Country report Republic of Modova – November 2017

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Baseline information about the Republic of Moldova

Moldova, officially the **Republic of Moldova** is a country in Eastern Europe, bordered by Romania to the west and Ukraine to the north, east (by way of the disputed territory of Transnistria), and south.

In 1940, as a consequence of the Molotov–Ribbentrop Pact, Romania was compelled to cede Bessarabia to the Soviet Union, leading to the creation of the Moldavian Soviet Socialist Republic (Moldavian SSR). On 27 August 1991, as part of the dissolution of the Soviet Union, the Republic of Moldova is independent.

Moldova is a parliamentary republic with a president as head of state and a prime minister as head of government. It is a member state of the United Nations, the Council of Europe, and the World Trade Organization (WTO) etc. and aspires to join the European Union. Its capital and largest city is Chisinau. Official language is Romanian. Population: 3,550,852 official data (per 2014 census preliminary data), 2,998,235 inhabitants live in Moldova (within the areas controlled by the central government), an 11.3% decrease from the 2004 census. The urbanization rate is about 45%.

At the beginning of the year 2017, in the Republic of Moldova were 609,9 thousand persons aged 60 years and over, representing 17,2% of the total resident population of the country. About 60% of the total number of elderly people are women and 57% live in rural areas. Every third person is aged between 60-64 years and 13,4% are people who are more than 80 years old.

It has an area (excluding Transnistria) of 29,683 km2 and a temperate continental climate. The fertile soil supports wheat, corn, barley, tobacco, sugar beet, and soybeans. Moldova's best-known product comes from its extensive and well-developed vineyards

concentrated in the central and southern regions. In addition to world-class wine, it is also known for its sunflower seeds, walnuts, apples, and other fruits. This makes the area ideal for agriculture and food processing, which accounts for about 40% of the country's gross domestic product (GDP).

Due to a decrease in industrial and agricultural output following the dissolution of the Soviet Union, the service sector has grown to dominate Moldova's economy and currently composes over 60% of the nation's GDP (total GDP/PPP [gross domestic product / purchasing power parity]- 20.207 billion International Dollars, 2017 estimate). Economy is the poorest in Europe in per capita terms. The implementation of structural reforms outlined in the National Development Strategy (NDS) Moldova 2020—especially in the business environment, physical infrastructure, and human resources development areas—would help boost potential growth and reduce poverty. Moldovan GDP/ PPP per capita is 2,089 International Dollars (2017, estimate).

Reference:

www.statistica.md (more detailed information is available in Romanian language).

I. Structure of Health care

The Republic of Moldova has gone through a difficult path with the economic transition following the fall of the "iron curtain"; initially, the health status of the Moldovan population fell before picking up again due to policies that directly targeted the most disadvantaged.

Under the leadership of the Ministry of Health, the introduction of the mandatory health insurance (MHI) in 2004, combined with the re-orientation to primary care from a pre-1990 hospital-centric system, has helped to increase access to crucial health services.

The Moldavian health system is a compound system that includes all medical institutions and businesses, medical staff, supplementary and maintenance services, necessary information, technologies medical and informational research, scientific research in this field as well as research the most important component - the man with his individual health. Health Policy has developed and promotes a vision of health protection and improvement, which implies not only the creation of the best prerequisites for health but also prevention and reduction of disease factors.

National Health Policy is a priority in the efforts of the Government in order to further strengthen the health of the population and to restore the economic and social situation in the country. Reducing premature mortality, increasing life expectancy, reducing health inequalities are just some of the regional goals of the "Health 2020" Strategy, initiated by the World Health Organization (WHO). The "Health 2020" Strategy: A European policy framework to support action on public health and welfare at government and society level sets out an ambitious and forward-looking agenda for the protection of the health of the population. Health has improved over the past few years, but inequalities in this area are still severe.

