بسم الله الرحمن الرحيم

# Diagnosis Related Group

# DRG

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# مقدمه

- درمان و هزینه های مراقبت از بیمار مسئله ای است که سال‌ها مورد توجه و حساسیت زیادی از نظر نحوه مراقبت بیمار و اقتصاد بهداشت و درمان کشورها بوده است.

- دریافت پول برای مراقبتهای بهداشتی یکی از مهمترین جنبه های پیچیده نظام ارائه خدمات بهداشتی است.

- با توجه به طرح اجرای بیمه و انجام دقت در ثبت خدمات انجام شده برای بیمار در بیمارستان جهت باز پرداخت هزینه های انجام شده به بیمارستان، وجود نظامی برای انجام و کنترل این امر ضروری است.

  – این نظام می تواند براورد هزینه های بیمارستان را تخمین بزند

  – روشی صحیح جهت مرور کیفیت پرونده ها و صحت خدمات ارائه شده ایجاد نماید.

  – پذیرش غیر ضروری و کنترل طول مدت بستری را مدیریت نماید.

## Reimbursement Systems　نظام‌های بازپرداخت

- **Retrospective Payment System**

  ✓ **مزد به ازای خدمت** (Fee for Service)،

  ✓ **نرخ سرانه** (Capitation)

- **Prospective Payment System**

  - The Social Security Amendments of ۱۹۸۳ mandated the PPS payment system for hospitals, effective in October of Fiscal Year ۱۹۸۳. ۱۲

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# **Retrospective Payment Systems**

- **Reimbursement is established <u>after</u> the healthcare services are rendered and the costs are incurred**
- **Increases in the length of stay translates to increased charges on the itemized bill and therefore an increase in the reimbursement**
- **Increases in the services rendered means increased charges on the itemized bill and therefore an increase in the reimbursement**
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- -Providers can charge whatever they desire.
- -Health care costs are spiraling upwards.
- -No incentives or consequences of controlling high costs.

# Prospective Payment System

- **Reimbursement is established <u>before</u> the healthcare services are rendered and monies are expended**

- **Reimbursement is based upon a specific prospective payment system methodology**

- **The length of stay and services rendered will result in increased charges on the itemized bill, but will not necessarily result in an increase in the reimbursement**

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- -Specific PPS methodology takes years to develop.

- -PPS use statistical techniques to develop a reasonable system to reimburse providers what is fair.

# Some of the prospective payment systems covered will include

| include MS-DRGs | Medicare Severity Diagnosis Related Group | Acute Care, Short Term Hospitals Medicare and TRICARE Inpatients |
|---|---|---|
| RBRVS | Resource Based Relative Value System | Physicians |
| ACS | Ambulatory Surgery Center | Free-Standing Surgery Centers |
| RUGs | Resource Utilization Group | Skilled Nursing Facilities |
| APCs | Ambulatory Payment Classification | Hospitals |
| CMGs | Case Mix Group | Rehabilitation Hospitals and Units |
| HHRGs | Home Health Resource Group | Home Health Agencies |
| MS-LTC-DRGs | Medicare Severity Long Term Care-Diagnosis Related Group | Long Term Care Hospitals |
| IPF-PPS | Inpatient Psychiatric Facility-Prospective Payment System | Psychiatric Facilities |

# Diagnosis-related group (DRG)

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- The system of classification was developed as a collaborative project by Robert B Fetter, PhD of the Yale School of Management, and John D Thompson, MPH of the Yale School of Public Health.

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- The system is also referred to as "the DRGs," and its intent was to identify the "products" that a hospital provides.

- One example of a "product" is an appendectomy. The system was developed at Yale, in anticipation of convincing Congress to use it for reimbursement, to replace "cost based" reimbursement that was used up to that point.

- **DRG** is a system to classify hospital cases into one of originally ٩٩٩ groups.

# Diagnosis-related group (DRG)

- The DRGs classify all human diseases according to the affected organ system, surgical procedures performed on patients, morbidity, and sex of the patient.

- The classification also accounts for up to eight diagnoses in addition to the primary diagnosis, and up to six procedures performed during the stay.

- For example, a trauma patient with broken limbs and organ injuries involving multiple body systems would receive a principal diagnosis for the most severe condition.

- The physician also would record additional diagnosis and procedures used to treat this patient.

- DRGs are assigned by a "grouper" program based on:

- ICD (International Classification of Diseases) diagnoses, procedures, age, sex, discharge status, and the presence of complications or comorbidities.

- DRGs have been used in the US since ١٩٨٢ to determine how much Medicare pays the hospital for each "product", since patients within each category are similar clinically and are expected to use the same level of hospital resources.

- DRGs may be further grouped into Major Diagnostic Categories (MDCs).

- DRG represent inpatient classifications on the basis of diagnosis, procedure, age, gender and discharge disposition. These groups were constructed to control Length-of-stay, which in turn correlates to resource consumption and severity of illness.

