

HEALTH INSURANCE FUND OF MONTENEGRO

INTEGRAL HEALTH INFORMATION SYSTEM

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- The only one organisation of compulsory health insurance in Montenegro
- System of health insurance in Montenegro is based on Bismarck's model
- About 640.000 insured persons:
 - domestic citizens
 - about 18.000 refugees and displaced persons
- Health ID card and electronic records of insurees (database of insurees in HIF)

The Health Insurance Fund ensures exercising rights from compulsory health insurance:

- on health protection
 - treatments in health institutions in public system in Montenegro
 - treatments in health institutions out of the public system in Montenegro and abroad
 - medicaments
 - medical apparatus (orthopedic, orthotic, dental, ...)
- on refundment for salaries during the sick-leave
- on refundment for travel costs related to the exercising of health protection

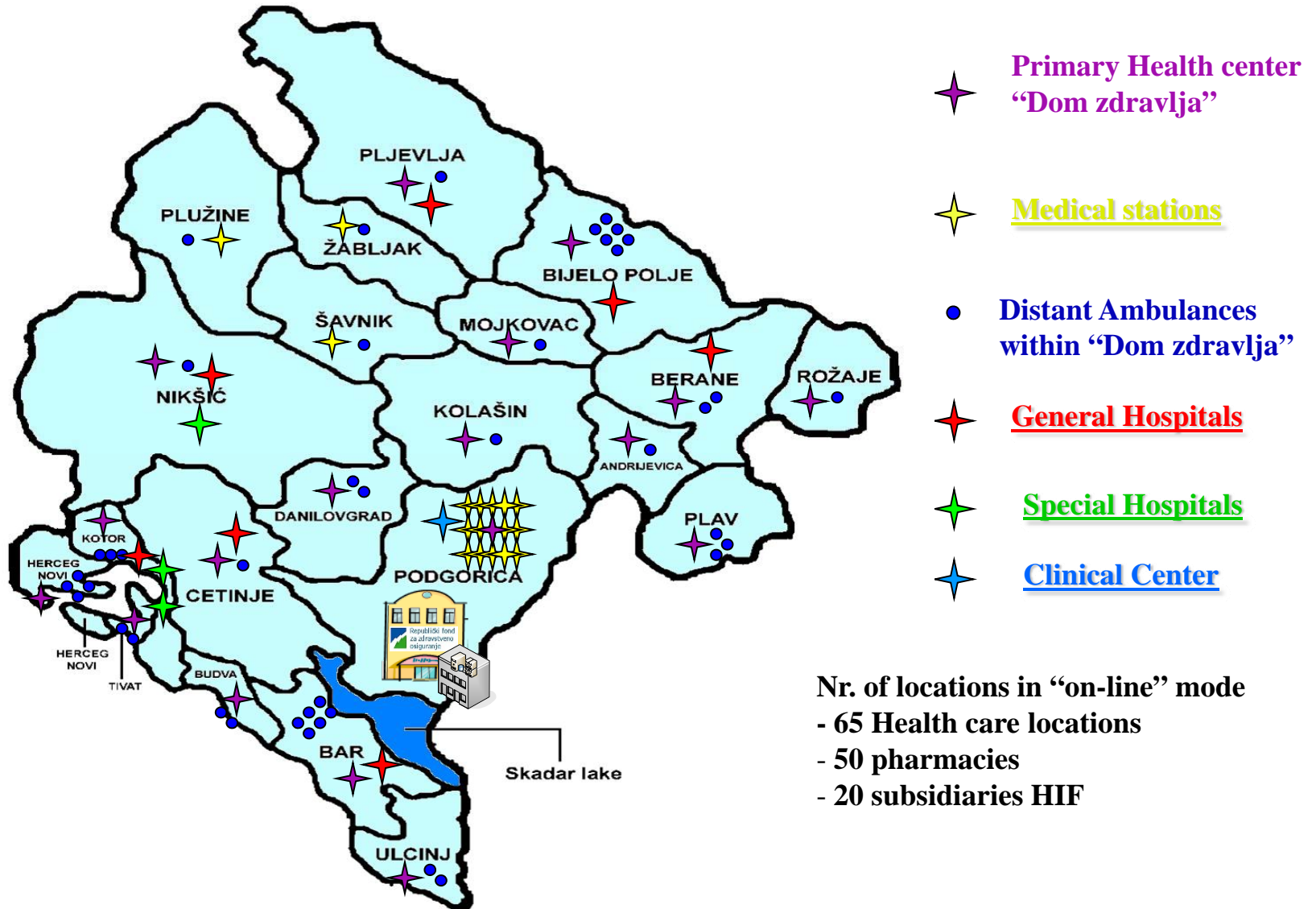
Public health institutions:

