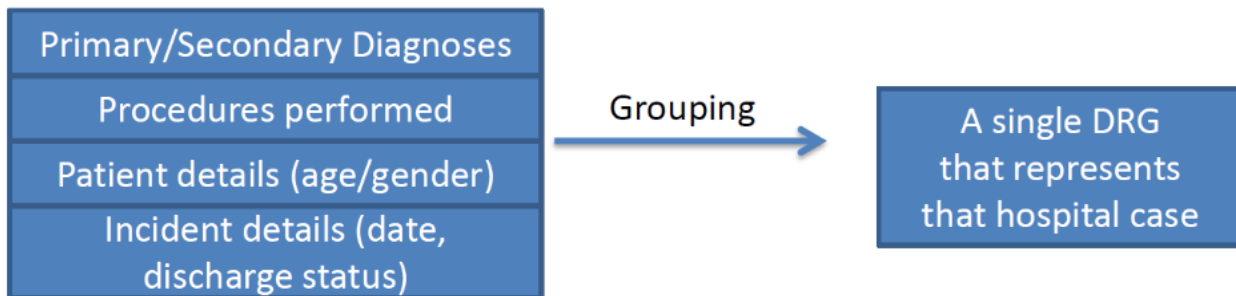


Find-A-Code MS-DRG Grouper API Documentation

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Intro to DRG Grouping

- **DRGs** (Diagnosis Related Groups) are codes used to classify hospital cases for reimbursement.
- Each DRG is assigned a **relative weight** that corresponds to how severe the case is. The higher the relative weight, the more severe the case, and the higher the reimbursement.
- There are tens of thousands of diagnosis codes but only hundreds of DRGs. The process by which a hospital case is assigned a single DRG is called **grouping**.
- The process of DRG grouping uses information about the hospital case to determine the “most severe” DRG that the case qualifies for.



- A case may qualify for multiple DRGs, but the process of grouping will always find the most severe (highest paying) one.

API Request format

The API supports HTTP requests.

Authorization

Authorization is done via a HTTP header “bearer” token in this format:

```
Authorization: Bearer 255|eZ1rhMYgI13og[...]
```

You will be able to generate bearer tokens from the main dashboard at <https://api3.findacode.com> after you have registered and been granted access to one or more API endpoints.

Security note: Protect this token! Don't let your users have access to this authorization token, as they would be able to make API requests directly on your behalf. If you need to rotate your tokens, simply log in to <https://api3.findacode.com> and from the dashboard there you can create a new token and delete old tokens.

Input Format

The API supports “application/json” or “application/x-ndjson” encoded data requests, using appropriate “Content-Type” headers. See individual endpoints for more information.

API Response format

Responses come in json format. All responses will have a “success” attribute you can check to see if the request succeeded. If successful, responses then will also have a “data” attribute; unsuccessful responses will have an “error” attribute.

Successful request example

```
{
  "success":true,
  "data":
  {
    "attr1":"See individual API endpoint documentation ",
    "attr2":"for expected return attributes."
  }
}
```

Unsuccessful request example

```
{
  "success":false,
  "error":"Details as to why the request failed"
}
```

Additionally, endpoints will send applicable HTTP headers, such as:

200=ok

422=bad input

500=server error

API Endpoints

Endpoint List

These endpoints will be prefixed <https://api3.findacode.com>

Method	Endpoint	Description	Accepted content types
GET	/msdrg-grouper	Presents a webpage for DRG grouping	n/a
POST	/api/msdrg-grouper/group	Processes a single DRG grouping	application/json
POST	/api/msdrg-grouper/bulk/group	Processes groupings in bulk	application/x-ndjson
GET	/api/msdrg-grouper/bulk/status	Gives status on bulk groupings	n/a
GET	/api/msdrg-grouper/bulk/retrieve	Retrieves bulk grouping results	n/a
GET	/api/msdrg-grouper/icd10/lookup	Lookup ICD-10 code descriptions	n/a
GET	/api/msdrg-grouper/hospital/search	Lookup Hospitals by Hospital Provider Number (hpn)	n/a

MS-DRG Grouper example tool

There is also an example tool available at <https://api3.findacode.com/msdrg-grouper>

ICD-10 MS-DRG Grouper

Enter a ICD-10-CM principle diagnosis, as well as any ICD-10-CM secondary diagnoses and ICD-10-PCS procedures, in the boxes below. Additional boxes will appear as you type. When done, click the "group" button. The resultant DRG will display below.

