



# **DRG GROUPER (ICD) TECHNICAL MANUAL**

Version 18.0

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# Revision History

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|             |  |                        |                         |
|             |  |                        |                         |

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# Introduction

The DRG Grouper is a "black box" utility with standalone functionality and can be called by other **VISTA** applications. The DRG Grouper package contains two options:

- DRG Grouper - Used to compute and display the Diagnosis Related Group (DRG) for a patient based on that patient's diagnoses and any operations/procedures performed.
- ICD Code Inquiry - Allows the user to display information for a selected diagnosis or operation/procedure code.

This version of the DRG Grouper is based on the current Medicare Grouper requirements as defined by the Health Care Financing Administration (HCFA) contained in the annual update from 3M Health Information Systems. The same DRG Grouper is used by the Austin Automation Center (AAC).

## **Modifications with Patch ICD\*18\*14**

This distribution is a multi-package combined build containing the following patches

DRG FY05 1<sup>st</sup> Quarter Update

- LEX\*2.0\*33
- ICD\*18.0\*14

This patch modifies the logic and restructures the file in which the ICDs and DRGs are stored and resolved.

This package will allow the use of multiple versions of the code sets employed in financial transactions. This includes multiple versions of the Veterans Health Administration (VHA) diagnostic related grouping software, also known as the "VHA Grouper".

The Health Insurance Portability and Accessibility Act (HIPAA) stipulates that diagnostic and procedure codes used for billing purposes must be the codes that were applicable at the time the service was provided. Code sets required by the HIPAA legislation to be date-sensitive and included in this request are:

- ICD-9-CM (International Classification of Diseases-9-Clinical Modifications)
- DRG Codes (Diagnostic Related Group which is a part of the ICD-9 code set)

## DRG Components

The DRGs are defined as a manageable, clinically coherent set of patient classes that relate a hospital case mix to the resource demands and associated costs experienced by the hospital. There are DRGs associated with the DRG Grouper. Each represents a class of patients deemed medically comparable and requiring similar amounts of resources for care.

The DRGs may be calculated for both registered VA patients and non-VA patients. Except for Transfer DRGs, the system does not store the DRG compiled for each patient. DRGs are recalculated each time the DRG Grouper option is utilized.

If data entered is insufficient for the DRG Grouper to function, the DRG will not be computed and will be displayed as "UNGROUPABLE". A message such as "Grouper needs to know if patient died during this episode!" will appear informing the user what missing data is required.

## Classifying DRGs

The actual process of classifying the patients into one of the DRGs is done by the DRG Grouper using the following information:

- Age
- Sex
- Diagnosis codes
- Operation/procedure codes
- Discharge status

The patient's age and any secondary diagnoses the patient had are used to determine whether the patient's stay had significant and contributing complications and/or comorbidities. The DRG Grouper accepts one primary diagnosis and unlimited secondary diagnoses and operations/procedures.

## Related Manuals

- DRG Grouper User Manual
- DRG Grouper Installation Guide
- DRG Grouper Release Notes
- PTF Section of the PIMS (formerly MAS) User Manual contains detailed information on DRGs and DRG calculation, especially in the following options:
  - DRG Information Report
  - DRG Calculation
  - DRG Reports Menu

# Security

## Security Keys

There are no security keys in the DRG Grouper package.

## Security Management

The DRG Grouper V. 18.0 software does not impose any additional legal requirements on the user, nor does it relieve the user of any legal requirements.

## VA FileMan Access Codes

File security levels have been upgraded so that only read access is allowed by non-IRM users. It is strongly recommended that you accept this upgraded level of security for the files in the DRG Grouper package to minimize any data corruption problems.

The following table contains the recommended VA FileMan access codes associated with each file in the DRG Grouper software. This list may be used to assist in assigning appropriate VA FileMan access codes to users.

| File # | File Name                 | DD Access | RD Access | WR Access | DEL Access | LAYGO Access |
|--------|---------------------------|-----------|-----------|-----------|------------|--------------|
| 80     | ICD DIAGNOSIS             | @         | d         | @         | @          | @            |
| 80.1   | ICD OPERATION/ PROCEDURE  | @         | d         | @         | @          | @            |
| 80.2   | DRG                       | @         | d         | @         | @          | @            |
| 80.3   | MAJOR DIAGNOSTIC CATEGORY | @         | d         | @         | @          | @            |

## Mail Groups and Alerts

The DRG Grouper software does not use mail groups.