# Purpose

- The original objective of diagnosis related groups (DRG) was to develop a classification system that identified the "products" that the patient received. Since the introduction of DRGs in the early ١٩٨٠s, the healthcare industry has evolved and developed an increased demand for a patient classification system that can serve its original objective at a higher level of sophistication and precision. To meet those evolving needs, the objective of the DRG system had to expand in scope. Today, there are several different DRG systems that have been developed in the US. They include:

  - Medicare DRG (CMS-DRG & MS-DRG)
  - Refined DRGs (R-DRG)
  - All Patient DRGs (AP-DRG)
  - Severity DRGs (S-DRG)
  - All Patient, Severity-Adjusted DRGs (APS-DRG)
  - All Patient Refined DRGs (APR-DRG)
  - International-Refined DRGs (IR-DRG)

- DRGs were designed to be homogeneous units of hospital activity to which binding prices could be attached. A central theme in the advocacy of DRGs was that this reimbursement system would, by constraining the hospitals, oblige their administrators to alter the behavior of the physicians and surgeons comprising their medical staffs.

- Moreover, DRGs were designed to provide practice pattern information that administrators could use to influence individual physician behavior.

- DRGs were intended to describe all types of patients in an acute hospital setting. The DRGs encompassed elderly patients as well as newborn, pediatric and adult populations.

- The prospective payment system implemented as DRGs had been designed to limit the share of hospital revenues derived from the Medicare program budget.

# WHAT ARE DRGS GOOD FOR?

- DRGs are good for providing a context in which to analyze hospital stays.

- DRGs were designed to allow hospitals to operate on a more industrial basis, with resource allocation and cost-center analysis, all of which were very hip in the late ١٩٧٠s when DRGs were created.

- In a nutshell, DRGs predict likely resource consumption for any given hospital stay, allowing one to determine if the given hospital stay was too short, too long or just right.

# The Claims Process

- The classification process begins with the physician's documentation of the patient's principal diagnosis, secondary diagnosis and other factors affecting the patient's care or treatment (referred to as complications and co-morbidities).

- This information is submitted to the hospital's medical records department where a medical record coder assigns diagnostic and procedures codes from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-٩).

- The hospital then sends the data electronically to its fiscal intermediary on a claim form known as a UB-٩٢.

- The fiscal intermediary is a private company that has contracted with Medicare to process bills and pay claims for Medicare Part A services.

- **The fiscal intermediary inputs these data into its claims processing system, referred to as the Medicare Code Editor.**

- **The system is designed to screen all cases and sort out those cases that require further review before classification into a DRG.**

- **Following this screening process, the fiscal intermediary, using an automated algorithm called "Grouper," groups all discharge cases into one of ٢٥ Major Diagnostic Categories (MDCs) before assigning it to ١ of the ٩٩٩ DRGs.**

# WHAT ARE MDCs?

- MDC stands for "major diagnostic category" and is a sort of pre-DRG classification of inpatient stays.

- Most of the MDCs are based on the body system involved and disease types.

- For example, MDC ١ involves diseases and disorders of the nervous system and MDC ٢ involves diseases and disorders of the eye.

- A few MDCs involve more than one organ system. For example, MDC ٢٢ is the classification for burns and involves more than one organ system, such as the respiratory and circulatory systems.

- The fiscal intermediary electronically submits a data file (referred to as the Medicare Provider Analysis and Review file) to CMS containing all the charge data that has been assigned to each DRG.

| MDC | Description |
|---|---|
| 1 | Diseases & Disorders of the Nervous System |
| 2 | Diseases & Disorders of the Eye |
| 3 | Diseases & Disorders of the Ear, Nose, Mouth & Throat |
| 4 | Diseases & Disorders of the Respiratory System |
| 5 | Diseases & Disorders of the Circulatory System |
| 6 | Diseases & Disorders of the Digestive System |
| 7 | Diseases & Disorders of the Hepatobiliary System & Pancreas |
| 8 | Diseases & Disorders of the Musculoskeletal System & Conn Tissue |
| 9 | Diseases & Disorders of the Skin, Subcutaneous Tissue & Breast |
| 10 | Endocrine, Nutritional & Metabolic Diseases & Disorders |
| 11 | Diseases & Disorders of the Kidney & Urinary Tract |
| 12 | Diseases & Disorders of the Male Reproductive System |
| 13 | Diseases & Disorders of the Female Reproductive System |
| 14 | Pregnancy, Childbirth & the Puerperium |
| 15 | Newborns & Other Neonates with Condtn Orig In Perinatal Period |
| 16 | Diseases & Disorders of Blood, Blood Forming Organs, Immunolog Disord |
| 17 | Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasm |
| 18 | Infectious & Parasitic Diseases, Systemic or Unspecified Sites |
| 19 | Mental Diseases & Disorders |
| 20 | Alcohol/drug Use & Alcohol/drug Induced Organic Mental Disorders |
| 21 | Injuries, Poisonings & Toxic Effects of Drugs |

