

## **IMPROVING HEALTH CARE IN PATIENTS WITH CARDIOVASCULAR DISEASES IN ZAPORIZHZHIA REGION IN 2015-2017 YEARS**

Project "Improving health in the service of the people", defined under the Loan Agreement №8475-UA from March 19, 2015 between Ukraine and the International Bank for Reconstruction and Development (World Bank), aims to develop health infrastructure and to improve the quality of medical services in Ukraine. Investments will be used to implement a new financial mechanism in the field of medicine, prevention, early detection and treatment of cardiovascular diseases and cancer, improving primary healthcare, adjusting regulatory legal acts to the best world standards, carrying out public information campaigns, etc. The project also provides an implementation of regional sub-projects in 8 regions of Ukraine. Regions were selected by the results of the project competition that continued from the beginning of 2013.

Implementation of the overall project is designed for five years and has a volume of financing 261 million US dollars, of which approximately 215 million is provided by the World Bank.

**Subproject of Zaporizhzhia region** "Improving medical care to patients with diseases of the circulatory system in the Zaporizhzhia region for 2015-2017 years" aimed to develop and strengthen the region primary health care (PHC), which is currently provided by 32 primary care centers.

Project duration is **2 years** (June 2015 - September 2017) with the volume of financing from the World Bank to **4 mln. USD** and co-financing by the region at least 10% of the sub-project value, and there is a possibility of prolongation in case of a successful implementation.

### **Description of the problem** (on which sub-project aims)

Numerous researches (including researches with the support of the World Bank) confirm the fact that the indicators of Ukraine in the field of health care are considerably worse than might be expected in view of its potential. Lack of attention to health promotion and primary health care (PHC), the lack of a systematic approach to the prevention of non-communicable diseases (NCD) and managing them, excessive emphasis on specialized medical care are both a cause and a consequence of structural imbalances in the health system and the inefficient use of limited resources. The health care system Zaporizhzhia region and indicators of health of the population in general reflect general Ukrainian trends.

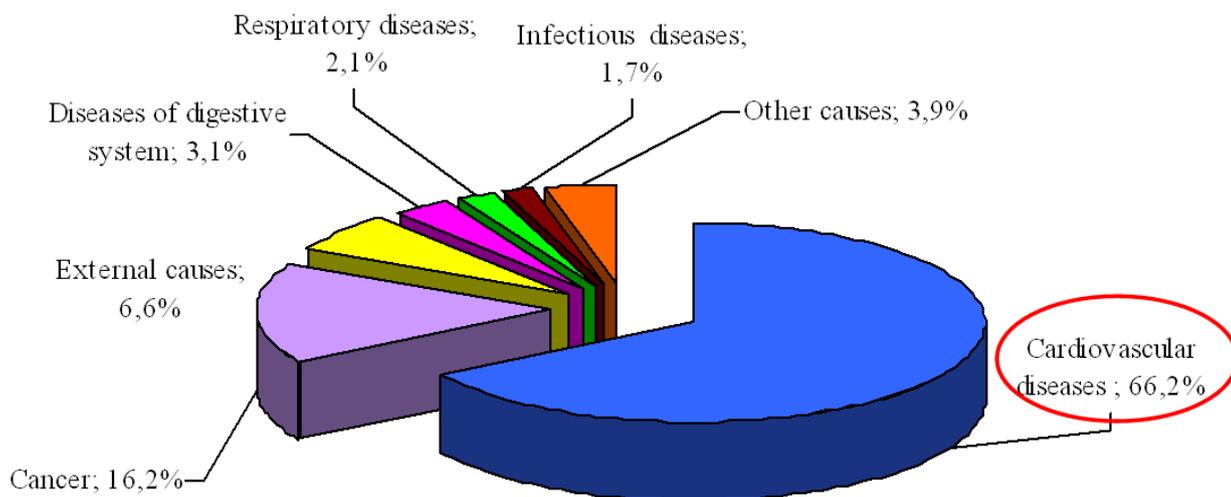
According to the Zaporizhzhia Statistical Office on 01.01.2015, the total current number of population of the region is 1765,9 thousands persons. The share of urban population is 77,1%, rural - 22.9% (in Ukraine these rates in 2014 are - 68.7% and 31.3%).

