

CARDIOVASCULAR DISEASE IN UKRAINE

Definition of Problem

In 2008, an estimated 17.3 million people in the world died from cardiovascular diseases. You might be surprised to learn that over 80 percent of these deaths take place in low to middle income countries. The World Health Organization predicts that by the year 2030, more than 23 million people will die annually from cardiovascular diseases. Cardiovascular disease has been the leading cause of death worldwide since the 1970s, but recently cardiovascular deaths have declined in many high income countries, while cardiovascular deaths and disease have increased at a fast rate in low- to



Cardiovascular disease (CVD) has typically been viewed as an affliction of wealthy, industrialized societies, but in fact, during the past century, minimal if any effort aimed at cardiovascular (CV) prevention has been allocated to developing countries. This, in part, reflected the higher prevalence of infectious diseases that provided the rationale for not investing time and resources toward chronic diseases; however there is an emerging body of data suggesting that this current policy may be dangerous and conditions will only get worse if not addressed. A decades worth of studies have identified risk factors for CVD, the more prevalent ones being hypertension, smoking, obesity (due to poor diet and/or lack of physical activity), hyperlipidemia, stress, and genetic predisposition. Despite the increased prevalence of CV risk factors in developed countries, the first half of this decade saw a peak and decline in CV related mortality related in part to risk factor modification. Nonetheless, developing countries present an uncommon scenario. This is because the government has been using policies that have worked in developed countries. The problem with this is that you need to design a policy around the geographic location and the patient's needs. There is no one policy that fits all circumstances. Thus, the ideal approach may be a dual one - identifying proven strategies in developed countries and then modifying them as necessary for the individual country being targeted.

Problem In Ukraine

Each year in Ukraine, about 2.4 million new cases of cardiovascular disorders are registered in the nation's hospitals. In recent years, the incidence of heart disease has increased one and a half times, killing 450,000 Ukrainians annually. (Rudnieva, 2003)

Experts of the Amosov Research Institute of Cardiovascular Surgery believe that well over 35,000 patients need heart surgery. That same research institute performs up to 6,000 heart surgeries annually with a mortality rate of 3.6%, but there is something wrong with this though, because only 6,000 patients undergo surgery out of 35,000 patients who need it, while the remaining 29,000 never live to receive the required treatment. (Rudnieva, 2003)



Ukraine has higher disability and death rates from cardiovascular disease among younger patients. The scale of the disease is quite extensive: it kills 130 working age Ukrainians each day. This causes significant losses of human and economic potential and shortens life expectancy. Also worrying are forecasts that do not predict any improvements in the situation, unless they take scientifically founded steps backed with adequate funding and government support.

Aspects

Economic

Economic aspects of cardiovascular disease in Ukraine refers to the costs/benefits, employment, fiscal policy, production, distribution, and consumption of goods and services all related to the problem of CVD in Ukraine. They are the aspects of the economy that affect the problem. According to the U.S. National Library of Medicine, noncommunicable diseases (NCDs), including cardiovascular disease (especially ischemic heart disease), are the leading cause of death and disability worldwide. Their prevalence is seen to be on the rise in low-and-middle income countries like Ukraine, where out-of-pocket payments are especially high in regards to medical treatments



(Murphy, Mahal, Richardson, Moran, 2013). About 40.5% of Ukrainians pay for medicine out-of-pocket. In Ukraine where, in 2009, 16.1% of the population did not earn a living wage and 14.4% of the population live below the national poverty line, it is likely that the effect of out-of-pocket payments on patient households is great (Murphy et al., 2013). A study done by Adrianna Murphy, Ajay Mahal, Erica Richardson, and Andrew E. Moran showed that despite evidence of high prevalence of noncommunicable disease factors and a health care system that has proved to be unable to meet the needs of its patients, Ukraine has been relatively ignored in the public health literature.

All Ukrainians are entitled to a guaranteed package of health care services provided free of charge at the point of use; however, resource constraints have led to attempts by the government to limit the range of services covered in this package, like not including outpatient drugs (Murphy et al., 2013). Households of ischemic heart disease patients in Ukraine are more likely to engage in distress financing to cover the cost of treatment, and a high proportion of patients do not acquire prescribed medicines because they cannot afford them. This ultimately results in hospitalization and death, a huge reason why CVD is a big problem in Ukraine.

