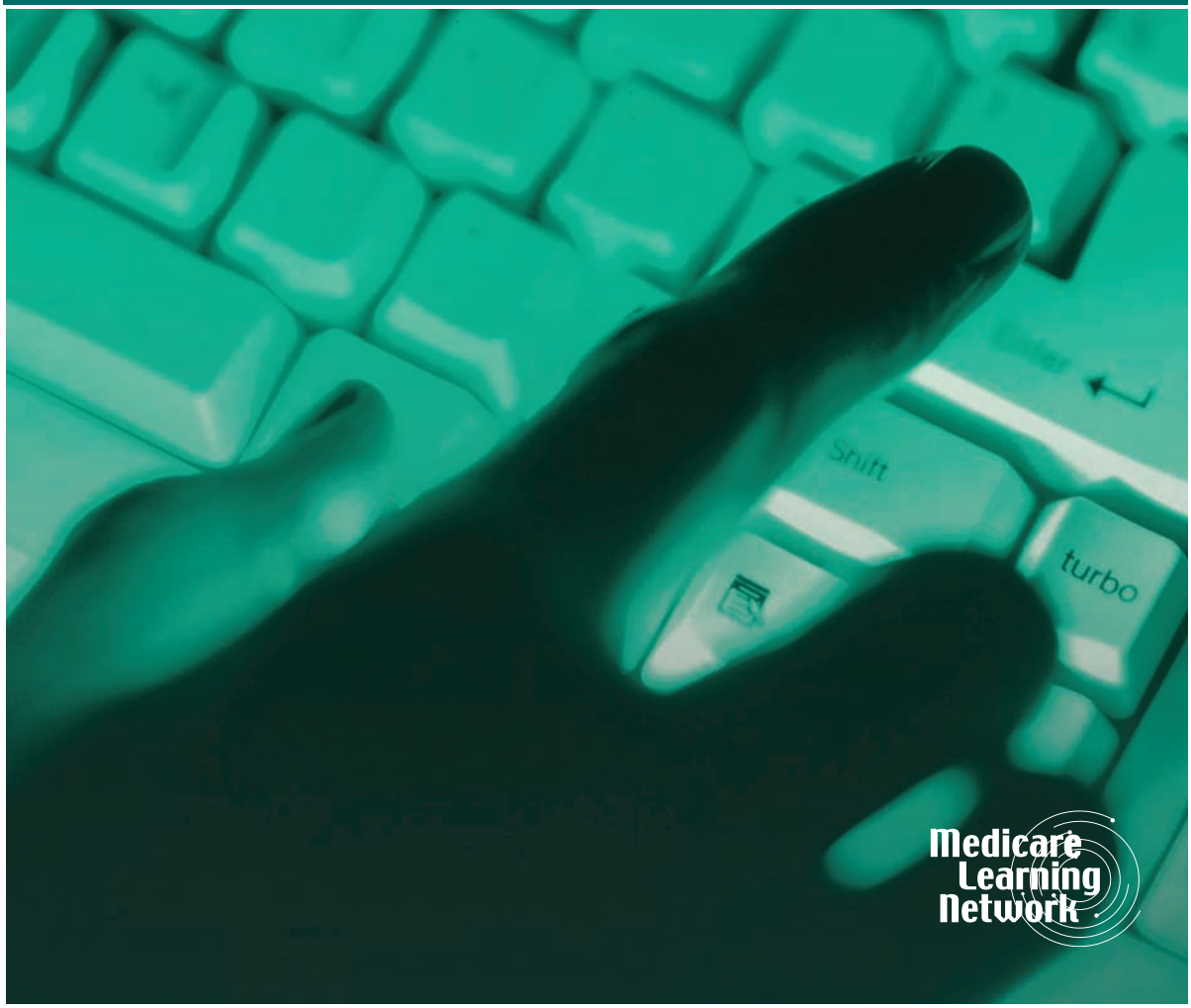
SECOND IN SERIES

General Equivalence Mappings

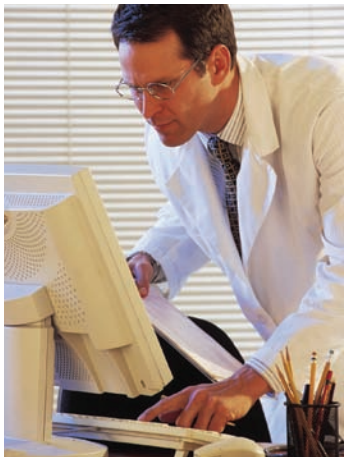
ICD-9-CM to and from ICD-10-CM and ICD-10-PCS



CMS
CENTERS for MEDICARE & MEDICAID SERVICES

Medicare Learning Network

Frequently Asked Questions



The Centers for Medicare & Medicaid Services (CMS) and the Centers for Disease Control and Prevention (CDC) created the national version of the General Equivalence Mappings (GEM) to ensure that consistency in national data is maintained. They have made a commitment to update the GEMs annually along with the updates to International Classification of Diseases, 10th Edition, Clinical Modification (ICD-10-CM) and Procedure Coding System (PCS) during the transition period prior to ICD-10 implementation. CMS and CDC will maintain the GEMs for at least three years beyond October 1, 2013, which is the compliance date for implementation of ICD-10 for all covered entities.

1 Are the General Equivalence Mappings a Substitute for Learning to Use the ICD-10-CM and ICD-10-PCS?

The GEMs are not a substitute for learning how to use the ICD-10-CM and ICD-10-PCS. Providers' coding staff will assign codes describing the patients' encounters from the ICD-10-CM and ICD-10-PCS code books or encoder systems. In coding individual claims, it will be more efficient and accurate to work from the medical record documentation and then select the appropriate code(s) from the coding book or encoder system. The GEMs are a tool to assist with converting larger International Classification of Diseases, 9th Edition, Clinical Modification (ICD-9-CM) databases to ICD-10-CM and ICD-10-PCS.

