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Cardiovascular Diseases, Risk Factors and Barriers in Their Prevention in Croatia

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A B S T R A C T

Cardiovascular diseases are the leading cause of death in Croatia, with significant regional differences. Despite high mortality rates, high prevalence of various cardiovascular risk factors and well organized public health network, comprehensive system for cardiovascular disease monitoring and interventions does not exist. In this study we analyzed legislation framework and responsibilities of stakeholders relevant for cardiovascular disease surveillance and prevention. According to the international experiences we analyzed characteristics of cardiovascular disease prevention in Croatia and causes of the problems appeared in the preventive programs in Croatia. Analysis showed that primary problem is not inefficiency, but the existence of barriers in preventive activities definition, responsibilities distribution and task implementation. Main cause for such situation is incompatibility of the existing practices in clinical medicine and public health with recommendations from other countries. For the successful prevention of cardiovascular disease in Croatia at least three changes need to be made – define new terms and contents of prevention, define new responsibilities distribution and provide equity in health as basic criterion for successful preventive programs.

Key words: *Cardiovascular disease, risk factors, prevention, policy, Croatia*

Background

Despite the long tradition and well acknowledged importance of disease prevention, the term itself and the content of preventive measures remain debated. Policy groups in different countries seek to enhance the effectiveness of models, with the greatest focus on preventive measures targeted at chronic disease including cardiovascular diseases and cancer[1–5].

Prevention of cardiovascular diseases holds a central position in the delivery of health services internationally due to its impact on the morbidity and mortality of populations, but also because it is interconnected with other conditions. Despite the tradition and the wealth of knowledge generated over the decades, organization of cardiovascular disease prevention is neither easy nor simple. Alongside its direct health effects, prevention of cardiovascular disease has a considerable impact on the overall equity of service provision and thus presents complex challenges to national health care systems[6].

Provision of health care is one of the pillars of social security in Croatia. Rights to health care and health are defined by the Croatian constitution. Delivery of health care services is regulated by the Health Care Act, and health care financing by the Health Insurance Act. Health institutions, professionals and public and private companies provide health care services. The Ministry of Health and Social Welfare and local governments are owners of public health institutions, responsible for financing investments and specific health care prog-

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rams. The Government holds considerable influence on the health care system through the Institute for Health Insurance, in charge of financing the health service provision.

Croatia's health care system is based on the principles of inclusivity, continuity and geographic accessibility. Primary health care is integral, while secondary care provides specialized services to patients[7]. Public health service has a long and a distinct tradition both in the provision of preventive programs and in education. The network of public health institutions is organized through independent institutes and services of different institutions, focused on preventing disease and health promotion. The health care system is also defined through the national network.

Cardiovascular diseases are the leading cause of death in Croatia, and compared to other European countries face the health care system with a greater burden[8]. Alongside high mortality rates, significant risks have been detected in health status and behavior of the population which may lead to the development of new and aggravation of existing diseases. Significant differences in cardiovascular risks have also been detected between different Croatian regions[9].

Croatia does not have a unified system of monitoring population health risks, despite the high mortality rates, detected widespread cardiovascular risks and the existence of the National Plan for Prevention of Cardiovascular Disease[10]. Health care provision is defined by the National Health Care Plan, Health Care Provision Plan and Program and the Plan and Program of Basic Health Insurance Coverage. These define services aimed at preventing and treating cardiovascular diseases and the institutions in charge of providing them[9,11,12].

Most developed countries organize specialized survey and interventions aimed at assessing and decreasing population cardiovascular risks alongside regular statistical monitoring of morbidity and mortality indicators[13]. The aim of these surveys is to provide relevant information on the health status of the population and to enable organization of specific intervention measures. Croatia does not have a system of organized monitoring of cardiovascular health risks. Two surveys have been implemented in the period since gaining independence in 1991, without substantial impact on the organization of health care services.