## Remote Systems

There are no remote systems used with the DRG Grouper software.

## Contingency Planning

Using services should have a local contingency plan to be used in the event of application problems in a live environment. The plan should identify the procedure(s) for maintaining the functionality provided by the DRG Grouper V. 18.0 software in the event of system outage. Field station Information Security Officers (ISOs) can get assistance from the Regional ISO (RISO).

## **Interfacing**

There is no special interfacing required for the DRG Grouper software.

## **Electronic Signatures**

DRG Grouper software does not use electronic signatures.

# Implementation and Maintenance

There are no site-configurable features connected with the DRG Grouper package.

## Integrity Checker

DRG FY05 1st Quarter Update - LEX\*2.0\*33 and ICD\*18.0\*14

Routine Summary:

The following is a list of the routine(s) included in this patch. The second line of each of these routine(s) will look like:

<tab>;;18.0;DRG Grouper;\*[patch list]\*\*;Oct 20, 2000

CHECK^XTSUMBLD results

| <b>Routine name</b> | <b>Before Patch</b> | <b>After Patch</b> | <b>Patch List</b> |
|---------------------|---------------------|--------------------|-------------------|
| ICDCODE             | 9860985             | 10783406           | 6,12,14           |
| ICDDRG              | 10514799            | 10859684           | 2,7,10,14         |
| ICDDRG0             | 13317595            | 13917436           | 1,2,7,10,14       |
| ICDDRG14            | 678754              | 828073             | 14                |
| ICDDRGX             | 7838475             | 9269103            | 1,2,5,7,10,14     |
| ICDGTDRG            | 12513862            | 13082153           | 7,12,14           |
| ICDHLPD             | 1384673             | 1534351            | 10,14             |
| ICDHLPD             | 1270146             | 1468369            | 10,14             |
| ICDREF              | N/A                 | 255032             | 14                |
| ICDTLB1A            | N/A                 | 6720875            | 14                |
| ICDTLB2A            | N/A                 | 10549059           | 14                |
| ICDTLB3             | 7318440             | 7283201            | 14                |
| ICDTLB3A            | N/A                 | 7299188            | 14                |
| ICDTLB4A            | N/A                 | 8003662            | 14                |
| ICDTLB5A            | N/A                 | 10043142           | 14                |
| ICDTLB6A            | N/A                 | 11665363           | 14                |



# Routines

## Callable Routines

The following are the DRG Grouper externally callable entry points. Each application calling the DRG Grouper is responsible for setting all required variables and deleting them at the end of the call.

^ICDDRGM - Initiates DRG Grouper standalone system. Displays DRG results.

^ICDDRG – API entry point. Calculates DRG. This call will return ICDDRG, a pointer to the DRG file (#80.2). The following variables are required when calling this entry point:

ICDDX(): - REQUIRED - Array of pointers to ICD DIAGNOSIS file (#80) where ICDDX(1) is the primary DXLS. ICDDX(1) must be defined or DRG Grouper will stop processing.

ICDPRC(): - OPTIONAL - Array of pointers to ICD OPERATION/PROCEDURE file (#80.1).

ICDTRS: - REQUIRED - Numeric code (0/1) to indicate if a patient was transferred to an acute care facility.

ICDEXP: - REQUIRED - Numeric code (0/1) to indicate if a patient died during this episode.

ICDDMS: - REQUIRED - Numeric code (0/1) to indicate if a patient was discharged against medical advice.

AGE: - REQUIRED - Numeric code (whole number 0-124) to indicate patient age. Neonatal, newborn, or term can be indicated with 0.

SEX: - REQUIRED - Alphabetic code (M, F, or NULL) to indicate patient sex. Some DRGs apply to either sex so NULL is appropriate. Some DRGs apply to one sex only and DRG Grouper will return an error (Invalid Sex) if NULL or wrong sex is indicated.