- 18 primary health centers – “Dom Zdravlja” (DZ)
- 7 general hospitals
- 3 special hospitals
- Clinical Center of Montenegro (KCCG)
- Institute for Public Health of Montenegro (IJZ)
- Pharmacy institution “Montefarm”

Contracts:

- 109 private dental ambulances

Health Institutions Network



- IS Health Insurance Fund 2000 y.
- IS Pharmacy Institution “Montefarm” 2004 y.
- IS Health Insurance Fund (on-line) 2006 y.
- IS Primary Health Care – pilot (3 DZ) 2007 y.
- IS Dental ambulances 2008 y.
- IS Primary Health Care - Integral 2009 y.
- IS General Hospital in Pljevlja – pilot 2009 y.
- IS Institute for Public Health (part) 2009 y.
- IS General Hospitals - Integral 2009/10 y.

- Started with development in the 2000. with distributed database system in each 20 subsidiary in municipalities
- In 2006. migrate to “on-line” with central servers and administration system
- All bussiness processes are covered with IS
- Fundament for developing Integral Health IS
 - Database of insurees
 - Database of employers (obligate payers)
 - Database od diagnosis (International Clasification of Deseases, revision 10 – **ICD10**)
 - Database of medicaments (Anatomical, Therapeutic, Chemical - **ATC**, classification system)
 - Great number of code libraries and parameters



- Developed by Health Insurance Fund in 2003. as project named “Control of distribution and usage of drugs”
- Started in production on 01.01.2004.
- All bussiness processes are covered with IS
 - Software modul for central drugstore
 - Point of sale software modul
 - Software modul for usage of medicaments
 - ERP software (employees, salaries, finance, etc.)
 - Automatic creation of electronic invoice to Health Insurance Fund

Year	Expenditures
2002	13.406.335,00 €
2003	11.607.690,85 €
2004	10.178.050,34 €
2005	10.920.790,06 €
2006	13.089.131,17 €
2007	13.571.857,27 €
2008	13.858.544,17 €

- 2007. Pilot project named “Information System as support to the reform of the Primary Health Care System in DZ Danilovgrad, Tivat and Rožaje”
- During 2008. implemented over all primary health centers and officialy started on the 01.01.2009.
- World Bank credit line for Hardware equipment

Bussines Information System (ERP)

- Human Resource Management
- Finance Management
- Management of fixed assets
- Management of inventory
- Management of Pharmacie
- Salaries (piece work agreement)
- Administration (system profiles, users, user roles, ...)

Medical Information System (MIS)

- Central software modul (common resources: databases, code libraries, registries, parameters, etc.)
- Choosen Doctor - “Izabrani Doktor” (ID)
 - *Choosing the Doctor*
 - “CONTACT” – application for the doctor
 - *Evidence of services for centers, support centers, special ambulances, etc.*
 - *refers inside and outside institution*
 - *electronic receipt prescription and printing*
 - *evidence of services in stationary health centers in some DZ*
- Scheduling
- Immunisation
- Emergency Medical Service
- Invoicing

