

CROATIAN CENTRE FOR GLOBAL HEALTH - A SMALL INSTITUTION IN A SMALL COUNTRY WORKING FOR GLOBAL HEALTH IMPROVEMENT

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Croatian Centre for Global Health is a scientific unit within Medical School, University of Split, dedicated to research excellence in various fields of biomedical research. It consists of five departments, which are committed to improving global health through basic and applied research in genetics, genomics, ecogenetics, identification of the leading causes of morbidity and mortality worldwide and recognizing priorities for research and investment, application of evidence based medicine in every-day clinical practice and research on how to overcome challenges in international scientific communication. Such integrated efforts, from genetic influence on human health to global policy development are crucial for appropriate response to contemporary and future challenges of ever changing global health landscape. Croatian Centre for Global Health collaborators were very successful in their work so far, measured by number of projects awarded and papers published in leading scientific journals. The future goals of Croatian Centre for Global Health include further development and creation of new ideas and turning them into research projects aiming to discover new knowledge applicable to enhancing people's health all over the globe - to people from developed countries, but more importantly to people coming from low- and mid-income countries.

Descriptors: WORLD HEALTH, BIOMEDICAL RESEARCH, MILLENNIUM DEVELOPMENT GOALS, CROATIA

Abbreviations:
CCGH - Croatian Centre for Global Health;
MDG - Millennium Development Goals

Croatian Centre for Global Health (CCGH) was established in 2008 as a research unit of the Medical School University of Split. The main idea behind the Centre development was to create an independent, efficient and successful research team, which will be capable of responding to contemporary and future challenges of ever changing global health landscape (1). Principal goal of the Centre is to "create new ideas and turn them into research projects with the aim of discovering new knowledge applicable to improving people's health all over the globe" (1). This means that members

of the CCGH are committed to conducting multidisciplinary research in biomedicine and health, with special focus on the global population and it's health.

The first Head of the Croatian Centre for Global Health was Professor Igor Rudan, who is one of the leading researchers of morbidity and mortality in children under five years of age. Working as a consultant for Child Health and Nutrition Research Initiative (CHNRI) of the Global Forum for Health Research he contributed to reduction of global mortality from paediatric infectious diseases, particularly childhood pneumonia and neonatal sepsis. Currently he serves as a consultant to the World Health Organization, UNICEF, the World Bank, UK Department for International Development, Global Forum for Health Research, The Bill and Melinda Gates Foundation, and others. Additionally, he developed a systematic methodology for setting priorities for investment in the global health research (2). He authored over 100 publications related to various issues in global

health in journals such as The Lancet, BMJ, PLoS Medicine, PLoS One, Bulletin of the World Health Organization, BMC Public Health and others, and was awarded with a prestigious Chancellor's Award for his research excellence. He is also a founder and co-editor of a relatively new journal - Journal of Global Health, with the mission "to serve the community of researchers, funding agencies, international organizations, policy-makers and other stakeholders in the field of international health by publishing high-quality peer-reviewed original research and providing objective reviews of global health and development issues" and other types of publications, like editorials, news, viewpoints, and review articles in two issues per year (3). Professor Rudan vacated his post at CCGH in 2011, as he became a Chair in International Health and Molecular Medicine of the University of Edinburgh. His role was then succeeded by Assistant Professor Ozren Polašek, whose main research interest lies between genetics and public health, in a research area that can be identified

as public health genomics. It covers an interdisciplinary area that focuses on investigation of population genetics and attempts to understand how genes affect health, disease and entire populations. The main research initiative within this line of work is the research program "10,001 Dalmatians", which now for over a decade has been producing top level results. Over the past five years, based on this project and international collaborations, a total of 21 articles were published in Nature Genetics journal and three in Nature journal, what clearly reflects the large research potential of this initiative. CCGH currently holds funds from 3 EU funded projects in FP7 cycle, alongside with a project of the Ministry of Science, Education and Sports and other sources of funding, making it one of the most effective units of entire Medical School.

CCGH has 5 departments: I) Department for large population-based studies, II) Croatian branch of Italian Cochrane Centre, III) Department for international scientific communication, IV) Department for global health research, and V) Department for ecogenetics.

Department for large population-based studies hosts the largest biobank in Croatia - "10,001 Dalmatians". This is a scientific program which started in 1999, and it is aiming to investigate genetic and environmental determinants of health and disease in the populations of remote Adriatic islands: Vis, Korčula, Lastovo and Mljet. Scientists working on this resource published some 150 papers in the leading journals, bringing new insights into the genes associated with refractive error and myopia, genetic control of the phenotypic variability of body mass index, genetic background of blood pressure, high, lung function, menarche, smoking, chronic kidney disease, gout etc. (4-12).

The Croatian Biobank "10,001 Dalmatians" is the most successful project in the field of biomedicine funded by the Croatian Ministry of Science, Education and Sports, measured in number of publications (project number 216-1080315-0302) (13).

Department for ecogenetics is aiming to investigate the health effects of various environmental exposures and the interaction of such exposures with genetic makeup of individuals and population as a whole. Special interest for researchers is the Mediterranean diet and lifestyle, especially wine consumption.

Croatian branch of the Italian Cochrane Centre is dedicated to the creation of systematic reviews and meta-analysis, based on strict methodological protocols, providing clinicians, stakeholders and policy makers reliable information on various health issues (14). Collaborators of the Croatian branch of the Italian Cochrane Centre have published 4 papers and 7 protocols in the Cochrane Database of Systematic Reviews.