| 22 | Burns |
|----|-------|
| 23 | Factors Influencing Hlth Stat & Othr Contacts with Hlth Servcs |
| 24 | Multiple Significant Trauma |
| 25 | Human Immunodeficiency Virus Infections |

| توصیف MDC | MDC |
|---|---|
| بیماری ها و اختلالات دستگاه عصبی | 1 |
| بیماری ها و اختلالات چشم | 2 |
| بیماری ها و اختلالات گوش ، حلق ، بینی | 3 |
| بیماری ها و اختلالات دستگاه تنفسی | 4 |
| بیماری ها و اختلالات دستگاه گردش خون | 5 |
| بیماری ها و اختلالات دستگاه گوارش | 6 |
| بیماری ها و اختلالات دستگاه کبدی- صفراوی و پانکراس | 7 |
| بیماری ها و اختلالات ماهیچه اسکلتی و بافت همبند | 8 |

| | |
|---|---|
| بیماری ها و اختلالات پوست ، بافت زیر جلدی و پستان | 9 |
| بیماری ها و اختلالات متابولیک غدد و تغذیه ای | 10 |
| بیماری ها و اختلالات کلیه و مجاری ادراری | 11 |
| بیماری ها و اختلالات دستگاه تناسلی مذکر | 12 |
| بیماری ها و اختلالات دستگاه تناسلی مونث | 13 |
| حاملگی ، تولد نوزاد ،دوران بعد از تولد | 14 |
| بیماری ها و اختلالات مربوط به نوزادان | 15 |
| اختلالات و بیماری های خون و ارگان های خونساز و اختلالات ایمنولوژیک | 16 |
| بیماری ها و اختلالات میلوپرولیفراتیو و پروردفرتضیته سرطان های | 17 |
| بیماری های عفونی انگلی | 18 |
| اختلالات و بیماری های روانی | 19 |
| مصرف الکل/ دارو هائی که ایجاد اختلالات روانی ارگانیک می کنند | 20 |
| صدمات، مسمومیت ها و تاثیر سمی داروها | 21 |
| سوختگی | 22 |
| عوامل موثر بر وضعیت بهداشتی و ارتباطات دیگر با خدمات بهداشتی | 23 |
| عفونت های ویروسی تضعیف کننده دستگاه HIV) ایمنی ( | 24 |
| تروماهای متعدد قابل توجه | 25 |
| (Pre MDC) Other | 26 |

# DRG Weights

- The CMS assigns a unique weight to each DRG. The weight reflects the average level of resources for an average Medicare patient in the DRG, relative to the average level of resources for all Medicare patients.

- The weights are intended to account for cost variations between different types of treatments. More costly conditions are assigned higher DRG weights.

- For example, the fiscal year ٢٠٠١ DRG weights range from .٥۴٢٢ for a concussion (DRG ٣٢) to ١.۴٩۶۶ for viral meningitis (DRG ٢١) to ١٩.٠٠٩٨ for a heart transplant (DRG ١٠٣).

# Calculating DRG Weights

- The methodology for calculating the DRG weights has been refined over time, but the core process remains the same. Patient charges are standardized to remove the effects of regional area wage differences, indirect medical education costs, and additional payments to hospitals that treat a large percentage of low income patients (referred to as "disproportionate share payments").

-  The average standardized charge for each DRG is calculated by summing the charges for all cases in the DRG and dividing that amount by the number of cases classified in the DRG.

-  Statistical outliers – those cases outside three standard deviations of the average charge for each DRG, are eliminated. The average charge for each DRG is re-computed and then divided by the national average standardized charge per case to determine the weighting factor.

# WHAT ABOUT REIMBURSEMENT?

- Inherently, DRGs have nothing to do with reimbursement. But by historical accident, DRGs were chosen by Medicare as the basis of the Prospect Payment System for hospitals. Since DRGs hit the scene as part of a reimbursement scheme, DRGs became linked with reimbursement in many people's minds.

# WHAT IS A PRICER?

- Since DRGs measure resource consumption in the form of a normalized weight, using DRGs for reimbursement not only makes sense, it is easy: you multiply the DRG-specific weight by the facility-specific factor and voila! you have a reimbursement amount for a given inpatient stay.