The Ministry of Health, now The Ministry of Health, Labor and Social Protection, is the central administrative authority in the health sector, being responsible for the stewardship of the system and for its regulatory framework, and partly, for its financing for a series of conditions that are defined annually by the government. Territorial public health authorities (TPHAs) are decentralised structures of the Ministry of Health, Labor and Social Protection at the territorial level. The other key actor at the central level is the National Health Insurance Company (NHIC) and has 7 branches (at the territorial level). Regulatory functions are heavily concentrated in the hands of the Ministry of Health,

Labor and Social Protection and the NHIC. The insured individuals are entitled to a comprehensive benefits package (basic benefits package). Medical-Sanitary Institutions are divided in: Primary and specialised (by the property form) medical assistance (at the second or tertiary level). The Institute of Cardiology is the tertiary level institution, elite national cardiology center that provides ambulatory and hospitalised performant services.

Finances

The share of total health expenditure spent on outpatient care is one of the lowest in Europe. Weight of health expenditures in GDP varies between 5,1% - 5,3%. The main source of funding for public health spending is represented by health insurance contributions paid by employers and employees, which grew by 9% in the years 2013-2015 by one percent each year. Also, transfers from the state budget to the compulsory National Health Insurance Company continue to be an essential source of funding. Transfers from the state budget represent almost half of the amount necessary to cover the costs of medical services for the categories insured by the Government. Family doctors play an important role in diagnosing/detecting early stages of CVD and/or in referring the patients to the cardiovascular (CV) specialists. The Electronic Health Record is currently being implemented.

In 2016 the number of physicians per 10 000 inhabitants were relatively low in the Republic of Moldova: 36,7 doctors (including physicians with a curative and prophylactic profile 26,6 doctors) and 71,7 nurses. The degree of insurance of the population with specialised medicines (cardiologists) is 0,6 per 10. 000 population (207 cardiologists are listed in 2016).

II. Risk factor statistics

CVD Mortality

More than 61 000 patients (173,9 per 100 000 inhabitants) with diseases of the circulatory system were registered in 2016.

Mortality from cardiovascular disease (CVD) has decreased in the last 10 year, but it's still high (57%); Republic of Moldova being listed among the high CVD risk countries according to the ESC. The death rates per 100.000 inhabitants are:

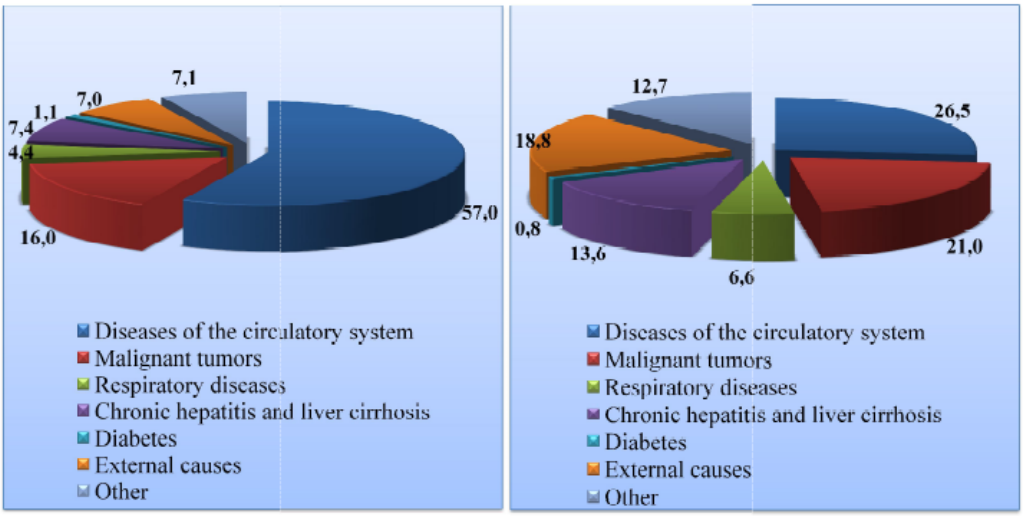
- 617,3 for CVD
- 314,9 for coronary heart disease (CHD)
- 56,3 for acute myocardial infarction (AMI)
- 159,2 for stroke
- 79,0 for hypertensive cardiopathy
- a total rate of 1083,5 (last reported data from 2016)

Analysis of the mortality in the Republic of Moldova caused by circulatory system diseases has shown that about 51% of the total number of deaths are for acute and chronic ischemic heart disease, 25.8% for cerebrovascular diseases, 9.1% for acute myocardial infarction and 9, 6% for hypertensive cardiopathy. Life expectancy (LE) at birth (both sexes) in 2016 was 72,2 years.