2 Who Can Use the General Equivalence Mappings?

The GEMs can be used by anyone who wants to convert coded data. Possible users of the GEMs include the following:

- All payers;
- All providers;
- Medical researchers;
- Informatics professionals;
- Coding professionals—to convert large data sets;
- Software vendors—to use within their own products;
- Organizations—to make mappings that suit their internal purposes or that are based on their own historical data; and
- Others who use coded data.

3 What are the General Equivalence Mappings?

The GEMs are a tool that can be used to convert data from ICD-9-CM to ICD-10-CM and PCS and vice versa. Mapping from ICD-10-CM and PCS codes back to ICD-9-CM codes is referred to as backward mapping. Mapping from ICD-9-CM codes to ICD-10-CM and PCS codes is referred to as forward mapping. The GEMs are a comprehensive translation dictionary that can be used to accurately and effectively translate any ICD-9-CM-based data, including data for:

- Tracking quality;
- Recording morbidity/mortality;
- Calculating reimbursement; or
- Converting any ICD-9-CM-based application to ICD-10-CM/PCS.

The GEMs are complete in their description of all the mapping possibilities as well as when there are new concepts in ICD-10 that are not found in ICD-9-CM. *All* ICD-9-CM codes and *all* ICD-10-CM/PCS codes are included in the collective GEMs:

- All ICD-10-CM codes are in the ICD-10-CM to ICD-9-CM GEM;
- All ICD-9-CM Diagnosis Codes are in the ICD-9-CM to ICD-10-CM GEM;
- All ICD-10-PCS codes are in the ICD-10-PCS to ICD-9-CM GEM; and
- All ICD-9-CM Procedure Codes are in the ICD-9-CM to ICD-10-PCS GEM.

