

# Bridging the Translation Gap from ICD-9

[Save to myBoK](#)

by Rhonda Butler

A recurring theme in the ongoing ICD-10 implementation debate has been the need for a crosswalk between the old and new code sets to help the industry make the transition. The lack of an “official” mapping between ICD-9-CM and ICD-10-CM/-PCS has long been seen as a major challenge to ICD-10 implementation. The General Equivalence Mappings (GEMs) are an attempt to meet that challenge.

---

## Excerpt from a GEM File

ICD-9 Code	Description	ICD-10 Code	Description	Approximate	No Map	Combination	Scenario	Choice List
599.7	Hematuria	R31.0	Gross hematuria	1	0	0	0	0
599.7	Hematuria	R31.1	Benign essential microscopic hematuria	1	0	0	0	0
599.7	Hematuria	R31.2	Other microscopic hematuria	1	0	0	0	0
599.7	Hematuria	R31.9	Hematuria, unspecified	1	0	0	0	0

The GEMs present the code in the source system followed by a possible equivalent in the target system. Attributes further characterize the match. In this instance, the single ICD-9 code for hematuria links to multiple ICD-10-CM codes, three of which carry greater specificity.

The GEMs are provided as text files for maximum flexibility. In the first entry above, code 599.7, Hematuria, appears in the text file as 5977 R310 10000.

---

## What Are GEMs?

The GEMs are the product of a coordinated effort spanning several years and involving the National Center for Health Statistics, the Centers for Medicare and Medicaid Services, AHIMA, the American Hospital Association, and 3M Health Information Systems.

The GEM files are a public domain reference mapping designed to give all sectors of the healthcare industry that use coded data a tool to convert and test systems, link data in long-term clinical studies, develop application-specific mappings, and analyze data collected during the transition period and beyond.

It would be impossible to produce a “one size fits all” set of mappings because a mapping is heavily dependent on its purpose. A map for reimbursement uses different rules and contains different entries than a map for research.

The GEMs are more than simple crosswalks. They cannot be used in a legacy system in unaltered form to get from a code in one set to a code in the other. A clear one-to-one correspondence between an I-9 or I-10 code is the exception rather than the rule.

It is useful to think of GEMs as two-way translation dictionaries for diagnosis and procedure codes from which crosswalks can be made for specific purposes. They elucidate the differences between the code sets and assist users in making informed decisions about how to link the codes in a way that meets their needs.

While ICD-9-CM diagnosis codes and ICD-9-CM procedure codes are maintained by two different government entities, the GEMs were developed separately but collaboratively to maintain consistency insofar as possible. The resulting files can be merged seamlessly as needed—subsets extracted, analyzed, and applied—without taking extra steps to make them compatible.

## How GEMs Work

The diagnosis and procedure GEMs use the same method and format. They consist of two mappings for the diagnosis codes and two mappings for the procedure codes: one in which ICD-9 is the source system and one in which ICD-10 is the source system. Technical documentation and a user's guide accompany the files.

The code in the source system is followed by a possible equivalent in the target system, then followed by the attributes that further characterize the information in that row of the entry (e.g., whether the codes are an approximate match or not). The codes, their descriptions, and the attributes can be loaded into a database for developing applied mappings for training or to extract subsets of the files for testing.

The mapping entry for ICD-9-CM diagnosis code 599.7, Hematuria, is highlighted in the table below, as it would appear with descriptions added and attributes labeled. The documentation and user's guide define all attributes and demonstrate how they are used.

Excerpted from: Butler, Rhonda. "The ICD-10 General Equivalence Mappings: Bridging the Translation Gap from ICD-9." *Journal of AHIMA* 78, no. 9 (Oct. 2007). Available online in the FORE Library: HIM Body of Knowledge at [www.ahima.org](http://www.ahima.org).

---

**Article citation:**

Butler, Rhonda R.. "Bridging the Translation Gap from ICD-9" *Journal of AHIMA* 79, no.3 (March 2008): 31.

---

Driving the Power of Knowledge

Copyright 2022 by The American Health Information Management Association. All Rights Reserved.