According to national health statistics from 2016, the following diseases were the leading causes of death in the Republic of Moldova:

- diseases of the circulatory system (617,3 per 100 000 inhabitants)
- neoplasms (173,5 per 100 000 inhabitants)
- chronic hepatitis and cirrhosis (80,1 per 100 000 inhabitants)
- injury and poisoning (76,1 per per 100 000 inhabitants)
- diabetes (11,5 per 100 000 population)

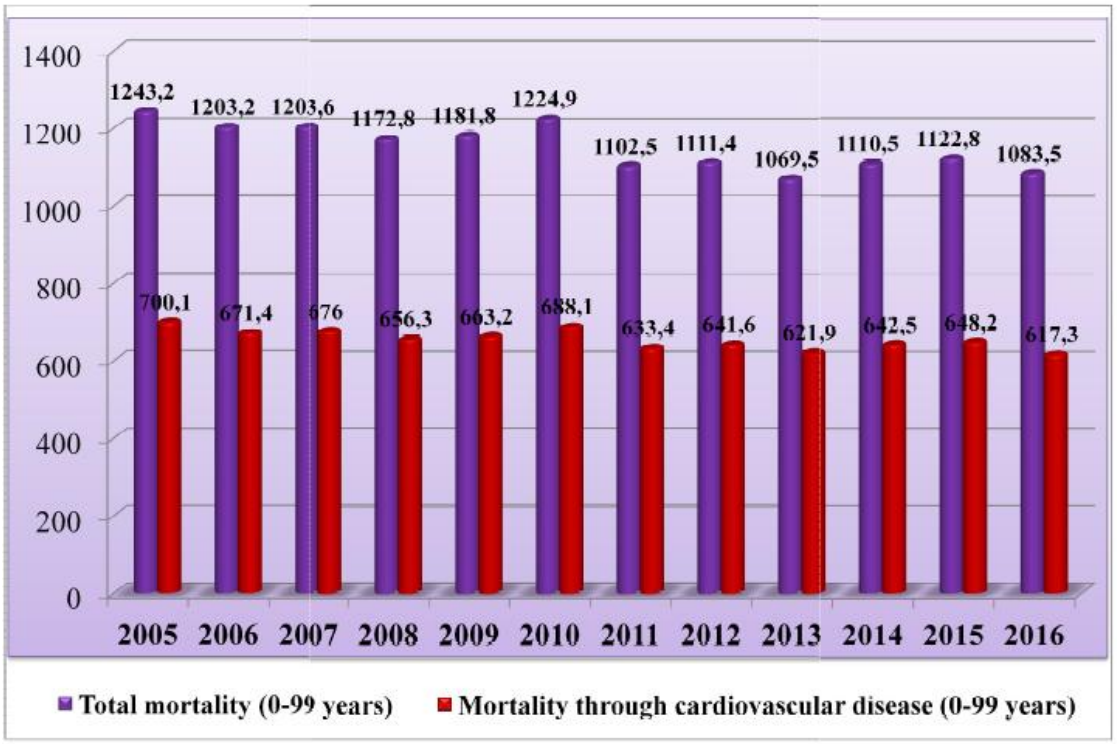
Total mortality and death rate for non-contagious chronic diseases (0-99 years and 18-62 years) for 2016



Percentage of population living in urban area – 42,7%, in rural area – 57,3%.
Population proportion between age 18-62 years – 44,2%.