The 2008 Croatian Adult Health Survey is implemented as a sequel of the identical survey implemented in 2003. The cohort based survey comprises 9077 sampled participants, which are also subject to a specific prevention program implemented by community nurses in cooperation with the Croatian Chamber of Nurses. The project plans to test a national screening model based on combining scientific and intervention efforts.

This paper aims to determine the reasons behind the non existence of a national program and activities of cardiovascular disease prevention, and also to assess the potential of the Croatian Adult Health Survey to influence the Croatian Health Care System.

Study Description

For this research we analyzed Croatian Constitution and legal Acts relevant for targeted health care (Act on health care, Act on compulsory health insurance). Also we analyzed and other relating health care legislation and documents developed for specific health care intervention (Plan of health care measures, Plan and program of health care, Plan and program of care based on compulsory insurance. All relevant versions and changes between 1993 and 2008, for analyzed document were observed. During analysis we target responsibilities and duties relevant for cardiovascular disease prevention. We analyzed all stakeholders in health care whose activities are relevant for cardiovascular prevention. Their position and roles were analyzed and compared as: »decision maker role«(create legislation, make strategic decisions, decide about financing support); »analyst and planner role« (analyze problems, monitor current situation, develop policies, create implementation plans); »health care provider« (direct contact with citizens, provides health care intervention). All data regarding health status, preventive or other health care activities were obtain from official publication published by Croatian Institute for Public Health.

Current Situation

Stakeholders

According to the organizational structure, responsibilities and legislation we found stakeholders, relevant for cardiovascular disease prevention: Ministry of health care and social welfare; Croatian Institute for Public Health, Croatian Institute for Health Insurance, County governments and departments for health care, County Institute for Public Health, Health Center, Family physician (including existing general practice), Community nurse (public health nurse, outreach nurse). Due to legislation, decentralization and ownership stakeholders are divided in two levels, national and county. As a specific stakeholder we recognized and Croatian Adult Health Survey 2008 project. Research project on behavioral cardiovascular risks, organized out of health care system, but broadened with preventive interventions and implemented in cooperation with some stakeholders in health care, particularly community nurse as main interviewers and collaborators in the project. Project is developed and implemented in cooperation between Andrija Štampar School of Public Health, Croatian Institute for Public Health and Croatian Nursing Council.

National level – Government and Ministry of health and social welfare (MHSW)

Ministry of health and social welfare is responsible for legislation development and preparation for the Govern-

ment. Regarding legislation frame some documents are responsibilities of Ministry, Government of the Parliament. Although parliament votes for main documents, key stakeholder for decision making process is Ministry. Among this responsibilities Ministry plans annual budget and its distribution on national level, plans and develops health care intervention and investment in health care system. Among many departments, Ministry does not have specific department or group responsible for policy analysis, but most of policy analysis or developments are delegated to working groups, some institutions or outsourced to counseling companies. There are no any direct possibilities for the Ministry to directly provide any health care intervention.

Croatian National Institute for Public Health (CNIPH)

Croatian National Institute for Public Health (CNIPH) does not have any direct impact to decision making process, but it recommends Ministry a health care activities and programs. CNIPH monitor morbidity, mortality and health care system performance indicators. It monitor and develops proposals of health care interventions for the selected chronic diseases; monitor cardiovascular diseases; monitor nutritional status; develop specific reports; participate in the strategic programs development for the Ministry of health; offers professional and methodological support for the epidemiology and chronic disease prevention. CNIPH could actively develop and implement health promotion programs.

Croatian Institute for Health Insurance (CIHI)

Croatian institute for health insurance (CIHI) finance the preventive programs through contracts with institutes for public health, health centers, medical doctors in primary health care and community/public health nurses. Out of general preventive activities and programs described in the Plan of health care provision, there no specific role in the decision making process related to content of prevention, but some limits or stimulation measures for preventive activities are developed for family physicians. CIHI monitor and plan financial expenditure for the prevention. There no any direct preventive interventions provided by CIHI.