Further aging population is observed in the age structure of the population of the region. The share of the population in older age groups (60 and older) increased and in 2014 was 23% (2010 - 21%), which on a Rosset scale, considered as "an extremely high level of demographic aging"

(in Ukraine in 2014 – 22 %). Life expectancy at birth is less on 10 years, than the performance of European countries: men 66.5 years, women - 76.5 (66.3 and 76.2 for Ukraine ).

Structure mortality in the causes of death is relatively stable in recent years: cardiovascular diseases - 66.2%, cancer - 16.2%, and mortality from external causes - 6.6%.

### Structure of mortality by causes



**Non communicable diseases** are not only a major cause of mortality region, but also constitute the major burden of disease. Cardiovascular diseases (CVD) have the largest share (44.3%) in the structure of the prevalence and primary incidence of adult people of Zaporizhzhia region. In this group the most important diseases are hypertension, ischemic heart disease (including myocardial infarction) and cerebrovascular diseases (including stroke).

Hypertension is 45.5% of all CVD, or 2911 on 10,000 adults (over 400 thousands sick people in Zaporizhzhia region). In recent years the prevalence rate for this disease remains almost unchanged, and the rate of primary incidence increased by 10% during pilot project implementation for treatment of hypertension and amounted 128.71 with significant variations between region districts (from 59.84 to 449.94). Significant variations of this indicator prove the different conditions and PHC possibilities in certain region districts.

Coronary heart disease (CHD) is 31.9% of all registered CVD. The level of prevalence by this nosology is 2041 to 10 000 of appropriate population (over 300 thousand sick people in Zaporizhzhia region).

The incidence of acute myocardial infarction among the adult population of the region in 2014 is 14.93 per 10 thousand respective population (over 2 thousands patients, one third of them died), that is higher than in 2010 (13.94) and the national rate of 2013 year (13.57).

Cerebrovascular disease prevalence is 17.5% of all registered CVD or 1119 on 10 thousand adults (over 5 thousands patients, 2107 of them died). The incidence of stroke among adult popu-

lation in 2014 was 37.71, which is above the rate in Ukraine in 2013 (29.95) at 26%.

According to the WHO, the spread of CVD has reached significant proportions, but level of morbidity can be significantly reduced by decreasing the influence of risk factors, diagnosis at an early stage and timely treatment.

A significant part of CVD can be prevented. These diseases are related with behavioural risk factors, that can be modified, including smoking, unhealthy diet, physical inactivity and alcohol abuse. These risk factors lead to overweight, high blood pressure and increasing of cholesterol levels.

Strategy of combating with CVD, proposed by WHO, provides a combination of events at the national and individual levels. And if at the national level there is some progress (e.g., a law banning smoking in public places, increased excise taxes on tobacco and alcohol), measures at the individual level, which should be provided healthcare system, are inadequate and high-costly.

Currently, main focus in medical care concerning CVD is paid to provide emergency care in inpatient facilities. Patients are treated in inpatient medical facilities, when cardiovascular diseases have the stage of exacerbation or reach critical complications. This approach is very expensive and does not lead to a significant reduction of the burden NCD. Also it deprives people the chance to save their health by contacting for medical help at an early stage of the disease.

Also, because much of the cost of medical care are paid for by patients themselves, the treatment of CVD creates a significant burden on the family budget, especially for families with low incomes. Treatment of cardiovascular diseases are often lengthy and therefore can be very costly. Such costs may lead to disastrous consequences for the family budget and poverty. It may also have negatively influence the patient's compliance, especially when the doctor prescribes medicines ignoring the social status of the patient. Fear of such costs, and the need to pay for certain types of surveys and laboratory tests, remoteness of PHC facilities from patient's homes make patients put off going to the doctor when the first symptoms. This delay leads to irreversible processes in the body and complications that require significantly more resources from both health systems and patients with their families.

Primary health care (PHC) is main structure of the health system that can effectively introduce measures to reduce the burden of CVD at the individual level (or at the local community). However, the historical conditions of health system development in Ukraine did not contribute to strength the primary care, but have led to destruction of infrastructure, equipment wear, reducing the role district doctors, leaching personnel and other defects in weakening of PHC.

