



e-HEALTH CROATIA - SUCCESS STORY

RANKO STEVANOVIĆ, MD, PhD
RESEARCH ASSOCIATE,
CROATIAN NATIONAL INSTITUTE OF PUBLIC HEALTH

HEALTH PROBLEMS WORLDWIDE TODAY



- › 1.6 billion adults overweight
- › Increasing number of chronic and long term patients
 - 300 mln people suffer from asthma
 - 220 mln people suffering from diabetes
 - 210 mln people with COPD
 - 17.1 mln deaths caused by cardiovascular diseases
- › Steadily increasing elderly population (65+)
 - 2007 – 7% of world population
 - 2025 – 10%
 - 2050 – 16%



Source: World health Organization; Population Reference Bureau

**75-85% OF HEALTHCARE SPENDING IS ON
CHRONIC DISEASE MANAGEMENT**



CROATIA TODAY

- › **Elderly population (65+)**

- 16% of Croatian population

- expectations

- › Croatia 2030 - 24%

- › EU 2050 - 28%



- › **Demographic changes and chronic diseases**

- › **Costs of treatments higher than the capability of budget**

IN THE NEXT 15 YEARS, FOLLOWING THE TREND OF AGING POPULATION, THE AMOUNT FOR HEALTH CARE SHOULD DOUBLE AND REACH UP TO ALMOST 1 / 5 OF GDP



TODAY'S HEALTHCARE CHALLENGES

- › Escalating treatment and therapy costs
- › Shortage of medical professionals
- › Increasing demand for specialized, interactive treatment





HEALTHCARE SYSTEM IMPROVEMENT

- › Project for implementation of unique and integrated healthcare information system is a big challenge to all EU countries and USA
- › In EU health use electronic media for data to laboratories in 40% of cases, and towards other levels of healthcare system in less than 10% of cases
- › Other types of data are seldom electronically transferred, i.e. in less than 15% of cases
- › Only 6% of general practitioners in EU use e-Referral, and it is in extensive use in three EU member countries:
Denmark, the Netherlands and Sweden
- › Medical data exchange between countries is an exception





E-HEALTH – STRATEGIC DECISION BY CROATIAN GOVERNMENT

Modern information and communications technology should:

- › Increase the quality and efficiency of healthcare system
- › Enable controlled data access in the territory of the whole Croatia
- › Provide advanced prevention, medical treatment and improvement of quality of life to all citizens



（ COMMUNICATION , INTEGRATION
INFORMATION ）



HEALTHCARE NETWORKING INFORMATION SYSTEM - PATIENTS' BENEFITS

- › Increased quality of healthcare services provided to patients
- › Increased patients safety (due to the comprehensive data – especially ePrescription mechanism)
- › Simplified various administrative and medical procedures when care provision is needed
- › Reduced some unnecessary contacts with healthcare system – time saving
- › Increased quality of life
- › Continuous patient care (use of electronic patient health record on all needed episodes of healthcare)



HEALTHCARE NETWORKING INFORMATION SYSTEM - HEALTHCARE ENTITIES' BENEFITS



Ministry of Health

- › Monitoring all activities within healthcare system , improvement of health policy

Research - survey benefits

- › Anonymous healthcare data for all population at one place

Public health benefits

- › Controlled and focused actions
- › Health campaigns for prevention
- › Controllable care system
- › Early warning system
- › Continuous predictability



HEALTHCARE NETWORKING INFORMATION SYSTEM - STAKEHOLDER BENEFITS



HEALTHCARE PROVIDERS



- › Effective patient management, monitoring and therapy
- › Quality care without pressures on healthcare staff
- › Increased efficiency through remote diagnosing and treatment
- › Reductions in treatment and management costs

HEALTH INSURERS

- › Cost savings through minimized treatment in the hospital
- › Better management of patients disease and healthcare resources
- › Premium service through personalized and interactive treatment
- › Minimizes patient security issues and post-treatment care issues
- › Accurate data enables right diagnosis that saves resources



CROATIA - SUCCESS STORY

Primary Healthcare Information System in Croatia

Project Start: 2007

Project End: 2010 – phase 1

Scope:

1. Systems/Solutions
 - **HNIS** (e-Prescription, e-Booking, e-Referral, public health reporting, state fund reporting)
 - **HIS** (e-Booking)
2. Services
 - implementation, system integration, consultancy, support



(IMPLEMENTATION: SERVICE-BY-SERVICE, COUNTY-BY-COUNTY)



CURRENT STATUS

- › all primary health physicians offices connected
- › 1100 pharmacies connected
- › 100 laboratories connected
- › 100 000 e-prescriptions per day
- › 10 000 e-referrals (lab) per day
- › So far issued:
 - 3,000,000 e-prescriptions
 - half a million e-referrals

2/3 VISITS TO DOCTORS CAN BE
AVOIDED BY E-HEALTH,
25 VS 8 MILLION IN CROATIA





E-HEALTH IMPACT TO ENVIRONMENT & COST REDUCTION

- › Replacement of more than 50 million paper prescriptions and referrals means savings of more than **250 t of wood (100 tons of paper)**
- › Reduction of drugs consumption by **5% only** (due to control, instructions, timely warnings ...) means savings of **almost MEUR 30** per year
- › **Reduction of CO₂ emission by 50%** as a result of cutting unnecessary patient visits to PHC units (energy, time, money)
- › More rational use of resources, saves and reduces waiting lists
- › Reduction of unnecessary administrative barriers for patients, and at the same time medical service is improved both in quality and time



PRECONDITIONS FOR RAPID SOCIETY GROWTH AND DEVELOPMENT



Green technology is in our focus

Green technologies enable:

- More efficient utilization of natural resources
- Better time management
- Access to information and knowledge
- Positive effects on environment



Croatia has developed or participated in deployment of number of e-Products and services (e-health, e-cadastre, digital city, intelligent transportation systems, vessel transportation management information system etc.)

INVESTING IN AND APPLYING ICT SOLUTIONS CREATES
ENVIRONMENT BOTH FOR FASTER ECONOMIC GROWTH
AND LIFE QUALITY INCREASE FOR THE PEOPLE