County/County Department for Health and Social Welfare

County as founder of health care institution has powerful role in health care management, but there are huge limits due to the fact that most of health care expenditures are defined on national level, and controlled by Croatian Institute for Health Insurance. Apart from this source of financing some counties directly finance certain health promotion or preventive activities. Also, some of them have developed »Healthy counties' project«, which include health promotion planning and preventive intervention. Some preventive activities counties support and through non-governmental organizations and their specific activities.

County Institute for Public Health (CIPH)

Like the Croatian National Institute for Public Health (CNIPH) County institutes collect data on morbidity, mortality and health care system performance indicators. County institutes for public health does not have any influence on decision making process neither national nor local level. Due to limited workforce and facilities they have narrow possibilities for active role in broader cardiovascular prevention.

Health Center (HC)

Health center, organized as system of independent health care providers (medical doctors in primary health care, emergency services, community/public health nurse, diagnostic units...), contracted with insurance on »team« basis does not have any direct influence on preventive activities. Privatization in primary health care, and contracting based on »team« basis, unable heath center to plan any important role in cardiovascular disease prevention, neither for monitoring, planning or providing.

Community/public health nurse

In the broader scope community/public health nurse is responsible for health promotion and preventive program for the population on the defined area, with the average population size of 5100 citizens. Their specific task are oriented to mother and child, elderly and population with chronic disease. All together their responsibilities include: health promotion; health education and population training; care for the population under higher health risks; prevention of chronic disease; individual counseling; health community programs on local level; small group work; inter-sectoral cooperation. They do not have any influence on decision making. In cooperation with medical doctor they could recommend and plan some specific health promotion programs. Overall they have a very broad and not well defined scope of responsibilities with limited resources and relations with other stakeholders in cardiovascular disease prevention.

Family physician/General practice

Family physicians directly contract with Croatian Institute for health Insurance for the health care of patients who choose them as their physician in family practice. Thus they have direct and personal relation with each patient. Out of the activities imposed in the contract, they do not have any impact on content of health care or other intervention that is covered by health insurance. Among contracted activities they have some general preventive activities (health promotion, education, and care for the population under higher cardiovascular risk) and specific program (check-ups) for the population over 50 for cardiovascular disease risks.

Croatian Adult Health Survey (CAHS)

Croatian Adult Health Survey for cardiovascular risks was first time implemented in 2003, as a part of activities for health promotion and efficiency improvement.

The first project cycle did not have any registered impact on policy development. In the 2008, in cooperation with community nurses project is broadened with direct preventive activities for the population in the survey. Project in 2008 is ongoing, and at the moment of writing of this study there were no results on evaluation of its activities.

Discussion

According to the findings we could conclude that there are defined stakeholders and activities in the cardiovascular disease prevention. System has a legal framework, with the routs in the Croatian constitution where health is recognized as fundamental human right. The organizational structure, responsibilities, a rights based on health insurance are well described and defined in the health care legislation acts.

Also there are in the system recognized individual and population approach, connected to the relevant organizational and financing legislation. If we add, to the all mentioned facts, information about long tradition of preventive activities, leading role of Croatian professionals in the primary health care during past century and existing most modern clinical techniques for cardiovascular disease treatment there are real need to answer the questions: why cardiovascular mortality in Croatia is higher than in the many transitional countries in the region? Why there are so significant regional differences? How explain passive position of the key stakeholders and absence of organized preventive intervention, although we recognized problem years ago?

Dramatic decrease of preventive checkups after year 1990 in primary health care, increased cardiovascular morbidity due to transition and war are the most often used explanations for the crisis in prevention. However, are they really cause or sign of the situation caused by much more complex determinants?

