

Journal Club

Qazvin University of Medical Sciences



دانشگاه علوم پزشکی قزوین

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The impact of diagnosis related group (DRG) payment  
on the performance of hospital

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# Diagnosis-Related Group (DRG)

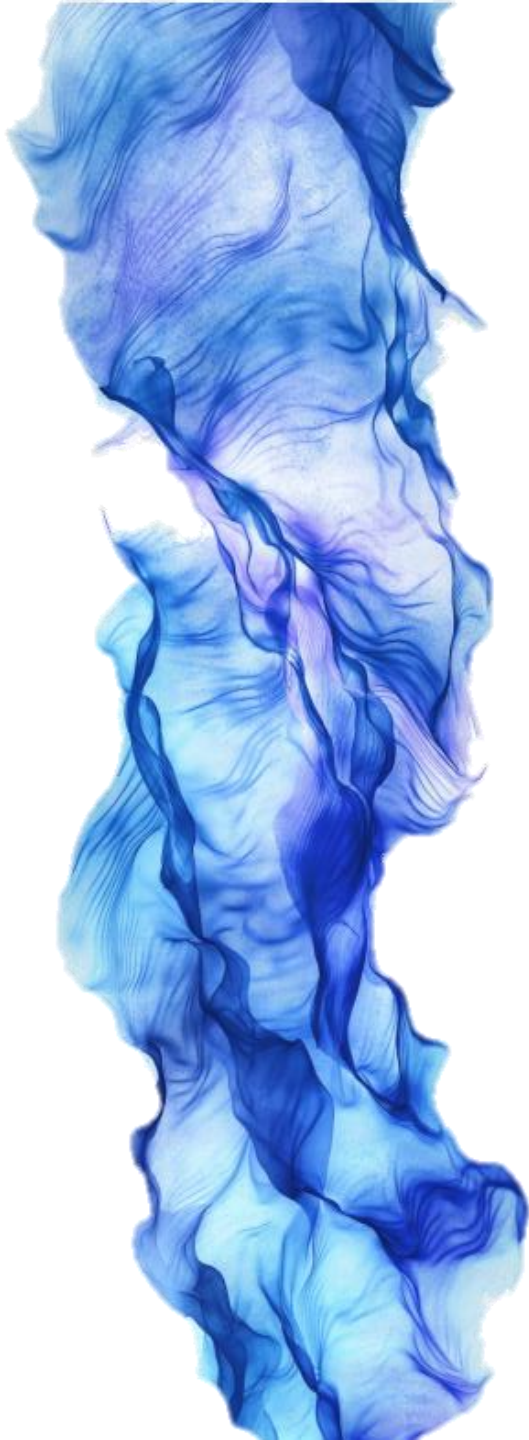


# Diagnosis-Related Group (DRG)

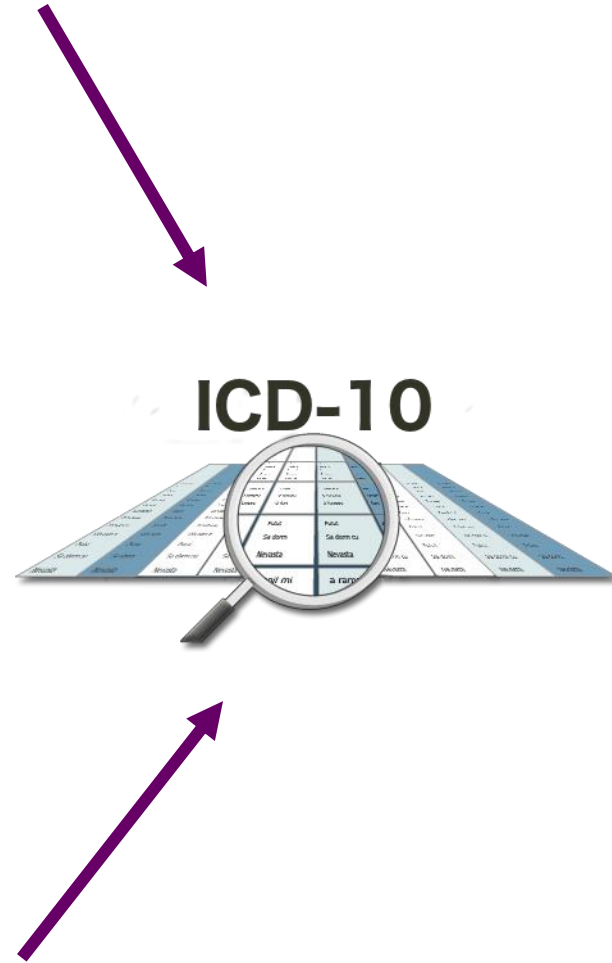
## What is a diagnosis-related group (DRG)?

A diagnosis-related group (DRG) is a case-mix complexity system implemented to categorize patients with similar clinical diagnoses in order to better control hospital costs and determine payer reimbursement rates. For example, Medicare pays out a set amount based on a patient's DRG as opposed to reimbursing the hospital for its total costs. This method encourages the hospital to minimize care costs.