Historical

Historical aspects of cardiovascular disease refers to how the history of the people in Ukraine affect the problem of cardiovascular disease. History alludes to the story of something through time; how the past affects the present. Contributing to Ukraine's high mortality rate are two main factors, both which are considered risk factors for CVD: alcohol poisoning and smoking (Health in Ukraine, 2014). According to the 2010 World Bank study, 36% (28.6% is the average in Europe) of Ukrainians smoke tobacco, including 31% of those who smoke every day. Ukraine has a very high smoking prevalence for the size of their country. We see a correlation between Ukrainians high CVD rate and their drinking and smoking habits.



Historical cont...

Smoking is known as one of the few things that actually brings Ukrainians from all backgrounds together and has also been a way of socializing for the people of Ukraine. The fact is that tobacco is cheap and a great way to escape the Ukrainians stressful day to day lives and it will forever be associated with the glamour of the Cossacks (What's on Kyiv, 2013). The Cossacks are a group of predominantly East Slavic people who became known as members of democratic, semi-military communities, predominantly located in Ukraine and in Southern Russia. They played an important role in the historical and cultural development of both Russia and Ukraine (Cossacks, 2014). According to "What's on Kyiv", smoking will remain one of the country's favorite pastimes.

Excessive alcohol consumption is another risk factor of cardiovascular disease. It is also listed as one of the most preventable causes of death in Ukraine (Health in Ukraine, 2014). Alcohol consumption in Ukraine goes back to the 15th century where the North West region of contemporary Ukraine (Volyn region) was famous for producing very good Horilka (Alcohol History, 2014). "Horilka" is the Ukrainian word for "vodka." The history of Horilka is something that is held close to the hearts of Ukrainians. They find it part of their history and have no shame in consuming it daily, which has the potential to correlate to the alcohol abuse problem and high rates of CVD. Check out the history of Ukraine at: <https://www.youtube.com/watch?v=nRr-nrJ7xvQ>



Political

The political process involves the way in which groups make decisions, usually relates to running government or state affairs; consists of social relationships involving authority and power.

Ukraine's health system is complex, inefficient, highly inequitable, and of low quality. Ukraine lacks a comprehensive health reform implementation plan - though several reforms have been proposed and some have even been legislated, most have not been implemented. Political instability, frequent changes of Government and of the leadership of the Ministry of Health - with eight Ministers of Health since independence - have led to delays in institutional change in health care and the reorganization of primary health care. To address the health needs of the population which is becoming more NCD focused, Ukraine's health system needs to be re-oriented from an acute care input-based model to a comprehensive disease management model that is more appropriate for NCD prevention and control. "Resources For." *Europe and Central Asia*. N.p., n.d. Web. 29 Apr. 2014.

Unlike Ukraine, all Central European countries studied in this report underwent comprehensive reforms in their health systems, starting early in the transition process. Reforms in Central European countries were guided by a series of legislations, policies and strategic plans which were constantly adapted to changing needs. In all cases, effective government stewardship was critical to ensuring success in implementation of reforms. An important element of the reforms was defining the roles and responsibilities of the various players in the health systems. Experience from Central European health reforms suggests that removing rigidities in resource allocation, emphasizing primary care, introducing referral care systems, rationalizing excess capacity at secondary and tertiary levels, and providing performance-based payments to providers should be the focus of health system reform in Ukraine. Aspects going on in Ukraine right now that contribute to the stress of political unrest. "Documentary in the Ukraine - Google Search." *Documentary in the Ukraine - Google Search*. N.p., n.d. Web. 29 Apr. 2014.

Effective Prevention Mechanisms Would Require Collaboration Across Sectors

Changes in the composition of the burden of disease require a multi-sectoral approach to disease prevention and management. An integrated NCD control and prevention strategy can help foster multi-sectoral collaboration. In the short-term, there is a need to identify and implement priority cost-effective interventions (both within and outside the health system) that target the major risk factors. These include interventions and policy options that target the major risk factors – such as alcohol and tobacco, road safety, and diet/physical activity, within an integrated strategy for NCD prevention. This requires the development of integrated management structures that bring together representatives from all areas of the health system and beyond to ensure coordinated action for NCD prevention and control. The process should involve not only the Government but also donors and NGOs—all of whom have a substantial role in NCD prevention and control efforts."Resources For." *Europe and Central Asia*. N.p., n.d. Web. 29 Apr. 2014.