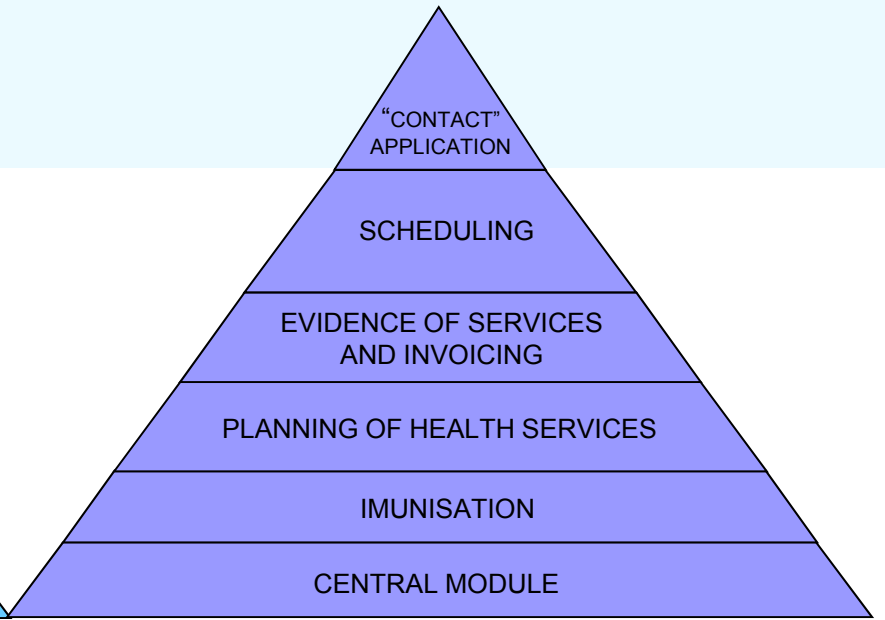
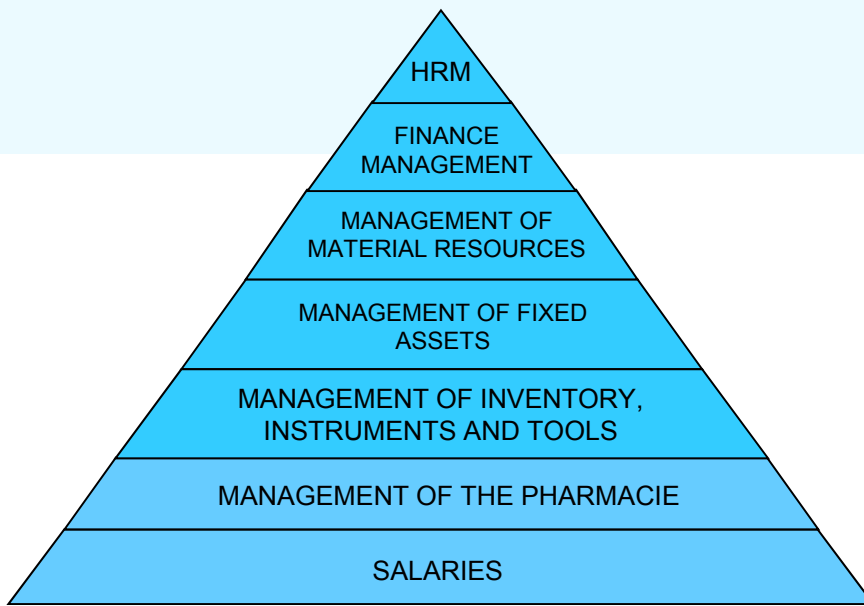
Expenditures in Primary Health Care

Invoices for first 6 months of 2009.y	Possible Invoice	19.486.352,80 €
	Realized Invoice	15.994.615,25 €
	Realisation (%)	82,08%
Comparison with Invoice in first 6 months 2008.y	Invoice - 6/2008.y	18.019.119,09 €
	Difference (€)	-2.024.503,84 €
	Difference (%)	-11,24%

- IS for dental ambulances
 - Evidence of patients
 - Evidence of services
 - Electronic invoice to the Health Insurance Fund
- IS of General Hospital in Pljevlja – pilot project
 - Business Information System (ERP)
 - Administration of patients
 - Evidence of services and usage of medicals
- IS of Institute for Public Health – pilot project
 - Software module for microbiology
 - Notification of contagious diseases
- IS of General Hospitals (in implementation)