- However, this addition step is called "pricing" and is not part of the grouper per se; it is a separate process which is not part of grouping. Software which makes this calculation is called a "pricer." For convenience, most pricer providers bundle the DRG grouper in with their software, which had confused grouping and pricing in many people's minds.
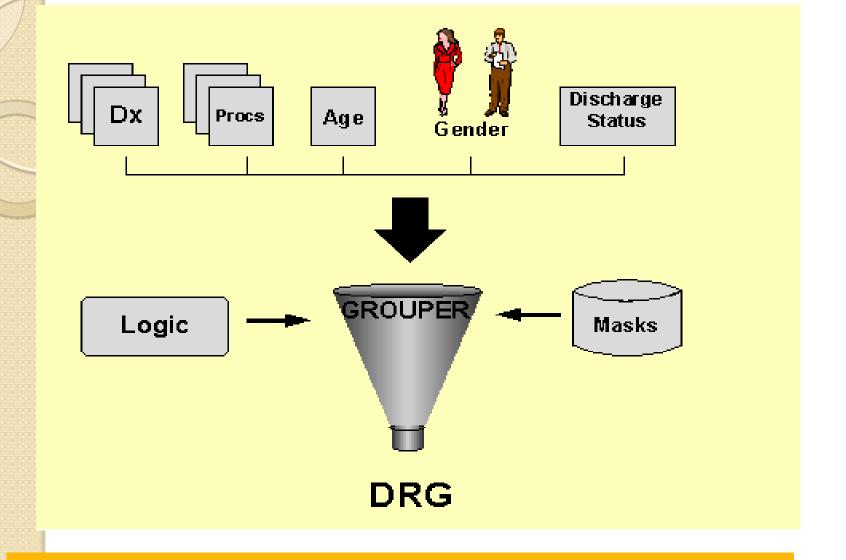
# WHAT ABOUT CODING DIAGNOSES AND PROCEDURES?

- The official grouper only accepts ICD٩cm codes (International Committee on Diseases, version ٩, Clinical Modifications) for both diagnoses and procedures.

- However, the American Medical Association has defined an alternative scheme for coding procedures, which they call CPT (Current Procedural Terminology).

- Many providers have chosen to code even in-house procedures using CPT.

- But if you want to group with CPT codes as input, then you has to convert them to ICD٩cm codes first. This conversion is not a simple one-to-one mapping.

# WHAT IS A GROUPER?

- A DRG Grouper is a computer program or module which takes those ٥ clinical and demographic data as input and gives a corresponding Diagnosis Related Group as output.

- The diagnoses and procedures are encoded as ICD٩cm codes (International Committee on Diseases, version ٩, Clinical Modifications).

- The age is a small integer from ٠ to ١٢٩.

- The gender is encoded as ١ for male, ٢ for female and ٣ for unknown.

- The discharge disposition, also known as "discharge status," is usually encoded either using UHDDS or UB٨٢ (both medical billing standards).

- The standard CMS (formerly HCFA) grouper, ours included, will accept up to ١٠ diagnoses, which are presumed to be in order of significance, from the Primary diagnoses (number ١) on down the line.

- Likewise, up to ١٥ procedures are accepted, but their significance is determined by the grouping process, so their order is not important
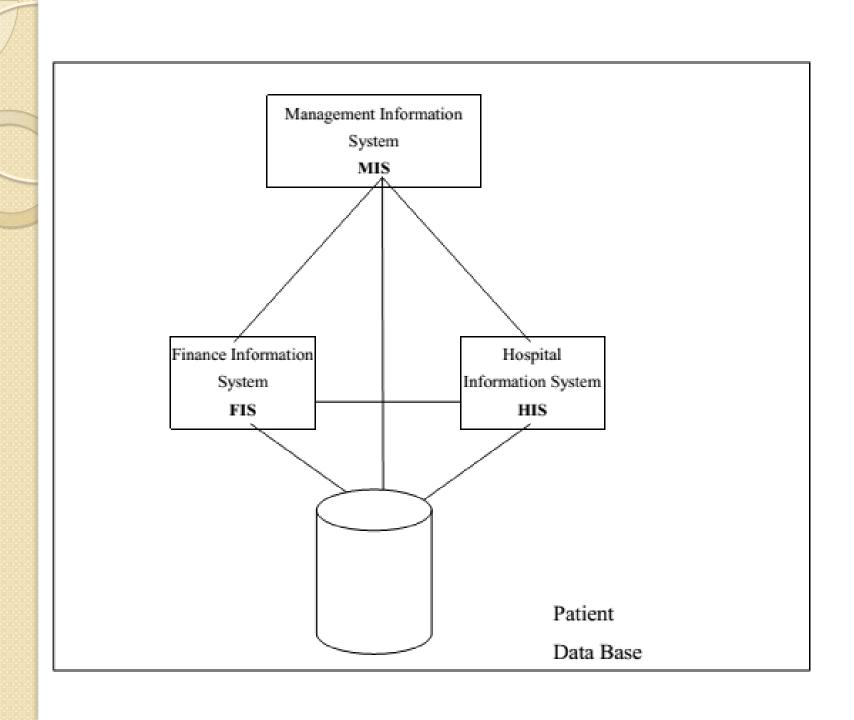
DRG grouper

- The relevance of any diagnosis or procedure code is determined by its mask, which is a bit string of conditions.

- The masks guide the grouper in its use of any given code; for instance, the masks say whether or not a code is gender-specific, or if it is allowed as a primary diagnosis.

- In addition to the information encoded in the mask, the grouper applies logic to actually classify any given inpatient stay into a single DRG.