Source: Statistical data taken from www.cnms.md, figures produced by V Rudi *et al.*

Evolution of total mortality and diseases of the CVD (0-99 years) per 100.000 inhabitants of RM, for the years 2005-2016



Source: Statistical data taken from www.cnms.md, figures produced by V Rudi *et al.*

Main CVD risk factors

Data on risk factors for non-communicable diseases (NCDs) are not part of the country's health information system. NCD risk factors were previously assessed in the following surveys carried out in the Republic of Moldova:

- Demographic and Health Survey (DHS), 2005 (BMI, tobacco use and alcohol consumption)
- Survey on health status of population in the Republic of Moldova, carried out in 2005 (BMI, food consumption patterns, tobacco use and alcohol consumption)
- CINDI Study
- Study on the Health Behavior Assessment of School-aged Schildren (HBSC), 2015
- Prevalence of noncommunicable disease risk factors in the Republic of Moldova (WHO - STEPS study), 2013
- Knowledge, Attitudes, Practices (KAP) in tobacco consumption, 2012 2015
- Knowledge, Attitudes, Practices (KAP) in alcohol consumption (Phase I- III) 2012 – 2015
- Population Access to Health Services, 2016.

According to a STEPS study in 2013 the burden of risk factors consists of:

Smoking:

The percentage of current smokers (daily and non-daily smokers) of all tobacco products among all respondents was 25.3%, more male smokers (43.6%) among the respondents than female (5.6%).

Alcohol consumption:

The survey results attested to a higher prevalence of current drinkers in rural areas. Of all respondents of both sexes among the rural population, 64.5% had consumed alcohol in the past 30 days, while in urban areas the prevalence was 59%. Moldova ranks first in the world at annual alcohol consumption, equivalent to 17.4 liters of pure alcohol per capita. According to WHO, the burden of diseases attributed to alcohol consumption in the Republic of Moldova was estimated at the fourth largest level of risk (on a scale from 1 to 4).

Fruit and Vegetable Consumption (in a typical week):

Only 1/5 of the population consumed fruit daily in 2005. Low consumption of fruit and vegetables was responsible for 6.6% of DALYs in women and 5.1% of DALYs in men in 2002. In addition, half of the adult population in the Republic of Moldova was overweight in 2005. Percentage who eate less than 5 servings of fruit and/or vegetables on average per day - 66.6%

Physical Activity:

- Percentage not engaging in vigorous activity: 75,7%
- Percentage with insufficient physical activity (defined as < 150 minutes of moderate-intensity activity per week, or equivalent): 10,1%.

Dyslipidaemia:

Only 0.9% of the study population had been diagnosed with high cholesterol more than 12 months before the interview, and 4% within the past year.

The summary of combined risk factors demonstrates that one in three Moldovan adults aged 18–69 years and one in two adults over 45 years of age had three or more behavioural NCD risk factors. Young men had a 2.5 times higher risk for NCDs than young women, and over half of adults over 45 years of age are at high risk for NCDs.

According to national health statistics from 2016:

The prevalence of **Hypertension** is 36 3250 patients, 1022,7 per 10 000 inhabitants and of **Diabetes** is 97048 patients, 273,2 per 10 000 inhabitants.

Percutaneous coronary intervention (PCI) Resources:

In 2016, 207 cardiologists are listed (0,6 per 10. 000 inhabitants). In 2013, the Republic of Moldova implemented the revascularisation program by transcutaneous coronary angioplasty in acute myocardial infarction (IMA), according to the orders of the Ministry of Health of the Republic of Moldova of years 2013 and 2016: "On the organization of the invasive treatment of the acute myocardial infarction". The program is carried out in three public and private centers for interventional cardiology: the Institute of Cardiology, the Novamed Clinic and the Medpark Clinic. In 2016 performed transcutaneous procedures: 3624 coronary angiography and 1997 coronary angioplasty. The highest number of procedures was performed at the Institute of Cardiology, the elite cardiology center.

References:

1. WHO (2014). Better noncommunicable disease outcomes: challenges and opportunities for health systems, No4. Health Policy Paper Series No. 14. http://www.uhcpartnership.net/wp-content/uploads/2014/03/Betternoncommunicabledisease-outcomes-Republic-of-Moldova-Country-Assessment.pdf (OMS (2014).

