



**HEALTH INSURANCE
FUND OF MACEDONIA**

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DRG Implementation In Macedonia

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REPUBLIC OF MACEDONIA



- Population: 2 040 000 citizens
- Urban population: 66.9%
- Area: 25 713 km²
- GDP in 2008: \$9.6 billion USD
- Government healthcare insurance fund
- Mandatory health insurance system
- Insurance premium stipulated by law (7.3 % from the gross salary)
- Mean life expectancy at birth
 - Men 71.9 years
 - Women 76.1 years

Health System Institutions

- ❑ **The Ministry of Health creates the health policy at the national level and legal health framework. The main role of the Ministry of Health is to manage and supervise the health system (stewardship).**
- ❑ **Health Insurance Fund of Macedonia is an exclusive provider of the compulsory health insurance. The Fund is defined as a purchaser of health services provided by the health care network.**
- ❑ **The health care network is consisted from the public and private health providers who negotiate the delivery of their services in the primary, secondary and tertiary levels.**

DRG in Macedonia

- ❑ **DRG is based on the Australian Refined Diagnosis Related Groups (AR-DRGs version 5.2)**
- ❑ **This grouping scheme relates to the ICD-10-AM (Fifth Edition) coding classification system**
- ❑ **Macedonia has 666 AR-DRGs**
- ❑ **Web on-line application for DRG coding**
- ❑ **Used of Victorian weights at the beginning, but currently modified to the Macedonian national cost weights**

DRG Implementation Steps

2007

- ❑ Researched and analyzed the health system
- ❑ World Bank assistance to introduce the new DRG system
- ❑ License bought for Australian AR-DRG v.5.2 algorithm

2008

- ❑ Established Working Group of local experts
- ❑ Conducted trainings for use of the DRGs for all stakeholders
- ❑ Developed Macedonian software “DRG GROUPER” for coding
- ❑ Created Centralized Data-Base for DRG cases

DRG Implementation Steps

2009

- ❑ Introduced the invoicing and payment through the DRG within total budget limits per hospital

2010

- ❑ Developed National Cost Weight
- ❑ Created new AR-DRG group
 - A06Z Tracheostomy or Ventilation >95 hours
 - A06A Tracheostomy with Ventilation >95 hours
 - A06B Tracheostomy W/O Ventilation >95 hours

Fund Departments Involved in DRG

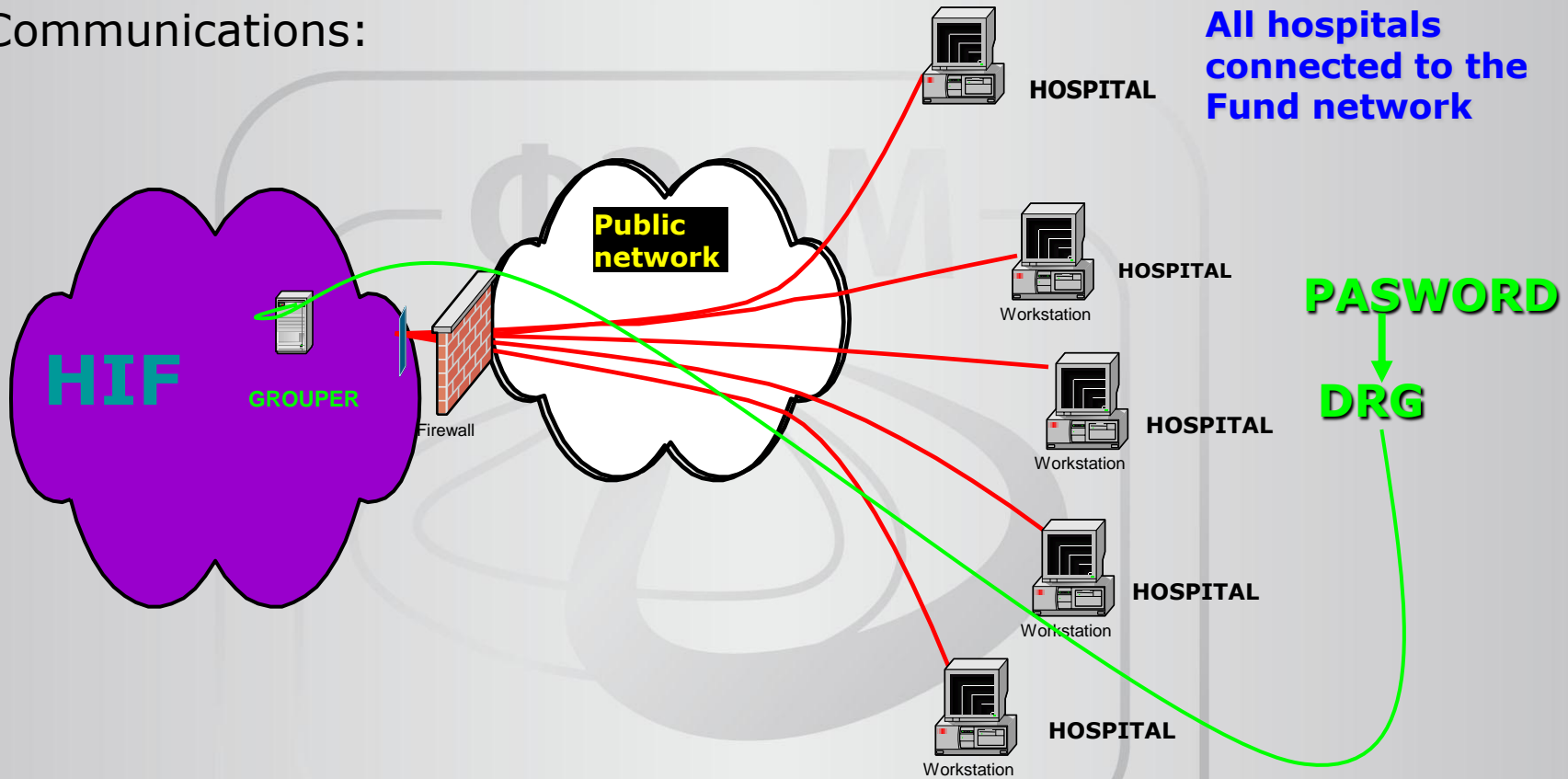
- ❑ **Control Department – DRG Control Unit performing off-site and on-site supervision and advising on DRG coding**
- ❑ **IT Department – DRG grouper maintenance and generation of various reporting forms and tables based on the needs of other departments**
- ❑ **Finance Department – analyzes of the data for the purposes of budgeting and payments**
- ❑ **DRG Working Group – consisted from previously mentioned Fund departments representatives and experts**