Bearer Token	<input type="text"/>		
	<u>Codes</u>	<u>POA</u>	<u>Description (will appear for codes)</u>
Principal Diagnosis	<input type="text"/>	<input type="text"/>	
Secondary Diagnoses	<input type="text"/>	<input type="text"/>	
Procedures	<input type="text"/>		
Discharge Date	<input type="text" value="mm / dd / yyyy"/>		
Admitting Diagnosis	<input type="text"/>		
Age	<input type="text" value="(0-124)"/>		
Gender	<input type="text" value="0-Unknown"/>		
Discharge Status	<input type="text" value="01 - Discharged to home or self-care (Routine Discharge)"/>		
Hospital Provider	<input type="text" value="Search for a Hospital"/>		

If you open up your browser's devtools you can see that the requests and responses are using the standard API format as previously explained (see [API Request Format](#) and [API Response Format](#)).

Endpoint: POST */api/msdrg-grouper/group*

Description: Processes a DRG Grouping

Accepted request content types: **application/json**

Input variables

The following table outlines the input requirements.

Input	Title	Data Type
discharge_date	Date of discharge	String, required, format YYYY-MM-DD earliest supported date is 2015-10-01
pdx	Primary Diagnosis	String, required, ICD-10-CM* code
pdx_poa	Primary Diagnosis POA Indicator	String, optional**, Y/N/U/W/1. See below for valid input values.
admit_dx	Admitting Diagnosis	String, optional**, ICD-10-CM* code
sdx	Secondary Diagnoses	Array[string], optional**, ICD-10-CM* codes. Supports 0-24 codes.
sdx_poa	Present-on-Admission Flag	Array[string], optional**, Y/N/U/W/1. See below for valid input values.
proc	Procedures	Array[string], optional**, ICD-10-PCS codes. Supports 0-25 codes.
age	Age	Number (0-124), optional**
discharge_status	Status of Discharge	String, optional**, numeric, 2 characters (00-99). See below for valid input values.
gender	Patient Gender	String (M, F), optional**
hpn	Hospital Provider Number	Integer, format NNNNNN, optional.

* ICD-10-CM codes can be submitted with or without decimals.

** Many of these inputs are regarded as optional from an API's perspective, but will result in a "DRG=999 Ungroupable" result if they are needed semantically and not present for the grouper.

Example

POST <https://api3.findacode.com/api/msdrg-grouper/group>

Content-Type: application/json

Authorization: Bearer 255|eZlrhMYgI13og[...]

```
{ "pdx": "M16.12", "pdx_poa": "Y", "sdx": ["Z96.641", "K21.9", "N40.1", "R33.8", "E78.00", "Z79.82", "Z98.1"], "sdx_poa": ["Y", "Y", "Y", "Y", "N", "1", "1"], "proc": ["0SRB02A", "0T9B70Z"], "discharge_date": "2022-06-14", "admit_dx": "M16.12", "age": "85", "gender": "M", "discharge_status": "01", "hpn": "460001" }
```