ICDDATE: - REQUIRED - Date used to calculate the DRG in FileMan format (e.g., 3030113). If the variable is not defined, default to the current date.

^ICDCOD - ICD Code Inquiry. - Allows the user to enter an ICD diagnosis or operation/procedure code. It returns the code description and whether or not that code is inactive.

GETDRG^ICDGTDRG - API entry point. An API that will return all DRG codes associated with a given ICD OPERATION/PROCEDURE or ICD DIAGNOSIS CODE for a given effective date. It will receive the Operation/Procedure or Diagnosis code IEN, the effective date, and a flag signifying which file to check (Operation/Procedure or Diagnosis) and will return the DRG code(s) or an error flag. The following variables are passed to this API.

CODE: - REQUIRED - The IEN of the code in the ICD OPERATION/PROCEDURE file (#80.1) or the ICD DIAGNOSIS file (#80).

DGNDDT: - The effective date used to determine the proper DRG code(s) for the code. If not defined, it will default to the current date.

FILE: - REQUIRED - 9 – use file #80  
0 – use file #80.1

DRG^ICDGTDRG - API entry point. An API that will return the information associated with, and the status of, a given DRG code. It will receive the IEN of a DRG code and an effective date, and it will return a string with the information for the DRG code or an error flag. The following variables are passed to this API.

CODE: - REQUIRED - The IEN of the code in the ICD OPERATION/PROCEDURE file (#80.1) or the ICD DIAGNOSIS file (#80).

EDT: - The effective date used to determine the proper DRG code(s) for the code. If not defined, it will default to the current date.

ISVALID^ICDGTDRG - API entry point. An API that will be used in DIC(“S”) FileMan calls to check the validation of an ICD OPERATION/PROCEDURE or ICD DIAGNOSIS code. The API will return a “1” if the code/date pair passed to it is valid and can be selected from a FileMan prompt. The following variables are passed to this API.

CODE: - REQUIRED - The IEN of the code in the ICD OPERATION/PROCEDURE file (#80.1) or the ICD DIAGNOSIS file (#80).

DATE: - The effective date used to determine the proper DRG code(s) for the code. If not defined, it will default to the current date.

FILE: - REQUIRED - 9 – use file #80  
0 – use file #80.1

GETDATE^ICDGTDRG - API entry point. An API that will return the proper effective date used in Code Set Version functions. The API will return a date in FileMan format.

PATNUM: - REQUIRED - The IEN record number of the PTF file (#45) for the patient in question.

## Routine List

Take the following steps to obtain routines contained in the DRG Grouper package:

1. Programmer Options Menu
2. Routine Tools Menu
3. First Line Routine Print Option
4. Routine Selector: **ICD\***

## Routines to Map

For those sites where routine mapping is applicable, the following are the routines recommended for mapping: ICDDRG\* and ICDTLB\*.

# Files

## Globals and Files

The main globals used in the DRG Grouper package are ^ICD9(), ^ICD0(), ^ICD(), and ^ICM(). These correspond to the ICD DIAGNOSIS, ICD OPERATION/ PROCEDURE, DRG, and MAJOR DIAGNOSTIC CATEGORY files. There are no globals to journal.