Table 2: Key Cost Effective Interventions for NCD Prevention and Control in Ukraine

	INTERVENTIONS
TOBACCO CONTROL	Comprehensive bans on advertising. Increased tobacco taxes. Prominent health warning labels with pictures. Enforcement of comprehensive smoking bans and sales to minors. School-based health education.
ALCOHOL CONTROL	Counter-advertising. Increased alcohol taxes. Legislative interventions (mandatory warning labels, banning sales to minors, advertising bans, etc.). School-based health education. Strict enforcement of drunk-driving laws, with clearly legislated maximum Blood Alcohol Concentration (BAC) levels.
ROAD SAFETY	Mandatory seatbelt enforcement. Strict enforcement of drunk-driving laws, with clearly legislated maximum BAC levels. Enforcement of speed limits. Safe driving lessons for youth.
DIETARY CHANGE	School-based health education. Information, Education and Communication (IEC) on the dangers of obesity and the benefits and elements of a healthy diet. Involvement of NGOs, community groups, etc., in activities promoting dietary change. Health worker training—knowledge/skills to encourage dietary improvement. Taxation of harmful dietary inputs—sugar, fatty foods, alcohol, etc.
PROMOTION OF PHYSICAL ACTIVITY	School-based health education. IEC on physical activity/exercise. Promotion of sporting activities and clubs, especially those targeted at age/gender groups with low levels of physical activity. Health worker training—knowledge/skills to promote increased physical activity.
SCREENING CERVICAL CANCER	Consider more extensive screening, including IEC efforts, community/NGO participation. Ensure availability of trained/skilled clinical staff for diagnosis (including laboratory) and treatment of cases—and their ongoing training. Ensure presence of adequate laboratory facilities.
SCREENING BREAST CANCER	Screening, either via clinical examination or mammography. IEC efforts, community/NGO participation. Ensure availability of trained/skilled clinical staff for diagnosis and treatment of cases—and their ongoing training. Formation of support groups.
SCREENING DIABETES AND HYPERTENSION	Targeted screening of high-risk groups—those with conjoint risk factors (obesity, heart disease, hypertension, etc.), or those identified using risk factor questionnaires. IEC activities, public awareness campaigns. Periodic national screening campaigns.

Environmental Aspect

The Ukrainian health care system has remained almost unchanged since Soviet times. The mechanisms currently in place neither reflect the health care needs of the population nor account for regional characteristics of health service provision.

About one third of the population in Ukraine live in rural areas, some only sparsely populated at around 30–70 people per km². This poses considerable problems for the provision of health care, such as access to these small rural areas limit the amount of doctors and nurses that can be distributed throughout the area. An example of this problem would be the fact that per population sizes 1000–1300, they are only prescribed one physician, providing basic healthcare. Since these areas are very remote, some physicians have to take on the responsibility for emergency care.

There was a substantial number of hospital patients who claimed they were charged for drugs (92.9%), food (83.0%) or bed linen (63.9%), the very services that the state health system is by law supposed to provide. This makes it seem like the very system is flawed. Ukraine is moving towards having free healthcare for all, but there is still need for many improvements.(Lekhan, Valeria, Rudyi, Nolte, 2004)

Cultural

"Taking care of your health is one of the elements of our people's culture. That is the first factor. The second factor is a trust towards doctors, the trust towards the quality of services provided by the state healthcare system. Both factors are very important. Patients should take care of their health. For example, they should immediately visit doctors to be diagnosed when they have pain in their chest, or they get winded, or have an abnormal heart rate," says Vitaliy Averchuk, a Lviv cardiac surgeon who has saved a lot of people's lives. Along with this, their emergency response isn't that great and they say that they are wrongly diagnosed. With these types of things, "Ukrainians have a high risk of dying prematurely. Nearly half of the adult population, many of them young, suffers from one or more chronic disease, say the World Bank and the Ukrainian Medical Union (UMU) in a new study "What Underlies Ukraine's Mortality Crisis." Plus, smoking and alcohol are escalated habits.

Health Interventions

Health interventions refers to the programs and/or policies/procedures (paradigms) used to address cardiovascular disease in Ukraine. It also refers to evidence with reliable data that shows the interventions are effective in Ukraine. In regards to heart patients, Ukraine has seen some positive shifts in the medical field. Specialized inpatient care is becoming more accessible to rural population, and new effective drugs appear on the market (Rudnieva, 2003). Moreover, Ukraine has the required laws that provide for prevention and treatment of cardiovascular disease, and the Program of Prevention and Treatment of Arterial Hypertension is



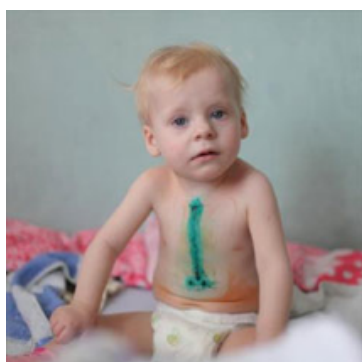
Andriy Pidayev, Ukraine's Health Minister, says that preventing CVD is a national priority in Ukraine, which is evidenced by a number of nationwide programs such as the Health of the Nation Program, Arterial Hypertension Prevention and Treatment Program, along with measures to develop heart surgery. Ukraine is working to increase public awareness of heart disease, encourage preventive treatment, enhance medical services, and upgrade medical equipment. Registered heart patients must have least one electrocardiogram and echocardiogram performed once a year, along with blood tests for lipids and sugars (Rudnieva, 2003).