Output format

Attribute	Explanation
drg	The resultant DRG code, 3 characters, zero-padded
version	The version of the DRG Grouper used for the grouping
inputs	The inputs submitted for the grouping
drg_info	<p>An object containing the following informational elements about the DRG:</p> <ul style="list-style-type: none"> • drg - the resultant DRG • title - the DRG title • post_acute - Yes/No, subject to reduced payment if the patient is discharged early and receives qualifying post-acute care • special_pay - Yes/No, if Special Pay logic applies with post-acute hospital transfers • mdc - the Major Diagnostic Category (MDC) this DRG belongs to • type - MED/SURG, if the drg is considered Surgical or not (Medical) • weight - the DRG weight • gmlos - the geometric mean length of stay • amlos - the arithmetic mean length of stay
payment_calculation	<p>An object containing the following informational elements about DRG payment calculation:</p> <ul style="list-style-type: none"> • provider - the name of the Hospital Provider • provider_date - YYYY-MM-DD, the date as of which the information for the Hospital Provider is valid • reduction_status - full/reduced, if the Hospital receives a full or reduced payment based on quality initiatives • operating_payment - decimal, the operating portion of payment • capital_payment - decimal, the capital portion of payment • total_payment - decimal, the total payment • cost_outlier_threshold - decimal, if costs exceed this amount the case is considered an outlier and qualifies for additional payment (requires hpn, will be 0 if hpn not supplied)
summary	<p>An array with information about the grouping process. Each element in the array will be another array with format [TYPE, MESSAGE, CODE]</p> <ul style="list-style-type: none"> • TYPE is INFO/INITIAL/PDx/SDx/Proc/FINAL, identifying the stage of the summary entry • MESSAGE is a string with summary detail • CODE is the code that the message applies to (optional) <p>If the DRG came back as 999=Ungroupable, review the table to see if there was more information that is required to make the case successfully group.</p>

Example json output

```

{
  "success": true,
  "data": {
    "drg": "470",
    "version": "391",
    "inputs": {
      "pdx": "M1612",
      "pdx_poa": "Y",
      "sdx": ["Z96641", "K219", "N401", "R338", "E7800", "Z7982", "Z981"],
      "sdx_poa": ["Y", "Y", "Y", "Y", "N", "1", "1"],
      "proc": ["OSRB02A", "OT9B70Z"],
      "discharge_date": "06\14\2022",
      "admit_dx": "M16.12",
      "age": "85",
      "gender": "1",
      "discharge_status": "1",
      "hpn": "460001"
    },
    "drg_info": {
      "drg": "470",
      "post_acute": "Yes",
      "special_pay": "No",
      "mdc": "08",
      "type": "SURG",
      "title": "MAJOR HIP AND KNEE JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY
WITHOUT MCC",
      "weight": 1.9003,
      "gmlos": 1.8,
      "amlos": 2
    },
    "payment_calculation": {
      "provider": "Utah Valley Hospital",
      "provider_date": "2021-12-17",
      "reduction_status": "full",
      "total_payment": 14563.03,
      "operating_payment": 13602.71,
      "capital_payment": 960.32,
      "cost_outlier_threshold": 137818.92
    },
    "summary": [
      ["INFO", "Version: 39.1", ""],
      ["INFO", "DRG status: OK, DRG assigned", ""],
      ["INFO", "MSG\MCE edit: MCE - No errors found", ""],
      ["INFO", "HAC Status: Not Applicable", ""],
      ["INITIAL", "Initial DRG: 470", ""],
      ["INITIAL", "Initial M\S Indicator: Surgical DRG", ""],
      ["INITIAL", "Initial DRG CC\MCC Usage: DRG assigned is not based on the presence of a CC
or MCC", ""],
      ["PDx", "Principal Diagnosis edit: Diagnosis affected both initial and final DRG
assignment", "M1612"],
      ["PROC", "Procedure #1 HAC assignment criteria: Procedure affected both initial and final
DRG assignment", "OSRB02A"],
      ["PROC", "Procedure #1 HAC assignment criteria: Procedure is an OR procedure", "OSRB02A"],
      ["FINAL", "Final M\S Indicator: Surgical DRG", ""],
      ["FINAL", "Final DRG CC\MCC Usage: DRG assigned is not based on the presence of a CC or
MCC", ""],
      ["FINAL", "Final MDC: 8 - DISEASES & DISORDERS OF THE MUSCULOSKELETAL SYSTEM & CONN
TISSUE", ""],
      ["FINAL", "Final DRG: 470", ""]
    ],
    "errors": []
  }
}

```


Endpoint: POST */api/msdrg-grouper/bulk/group*

Description: Processes DRG Groupings in bulk

Accepted request content types: **application/x-ndjson**

Request structure:

Same as “/api/msdrg-grouper/group” above, but with multiple groupings submitted, delimited with newlines (\n). [Read more about ndjson here](#).