BUSSINESS INFORMATION SYSTEM

MEDICAL INFORMATION SYSTEM



- Database of medicins (positive list) according ATC/DDD
- Database of diagnoses (ICD revision 10)
- Medical committee
- Software modules for exersizing of rights
 - Medical apparatus
 - Sick-leaves
 - Refundments
- Database of dentists
- Database of health institutions
- Database of doctors
- Database of pharmacists
- Database of employers (obliagte payers)
- Database of ensurees

APPLICATION "CONTACT"

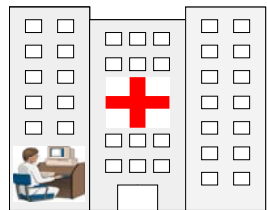


ENSUREE

- **general datas,**
- **employment status, profession**
- **personal anamnesis**
- **social datas**
- **risk fatcors and allergies**



EHR



DOM ZDRAVLJA

Scheduling

CONTACT



- *Epizodes*
- *Anamnesis and i physical report*
- *Reason of visit*
- *Diagnose (ICD10 / ICPC2)*
- *Medical service*

- *Refer inside institution (DZ):*
 - *to a specialist*
 - *support center*
 - *stationary in DZ*
- *Refer outside institution (DZ):*
 - *to a specialist*
 - *to hospitals or KCCG*
 - *diagnostics*
 - *medical consilium*
 - *first level of medical comittee*
- *Ordering for interventions and procedures*
- *Electronic receipt prescription*
- *Sick-leave (medical assignments)*
- *Confirmations*



IS



- Patient general datas
- Datas about insurance
- Anamnesis
- Epizodes
- Used Medicaments
- Ampouled medicins
- Interventions and procedures
- Imunisation record
- Risk Factors
- Allergies
- Hospital treatments

EHR



ELECTRONIC RECEIPT EVIDENCE

- From 2004. evidence of all realised receipts in Montenegro
- Databases of ensurees (patients), doctors, pharmacists, medicaments, ...
- Scanning of 4 bar-codes by the pharmacist
- Choose the right diagnose
- Processing - 10 sec per receipt

REPUBLICA CRNA GORA - REPUBLIČKI FOND ZA ZDRAVSTVO

Bar kod lekara:  213298

3 810189 000404  08

Zdravstvena ustanova: *Društvo za zdravlje*

ime i prezime osiguranika: *STRANICA*

Adresa stanovanja: *1946*

Godina rođenja: *1966*

JMBG ili MB (za strance): *2106014 101 160*

Osnov osig. Vid osig.

Broj zdravstvene knjižice (LBO): *114XXXX 08* Participacija: Br. kart. (protokola):

Rp. *Recenzi cr. kolo* Sifra dijagnoze: *100*

fol. Tiamokoni 0.5/

Dipronil (du)