Department for international scientific communication is committed to promotion of skills needed for successful scientific carrier and scientific integrity. This Department organised Summer school for scientific communication for doctoral students for three consecutive years now, along with the courses on how to write and publish in biomedicine. It also hosts special meetings, like the meeting of the European Network of Research Integrity Offices and Mediterranean Editors and Translators Meeting. Department for international scientific communication is devoted to development and management of Registry of clinical trials in the Republic of Croatia (RegPok), and is a partner in the FP7 project (Overcome failure to publish negative findings; OPEN). The head of this Department Professor Ana Marušić is also a co-editor of the Journal of Global Health.

Department for global health research of CCGH is dedicated to contribution and understanding of the leading causes of morbidity and mortality worldwide, regionally and by particular countries. Activities of this Department include "engagement in the systematic search and documentation of credible information sources about health; creation of methodologies which can translate information into concrete advice to decision-making people in the international health to invest in health care and health rese-

arch" (15). These activities are needed more than ever, since the inequalities in the world today are immense. For example, in the beginning of 2013 the Oxfam International estimated that 100 richest people could eradicate poverty globally four times over with their net income of 240 billion US\$ in 2012 (16). This actually means that these 100 people had as much money in 2012 as would have 657 million of the poorest people in the world if they have spent only 1 US\$ a day. Even worse, United Nations estimated that there were 1.4 billion people in the world living with less than 1.25 US\$ per day in 2008 (17). And in the world of today the unwritten rule is: you are worth as much as much money you have. Money buys everything; food, shelter, health, but not necessarily happiness. The discrepancy between rich and poor people is perhaps best described in a featured film created by World Health Organization, which accompanied the World Health Report 2003. It is a tale of two girls, born on the same day, one in Japan and the other one in Sierra Leone (5). The story walks you through the lives of these two girls - a girl born in Japan gets all of the wealth of the world she is living in, while the poor girl in Sierra Leone is actually lucky to reach the age of 5, was never vaccinated against leading killer diseases, such as pneumonia and measles, is not educated at all, gives birth at the age of 16 all alone and without any professional help, and her first baby dies. Eventually, when she is 30, she displays first symptoms of AIDS, and dies before reaching her 36th birthday, leaving two orphans behind. This sad story is a real eye-opener about poverty - the main driving force of hunger, disease, violence and other forms of human suffer.

Hunger still affected as many as 850 million people in the world in the 2006-2008 period, which accounted for 15.5% of the world population (17). Eradicating extreme poverty and hunger is the first of the eight Millennium Goals (MGs), proposed by the United Nations in 2000. The eight Millennium Development Goals (MDGs) - include halving extreme poverty rates (MDG 1), achieving universal primary education (MDG 2), promoting gender equality (MDG 3), reducing child

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mortality (MDG 4), improving maternal health (MDG 5), combating HIV/AIDS, malaria and other diseases (MDG 6), ensuring environmental sustainability (MDG 7) and creating global partnership for development (MDG 8) (18). All these MDGs are tightly interconnected, and the first MDG is especially closely intertwined to the task of reduction of child mortality (MDG 4), which strongly depends on the improvement of maternal health (MDG 5) (19). UN's Millennium Development Goals Report for 2012 stated that children who were born into poor families were almost twice as likely to die before reaching the fifth birthday when compared to those children from wealthier families (17). Furthermore, children born by educated mothers, even with only primary education, were more likely to survive, compared to children of mothers with no education (17). But, the good news is the decline of the global number of deaths in children under five years old, from 12.4 million in 1990 to 6.9 million in 2011 (18). Not so good news is the fact that many countries in the world are still lacking basic vital statistics data like birth and death registration. And the number is as high as 100 of them, which is a serious obstacle for any momentous prevention strategies and policy development (20).

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Sažetak

HRVATSKI CENTAR ZA GLOBALNO ZDRAVLJE - MALENA INSTITUCIJA U MALENOJ ZEMLJI S CILJEM UNAPRJEĐENJA GLOBALNOG ZDRAVLJA

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Hrvatski centar za globalno zdravlje je znanstvena jedinica unutar Medicinskog fakulteta Sveučilišta u Splitu, koji je posvećen izvrsnosti u istraživanju u različitim područjima biomedicine. Sastoji se od pet odjela, koji se zalažu za poboljšanje globalnog zdravlja kroz temeljna i primijenjena istraživanja u genetici, genomici, ekogenetici, kroz identifikaciju vodećih uzroka pobola i smrtnosti u cijelom svijetu i prepoznavanju prioriteta za istraživanje i investicije, kroz primjenu medicine zasnovane na dokazima u svakodnevnoj kliničkoj praksi te kroz istraživanja o načinima na koje se mogu prevladati izazovi u međunarodnoj znanstvenoj komunikaciji. Takvi integrirani naponi, od učinka gena na ljudsko zdravlje do razvoja globalne politike, ključni su za odgovarajući odgovor na suvremene i buduće izazove globalnog zdravlja, koje je obilježeno stalnim mijenama. Suradnici Hrvatskog centra za globalno zdravlje bili vrlo uspješni u svojem dosadašnjem radu, mjereno po broju dodijeljenih projekata i po broju objavljenih radova u vodećim znanstvenim časopisima. Budući ciljevi Hrvatskog centra za globalno zdravlje uključuju daljnji razvoj i stvaranje novih ideja, pretvarajući ih u istraživačke projekte s ciljem otkrivanja novih spoznaja koje bi se mogle primijeniti za unaprjeđenje zdravlja ljudi diljem svijeta - ljudi iz razvijenih zemalja, ali posebice ljudi koji iz zemalja u razvoju.

Deskriptori: GLOBALNO ZDRAVLJE, BIOMEDICINSKA ISTRAŽIVANJA, MILENIJSKI RAZVOJNI CILJEVI, HRVATSKA

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