Decreased number of preventive examinations in the primary health care is usually connected to the privatization process in the family medicine services started after reforms in 1993. This opinion could be partially confirmed a by statement given by family physicians[14]. However, there are disturbing arguments for such explanations – in the year 1990 National Institute for Public Health in the yearbook, describing situation and processes in health care system, also stressed the decreasing number of preventive examinations in primary health care as a serious problem, and trend[15]. These findings shows that 1993 health care reform did not caused negative trends in prevention, but catalyzed increasing prevention crisis. What else, this crisis was not present only in the public health field, but in the over all system relations. Also, there is a question: did the »1993« reform missed to notice this problem or something else was a priority?

International comparisons and retrospection discovers and additional dilemmas for full prevention understanding – in the last 30 years content, topics and approaches in the prevention are so changed that there are dilemmas: are anything of prevention we use still same »job« as we do know. Also, in the last 30 years the meaning of the word »prevention« and its use significantly changed, enriched, and broadened. Instead of one word there are distinction between three levels (primary, secondary, tertiary), plus »primordial« and »quarterly« prevention. Risk factors are also included as new criteria for preventive interventions.

New developments in the biomedical science broadened and new challenges: what is the key determinant for disease development? Genetic factors, risk factors...or complex influence by many socio-economic determinants and behaviour[16]. Research targeted to new individual risks, risks behavior and particularly genetic studies, focused prevention to the individual intervention and single patient as a target of the preventive activities[17]. This approach ends in the conflict between public health population interventions and individual medical preventive treatment[18].

Continuous increase of known risk factors and new borders between disease and risk (particularly referent biochemistry values!), together with concept of individual behavioral risks limits the possibilities to select target population as it is common in traditional public health. Also, medical treatment, today often used for prevention, introduces treatment criteria rather than problem criteria in preventive intervention development. Fortunately, in such circumstances there is and good news: due to increasing number of patient with same or similar therapy, clinicians also started to used public health population approaches.

Among broad scope of new health risks, listed as relevant for cardiovascular disease, general public health and population approach was diminished or disappeared. What else, together with attenuation of population interventions equity in health as important public health indicator was diminished, both, from root cause analysis for certain problems and health care planning. Namely, Croatian citizens in the last fifteen years were exposed to two extremely negative social treats: war aggression and transition to modern market oriented economy[19]. In such circumstances many social sub-groups were exposed to high risk for inequity in health[20–23].

If the results of the analysis we made in this study will be presented within mentioned background, then the evaluation will be significantly different. In the same time, understanding of the accumulated problems in prevention will be much easier. In fact, existing system did not solve inherited problems of management in health care and responsibilities for health from beginning of 1990-ies. Existing and imposed decentralization did not opened new opportunities neither local nor national governments to undertake active care for health promotion and disease prevention[24]. Responsibilities for these comprehensive activities were transmitted to health care providers. In reality, where more than 90% of family physicians practices are privatized, such transmission is recognized only as new burden. In the same time in the area of population health activities are left to the institutes

TABLE 1
ROLE AND RESPONSIBILITIES IN CARDIOVASCULAR DISEASE PREVENTION

	Decision making	Analysis, planning, monitoring	Health service provision
Ministry of Health and social welfare	+	+/– #	0 / #
Croatian Institute for Public health	0 / #	+/–	+/–
Croatian Institute for Health Insurance	+/–	+/–	0 / #
County government	+/–	+/– [i]	0 / #
County department for health and social welfare	0 / #	+/–	+/–
Health center[ii]	0 / #	0 / #	0 / #
Community/public health nurse	#	0 / # [iii]	+[iv]
Family physicians	#	0 / # [v]	+/–
Croatian Adult Health Survey 2003	#	+/–	0 / #
Croatian Adult Health Survey 2008	#	Ongoing project	Ongoing project

0 – No activities performed
+/– – There are some activities
+ – Activities performed according to regular plan
# – Legislation or responsibilities are not clear

[i] Detailed analysis and plans are available from Counties involved in the »Healthy Counties« network
[ii] Jobs with the Croatian Institute for Health Insurance are defined for some specific activities
[iii] As a part of the everyday work, but not involved in long-term planning
[iv] As defined by the contract with the Croatian Institute for Health Insurance
[v] As defined by the contract with the Croatian Institute for Health Insurance these institutions undertake measures for individuals who did not visit a GP within last two years, and could be under substantial risk

for public health – weak institutions with limited material and human resources. Also, community/public health nurses directly responsible and with tasks for target population health, were left to operate inside the health centres, institutions almost without any role in the preventive program development and implementation[25].