Hennady Knyshov, director of the Amosov Research Institute of Cardiovascular Surgery and academician of the Ukrainian National Academy of Sciences, says that the levels of heart surgery are being improved by upgrading equipment and increasing the salaries of surgeons and assistants. Amosov Institute can perform a maximum of five thousand surgeries a year, so plans are being made to expand. The regional centers in Donetsk, Zaporizhzhia, Dnipropetrovsk, Lviv, Kharkiv, and Odesa are on the verge of expanding (Rudnieva, 2003). There are also plans to open a similar center in Cherkasy (Rudnieva, 2003).

Illia Yemets, director of the Research and Practical Medical Center of Children's Cardiology and Cardio surgery, explains that the government has made it possible to open a separate Center of Children's Cardiology and Cardio Surgery. This has significantly improved the functioning of children's cardio surgeries. 10 million dollars worth of equipment has been bought for the center, which had its resuscitation unit, diagnostics department, and artificial blood circulation laboratory re equipped (Rudnieva, 2003). Yemets says we would like to develop the cardiologic service across Ukraine, pursue research in the sphere of similar pathologies, introduce screening for expectant mothers, build major inpatient units, where we could monitor postoperative patients.



In October 2012, pictorial warnings appeared on cigarette packs in Ukraine for the first time. The warnings cover 50% of one side of the pack; the other side has a text warning covering 50% of the pack. Previously, only text warnings covered 30% of both sides (New pictorial warnings, 2012). The World Heart Federation says about one quarter of all Ukrainian smokers are still unaware that smoking increases their risk of heart disease and stroke. In a country with catastrophically high rates of premature CVD mortality (the highest age-adjusted rates of mortality from CHD before age 65: over ten times higher than countries like the Netherlands and Portugal), this is an extremely dangerous gap in knowledge which compromises Ukrainians' ability to protect themselves from early death from heart disease (New pictorial warnings, 2012). Another huge step is that on December 17, 2012, all Ukrainian cafés, bars and restaurants became 100% smoke free.



Chernobyl Children's project International is also another health intervention that is working to help CVD in Ukraine. CCI (Children's Chernobyl International) manages and delivers a world-recognised Cardiac Programme that has saved the lives of thousands of children (Medical Programmes). Volunteer surgical teams travel throughout the Ukraine to perform surgeries that save lives, and CCI provides financial and logistical support to the cardiac surgeons in order for them to make the vital trips to the effected areas (Medical Programmes). CCI also trains local physicians and gives them technologically

Health Interventions

Experts of the Amosov Research Institute of Cardiovascular Surgery believe that well over 35,000 patients need heart surgery, including adults and children. Each year six thousand Ukrainian children are diagnosed with congenital heart disease, while nearly forty thousand children aged under fourteen suffering from heart disorders are registered (Rudnieva, 2003). In regards to heart patients, Ukraine has seen some positive shifts in the medical field. Specialized inpatient care is becoming more accessible to rural population, and new effective drugs appear on the market (Rudnieva, 2003). Moreover, Ukraine has the required laws that provide for prevention and treatment of cardiovascular disease, and the Program of Prevention and Treatment of Arterial Hypertension is implemented (Rudnieva, 2003). Andriy Pidayev, Ukraine's Health Minister, says that preventing CVD is a national priority in Ukraine, which is evidenced by a number of nationwide programs such as the Health of the Nation Program, Arterial Hypertension Prevention and Treatment Program, along with measures to develop heart surgery. Ukraine is working to increase public awareness of heart disease, encourage preventive treatment, enhance medical services, and upgrade medical equipment. For increasing public awareness, Pidayev says it should be done on the widest scale possible because most of Ukraine is in the high-risk group. He says informing the people that combating CVD is not medics alone, but early diagnosis and treatment is very important. Outpatient facilities also need to be functioning properly to reduce mortality rates regarding CVD (Rudnieva, 2003).

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