# WHAT ARE DRG PROPERTIES?

- Any inpatient stay can be classified into a CMS (formerly HCFA) Diagnosis Related Group. Any CMS DRG for a given version has certain properties, determined empirically by CMS from the MedPar database. Those properties are:

- • A DRG description (٧٠ characters wide, version-dependant)

- • An MDC (see details)

- • A Geometric Mean Length of Stay (GMLOS)

- • A Weight (a normalized prediction of resource consumption)

- • A Category: either "Surgical" or "Medical"

- • A low "trim point" (the LOS below which lie the low outliers)

- • A high "trim point" (the LOS above which lie the high outliers)

# IS THERE AN OFFICIAL GROUPER?

- In the United States of America, the "official" is the one defined by CMS (formerly HCFA). Strictly speaking, the CMS grouping algorithm is public, and anyone can implement it in software. (There are books published so that one could even do without the software and assign DRGs by hand.)

- However, CMS has blessed Health Information Systems (a division of ۳M™) as the distributor of the reference grouper, which is written in IBM ۳۶۰ Mainframe assembler.

- If you have an IBM ۳۶۰-compatible computer, you can buy that grouper through ۳M™-HIS and run that.

# WHO DEFINES DRGS?

- While we usually mean "US Federal DRGs" when we say "DRGs," there are many different governments which have defined their own version of DRGs.

- New York state defined their own. New Jersey defined their own for a while.

- France has their own, as does Portugal.

- Australia recently joined the club with their own version.

# WHY SO MANY KINDS OF DRGS?

- The creators of the CMS (formerly HCFA) DRGs were constrained by the number of data elements CMS felt that they could reasonably expect any given hospital in the country to collect.

- Furthermore, their baseline population is all Medicare patients, which skews the results somewhat. As a result, the CMS DRGs are unambitious with respect to severity of illness and resource consumption and not appropriate to all hospital populations.

- Many groups have tried to extend the basic DRG concept to fix these flaws. ٣M™/HIS sells AP-DRGs ("All Payor" DRGs). Yale University's School of Medicine came up with RDRGs ("Refined" DRGs). CMS itself is working on SDRGs ("Severity-adjusted" DRGs).

# MDC

- **Pre MDC**
- **MDC**
- **Error DRGs**

In DRG, hospital records that contain clinically atypical or invalid information are assigned to one of three error DRGs:

- ◦ Ungroupable
- ◦ Unacceptable Principal Diagnosis
- ◦ Neonatal Diagnosis Not Consistent W Age/Weight

# Pre MDC Lists

| MS-DRG | FY 2012 Final Rule Post-Acute DRG | FY 2012 Final Rule Special Pay DRG | MDC | TYPE | MS-DRG Title | Weights | Geo-metric mean LOS | Arith-metic mean LOS |
|---|---|---|---|---|---|---|---|---|
| 001 | No | No | PRE | SURG | HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W MCC | 24.2794 | 28.6 | 37.4 |
| 002 | No | No | PRE | SURG | HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W/O MCC | 13.9700 | 16.7 | 21.3 |
| 003 | Yes | No | PRE | SURG | ECMO OR TRACH W MV 96+ HRS OR PDX EXC FACE, MOUTH & NECK W MAJ O.R. | 17.9927 | 29.1 | 35.3 |
| 004 | Yes | No | PRE | SURG | TRACH W MV 96+ HRS OR PDX EXC FACE, MOUTH & NECK W/O MAJ O.R. | 10.9251 | 21.4 | 26.0 |
| 005 | No | No | PRE | SURG | LIVER TRANSPLANT W MCC OR INTESTINAL TRANSPLANT | 10.4814 | 15.9 | 20.9 |
| 006 | No | No | PRE | SURG | LIVER TRANSPLANT W/O MCC | 5.1059 | 8.2 | 9.4 |
| 007 | No | No | PRE | SURG | LUNG TRANSPLANT | 9.8710 | 15.4 | 18.9 |
| 008 | No | No | PRE | SURG | SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT | 5.1176 | 10.1 | 12.0 |
| 010 | No | No | PRE | SURG | PANCREAS TRANSPLANT | 3.8900 | 8.5 | 9.9 |
| 011 | No | No | PRE | SURG | TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W MCC | 4.9967 | 12.1 | 15.2 |
| 012 | No | No | PRE | SURG | TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W CC | 3.0957 | 8.5 | 10.0 |
| 013 | No | No | PRE | SURG | TRACHEOSTOMY FOR FACE,MOUTH & NECK DIAGNOSES W/O CC/MCC | 1.8983 | 5.6 | 6.4 |
| 014 | No | No | PRE | SURG | ALLOGENEIC BONE MARROW TRANSPLANT | 10.2792 | 18.0 | 24.8 |
| 016 | No | No | PRE | SURG | AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC | 6.3127 | 18.1 | 19.8 |
| 017 | No | No | PRE | SURG | AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC | 4.3224 | 11.6 | 14.6 |

