

## DRG FAQ

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### 1. DRGGROUPERS.COM MANUAL

Looking for more information about DRGs, groupers in general, or our grouper product line in particular? Download our complete manual / catalog / reference as a PDF: [drgman.pdf](#) . Available soon as a paperback book.

### 2. HOW TO PICK A VERSION

US Federal (aka CMS or HCFA) DRG versions are released in October of every year. Version 3 (the first version we support) was released in October of 1985. So if you are using calendar years, 1/1/2001 - 9/30/2001 would be covered by version 18 and 10/1/2001 through 9/30/2002 would be covered by version 19. And so on.

### 3. WHAT ARE DRGS?

DRG stands for "Diagnosis Related Group." DRGs are small integers ranging from 0 to about 500. These integers 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.

There are two special DRG values: 0 (which means "not grouped") and 470 (which means "ungroupable"). The rest of the DRG values have descriptions, weights, LOS outlier trim points and mean LOS all of which depend on the DRG version.

Wikipedia has a pretty good entry on DRGs .

### 4. HCFA VERSUS CMS

In 2001, the United States federal government's Health Care Finance Administration ("HCFA") became "the Centers for Medicare & Medicaid Services" or "CMS".

### 5. WHERE DID DRGS COME FROM?

The original DRGs were invented at Yale University's Health Systems Management Group in the late 1970s. The principal researchers were Bob Thompson, a nursing guru, and Bob Fedder, an Operations

Research kind of guy. Ron Mills, co-founder of the parent of DRGGroupers.com, was the technical lead and he was the one who created the biostatistical analysis package, AUTOGRP, which made the underlying research possible in real-time.

DRGs were adopted by the United States federal government's Health Care Finance Administration (HCFA) and first released in 1982 as version 2 (version 1 was the unreleased version which HCFA evaluated). Every year, on October 1st, HCFA (now CMS) releases a new CMS DRG version.

Through Ron Mills, DRGGroupers.com has been involved with DRGs from their inception. Ron wrote the first grouper (a program which assigns a DRG to an inpatient encounter) in 1978 which is the model for the grouper CMS (formerly HCFA) still uses today.

## **6. 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 1970s 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.

## **7. 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.

## **8. 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.

We are hardly experts on buying pricing software, but if you are looking to buy it and are stuck, check out Health Information Systems (a division of 3M). They seem to have lots of pricers out there in the world, so someone is buying them.

## **9. WHAT ABOUT CODING DIAGNOSES AND PROCEDURES?**

The official grouper only accepts ICD9cm codes (International Committee on Diseases, version 9, 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 have to convert them to ICD9cm codes first. This conversion is not a simple one-to-one mapping. Many vendors sell CPT-to-ICD9cm "crosswalks," but DRGGroupers.com is not one of them.

## **10. WHAT IS A GROUPEUR?**

A DRG Grouper is a computer program or module which takes those 5 clinical and demographic data as input and gives a corresponding Diagnosis Related Group as output. The diagnoses and procedures are encoded as ICD9cm codes (International Committee on Diseases, version 9, Clinical Modifications). The age is a small integer from 0 to 129. The gender is encoded as 1 for male, 2 for female and 3 for unknown (don't ask). The discharge disposition, also known as "discharge status," is usually encoded

either using UHDDS or UB82 (both medical billing standards).

For a PDF from CHIMA common discharge status codes, follow this link or go straight to the source at <http://www.chima.org/DischDispCodesReference2005Update.pdf>

The standard CMS (formerly HCFA) grouper, ours included, will accept up to 10 diagnoses, which are presumed to be in order of significance, from the Primary diagnoses (number 1) on down the line. Likewise, up to 15 procedures are accepted, but their significance is determined by the grouping process, so their order is not important.

<IMG SRC="grouping.gif" ALT="Grouping Flowchart">

The relevance of any diagnosis or procedure code is determined by its *mask*, which is a bitstring 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.

## 11. 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 (70 characters wide, version-dependant)
- An MDC (see below for 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)

The DRGGroupers.com grouper returns all these and more: a bit string for each of the Diagnosis Codes and Procedure Codes so that the caller can determine which codes were actually significant to the grouping.