DRG Working Group Functions

- ❑ DRG data research and analyses
- ❑ Monitoring and up-date of the cost weights
- ❑ Regular reporting on the DRG (by institutions, by cases, casemix)
- ❑ On going communication with the health providers
- ❑ Cooperation with other countries and exchange of experience

Information System Support for DRG

Communications:



DRG Services Providers

50 Public Hospitals coding:

- ❑ 25 University hospitals (tertiary)
- ❑ 3 Clinical hospitals (secondary)
- ❑ 12 General hospitals (secondary)
- ❑ 10 Specialized hospitals (secondary, tertiary)

Types of Inpatient Health Services

Covered through DRG Payment

- acute care
- newborns
- transplantations

Covered through fee for service

- rehabilitation
- chronic illness
- intensive care
- chemotherapy
- Dialyses
- IVF

Current Issues

- Costing of the DRG prices**
- Inclusion of expensive medications through separate budgets vs. DRG**
- Recording of transfers between the hospitals**
- Enforcement of invoicing and payment between the hospitals**

Advantages

- ❑ **Established Data Base of hospitals services**
- ❑ **Tool for planning and benchmarking on the national and micro (hospital) level and better allocation of financial resources**
- ❑ **Provision of services in more cost effective way**
- ❑ **Equal price for equal service**
- ❑ **Base for negotiations between Fund and health care service providers**

Hospital Activity Data in 2009 -2010

- ❑ 217 514 separations
- ❑ 80% of all cases are mapped in 162 DRGs
- ❑ 0,89 Case mix Index
- ❑ 1,01 Average of additional diagnoses per case
- ❑ 7,69 Average of procedures per case
- ❑ Average Length of Stay is 6.25 days
 - University hospitals 6.2 days
 - General hospitals 5.8 days
 - Specialized hospitals 7.9 days

Number of separation by ICD-10 -AM Chapters

- 57,5 % of separation had a principle diagnosis from one of five ICD-10-AM chapters

<i>ICD-10 -AM CHAPTERS</i>	<i>% number of cases</i>	<i>ALOS</i>
Diseases of the respiratory system	14,69	7,19
Pregnancy, childbirth and the puerperium	12,49	4,18
Diseases of the circulatory system	10,87	7,08
Diseases of the digestive system	9,83	4,84
Factors influencing health status and contact with health services	9,66	3,85

Top 10 DRGs by numbers of admissions

AR-DRG Code	AR-DRG Description	% separation	ALOS
P67D	Neonate, AdmWt > 2499 g W/O Significant O.R. Procedure W/O Problem	5,59	5,6
O60C	Vaginal Delivery Single Uncomplicated W/O Other Condition	4,95	5,0
E62C	Respiratory Infections/Inflammations W/O CC	3,62	3,6
P67C	Neonate, AdmWt > 2499 g W/O Significant O.R. Procedure W Other Problem	3,05	3,1
D63B	Otitis Media and URI W/O CC	2,4	2,4
O01C	Caesarean Delivery W/O Catastrophic or Severe CC	1,96	2,0
O66A	Antenatal & Other Obstetric Admission	1,8	1,8
O60B	Vaginal Delivery W/O Catastrophic or Severe CC	1,68	1,7
G09Z	Inguinal and Femoral Hernia Procedures Age>0	1,44	1,4
E65B	Chronic Obstructive Airways Disease W/O Catastrophic or Severe CC	1,44	1,4
O01C	Caesarean Delivery W/O Catastrophic or Severe CC	1,96	6,5
O66A	Antenatal & Other Obstetric Admission	1,8	4,8
Total		31,69	5,5
SubTotal		100	6,25

Overall Type of Care

Type of care	% unweighted cases	% weighted cases	case mix index	ALOS
Surgical	24,73	37,65	1,35	5,93
Other	3,96	3,18	0,71	2,72
Medical	71,32	59,17	0,74	6,56
Total	100	100	0,89	6,25

Futures Steps:

- Improvement of the DRG classification according the Macedonian medical practice
- Up-date of the Macedonian cost-weights
- Budgeting based on the casemix
- Clinical pathways development
- Inter-hospital transferring & charging

Thank You for Your attention →



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