the strategy and action plan the essential drugs for major NCDs (IHD and stroke, hypertension, asthma and Chronic obstructive pulmonary disease [COPD], diabetes type 2 and thyroid gland dysfunction) for the most vulnerable populations are provided through the MOH free of charge when available .while in private sector either by insurance or out of the pocket.

Campaigns

LCS regularly visits the peripheral hospital by group of cardiologist, cardiovascular surgeon pediatric cardiology members of LCS, 2-3 days for each visit.

During these visits they give lectures, education for doctors and paramedics about the different ESC guidelines preventive and curative, on the other side they do clinical examination and assessment of about 100-110 patients in each visit and make suitable advices to each patient .

Actions of the "World Heart Day" with a range of activities involving the institution of media, press releases related to the prevention and control of cardiovascular diseases, participation in the framework TV and radio broadcasts, publication of the information in the broadcast media for news of events in parks, town halls, school, and health institutions, the calculation of body mass index, determination of blood pressure and levels of blood glucose, cardiovascular risk, distribution of brochure , concerning the prevention and control of cardiovascular disease; all these activities are done during the celebration of the following events :.

- World heart Day
- World hypertension Day.
- World Diabetes Day.
- World Without Tobacco Day .

The health number: In 2007 the Libyan Cardiac Society succeeded to set a number to summarize the advices for prevention of cardiovascular disease and Non Communicable Disease in an easy way, called: "the health number" which was posted in the World Heart Federation web site.

0 3 5 110 190 140 90 0

0 for smoking

3 3 kilometer walking

5 5 portion of fruits and vegetables

110 or less for Fasting blood sugar

190 Or less for fasting total cholesterol

Less than **140** for systolic and less than **90** diastolic

0 for overweight

In case of Diabetes or renal disease the number became **0 3 5 110 170 130 80 0**

Also Libyan Cardiac Society created the word **LIBYA** as a symbol for health information:

LIBYA :

L for low sugar low salt and low fat.

I for increase Fruit and vegetables.

B for Body weight ideal .Blood pressure controlled.

Y for yes for physical activity.

A for avoid smoking and alcohol.

This symbol has been accepted by the World Heart Federation

V. Cardiac Rehabilitation (CR)

Cardiovascular Rehabilitation (CR) unfortunately is still very basic and not well disseminated at present due to insufficient centres and expertise. It is available only in the main cardiac centre and cardiothoracic department and provided by physiotherapist and dietician. There are no complex CV rehabilitation programs or specialised cardiac rehabilitation centres in the country.

The National Program of prevention and control of cardiovascular diseases should include measures for the implementation of rehabilitation programs. CR is recommended after cardiovascular surgery and after acute myocardial infarction stable coronary artery disease, peripheral arterial disease, heart failure, and arterial hypertension.

By whom and how.

Expanding cardiac rehabilitative centres across the country would assist in the reduction of cardiovascular disability. Therefore it is very important to develop cardiac rehabilitation in Libya. Of course, we will need support and help from the EAPC expertise.

At a first stage, it will be very helpful to organize a master class (learning course) on cardiac rehabilitation for Libyan physiotherapist and cardiologists. Expanding cardiac rehabilitative centers across the country would assist in the reduction of CV disability.

There should be specialised rehabilitation centers in Libya for inpatients as well as for outpatient rehabilitation. In all centers, cardiac rehabilitation consists not only of physical training, but in comprehensive secondary prevention offered by a multidisciplinary team (cardiologist, physiotherapist and dietician); all secondary prevention treatment starts in hospitals and after discharge most patient should stay under the supervision of a cardiologist as an outpatient, either in governmental or private clinic for different length of time.

VI. The Future

Strategy

Prevention strategies are essential to ensure success but Libya lacks a comprehensive strategy for tackling cardiovascular diseases. To improve the current fragmented efforts is a considerable challenge due to the political instability. The training of public health and medical professionals is cost-effective.

Greater coordination among stakeholders and utilization of a 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 Libya today. It would also be important to coordinate with WHO and ESC.

Needs

Non-communicable diseases including CVD and Diabetes Mellitus are very common in Libyan population we hope that when our country will be stable to have cooperation with EAPC/ESC, WHO and WHF. There is a clear need to encourage hospitals to invest in establishing rehabilitation services.

Possibilities and obstacles

We do hope that we will be able to overcome our challenges in the future in the light of already planned reforms in primary as well as secondary prevention. We strongly believe that the possibilities for success are high, the human resources and the high level of education ensure the achievement of our goals. The main obstacle is the stressful political situation, and fragmentation of the governments.

Plans

Achievement of the objectives of the National Program for the Prevention and Control of Cardiovascular Disease, the North Karelia project is a very promising model which we can use according to the local situation. The purpose of the program is to reduce social economical and health burden of cardiovascular disease on Libyan population. In order to achieve the basic objectives included in the program, the health system in Libya has to continue to develop health service capacities through the basic functions of the health system:

1. Government funding resource generation and provision of medical services.
2. Reducing the risk of cardiovascular disease and increasing the rate of their early detection by screening and early treatment
3. Making the specialised diagnosis and medical treatment more available and distributed to cover all Libya.
4. Optimising the diagnosis and treatment of cardiac arrhythmias
5. Strengthening the cardiovascular surgery service for the provision of specialised medical assistance to adults and children which are available now but still we needs more surgeons especially for children
6. Organising cardiac rehabilitation programs in all major hospitals and clinics, as well as establishing specialised centers in the major cities (creation of a cardiovascular rehabilitation service at hospital level, ambulatory and home-based, secondary, tertiary and palliative care)
7. Optimisation of postgraduate training programs in cardiology.

The key actions for the next 5 years are:

Improvement of CVD epidemiology and statistical analysis methods, as well as piloting of various incentives for furtherance of prevention in health care, including the primary care level..

We need to study the experience of other countries which have gone through the same transition of societal development and health care restructuring.

Libyan Cardiac Society will do all the possible efforts to convert the dream to reality.

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