# MDC (١-٢٥)

| MS-DRG | FY 2012 Final Rule Post-Acute DRG | FY 2012 Final Rule Special Pay DRG | MDC | TYPE | MS-DRG Title | Weights | Geo-metric mean LOS | Arith-metic mean LOS |
|---|---|---|---|---|---|---|---|---|
| 020 | No | No | 01 | SURG | INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W MCC | 8.5033 | 13.4 | 16.8 |
| 021 | No | No | 01 | SURG | INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W CC | 6.4369 | 12.6 | 14.3 |
| 022 | No | No | 01 | SURG | INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W/O CC/MCC | 4.1500 | 5.6 | 7.6 |
| 023 | Yes | No | 01 | SURG | CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W MCC OR CHEMO IMPLANT | 5.3625 | 8.4 | 11.7 |
| 024 | Yes | No | 01 | SURG | CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W/O MCC | 3.6327 | 5.4 | 7.5 |
| 055 | Yes | No | 01 | MED | NERVOUS SYSTEM NEOPLASMS W/O MCC | 1.0760 | 3.3 | 4.5 |
| 056 | Yes | No | 01 | MED | DEGENERATIVE NERVOUS SYSTEM DISORDERS W MCC | 1.7656 | 5.5 | 7.3 |
| 057 | Yes | No | 01 | MED | DEGENERATIVE NERVOUS SYSTEM DISORDERS W/O MCC | 0.9652 | 3.8 | 4.9 |
| 058 | No | No | 01 | MED | MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA W MCC | 1.5223 | 5.3 | 6.8 |

# Error DRGs

In DRG, hospital records that contain clinically atypical or invalid information are assigned to one of three error DRGs:

◦ Ungroupable

◦ Unacceptable Principal Diagnosis

◦ Neonatal Diagnosis Not Consistent W Age/Weight

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 998 | No | No | | ** | PRINCIPAL DIAGNOSIS INVALID AS DISCHARGE DIAGNOSIS | 0.0000 | 0.0 | 0.0 |
| 999 | No | No | | ** | UNGROUPABLE | 0.0000 | 0.0 | 0.0 |

Notes:

MS-DRGs 998 and 999 contain cases that could not be assigned to valid DRGs.

- در اين سيستم، رده هاي تشخيصي (MDC: Major Diagnosis Categories)نقش مهمي دارند.

- هر DRGداراي يك ارزش نسبي است كه منعكس كننده هزينه كليه خدمات و تجهيزات مصرف شده براي بيمار مي باشد. ارزش نسبي بالاتر، نشان دهنده ميزان منابع مصرفي بيشتر و در نتيجه پرداخت بالاتر است.

- ارزش نسبي براي هر كد DRGدر تمام بيمارستا نهاي مشابه يكسان ميباشد اما هر بيمارستاني داراي معيار محاسبه پولي خاص خود است كه مربوط به درجه آن بيمارستان مي شود.اين درجه تركيبي از هزينه هاي انجام شده ي ان شده ا ست كه توسط اداره امور مالي مراقبت بهداشت MSC براي آن ناحيه تعيين شده است

- پی ریزی طرحی که براساس آن پرداخت بابت همه خدمات ارائه شده به یک بیمار(به عنوان یک مورد case) با استفاده از نظام DRG صورت می گیرد، یک چرخش مهم [FFS] تلقی می شود.

- نظام DRG نظامی است برای پرداخت یک مبلغ ثابت بابت بیماران خاص در چارچوب یک گروه تشخیصی و نه براساس هزینه هر قلم خدمت(FFS). این روش پرداخت (DRG) در مهار کل هزینه ای یک بیمار مؤثر بوده است، هر چند هنوز هم انگیزه برای پذیرش تعداد بسیار زیادی بیمار (بیشتر از آنچه ضروری است) وجود دارد.

# MDC:Major Diagnostic Categories

- هر یک از گروههای طبقه بندی تشخیص وابسته با توجه به موارد زیر مشخص می گردد:

- ۱ـ تعیین دقیق و درست کد ⬚ ⬚ با توجه به تشخیص صحیح و مناسب در دوره ی درمان و اقدامات انجام شده در طی مراقبت از بیمار ۲ ـ سن بیمار ۳ـ جنس بیمار ۴ـ وضعیت بیمار در هنگام ترخیص

- گروه های تشخیصی وابسته از جمله سیستم های هزینه سنجی مطرحی به حساب می آید که بر اساس تشخیص ها و نوع بیماران تحت درمان به تعیین هزینه واقعی خدمات ارائه شده کمک می کند

# Major Diagnosis Categories

- **کدهای ICD بر اساس سیستمهای بدن یا تخصص ( و نه بر اساس اتیولوژی بیماریها ) در ۲۶ گروه تشخیص عمده ($MDC_s$) طبقه بندی شده اند.**

- **تفاوت در باز پرداخت DRG و هزینه های متحمل شده توسط بیماران در درمان بیماری تحت عنوان درآمد غیر حقیقی شناخته شده است قبل از اینکه بیمارستان بتواند صورتحساب خدمات ارائه شده به بیماران بیمه شده مدیکیر را تهیه کند، پزشک باید اظهار نامه ای را که عبارت از شرح تشخیصها و اقدامات درونی است امضا کند. در واقع اظهار نامه ای برای هر دوره از درمان تهیه می شود**

# Major Diagnosis Categories

- بیماریهایی که با تخصصهای مشابه و به شیوه های مشابه تشخیص و درمان می شوند، بدون در نظر گرفتن علت بیماری در یک گروه MDC قرار می گیرند.