## File List with Descriptions

| File #       | File Name  | Global  | Description  |
|--------------|--|---------|--|
| 80           | ICD DIAGNOSIS  | ^ICD9() | Contains all valid ICD diagnosis codes and the COMPLICATION/ COMORBIDITY EXCLUSION subfile.  |
| 80.071,.01   | DRG GROUPEE EFFECTIVE DATE 0;1 DATE (Multiply asked)   |         | This field sets the effective date for the DRGs for a given fiscal year. It should normally be the first day of October of the fiscal year. Each year a new entry will be created and the DRGs hierarchy will reside within this field.  |
| 80.071,1     | DRG 1;0 POINTER Multiple #80.711   |         | DRG(s) associated with corresponding ICD Diagnosis for a given fiscal year.<br>FILES POINTED TO FIELDS<br>DRG (#80.2) DRG:DRG (#.01)   |
| 80.711,.01   | DRG 0;1 POINTER TO DRG FILE (#80.2) (Multiply asked)   |         | DRG(s) associated with corresponding ICD Diagnosis for a given fiscal year.<br>FILES POINTED TO FIELDS<br>DRG (#80.2) DRG:DRG (#.01)   |
| 80.1         | ICD OPERATION/PROCEDURE  | ^ICD0() | Contains all valid ICD operation/ procedure codes.   |
| 80.171,.01   | DRG GROUPEE EFFECTIVE DATE 0;1 DATE (Multiply asked)   |         | This field sets the effective date for the DRGs for a given fiscal year. It should normally be the first day of October of the fiscal year. Each year a new entry will be created and the DRG's hierarchy will reside within this field. |
| 80.171,1     | MAJOR DIAGNOSTIC CATEGORY 1;0 POINTER Multiple #80.1711  |         | Major Diagnostic Category (MDC) associated with ICD Operation/Procedure.   |
| 80.1711,.01  | MAJOR DIAGNOSTIC CATEGORY 0;1 POINTER TO MAJOR DIAGNOSTIC CATEGORY FILE (#80.3) (Multiply asked) |         |  |
| 80.1711,1    | DRG 1;0 POINTER Multiple #80.17111   |         | DRG(s) associated with corresponding ICD Operation/Procedure for a given fiscal year.  |
| 80.17111,.01 | DRG 0;1 POINTER TO DRG FILE (#80.2) (Multiply asked)   |         | FILES POINTED TO FIELDS<br>DRG (#80.2) DRG:DRG (#.01)  |
| 80.2         | DRG  | ^ICD()  | Contains all DRGs, their trim points, affiliated and non-affiliated weights, etc.  |
| 80.072,.01   | MDC EFFECTIVE DATE   |         | 0;1 DATE (Multiply asked)  |

|            |  |       |   |
|------------|--|-------|---|
| 80.072,1   | MDC                                    |       | 0;2 POINTER TO MAJOR DIAGNOSTIC CATEGORY FILE (#80.3)<br>Major Diagnostic Category (MDC) associated with ICD Diagnosis for a given fiscal year.<br>FILES POINTED TO FIELDS<br>MAJOR DIAGNOSTIC CATEGORY (#80.3) MDC (#1)  |
| 80.271,.01 | DRG GROUPER EFFECTIVE DATE<br>0;1 DATE |       | This field sets the effective date for the DRGs reference table for a given fiscal year. It should normally be the first day of October of the fiscal year. Each year a new entry will be created and the DRG's reference table to be used will reside within this field. |
| 80.271,1   | REFERENCE 0;3 FREE TEXT                |       |   |
| 80.3       | MAJOR DIAGNOSTIC CATEGORY              | ^ICM( | Contains major diagnostic categories as used in PTF coding.   |

## Templates

There are no templates contained in the DRG Grouper package.

## File Flow (Relationships Between Files)

1. VA FileMan Menu
2. Data Dictionary Utilities Menu
3. Map Pointer Relations
4. Select PACKAGE NAME: **ICD**
5. Remove FILE: **<RET>**
6. Add FILE: (**Enter name or number for files you want to include in the output.**) This prompt will repeat.
7. Enter name of file group for optional graph header: DRG GROUPER//**<RET>**

## Exported Options

No options are exported with the release of DRG Grouper V. 18.0. The options exported with V. 14.0 will continue to be used.

## Archiving and Purging

There are no archiving and purging capabilities connected with the DRG Grouper package as the data is a national table.

# External/Internal Relations

The following minimum software versions are required to run DRG Grouper V. 18.0:

VA FileMan V. 21.0  
Kernel V. 8.0  
PIMS V. 5.3

## Database Integration Agreements (DBIAs)

Take the following steps to obtain the DBIAs for DRG Grouper V. 18.0:

| Custodial Package                     | Subscriber Package                           |
|---------------------------------------|--|
| 1. FORUM                              | 1. FORUM                                     |
| 2. DBA Menu                           | 2. DBA Menu                                  |
| 3. Integration Agreements Menu        | 3. Integration Agreements Menu               |
| 4. Custodial Package Menu             | 4. Subscriber Package Menu                   |
| 5. Active by Custodial Package Option | 5. Print Active by Subscriber Package Option |
| 6. Select Package Name: <b>ICD</b>    | 6. Start with subscriber package: <b>ICD</b> |

## Package-wide Variables

There are no package-wide variables associated with the DRG Grouper package.