The health care system of region, as a whole of the country, is very inertial and meets modern challenges and changes, taking place in society (aging population, globalization and urbanization with a corresponding change in lifestyle, changes in the structure of morbidity and mortality), not enough. Basic infrastructure was laid in the Soviet period, which was characterized by

extensive approach to the development of network of healthcare facilities. A large number of hospitals, fragmentariness of services and duplication of functions are heritage of historical development, which negative impact may be reduced by structural optimization. Today, the maintenance of chain of medical establishments is the basis of the system of health care. Allocation of resources to health care, linked to the functioning of hospital beds, supports an approach by which treatment process of consequences of chronic diseases is funded. A lack of effective prevention programs, early diagnosis and treatment in the early stages of such diseases leads to their considerable prevalence, neglect and high frequency of complications that requires even more resources for specialized care.

WHO says: "health care, major role in which plays by specialists, and which is focused mainly on in-patient treatment, overlooks important health care needs and social protection, and requires the higher expenses, as opposed to systems where attention is paid to strengthening of health and disease prevention.

In many countries in primary care a number of problems still displays: narrow spectrum of tasks, the weak interaction between employees and departments, limited recognition of the role and place of primary care, weak links with higher levels of aid and lack of funding. "

The existing network of PHC currently provides the bulk of health care to population Zaporizhzhia region. However, the quality and availability of these services have significant the differences between rayons. Some rayons have a rate of less than 4 visits per capita per year. These differences indicate a lack of equal and fair access to all citizens to medical services of primary health care of good quality.

The region has almost no PHC facilities, which are completely collateralized of equipment according the table of equipment, approved by the Decree of the Ministry of Health of Ukraine from 27.12.2013 № 1150. Lack of equipment prevents comply with standards and protocols for the provision of medical care and support at a sufficient level skills of medical professionals of PHC facilities that directly affects the quality of care.

Lack of necessary equipment restricts the introduction of screening programs in of PHC. Even such simple tests as determining body mass index, or the determination of glucose in the blood is not always available in primary care because of the lack of elementary equipment.

Only 29 computers are used in all PHC ambulatories in region. Keeping paper medical records, the absence of an electronic database of health of pinned patients limits the possibilities integration of PHC and public health programs. The system of collection statistical data using paper medical records is outdated and has many disadvantages and does not reflect the real situation. There are no electronic registries of patients and the possibility of monitoring behavioral and metabolic risk factors of CVD.

PHC doctors cannot use modern systems of self-learning through the Internet; have no ac-

cess to background information and convenient means of communication with colleagues. Applying the principles of evidence-based medicine without access to relevant databases remains to be declarative.

Unsatisfactory working conditions, a heavy load because of lack of primary care physicians, low salaries and status in the medical hierarchy are components of the vicious cycle and have led to an outflow of doctors and unwillingness of young professionals to go to the primary link. Therefore manning primary care doctors in the region is 40-70%. Due to the significant lack of staff requirements to doctors' qualifications cannot be increased.

Financing of the institutions of PHC mainly cover the costs of salaries (over 75%) and current costs of maintaining of infrastructure and energy carriers (15-20%). Capital expenditures in PHC are very limited and irregular, which does not allow planning equipping primary care facilities in the short term at the expense of local budgets.

Insufficient development of PHC is explained by weakness of strategic management of health care system, disunity of organizational structures of services provision, availability of corporate competition for spheres of influence, when preference is given to stationary medical care and high-tech diagnostic tools to the detriment of primary care.