- هر MDC به دو گروه جراحی Surgical و طبی (داخلی) Medical تقسیم می شوند.

- بستری های بر اساس Medical بر مبنای تشخیص اصلی Principal diagnosis نظیر نئوپلاسم ها، بیماریهای چشم و ... طبقه بندی می شوند.

- تشخیص اصلی(عمده) ، تشخیصی است که بیشترین مدت اقامت بیمار در بیمارستان بخاطر آن صورت گرفته است.

- بستری شدگان جراحی بر اساس میزان مصرف منابع رده بندی می شوند. بیمارانی که چند عمل جراحی داشته باشند بر مبنای گرانترین و پرهزینه ترین عمل جراحی طبقه بندی می شوند

- بیمارستان مبلغ ثابتی را دریافت می کند که نشانگر مبلغ تعیین شده براساس گروه تشخیص وابسته DRG است.

- در صورتی که بیمار مرخص شده هزینه کمتری از مبلغ محاسبه شده ی DRG داشته باشد، بیمارستان می تواند مابه التفاوت را به عنوان سود ذخیره کند و

- برعکس چنانچه هزینه بیمار مرخص شده از بیمارستان بیشتر از مبلغ DRG باشد بیمارستان مجبور است خسارت وارده را متحمل شود. DRG نظامی است که فقط در مورد مدت زمان بستری و خدمات مربوط به آن بیماری، هزینه را پرداخت می کند.

- چنانچه هزینه به علت طول مدت بستری بیشتر یا عفونت بیماری افزایش یابد این مقدار هزینه اضافی توسط بیمار یا مراکز بیمه پرداخت نخواهد شد.

# CC exclusion list

- The CC status of a diagnosis code can change according to the principal diagnosis and other additional diagnoses for the record and other factors such as sex and mode of separation. The CC exclusion list itemises, for each CC code, other diagnoses that would preclude the code from being treated as a CC.

- **Comorbidity**

- A concomitant but unrelated pathologic or disease process; usually used in epidemiology to indicate the coexistence of two or more disease processes.

- **Complication**

- A morbid process or event occurring during a disease which is not an essential part of the disease, although it may result from it or from independent causes.

# Complication and co-morbidity level (CCL)

- CCLs are severity weights given to ALL diagnoses. They range in value from ٠ to ۴ for surgical and neonate episodes, and from ٠ to ۳ for medical episodes, and have been developed through a combination of medical judgement and statistical analysis. That is:

  ٠ = not a complication or comorbidity
  ١ = a minor complication or comorbidity
  ٢ = a moderate complication or comorbidity
  ٣ = a severe complication or comorbidity
  ۴ = a catastrophic complication or comorbidity

# Leave days

- Leave is a temporary absence from hospital, with medical approval for a period no greater than seven consecutive days.

- Leave days are calculated as the date returned from leave minus the date went on leave.

- Total leave days are the sum of the leave days for all leaves within a hospital stay.

# Length of stay (LOS)

- The LOS of a patient is measured in patient days.

- A same day patient should be allocated a LOS of one patient day.

- The LOS of an overnight stay patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting total leave days. Total contracted patient days are included in the LOS.

# **Operating room (OR) procedures**

- Procedures considered significant throughout AR-DRG Version ٦.٠. If an OR procedure is not significant in a MDC that an episode is assigned to, it will be grouped to one of the unrelated OR DRGs ٨٠١A, ٨٠١B and ٨٠١C.

- **Principal diagnosis (PDX)**
- The diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care, an episode of residential care or an attendance at a health care establishment.
- **Same day admission**
- An admission where a patient is admitted and separated on the same date.
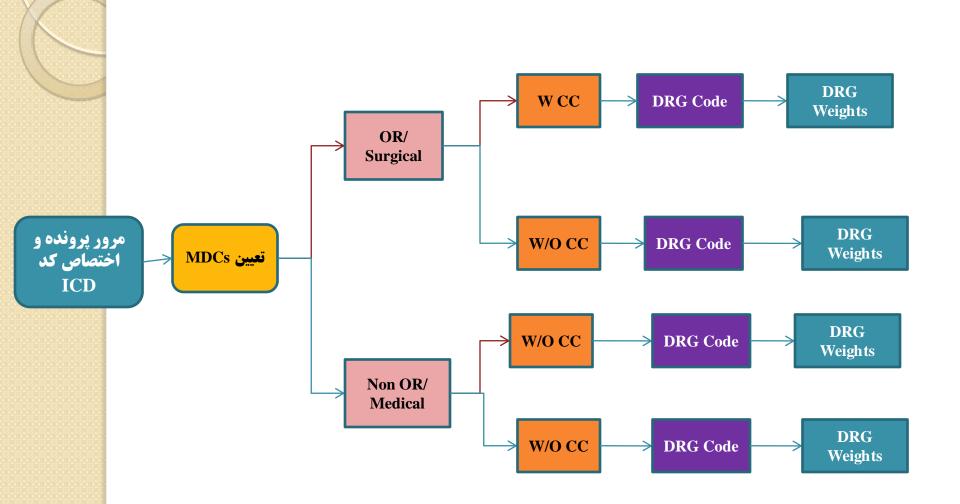- **Secondary diagnosis (SDX)**
- A condition or complaint either coexisting with the principal diagnosis or arising during an episode of admitted patient care, an episode of residential care or an attendance at a health care establishment.
  Secondary diagnosis is also referred to as additional diagnosis.