4 How Have the General Equivalence Mappings Been Used to Date?

To date, the GEMs have been used to:

- Translate ICD-9-CM codes in the Official ICD-9-CM Coding Guidelines to aid in producing the Official ICD-10-CM Coding Guidelines;
- Convert version 26.0 of Medicare Severity Diagnosis Related Groups from an ICD-9-CM-based application to an ICD-10-CM/PCS-based application;
- Convert the Medicare Code Editor to a native ICD-10-CM/PCS-based application; and
- Produce a purpose-built ICD-10-CM/PCS to ICD-9-CM crosswalk for reimbursement called the ICD-10 Reimbursement Mappings.

5 What are the Reimbursement Mappings?

The Reimbursement Mappings were developed by CMS in response to non-Medicare industry requests for a "standard one-to-one reimbursement crosswalk," which is a temporary mechanism for mapping ICD-10-CM/PCS codes submitted on or after October 1, 2013 back to "reimbursement equivalent" ICD-9-CM codes. In order to develop the Reimbursement Mappings, CMS used the GEMs as a starting point by selecting the best ICD-9-CM code that maps to each ICD-10 code based on Medicare data. The Reimbursement Mappings identify the best matching ICD-9-CM code that can be used for reimbursement purposes for each ICD-10 code. *All* ICD-10-CM/PCS codes are in the Reimbursement Mappings; however, all ICD-9-CM codes are not in the Reimbursement Mappings. Where an ICD-10-CM/PCS code translates to more than one ICD-9-CM code, a single choice is required to create a functioning crosswalk. Inpatient hospital frequency data was used to aid in choosing a final ICD-9-CM translation in the crosswalk. If needed, the Reimbursement Mappings may be used to process ICD-10-CM/PCS-based claims received on or after October 1, 2013, with a legacy ICD-9-CM-based system as part of a planned transition period, until systems and processes are developed to process ICD-10-CM/PCS-based claims directly. The Reimbursement Mappings consist of two crosswalks:

- ICD-10-CM to ICD-9-CM for Diagnosis Codes; and
- ICD-10-PCS to ICD-9-CM for Procedure Codes.

CMS is *not* using the ICD-10 Reimbursement Mappings for *any* purpose. *We are converting our systems and applications to accept ICD-10-CM/PCS codes directly*.

6 Why Do We Need the General Equivalence Mappings?

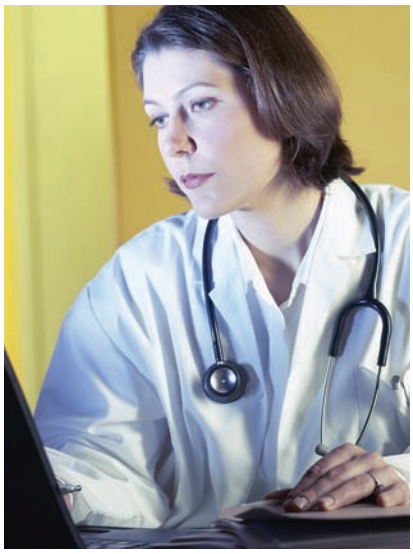
- ICD-10 is much more specific:
  - For diagnoses, there are 14,025 ICD-9-CM codes and 68,069 ICD-10-CM codes; and
  - For procedures, there are 3,824 ICD-9-CM codes and 72,589 ICD-10-PCS codes (in the 2009 versions of ICD-9-CM, ICD-10-CM, and ICD-10-PCS).
- One ICD-9-CM Diagnosis Code is represented by multiple ICD-10-CM codes:
  - **82002** Fracture of midcervical section of femur, closed
    - *From* S72031A Displaced midcervical fracture of right femur, initial encounter for closed fracture
    - *From* S72031G Displaced midcervical fracture of right femur, subsequent encounter for closed fracture with delayed healing
    - *From* S72032A Displaced midcervical fracture of left femur, initial encounter for closed fracture
    - *From* S72032G Displaced midcervical fracture of left femur, subsequent encounter for closed fracture with delayed healing
    - And other codes from the GEMs
- One ICD-10-CM Diagnosis Code is represented by multiple ICD-9-CM codes:

- **E11341** Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema
- To ICD-9 cluster:
  - — 25050 Diabetes with ophthalmic manisfestations, type II or specified type, not stated as uncontrolled
  - — 36206 Severe nonproliferative diabetic retinopathy
  - — 36207 Diabetic macular edema

➤ A few ICD-10-CM codes have no predecessor ICD-9-CM codes:
- T500x6A Underdosing of mineralocorticoids and their antagonists, initial encounter
- T501x6A Underdosing of loop [high-ceiling] diuretics, initial encounter
- T502x6A Underdosing of carbonic-anhydrase inhibitors, benzothiadiazides and other diuretics, initial encounter
- T503x6A Underdosing of electrolytic, caloric and water-balance agents, initial encounter
- T504x6A Underdosing of drugs affecting uric acid metabolism, initial encounter
- And others found in the GEMs

➤ One ICD-9-CM Procedure Code captured by multiple ICD-10-PCS codes:
- **8659** Suture of Skin and Subcutaneous Tissue of Other Sites
  - — *To* 0JQ10ZZ Repair Face Subcutaneous Tissue and Fascia, Open Approach
  - — *To* 0JQ13ZZ Repair Face Subcutaneous Tissue and Fascia, Percutaneous Approach
  - — *To* 0JQ40ZZ Repair Anterior Neck Subcutaneous Tissue and Fascia, Open Approach
  - — *To* 0JQ43ZZ Repair Anterior Neck Subcutaneous Tissue and Fascia, Percutaneous Approach
  - — And others found in the GEMs

7 How are the General Equivalence Mappings Files Formatted?



Below is an example from the ICD-10-CM diagnosis mapping:

➤ ICD-10-CM Source system code is on the left side;

➤ ICD-9-CM Target system code is in the middle; and

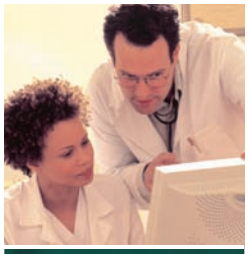
➤ Flags are on the right.

ICD-10-CM Source Code	ICD-9-CM Target Code	Flags
T1500xA	9300	10111
T1500xA	E914	10112
T1500xD	9300	10111
T1500xD	E914	10112
T1500xS	9085	10000

➤ **T1500xA** Foreign body in cornea, unspecified eye, initial encounter
- *To ICD-9 cluster:*
  - — 9300 Corneal foreign body
  - — E914 Foreign body accidentally entering eye and adnexa

➤ **T1500xD** Foreign body in cornea, unspecified eye, subsequent encounter
- *To ICD-9 cluster:*
  - — 9300 Corneal foreign body
  - — E914 Foreign body accidentally entering eye and adnexa

➤ **T1500xS** Foreign body in cornea, unspecified eye, sequela
- *To* 9085 Late effect of foreign body in orifice



The flags are read as:

- 1 = On
- 0 = Off

There are three different flags:

- "Approximate" is Flag 1, which is in column 1 of the flags:
  - 1 means the translation is an Approximate match
    - The majority of alternatives are considered an Approximate match
  - 0 means the translation is an Identical match
    - Rare in the Procedure GEMs
    - More common in the Diagnosis GEMs
  - Example of Diagnosis Approximate match (1), not Identical match
    - T1500xA 9300 **1**0111
    - T1500xA E914 **1**0112
    - Each of these codes is an Approximate match
  - Example of diagnosis Identical match (0)
    - 41411 12542 **0**0000
    - ICD-9-CM code 414.11 is an Identical match to ICD-10-CM code 12542
- "No Map" is Flag 2, which is in column 2 of the flags:
  - 1 means there is *no* plausible translation for the source system code
  - 0 means there is at least one plausible translation for the source system code
  - Notice the NODX "No Description Found" entry instead of a code number in middle column