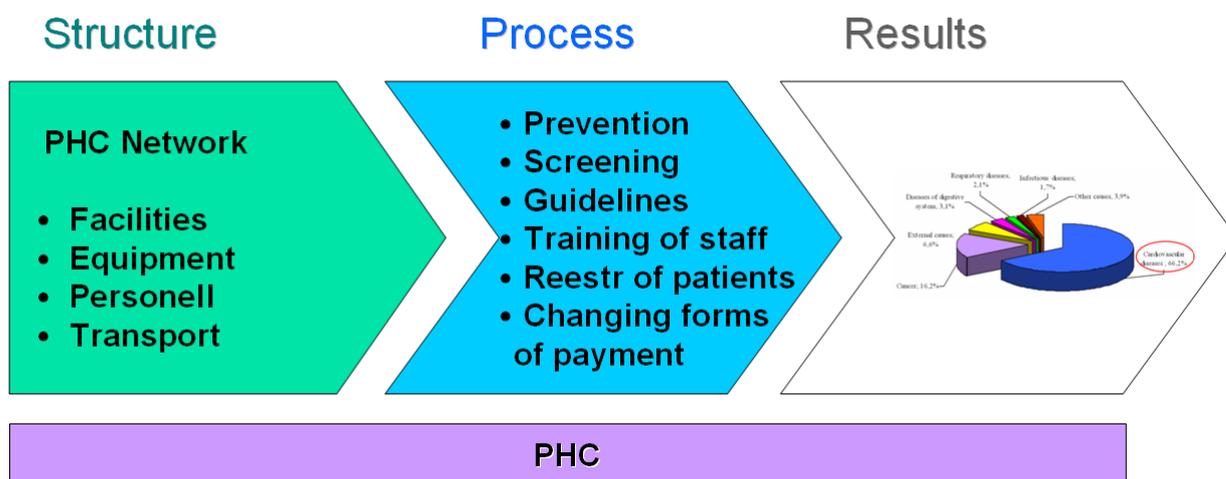
The main conditions for PHC strengthening WHO considers a creating a favourable legal and regulatory environment, autonomy in the management, improving of financing, training of medical personnel in the matters of public health, using scientifically based methods in clinics and management, practice of uninterrupted quality improvement at the facility level.

Especially for solving described problems was directed a PHC reform process in the Zaporizhzhia region in recent years. The autonomy of primary care issued organizationally and removed disunity its organizational structures was succeeded by creation of new legal entities - (PHC centres) - in 2013 -2014 in Zaporizhzhia region. 32 PHC centres, in which ambulatories and village health centres was included as structure units, was established instead of almost 600 PHC facilities (including 140 ambulatories and 373 village health centres).

Zaporizhzhia region is not pilot region for this reform program, therefore has no critical levers for strengthening of PHC - for example, additional funding for capital expenditures or a substantial wage increase primary care physicians.

Strengthening PHC has just begun from forming a network of institutions and staffing them with appropriate personnel, that means a creating of the necessary structure. Also, acceptable conditions of health workers workplaces, availability of appropriate medical equipment and furniture are important elements of the structure. Capital expenditures for primary care in recent years have been more the exception than the rule. Therefore, the region, by taking part in the projects competition of the World Bank in 2013, has identified that a priority is exactly devel-

opment of primary health care.



Participation of Zaporizhzhia region in the World Bank project to reform the regional health system **aims to** ensure equal and fair access of all citizens to medical services of appropriate quality through strengthening the regional network of PHC, introduction of preventive programs for CVD, improving the efficiency of health care (Appendix 1).

The health care system should respond flexibly to the changes taking place in society and offer answers to existing challenges. However, there is a period between the introduction of changes and getting results. Taking into account the time of project of 2 years it can be argued that some of the above-mentioned results cannot be obtained by the end of the project. However, the expected results are predictable by the processes that have proven effectiveness in other countries and whose experience is generalized in the level of international institutions such as the WHO.

The expected results of the project are:

**1.1. Improving the quality of primary care services for the detection and management of patients with AH and CHD** will be provided through:

1.1.1. Development of local protocols of patients with AH and CHD and materials for patients

Today in Ukraine developed national guidelines (protocols) in the management of patients with AH and CHD approved by the Ministry of Health of 24.05.2012 № 384 and of 23.11.2011 № 816. However, local protocols are not developed in PHC facilities and not all doctors have the appropriate knowledge. Local protocols will be developed as a part the project and it will determine the doings of medical workers at all stages of prevention, diagnosis and treatment of AH and CHD.

Materials for Patients (booklets and diaries of control blood pressure) will attract patients to monitor their condition. Increased public awareness of patient empowerment and PHC services in CVD prevention and support to patients with chronic diseases in addition to reducing barriers to accessing will serve also as patient education of rational using of the health care for their own

needs. Expansion of empowerment of patients in maintaining health or maintaining the highest possible quality of life of patients with chronic disease, in addition to the direct benefits to patients and their families, reduces the burden on the health system as a whole.

1.1.2. Training of doctors and nurses of detection and management of patients with essential hypertension and coronary heart disease

Training doctors to use local protocols in their practice will provide a basis for effective management of patients with AH and CHD.

1.1.3. Conducting measurements of blood pressure and assessment of CVD risk factors for all residents of region corresponding category at least once a year.