1. 3x km

Sifra farmaceuta: *100*

Potpis i faksimil farm. (M.P.): *[Signature]*

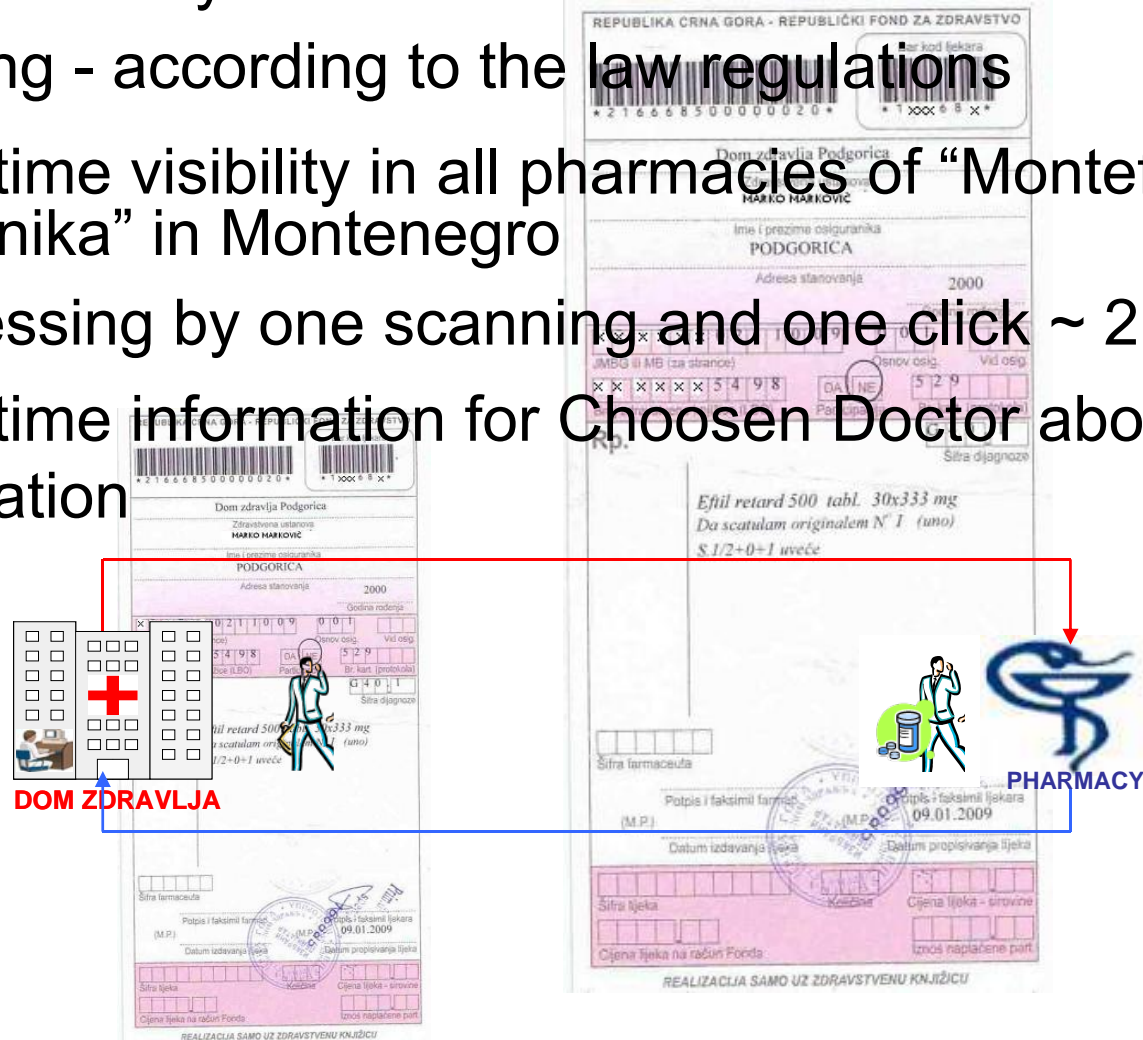
Datum izdavanja lijeka: *22.07.08*

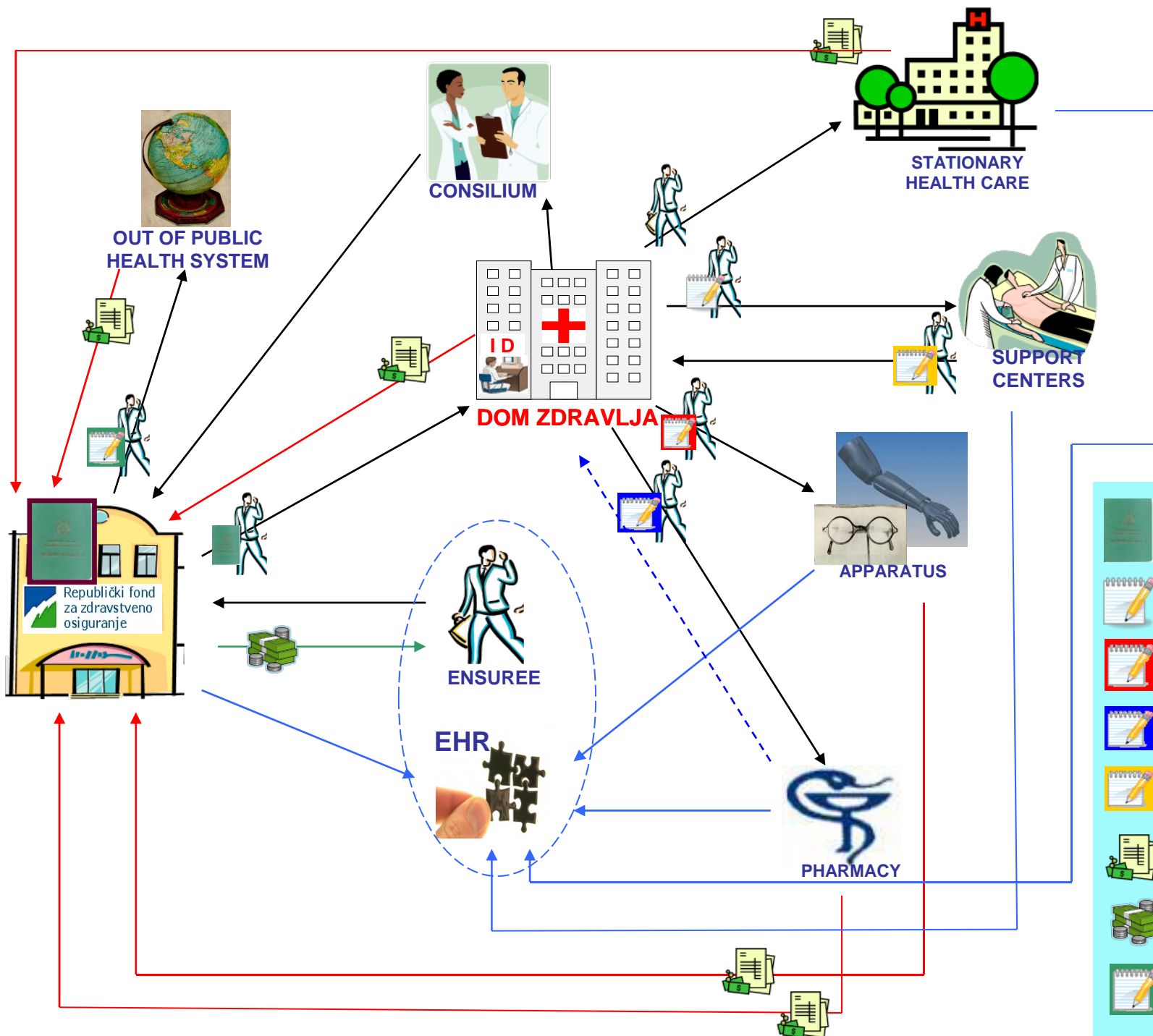
Sifra lijeka: Kolčina: Cijena lijeka - sirovine:









Cijena lijeka na račun Fonda: Iznos naplaćene part.:

REALIZACIJA SAMO UZ ZDRAVSTVENU KNIŽICU

- Generated by the Chosen Doctor
- Printing - according to the law regulations
- Real-time visibility in all pharmacies of “Montefarm” and “Galenika” in Montenegro
- Processing by one scanning and one click ~ 2 sec
- Real-time information for Chosen Doctor about receipt realisation





-  Health ID card
-  Health Insurance Fund
-  Refer for support centers
-  Refer for apparatus
-  Receipt
-  Results
-  Invoice
-  Refundment
- Refers outside the public health system and abroad

- World Health Organisation recommendations
- International Classification of Diseases, revision 10 (ICD10)
- The Anatomical Therapeutic Chemical Classification System with Defined Daily Doses (ATC/DDD)
- International Clasification of Primary Care, second edition (ICPC-2)