## مراحل محاسبه ی هزینه درمانی در نظام DRG:

- براي محاسبه هزینه درماني مراحل زیر در نظام DRG استفاده مي شود:
- ۱ ـ بررسي پرونده پزشكي براي تعیین تشخیص اصلي
- ۲ ـ مراجعه به یکي از طبقات تشخیص عمده براساس تشخیص اصلي
- ۳ ـ تقسیم بندي براساس اینکه بیمار تحت عمل جراحي قرار گرفته یا خیر
- ۴ ـ تقسیم بندي براساس وجود بیماري جانبي (comorbiding) و عوارض (complication) .
- ۵ ـ با توجه به سن، جنس، وضعیت ترخیص بیمار در صورت لزوم
- ۶ ـ تعیین کد DRG از میان کدهاي آن طبقه
- ۷ ـ تعیین K ضریب ارزشي نسبي (Ralative weight) که در مقابل کد DRG ثبت شده است
- ۸ ـ ضرب کردن ضریب ارز نسبي در درجه بیمارستان حاصلضرب به دست آمده صورتحساب بیمار خواهد بود.

reimbursement=DRG Weights* Hospital Grade

# Case mix

- An information tool involving the use of scientific methods to build and make use of classifications of patient care episodes.

-  In popular usage, the mix of types of patients treated by a hospital or other health care facility.

Casemix is about the relationship between hospital's activity and costs, and makes use of data about classifications that are clinically meaningful and explain variation in resource use.

# نظام CASE MIX

- کیس میکس نظامی برای پرداخت منابع و بودجه به مراکز درمانی می‌باشد.
- اساس کیس میکس، ارزش نسبی کد DRG می‌باشد.

# نحوه محاسبه میزان ثابت بیمارستان

مثال:

- ۱۰۰۰ بیمار در یک سال در یک بیمارستان (X) درمان شده اند
- ۲۰۰بیمار در گروه ۹۰     DRG     با ارزش نسبی    ۶۹۹/۰
- ۴۵۰ بیمار در گروه ۸۹     DRG     با ارزش نسبی    ۱/۱۴۴۷
- ۳۰۰ بیمار در گروه ۴۷۵ DRG     با ارزش نسبی    ۵/۱۳۴
- ۵۰ بیمار در گروه ۴۱۰    DRG     با ارزش نسبی    ۹۳۶۳/۰
- $\dfrac{(۲۰۰ * ۰/۶۹۹۰) + (۴۵۰*۱/۱۴۴۷)+(۳۰۰*۵/۱۳۴) +(۵۰ * ۰/۹۳۶۳)}{۱۰۰۰} = ۲/۲۴$

**مشکلات موجود در اجرای نظام DRG:**

۱- کاهش درآمد بیمارستان

۲ــ افزایش درمانهای سرپایی

۳ ــ خطا در کد گذاری و تعیین کد DRG

۴ ــ افزایش گزارشهای اشتباه و به موقع ارسال نشدن آنها

۵ ــ عدم درک صحیح کارکنان پزشکی نسبت به اهمیت ثبت اطلاعات دقیق بر روی پرونده بیمار

# راه های حل:

۱ ــ مرور کدهای DRG در پرونده ی بیمار مرخص شده

۲ ــ برطرف کردن مشکلات در زمینه کمبود کارکنان کد گذاری و رایانه های لازم

۳ ــ استفاده از مرور کنندگان خارج از بیمارستان و کمک گرفتن از شرکتهای تجاری

۴ ــ تعویض کارکنان کد گذاری و کارکنان پزشکی و جایگزینی افراد جدید

۵ ــ کنترل و نظارت دقیق توسط مدیران و مسئولان

# نظام پرداخت هزینه های درمانی در ایران

- در حال حاضر کلیه ی بیمارستانهای وابسته جهت باز پرداخت هزینه از نظام کارانه استفاده می نمایند.

- در نظام کارانه (fee- for- service) کلیه ی خدمات ارائه شده ثبت شده و هزینه هر یک از خدمات برای تعرفه تعیین شده به شخص حقیقی یا حقوقی طرف قرارداد پرداخت می شود.