Such activity will allow to form registries of patients with essential hypertension and coronary heart disease in each PHC clinic and group

of patients with existing risk factors for CVD. And, thus, all residents the region will be able to get qualified consultation and, if necessary ongoing oversight. This will reduce the number of acute cases of CVD, and the number of complications in chronic patients. Results of comprehensive strengthening of PHC and solving health problems of patients at the primary level will be the reducing of the number of calls to the ambulance to CVD patients and reducing of the amount of a hospitalization.

1.1.4. Introduction of incentives to provide quality of services of PHC to identify and management of patients with essential hypertension and coronary artery disease.

The presence of local protocols do not guarantee that physicians will follow it even if they will have knowledge. In addition to administrative sanctions for primary care providers need implementation of the motivation for Quality Assurance. It is assumed to develop indicators that will indicate the performance of by physicians in practice local protocols. According to the results of the assessment of quality indicators make a rating of a primary care centers, clinics and physicians.

To encourage physicians (total quantity - 850 primary care physicians currently working in the Zaporizhzhia region) to participate in providing quality care introduce these incentives: the first 15 physicians of rating - study tour to the Netherlands to study the best European practices; the first 50 doctors - purchase of cars (in the process equipping of PHC p.1.2.3. ); the first 100 physicians - purchase of computers and Internet connection (in the process equipping of PHC p.1.2.3. ). Besides increasing learning opportunities health workers, connecting PHC institutions to the Internet will promote the using of telemedicine technologies; create opportunities for consultations with colleagues and specialists of secondary level.

To encourage chief of PHC centers (total quantity - currently 32 PHC centers in the Zaporizhzhia region) participate in providing quality of medical care introduce these incentives: the first 15 PHC centers - study tour to Estonia to study the experience of transition from the So-

viet model to the modern European model of PHC.

1.1.5. For physicians (to 20 people) who wish to become private entrepreneurs: carry out of training on the basics of entrepreneurship; collectively develop a business model of private PHC doctors; organize the study tour to Estonia (or Lithuania) with acquaintance with experience of private entrepreneurs in PHC.

Using European experience (study tours for doctors and heads PHC centers) will also be a significant contribution to strengthening regional PHC.

**1. 2. Improving access to health care for patients with CVD**, this is achieved through approaching of PHC facilities to the patients. Forming of new network of PHC in the region has already been underway. However, in local budgets is the lack of resources and there is a need of attracting additional sources. The funds are necessary for infrastructure upgrades - on renovation of the premises facilities PHC, for additional completion PHC institutions with equipment and transport, for computerization and Internet connection. With project funds PHC centers, ambulatories and medical centers will be complement with appropriate equipment and transport after doing repairing works (where this is needed) be the expense of local resources. Therefore involvement of local communities in the development of PHC infrastructure will be stimulated.

Access to care at the level of PHC as the primary point of contact with the patient's health care system will be increased also by removing barriers of accessing. Awareness of patients about what services they can get for free in the nearest PHC facility and the appropriate resources for such services are critical decisions that will reduce the problem. Equally important is the awareness of patients about the benefits of early detection of certain diseases or risk factors and considerable further costs they may carry in case of delay of the visit to the doctor.

### 1.3. Piloting three PHC centers for creating common information space

The introduction of an electronic registry of patients and electronic medical records will help to create an online data base of patients health with the possibility of aggregation relative to the whole community, monitored behavioral and metabolic risk factors of NCD, get more accurate (compared to paper) statistical information. This will allow a more balanced approaching to the planning of limited resources and further control over their use.

Separation of patients in risk groups of NCD and monitoring risk factors provide PHC physicians possibility of applying individual preventive measures for preservation of health of patients, or providing medical care in the early stages of disease

**2. Increased of public awareness on new PHC services** will be provided through the monitoring of public opinion regarding health care reform and related public awareness on changes

in the activities of PHC.

The reform process and especially socially important sphere such as health care, disrupting stability in society, causing dissatisfaction with certain parties, and thereby increases the risks for the implementation of reforms. Ignoring these risks at the stage of planning in the future may result in overspending material resources, time, and sometimes even the impossibility of change.

And resistance can occur both in the open opposition to reforms of local communities, and in the form hidden sabotage with delay take the necessary decisions. Therefore, timely public awareness, transparency in decision making and transparency of action are key aspects of providing support in the implementation of reforms.

## Project structure