## SACC Exemptions/Non-Standard Code

There are no SACC exemptions/non-standard code in the DRG Grouper package.

# How to Generate Online Documentation

This section describes some of the various methods by which you can secure DRG Grouper technical documentation. You can generate online technical documentation pertaining to the DRG Grouper software (in addition to that which is located in the help prompts and on the help screens which are found throughout the DRG Grouper package) through the utilization of several KERNEL options. These include, but are not limited to, the following:

- *XINDEX*
- *Menu Management Inquire Option File*
- *Print Option File*
- *FileMan List File Attributes*

An option name preceded by a question mark (?OPTION) shows extended help, if available, for that option. Entering question marks at the "Select ... Option:" prompt provides valuable technical information. The level of information provided depends on the number of question marks you enter.

- A single question mark (?) lists all options which can be accessed from the current option.
- Two question marks (??) lists all options accessible from the current one, showing the formal name and lock for each.
- Three question marks (???) displays a brief description for each option in a menu.

For a more detailed option listing and further information about other utilities which supply online technical information, please consult the **VISTA** Kernel Reference Manual.

## **XINDEX**

This option analyzes the structure of routines to determine in part if the routines adhere to **VISTA** Programming Standards. The XINDEX output might include the following components:

- Compiled list of errors and warnings
- Routine listing
- Local variables
- Global variables
- Naked globals
- Label references
- External references

By running XINDEX for a specified set of routines, you are afforded the opportunity to discover any deviations from **VISTA** Programming Standards which exist in the selected routines and to see how routines interact with one another (i.e., which routines call or are called by other routines).



To run XINDEX for the DRG Grouper software, specify the following namespace at the "routine(s) ?>" prompt: **ICD\***.

DRG Grouper initialization routines which reside in the UCI in which XINDEX is being run, compiled template routines, and local routines found within the ICD namespace should be omitted at the "routine(s) ?>" prompt. To omit routines from selection, preface the namespace with a minus sign (-).

### **Inquire To Option File**

To secure information about DRG Grouper options, you must specify the name or namespace of the option(s) desired. This Menu Manager option provides the following information about user-specified option(s):

- Option name
- Menu text
- Option description
- Type of option
- Lock (if any)

### **Print Options File**

Use this utility to generate a listing of options from the OPTION file (#19). You can choose to print all of the entries in this file, or specify a single option or range of options. To obtain a list of DRG Grouper options, specify the ICD option namespace.

### **List File Attributes**

Use this FileMan option to generate documentation pertaining to files and file structure. Use the Standard format to obtain the following data dictionary information for a specified file(s):

- File name and description
- Identifiers
- Cross-references
- Files pointed to by the file specified
- Files which point to the file specified
- Input, print, and sort templates

Additionally, the following information is supplied for each field in the file:

- Field name and number
- Global location
- Description
- Help prompt
- Cross-reference(s)
- Input transform
- Date last edited
- Notes

Use the Global Map format of this option to generate an output which lists:

- All cross-references for the selected file
- Global location of each field in the file
- Input, print, and sort templates

# Glossary

|                          |  |
|--------------------------|--|
| Complication/comorbidity | A condition whose presence in conjunction with a specific primary diagnosis would cause an increase in length of stay by at least one day in 75% of the patients.                          |
| DRG                      | Diagnosis Related Group. A manageable, clinically coherent set of patient classes that relate a hospital case mix to the resource demands and associated costs experienced by the hospital |
| Primary Diagnosis        | Diagnosis that is chiefly responsible for causing the patient's admission to the hospital.   |
| PTF                      | Patient Treatment File   |
| Registered<br>VA Patient | Patient contained in the PATIENT file (#2).  |
| Ungroupable              | Where sufficient data has not been entered for the DRG Grouper to function, the DRG will not be computed and will be displayed as UNGROUPABLE.   |