Example:

```
{pdx:"A1816","pdx_poa":"","sdx":[],"sdx_poa":[],"proc":[],"discharge_date":"06\13\2022","admit_dx":"","age":"","gender":"","discharge_status":"1","hpn": "460001"}
{pdx:"E1111","pdx_poa":"","sdx":[],"sdx_poa":[],"proc":[],"discharge_date":"06\13\2022","admit_dx":"","age":"","gender":"","discharge_status":"1","hpn": "460001"}
```

Response content type: application/json

Response format:

```
{
  "success" : true,
  "grouping-id" : "{grouping-id}",
  "url" : "/api/msdrg-grouper/bulk/status?id={grouping-id}"
}
```

Note: Bulk files are limited to 100,000 groupings and 100MB at a time.

Endpoint: GET */api/msdrg-grouper/bulk/status?id={grouping-id}*

Description: Retrieves the status for a bulk grouping

Parameters: grouping-id, the id for the grouping as returned from the /bulk/group call

Response content type: application/json

Response format:

```
{
  "success": true,
  "status" : "requested|running|failed|completed"
}
```

Endpoint: GET */api/msdrg-grouper/bulk/retrieve?id={grouping-id}*

Description: Retrieves the output file of a bulk grouping

Parameters: grouping-id, the id for the grouping as returned from the */bulk/group* call

Response content type: application/x-ndjson

Response format: Same as */api/msdrg-grouper/group* above, but with multiple groupings in the file delimited by newlines, and without the summary:

```
{"drg":"759","version":"391","inputs":{"pdx":"A1816","pdx_poa":"","sdx":[],"sdx_poa":[],"proc":[],"discharge_date":"06\13\2022","admit_dx":"","age":"","gender":"","discharge_status":"1","hpn":""},"drg_info":{"drg":"759","post_acute":"No","special_pay":"No","mdc":"13","type":"MED","title":"INFECTIONS, FEMALE REPRODUCTIVE SYSTEM WITHOUT CC\MCC","weight":0.6834,"gmlos":2.7,"amlos":3.2},"payment_calculation":{"provider":"Unadjusted","provider_date":"","reduction_status":"full","total_payment":4506.5,"operating_payment":4183.54,"capital_payment":322.97,"cost_outlier_threshold":0},"errors":[]}  
{"drg":"639","version":"391","inputs":{"pdx":"E1111","pdx_poa":"","sdx":[],"sdx_poa":[],"proc":[],"discharge_date":"06\13\2022","admit_dx":"","age":"","gender":"","discharge_status":"1","hpn":""},"drg_info":{"drg":"639","post_acute":"Yes","special_pay":"No","mdc":"10","type":"MED","title":"DIABETES WITHOUT CC\MCC","weight":0.6096,"gmlos":2.1,"amlos":2.5},"payment_calculation":{"provider":"Unadjusted","provider_date":"","reduction_status":"full","total_payment":4019.85,"operating_payment":3731.76,"capital_payment":288.09,"cost_outlier_threshold":0},"errors":[]}
```

Note 1: if there was a problem with processing, this endpoint will return a 400 http code and application/json of the following format:

```
{  
  "success": false,  
  "message" : "Error message here",  
}
```

Endpoint: GET */api/msdrg-grouper/hospital/search?term=<term>*

Description: Pulls a list of Hospitals for the provided term

Parameters: term, a term or hospital provider number to search for

Response content type: application/json

Response format:

```
{
  "success": true,
  "hospitals": [
    {"label": "330239 - UPMC CHAUTAUQUA AT WCA", "value": "330239"},
    {"label": "360197 - MARY RUTAN HOSPITAL", "value": "360197"},
    {"label": "390199 - PUNXSUTAWNEY AREA HOSPITAL", "value": "390199"},
    {"label": "460001 - UTAH VALLEY HOSPITAL", "value": "460001"},
    {"label": "460009 - UNIVERSITY OF UTAH HOSPITALS AND CLINICS", "value": "460009"}
  ]
}
```

Endpoint: GET */api/msdrg-grouper/icd10/lookup?code_set=<code set>&code=<code>&date=<date>*

Description: Pulls the short and long descriptions for a code

Parameters:

- code_set: ICD10CM/ICD10PCS, the code set
- code: the code to find descriptions for
- date: the day to find description for