    T500x6A NODX 1**1**000

    T500x6D NODX 1**1**000

    T500x6S NODX 1**1**000
    - **T500x6A** Underdosing of mineralocorticoids and their antagonists, initial encounter
    - *To* NODX No description found
    - **T500x6D** Underdosing of mineralocorticoids and their antagonists, subsequent encounter
    - *To* NODX No description found
    - **T500x6S** Underdosing of mineralocorticoids and their antagonists, sequela
    - *To* NODX No description found
- "Combination" is Flag 3, the scenario and choice list flags:
  - 1 means code maps to more than one code
  - 0 means the code maps to a single code
  - Flags 4 and 5 further clarify combination entries (See the User's Guides for complete information on these flags)

ICD-10-CM Source Code	ICD-9-CM Target Code	Flags
T1500xA	9300	10**1**11
T1500xA	E914	10**1**12
T1500xD	9300	10**1**11
T1500xD	E914	10**1**12
T1500xS	9085	10**0**00

— **T1500xA** Foreign body in cornea, unspecified eye, initial encounter

— *To ICD-9 cluster* (Flag 3 is 1)

— 9300 Corneal foreign body

— E914 Foreign body accidentally entering eye and adnexa

— **T1500xD** Foreign body in cornea, unspecified eye, subsequent encounter

— *To ICD-9 cluster* (Flag 3 is 1)

— 9300 Corneal foreign body

— E914 Foreign body accidentally entering eye and adnexa

— **T1500xS** Foreign body in cornea, unspecified eye, sequela (Flag 3 is 0)

— *To* 9085 Late effect of foreign body in orifice

8 Is There a One-to-One Match Between ICD-9-CM and ICD-10?

No, there is not a one-to-one match between ICD-9-CM and ICD-10, for which there are a variety of reasons including:

- There are new concepts in ICD-10 that are not present in ICD-9-CM;
- For a small number of codes, there is no matching code in the GEMs;
- There may be multiple ICD-9-CM codes for a single ICD-10 code; and
- There may be multiple ICD-10 codes for a single ICD-9-CM code.

9 Are There Instances When it is Not Necessary to Use the General Equivalence Mappings?

In the following instances, it may not be necessary to use the GEMs:

- When a small number of ICD-9-CM codes are being converted to ICD-10-CM and PCS codes, it may be quicker, easier, and more accurate to simply look up the codes in an ICD-10-CM or PCS book; and
- When ICD-10 is implemented on October 1, 2013, coders will use coding books or encoder systems to code rather than using the GEMs.

This fact sheet was prepared as a service to the public and is not intended to grant rights or impose obligations. This fact sheet may contain references or links to statutes, regulations, or other policy materials. The information provided is only intended to be a general summary. It is not intended to take the place of either the written law or regulations. We encourage readers to review the specific statutes, regulations, and other interpretive materials for a full and accurate statement of their contents.

The Medicare Learning Network (MLN) is the brand name for official CMS educational products and information for Medicare fee-for-service providers. For additional information visit the Medicare Learning Network's web page at http://www.cms.hhs.gov/MLNGenInfo on the CMS website.

ICD-9-CM Notice
The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) is published by the United States Government. A CD-ROM, which may be purchased through the Government Printing Office, is the only official Federal government version of the ICD-9-CM. ICD-9-CM is an official Health Insurance Portability and Accountability Act standard.

ICN: 901963 May 2009

HELPFUL WEB SITES

General ICD-10 Information
http://www.cms.hhs.gov/ICD10

General Equivalence Mappings and User's Guides
http://www.cms.hhs.gov/ICD10/01m_2009_ICD10PCS.asp

http://www.cms.hhs.gov/ICD10/02m_2009_ICD_10_CM.asp