However, organization and management issues are not key problems. Despite well developed medical care, over all concept of health care did not succeed to adapt to new society, political or population changes. Indicators for this situation are accumulated debts, overload in secondary health care, lack on any concept for inequity in health reduction and increasing regional differences[26]. All mentioned problems are emphasized by increasing patient requests for modern and specific health care.

Most of the problems in prevention could be directly related to the general problems in public health and primary health care services in Croatia, caused mostly by existing model of decentralization and privatization. In this situation intrinsic power to develop some new activities or project, simply disappears. Also, payment in family practices is not recognized as stimulating, and public health system has shortage in resources, material and human.

Furthermore, most of preventive activities are done by medical doctors from clinical setting by high specific therapy. This individual approach could not easily have any form of the population oriented activities. In such circumstances, central government faces general shortage for preventive interventions. Specific shortage exists also in the ability to develop professional support and organized professional knowledge to put cardiovascular disease prevention in focus of their scientific and professional activities[27].

All together there is existing system and legislation, but general shortage or crisis in the field of cardiovascular disease prevention, generated through weaknesses on all levels. What else, as additional factor, extremely relevant for public health interventions, equity in health is not recognized as one of basic criteria for prevention[28], although relation and causation between cardiovascular disease and socio-economic determinants was recognized as extremely important. Thus importance of preventive activities exceeded medical or health care borders, becoming strategic social and political tool.

There are three main fields of activities that should be enabled to increase effectiveness and efficiency of cardiovascular disease prevention: first, setup terms and content of prevention according to levels (primary, secondary, tertiary) and target populations, and finally introduce the use of primordial and quarterly prevention; second, setup relations, tasks and responsibilities for the prevention (decision making, analysis/planning/monitoring, providing); third, setup equity in health as a basic criteria for preventive program evaluation. Croatian Adult Health Survey could be useful tool for prevention needs and equity appraisal. Associated field interventions could be used as unique test for direct population intervention.

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KARDIOVASKULARNE BOLESTI, RIZIČNI FAKTORI I ZAPREKE ZA PREVENCIJU U HRVATSKOJ

SAŽETAK

Kardiovaskularne bolesti su vodeći uzrok smrti u Republici Hrvatskoj, a dokazane su i značajne razlike u kardiovaskularnim rizicima među pojedinim regijama Hrvatske. U prkos izrazito visokim stopama smrtnosti i rizicima za kardiovaskularno zdravlje te razvijenom sustavu javnozdravstvenih ustanova, ne postoji jedinstveni sustav za praćenje rizika kardiovaskularnih bolesti niti provođenje intervencija. U ovom radu analizirali smo legislativu i odgovornosti koje u sustavu imaju pojedini dionici. U skladu sa iskustvima iz svijeta analizirali smo osobitosti preventivne medicine u Hrvatskoj i razloge nastanka problema u provođenju preventivnih programa. Analiza stanja u Hrvatskoj pokazala je da osnovni problem nije nedjelotvornost sustava, već da postoje ograničenja u određivanju sadržaja, odgovornosti i zadataka u preventivnim intervencijama. Razlog takvog stanja je neprilagođenost sustava suvremenim pristupima u organizaciji. Za uspješnu provedbu preventive u Hrvatskoj potrebno je iznova definirati sadržaja i pojmova preventivne medicine, provesti novu raspodjelu odgovornosti za preventivu, kao i uključivanje kriterija pravednosti u zdravlju kao kriterija uspješnosti preventive.