Response content type: application/json

Response format:

```
{
  "success": true,
  "data": {
    "code_set": "ICD10CM",
    "code": "E11.11",
    "short_descr": "Type 2 diabetes mellitus with ketoacidosis with coma",
    "long_descr": "Type 2 diabetes mellitus with ketoacidosis with coma\r\n"
  }
}
```

If no code is found for the date provided, this endpoint will return:

```
{
  "success": false,
  "error": "Description not found."
}
```

Appendix: Valid variable values

Valid “Discharge Status” values

Input	Definition
01	Discharged to home or self-care (Routine Discharge)
02	Discharged/transferred to a Short-Term General Hospital for inpatient care'
03	Discharged/transferred to a Skilled Nursing Facility (SNF) with Medicare Certification in anticipation of skilled care
04	Discharged/transferred to an facility that provides custodial or supportive care
05	Discharged/transferred to a Designated Cancer Center or Children's Hospital
06	Discharged/transferred to a Home Under Care of Organized Home Health Service Organization in anticipation of skilled care
07	Left Against Medical Advice (AMA) or discontinued care
09	Admitted as an Inpatient to this Hospital
20	Expired (dead)
21	Discharged/transferred to Court/Law Enforcement
30	Still Patient
40	Expired at Home
41	Expired in a Medical Facility (e.g., Hospital, SNF, ICF, or Free Standing Hospice)
42	Expired - place unknown
43	Discharged/transferred to a Federal Health Care Facility
50	Hospice - Home
51	Hospice - Medical Facility (certified) providing Hospice Level of Care
61	Discharged/transferred to a Hospital-Based Medicare Approved Swing Bed
62	Discharged/transferred to an Inpatient Rehabilitation Facility (IRF) Including rehabilitation distinct part units of a Hospital
63	Discharged/transferred to a Medicare Certified Long Term Care Hospital (LTCH)
64	Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare
65	Discharged/transferred to a Psychiatric Hospital or Psychiatric distinct part unit of a hospital
66	Discharged/transferred to a Critical Access Hospital (CAH)
69	Discharged/transferred to a designated disaster alternative care site
70	Discharged/transferred to another type of Health Care Institution not defined elsewhere in this code list

81	Discharged/transferred to home or self care with planned Acute Care Hospital Inpatient Readmission
82	Discharged/transferred to a Short Term Hospital with planned Acute Care Hospital Inpatient Readmission
83	Discharged/transferred to a Skilled Nursing Facility (SNF) with medicare certification with planned Acute Care Hospital Inpatient Readmission
84	Discharged/transferred to a facility that provides custodial or supportive care with planned Acute Care Hospital Inpatient Readmission
85	Discharged/transferred to a Cancer Center or Children's Hospital with planned Acute Care Hospital Inpatient Readmission
86	Discharged/transferred to a home under care of organized Home Health Service Organization with planned Acute Care Hospital Inpatient Readmission
87	Discharged/transferred to a Court/Law Enforcement with planned Acute Care Hospital Inpatient Readmission
88	Discharged/transferred to a Federal Health Care Facility with planned Acute Care Hospital Inpatient Readmission
89	Discharged/transferred to a Hospital-based Medicare Approved Swing Bed with planned Acute Care Hospital Inpatient Readmission
90	Discharged/transferred to an Inpatient Rehabilitation Facility (IRF) including rehabilitation distinct part units of a hospital with planned Acute Care Hospital Inpatient Readmission
91	Discharged/transferred to a Medicare Certified Long Term Care Hospital (LTCH) with planned Acute Care Hospital Inpatient Readmission
92	Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare with planned Acute Care Hospital Inpatient Readmission
93	Discharged/transferred to a Psychiatric Hospital or Psychiatric distinct part unit of a hospital with planned Acute Care Hospital Inpatient Readmission
94	Discharged/transferred to a Critical access hospital (CAH) with planned Acute Care Hospital Inpatient Readmission
95	Discharged/transferred to another type of Health Care Institution not defined elsewhere in this code list with planned Acute Care Hospital Inpatient Readmission

Valid "Present On Admission Flag" values

Input Value	Definition
Y	Yes
N	No
U	Insufficient Documentation
W	Clinically undetermined
1	Unreported/Exempt