2. WORLD HEART ORGANIZATION – STEPS survey; http://www.who.int/chp/steps/Moldova_2013_STEPS_Report.pdf?ua=1

3. www.ms.gov.md ; www.cnms.md ; www.cnsp.md (more detailed information is available in Romanian language).

III. Main actors and Prevention methods

The main actors in prevention in Republic of Moldova are:

- the Ministry of Health, Labor and Social Protection,
- the National Center of Public Health,
- the National Center for Health Management,
- the Institute of Cardiology,
- the General practitioners.

Who delivers?

General practitioners are the key actors of both primary and secondary prevention, but their main role is to detect cardiovascular risk factors in the general population. School doctors are also important for the implementation of a healthy lifestyle during childhood. Secondary prevention is offered to the public by cardiologists, internal medicine specialists and general practitioners.

At the national level primary prevention is provided by the Ministry of Health, Labor and Social Protection through the:

- National Strategy for non communicable Disease Prevention and Control 2012-2020
- National Program for the Prevention and Control of Cardiovascular Diseases for the years 2014-2020
- National Health Promotion Program for the years 2016-2020.

Where?

Primary prevention is delivered at the national level through mass-media (broadcast and digital media), but it is also enforced by law, as the Parliament recently decided to ban smoking in all indoor public spaces. In primary care, including in schools, general advice for a healthy lifestyle is provided. The main arena for both primary and secondary prevention is the country's ambulatory and hospitals, through their 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.

The Institute of Cardiology 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 everyday advertising for a healthy lifestyle.

There are national prevention and rehabilitation Clinical Protocols based on the ESC fully embraced guidelines on Cardiovascular Prevention, Dyslipidemia, Hypertension etc. It is also promoting the use of the SCORE risk charts in both primary prevention and cardiology practice.

Quality control

Unfortunately we don't have an audit system to evaluate the results of nationwide cardiovascular prevention. Data is available only from reports of the National Statistics Institute and National Center for Health Management concerning some cardiovascular risk factors, or from annual statements regarding cardiovascular mortality and morbidity. The Republic of Moldova has also participated through its elite cardiology center (Institute of Cardiology) to the CINDI survey.

Surveys performed:

- The Republic of Moldova has participated through its elite cardiology center (Institute of Cardiology) to the CINDI survey (2000-2006)
- Multiple Indicator Cluster Survey (MICS) 2012
- KAP SURVEY KNOWLEDGE
- ATTITUDES AND PRACTICES REGARDING ALCOHOL CONSUMPTION (Phase I, Phase II and Phase III)
- KAP SURVEY KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING TABACCO USE (Phase I, Phase II and Phase III) 2012-2014
- Study on the Health Behaviour Assessment of School-aged Children (HBSC) 2015
- Population Access to Health Services, 2016.

References:
www.ms.gov.md, www.cnsp.md (more detailed information is available in Romanian language).

IV. Main Prevention activities

Campaigns

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, supported by pharmaceutical companies, laboratories of analysis within which were performed the calculation of body mass index, determination of blood pressure and levels of blood glucose, cardiovascular risk, distribution of booklets, concerning the prevention and control of cardiovascular disease.

Activities of the "Health Day at Moldexpo", with the participation of specialised cardiologists to carry out speciaised consultations, performed the calculation of body mass index, determination of blood pressure and levels of blood glucose, cardiovascular risk, concerning the prevention and control of cardiovascular disease. The Republic of Moldova is holding annually "The Week of Communication and Awareness", dedicated to the:

- World Diabetes Day
- National Day without alcohol
- World Without Tobacco Day
- the Days of the Movement for Health and Prevention of Obesity
- World Health Day.