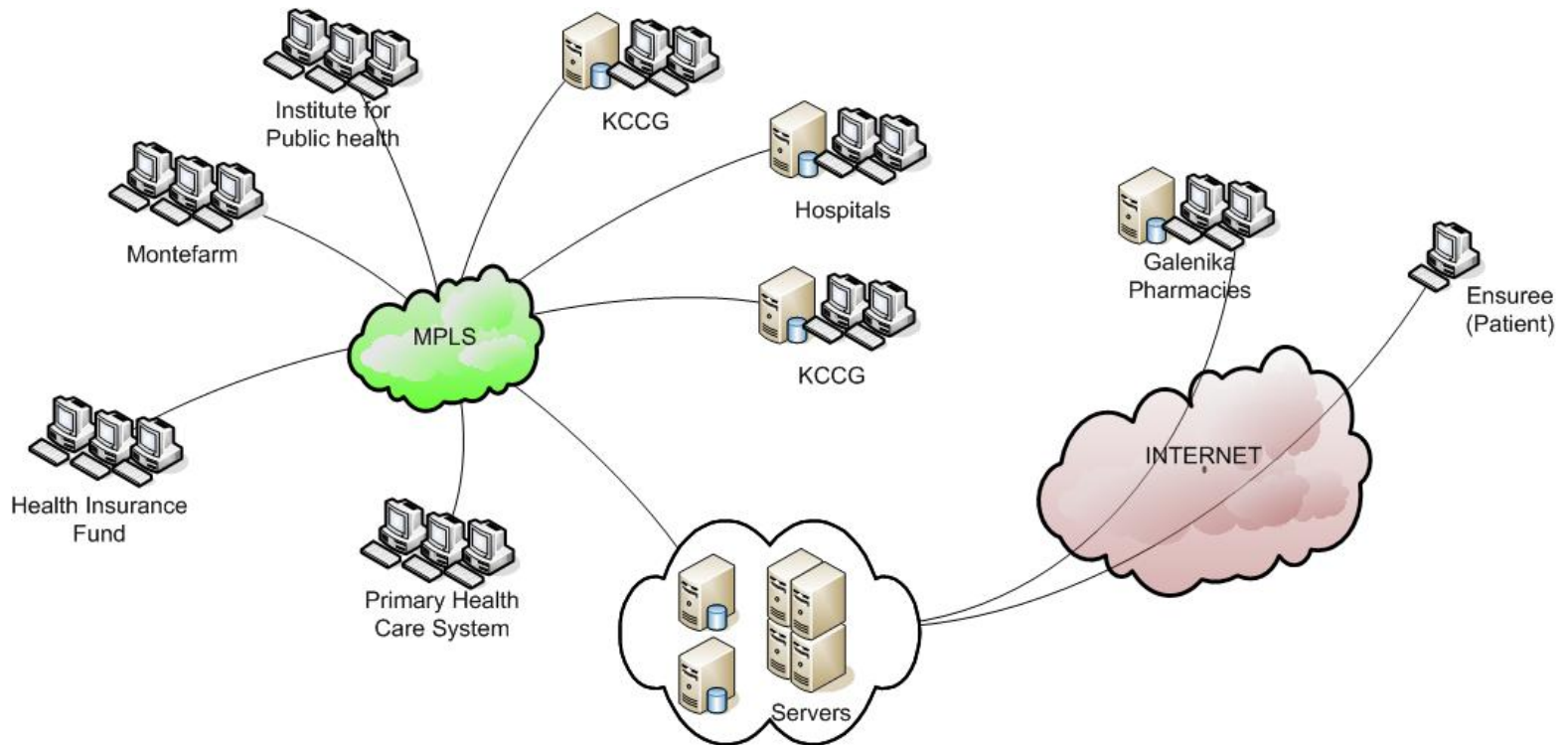
- Workshops in Primary Health Centers 106
- Application software training 2317
- ECDL course 1197
- Medical skills training for choosen doctors 400
- ***Over 60.000 training hours in total in PHC***

BENEFITS

- Electronic Health Record
- Preventive health care
- Electronic Economic Record
- Real time information
- Statistic
- Strategic planning
- Less administrative mistakes
- Academic purposes



INTEGRAL INFORMATION SYSTEM - VISION





Health insurance
fund of
Montenegro

PARTNERS



RECOGNITIONS

- 2003. – Belgrade, JISA “DISCOBOLOS” for project “Control of distribution and usage of drugs”
- 2007. – Belgrade, JISA “DISCOBOLOS” for project “Information system as support to the reform of Primary Health System”
- 2008. Two letters from the World Bank officials for the successful implementation of IT projects in Montenegro Health System financed by World Bank
- 2008. and 2009. - Budva, “INFOFEST”, Award for the high quality of project solution in Health Information System
- 2009. **Nominee** on IT@ Networking Awards 2009 organized by *The European Association of Healthcare IT Managers*



THANK YOU