MDC	Description	MS-DRG <sup>[1][2]</sup>
0	Pre-MDC	001 - 017
1	Diseases and Disorders of the Nervous System	020 - 103
2	Diseases and Disorders of the Eye	113 - 125
3	Diseases and Disorders of the Ear, Nose, Mouth And Throat	129 - 159
4	Diseases and Disorders of the Respiratory System	163 - 208
5	Diseases and Disorders of the Circulatory System	215 - 316
6	Diseases and Disorders of the Digestive System	326 - 395
7	Diseases and Disorders of the Hepatobiliary System And Pancreas	405 - 446
8	Diseases and Disorders of the Musculoskeletal System And Connective Tissue	453 - 566
9	Diseases and Disorders of the Skin, Subcutaneous Tissue And Breast	573 - 607
10	Diseases and Disorders of the Endocrine, Nutritional And Metabolic System	614 - 645
11	Diseases and Disorders of the Kidney And Urinary Tract	652 - 700
12	Diseases and Disorders of the Male Reproductive System	707 - 730
13	Diseases and Disorders of the Female Reproductive System	734 - 761
14	Pregnancy, Childbirth And Puerperium	765 - 782
15	Newborn And Other Neonates (Perinatal Period)	789 - 795
16	Diseases and Disorders of the Blood and Blood Forming Organs and Immunological Disorders	799 - 816
17	Myeloproliferative DDs (Poorly Differentiated Neoplasms)	820 - 849
18	Infectious and Parasitic DDs (Systemic or unspecified sites)	853 - 872
19	Mental Diseases and Disorders	876 - 887
20	Alcohol/Drug Use or Induced Mental Disorders	894 - 897
21	Injuries, Poison And Toxic Effect of Drugs	901 - 923
22	Burns	927 - 935
23	Factors Influencing Health Status and Other Contacts with Health Services	939 - 951
24	Multiple Significant Trauma	955 - 965
25	Human Immunodeficiency Virus Infection	969 - 977





# Diagnosis-Related Group (DRG)

## **History of diagnosis-related group (DRG).**

DRGs were first developed in the US private insurance system at a time when healthcare cost was continuously rising. The public Medicare program implemented DRGs in 1983 to stop price inflation in medical care. Hierarchical control was thereby exerted over formerly autonomously acting service providers.



# Diagnosis-Related Group (DRG)

**What are the advantages and disadvantages of payment based on diagnosis related groups?**

The advantages of the DRG payment system are reflected in the increased efficiency and transparency and reduced average length of stay. The disadvantage of DRG is creating financial incentives toward earlier hospital discharges. Occasionally, such policies are not in full accordance with the clinicians benefits.



## **Why are diagnosis-related groups (DRGs) important in healthcare?**

The DRG system provides a structural framework for CMS to begin promoting higher quality of care standards throughout the healthcare industry. DRG continues to encourage hospitals to improve treatment efficiency and prevent the over-treatment of patients for higher reimbursement rates which had become standard practice.



## **Article 2**

### **The effects of diagnosis-related groups payment on efficiency of the hospital in Croatia**

#### **Purpose of study**

The aim of this study was to assess the effectiveness of the reform in the funding of inpatient care that has involved the implementation of the DRG system.

## **Article 1**

### **The impact of diagnosis related group payment on the performance of public hospitals**

#### **Purpose of study**

we applied DRG for inpatients in our hospital, and comprehensively assessed the application value of DRGs in medical activities, hoping to provide more clinical research data for improving the performance of medical activities.



## Article 2

# Method

### Setting

The study analyzed retrospective data related to the financing and performance of Croatian hospitals funded by the Croatian Health Insurance Fund (CHIF) through the DRG system over a ten-year period from January 1, 2009 to December 31, 2018. DRG activity and financial data for public hospitals.

## Article 1

# Method

### Setting

In the control group, 1200 patients admitted to our hospital between June 2019 and January 2020 were prospectively recruited. After matching the type of disease, gender, and age, 1200 patients who were hospitalized in our hospital between January 2020 and June 2020 were enrolled to the experimental group. Patients in the control group didn't receive DRG payment management, while those in the experimental group did receive it.

## Article 2

# Method

### Sample

DRG activity and financial data for 33 hospitals, which provide 96% of inpatient acute care by public hospitals in Croatia, were made available by CHIF, while hospital resourcing data were obtained from the Croatian Institute of Public Health.

## Article 1

# Method

### Sample

Inclusion criteria: Patients completed the overall treatment cycle in our hospital; patients were hospitalized for the first time.

Exclusion criteria: The one-day hospitalization cost was less than 1% or more than 99% of the average cost; the length of hospitalization was below 1% or over 99% of the average hospital stay; patients suffered from previous mental illness; patients had speech dysfunction.

## Article 2

# Method

### Data

Hospital financial data included information on levels of State and local government funding; other income including patient co-payments; and hospital expenditure on staff, utilities, drugs, maintenance, food, and other items.

## Article 1

# Method

### Data

Main outcome measures: Bed turnover rate (bed utilization and number of turnover times within one month), hospital stay, average cost, and mortality were acquired through reading the data of inpatients in the medical records room and related departments.

Secondary outcome measures: a questionnaire was applied to assess the subjective satisfaction of patients in the two groups one day before discharge. Total satisfaction = (very satisfied + satisfied + fair)/the total number of patients \* 100%.

## Article 2

# Method

### Analysis

Hospital DRG data analysis included activity expressed as a total number of cases and their DRGs grouping; cases complexity distribution; case mix index (CMI); and hospital cost per DRG weighted case. Croatian DRG coding practice for episodes of care uses a mix of International Classifications of Diseases Australian Modifications (ICD-10AM) and International Classifications of Diseases (ICD-10) for diagnosis, and the Australian Classification of Health Interventions for procedures.

## Article 1

# Method

### Analysis

All data were analyzed using SPSS statistical software version 22.0. The measurement data were calculated as mean  $\pm$  standard deviation ( $\bar{x} \pm sd$ ); independent sample t test was used for inter-group comparison. The enumeration data were expressed as number/percentage (n/%); comparison was conducted with chi-square test. The difference was statistically significant when P value was below 0.05.

Let's go!