References:
www.ms.gov.md, www.cnsp.md (more detailed information is available in Romanian language)

Projects

Achieving all the objectives planned in National Programs:

- National Program for the Prevention and Control of Cardiovascular Diseases for the years 2014-2020
- National Health Promotion Program for the years 2016-2020
- The Ministry of Health, Labor and Social Protection has launched the project "Diabetes Patient School Network for Strengthening Prevention of Diabetes Prevention". www.msmps.gov.md

Education

- CVD Prevention (together with rehabilitation) is part of the training in cardiology; the university included it their curriculum for students and for educational program of Continuing Medical Education courses for physicians
- Interdisciplinary educational conferences (cardio-diabetes-nephro-pneumology) organised by the different National Institutions for CVD Prevention.

V. Cardiac Rehabilitation (CR)

For whom

"National Program of prevention and control of cardiovascular diseases for the years 2014-2020" includes measures for the implementation of rehabilitation programs. CR is recommended after cardiovascular surgery and after acute myocardial infarction but in CR programs patients are also enrolled with stable coronary artery disease, peripheral arterial disease, heart failure, arterial hypertension and metabolic syndrome. A period of two-three weeks of inpatient rehabilitation is recommended after cardiovascular surgery and complicated myocardial infarction. In all other patients CR is applied directly as outpatient, but is not fully reimbursed.

By whom and how

Cardiovascular rehabilitation unfortunately is not well disseminated at present due to insufficient financing.

The cardiovascular rehabilitation is partially available in the Republic of Moldova, but the exact number is unknown. The approximativ percentage of the patients that had been offered cardiovascular rehabilitation could be around 5 to 10% of all.

Expanding cardiac rehabilitative centers across the country would assist in the reduction of cardiovascular disability. Therefore it is very important to develop cardiac rehabilitation in the Republic of Moldova. Of course, support from the EAPC would be highly appreciated. At a first stage it will be very helpful to organise a master class (learning course) on cardiac rehabilitation for Moldavian cardiologists. Expanding cardiac rehabilitative centers across the country would assist in the reduction of CV disability. There are specialised rehabilitation centers in Republic of Moldova for inpatients well as for outpatient rehabilitation: the Institute of Cardiology and The "Bucuria" Sanatorium. 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). It is not common practice to refer patients directly to primary care for secondary prevention. All secondary prevention treatment starts in hospitals and after discharge most patient stay under the supervision of a cardiologist as an outpatient for different length of time.

VI. The Future

Needs

Non-communicable diseases (NCD's) and risk-factors surveillance has a great potential to guide not only the primary but also secondary prevention, disease screening and management. This remains our greatest challenge. More funding is necessary in order to reach out all Moldavian citizens (especially those living in small villages). Our important objective for the moment, is to introduce a contemporary epidemiological surveillance system for risk factors.

Possibilities

- Existence of investment projects in the Health System (World Bank, European Union).
- Increasing competence in the Health System and enhancing the quality of the medical act.

We do hope, that with international assistance, we will be able to overcome this challenge in the nearest future in light of already planned reforms in primary as well as public health systems. 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.

Obstacles

Nowadays the main obstacle is the stressful economic situation, insufficient motivation of medical workers, that hinders the achievement of our goals.

Plans

Achievement of the objectives of the National Program for the Prevention and Control of Cardiovascular Diseases for the years 2014-2020. The purpose of the program is to increase the life of the population and reduce cardiovascular mortality. In order to achieve the basic objectives included in the program, the health system in the Republic of Moldova has continued to develop health service capacities through the basic functions of the health system: Governance, funding, resource generation and provision of medical services. According to this programme the specific objectives are:

1) reducing the risk of cardiovascular disease and increasing the rate of their early detection (systematic assessment of barriers to CVD prevention on the levels of patient, provider, health care system and organizational level)
2) modernising specialised diagnosis and treatment methods
3) the development of vascular and valvular interventional cardiology, component part of highly specialised healthcare
4) optimising the diagnosis and treatment of cardiac arrhythmias
5) strengthening and developing the cardiovascular surgery service for the provision of specialised medical assistance to children and adults
6) organising cardiac rehabilitation programmes in all major hospitals and clinics, as well as establishing specialised centres 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 of cadres in cardiology and prioritisation of scientific research.

The key actions for the next 3 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.