## 12. WHAT ARE MDCS?

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

MDC	Description
1	<i>Diseases &amp; Disorders of the Nervous System</i>
2	<i>Diseases &amp; Disorders of the Eye</i>
3	<i>Diseases &amp; Disorders of the Ear, Nose, Mouth &amp; Throat</i>
4	<i>Diseases &amp; Disorders of the Respiratory System</i>
5	<i>Diseases &amp; Disorders of the Circulatory System</i>
6	<i>Diseases &amp; Disorders of the Digestive System</i>

7	<i>Diseases &amp; Disorders of the Hepato-biliary System &amp; Pancreas</i>
8	<i>Diseases &amp; Disorders of the Muscu-loskeletal System &amp; Conn Tissue</i>
9	<i>Diseases &amp; Disorders of the Skin, Sub-cutaneous Tissue &amp; Breast</i>
10	<i>Endocrine, Nutritional &amp; Metabolic Diseases &amp; Disorders</i>
11	<i>Diseases &amp; Disorders of the Kidney &amp; Urinary Tract</i>
12	<i>Diseases &amp; Disorders of the Male Reproductive System</i>
13	<i>Diseases &amp; Disorders of the Female Reproductive System</i>
14	<i>Pregnancy, Childbirth &amp; the Puer-perium</i>
15	<i>Newborns &amp; Other Neonates with Condtm Orig In Perinatal Period</i>
16	<i>Diseases &amp; Disorders of Blood, Blood Forming Organs, Immunolog Disord</i>
17	<i>Myeloproliferative Diseases &amp; Disor-ders, Poorly Differentiated Neoplasm</i>
18	<i>Infectious &amp; Parasitic Diseases, Sys-temic or Unspecified Sites</i>
19	<i>Mental Diseases &amp; Disorders</i>
20	<i>Alcohol/drug Use &amp; Alcohol/drug Induced Organic Mental Disorders</i>
21	<i>Injuries, Poisonings &amp; Toxic Effects of Drugs</i>
22	<i>Burns</i>
23	<i>Factors Influencing Hlth Stat &amp; Othr Contacts with Hlth Servcs</i>
24	<i>Multiple Significant Trauma</i>
25	<i>Human Immunodeficiency Virus Infec-tions</i>

### 13. IS THERE AN OFFICIAL GROUPEE?

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 3M) as the distributor of the reference grouper, which is written in IBM 360 Mainframe assembler. If you have an IBM 360-compatible computer, you can buy that grouper through 3M-HIS and run that.

(Historical Note: Ron Mills also founded a company which became Health Systems International, which became HIS when it was bought by 3M.)

#### 14. WHAT ARE RDRGS®?

Since DRGGroupers.com is constantly asked about RDRGs®, we asked the nice folks at HSC to give us a blurb to put on our website to answer this question. Here is their reply:

The RDRG severity-of-illness software is a product of Health Systems Consultants, Inc. in New Haven, Connecticut. The software groups inpatient hospital discharge data into DRGs and into severity classes within DRGs. The DRGs produced are identical to those of the public domain DRG grouper from the Health Care Financing Administration (HCFA--now CMS). The software assigns patients to 511 DRGs and to 1198 Refinement Group (RGN) numbers and is updated each year to conform to the CMS DRGs. Since the software system can predict hospital resource use, it can be used to improve hospital casemix analysis, analyze hospital performance, evaluate physician performance, measure quality, develop budgets, and to reimburse hospitals.

The RDRG severity-of-illness software was developed from a Yale University study funded by CMS (formerly HCFA) entitled, "DRG Refinement with Diagnostic Specific Comorbidities and Complications: A Synthesis of Current Approaches to Patient Classification." The study, completed in 1989, was designed to adjust the DRG system for the severity of a patient's illness. For information about the RDRG software, please contact Karen Schneider at karen.Schneider@healthsyst.com or call Health Systems Consultants at (203) 785-0650.

#### 15. WHO BUYS THE OUR GROUPERS?

Our market niche is batch grouping under UNIX or under MS-DOS and MS-Windows. Our clients are mostly health care consulting firms or the IS divisions of HMOs. Since we are not primarily a software house, we are not set up to provide any support beyond the basic installation and trouble-shooting. If the idea of a UNIX-style filter is unknown to you or is scary to you, you don't want to buy a grouper from us.

On the other hand, if you want a grouper that returns all the DRG-related information about an inpatient stay and which provides a list of significant codes, then you might want to buy a grouper from us. Visit our Grouper products and prices page for more information.

#### 16. 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.

#### 17. 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. 3M/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).