

The General Equivalence Mappings

GEM Files Summary Sheet

Use the GEMs When...

- You are translating lists of codes, code tables, or other coded data
- You are converting a system or application containing ICD-9-CM codes
- You are creating a “one-to-one” applied mapping (aka crosswalk) between code sets that will be used in an ongoing way to translate records or other coded data
- You want to study the differences in meaning between the ICD-9-CM classification systems and the ICD-10-CM/PCS classification systems by looking at the GEMs entries for a given code or area of classification

Use the ICD-10-CM/PCS and ICD-9-CM Code Books When...

- You have a short list of ICD-9-CM codes with their code descriptions
- You have access to the medical record
- You have access to other forms of clinical information, such as text descriptions or clinical terms from surveys, research, or clinical software applications

Note: A medical record that will be processed and stored as ICD-10 data should always be coded directly in ICD-10-CM/PCS, using the code books or an encoder.

GEMs Files at a Glance

| ICD-10-CM (diagnosis) GEM | ICD-9-CM diagnosis GEM | ICD-10-PCS (procedure) GEM | ICD-9-CM procedure GEM |
|---|---|--|---|
| [year]_I10gem.txt | [year]_I9gem.txt | gem_pcsi9.txt | gem_i9pcs.txt |
| ICD-10-CM is the code to be translated (source system) | ICD-9-CM is the code to be translated (source system) | ICD-10-PCS is the code to be translated (source system) | ICD-9-CM is the code to be translated (source system) |
| Contains all ICD-10-CM codes <i>Note:</i> Each GEM file contains all of the source system codes for that GEM, but not all of the target system codes | Contains all ICD-9-CM diagnosis codes <i>Note:</i> Each GEM file contains all of the source system codes for that GEM, but not all of the target system codes | Contains all ICD-10-PCS codes <i>Note:</i> Each GEM file contains all of the source system codes for that GEM, but not all of the target system codes | Contains all ICD-9-CM procedure codes <i>Note:</i> Each GEM file contains all of the source system codes for that GEM, but not all of the target system codes |
| Translation determined by ICD-10-CM meaning and specificity <i>Note:</i> The GEM translation is determined by the meaning and specificity of the source system code | Translation determined by ICD-9-CM meaning and specificity <i>Note:</i> The GEM translation is determined by the meaning and specificity of the source system code | Translation determined by ICD-10-PCS meaning and specificity <i>Note:</i> The GEM translation is determined by the meaning and specificity of the source system code | Translation determined by ICD-9-CM meaning and specificity <i>Note:</i> The GEM translation is determined by the meaning and specificity of the source system code |
| Contains ICD-9-CM clusters | Contains ICD-10-CM clusters | Contains ICD-9-CM clusters | Contains ICD-10-PCS clusters |
| Contains entries with no target system translation (No Map Flag is 1) | Contains entries with no target system translation (No Map Flag is 1) | All source system entries have a target system translation (No Map Flag is 0) | Contains entries with no target system translation (No Map Flag is 1) |
| Recommended use --Convert an existing application that uses ICD-9-CM codes to ICD-10-CM --Create a backward mapping from ICD-10-CM to ICD-9-CM --Research the translation differences between the two diagnosis code sets | Recommended use --Convert stored data containing ICD-9-CM codes to ICD-10-CM --Research the translation differences between the two diagnosis code sets | Recommended use --Convert an existing application that uses ICD-9-CM codes to ICD-10-PCS -- Create a backward mapping from ICD-10-PCS to ICD-9-CM --Research the translation discontinuities between the two procedure code sets | Recommended use --Convert stored data containing ICD-9-CM codes to ICD-10-PCS --Research the translation discontinuities between the two procedure code sets |

Using GEMs File(s) for Specific Projects

| Mapping Project | GEMs File to Use | How to Use the GEMs File |
|--|---|---|
| Convert an existing system or application that uses ICD-9-CM codes to an ICD-10-CM/PCS based system | ICD-10-CM (diagnosis) GEM <i>[year]_l10gem.txt</i> ICD-10-PCS (procedure) GEM <i>gem_pcsi9.txt</i> | -- Re-sort the file so that you can look up the relevant GEMs entry based on the ICD-9-CM code. (aka reverse lookup) -- Find all translation alternatives for the ICD-9-CM code(s) in your applications list or table -- Replace the ICD-9-CM code(s) with the ICD-10-CM/PCS translation alternatives -- Review the translated ICD-10-CM/PCS list for relevance of the code detail to the specific use for the list and application |
| Convert an existing data warehouse or other stored data containing ICD-9-CM codes to ICD-10-CM/PCS (create a forward mapping) | ICD-9-CM diagnosis GEM <i>[year]_l9gem.txt</i> ICD-9-CM procedure GEM <i>gem_i9pcs.txt</i> | -- Find all GEMs entries for every ICD-9-CM code that contains multiple ICD-10-CM/PCS translation alternatives --Based on a consistent set of rules or reference data, choose one ICD-10-CM/PCS mapping for each ICD-9-CM code that translates to multiple ICD-10-CM/PCS alternatives <i>Note:</i> Because of translation differences between the two systems, “one” ICD-9-CM code may map to “one” ICD-10-CM/PCS cluster |
| Create a “one to one” backward mapping from ICD-10-CM/PCS to ICD-9-CM for a specific purpose | ICD-10-CM (diagnosis) GEM <i>[year]_l10gem.txt</i> ICD-10-PCS (procedure) GEM <i>gem_pcsi9.txt</i> | -- Find all GEMs entries for every ICD-10-CM/PCS code that contains multiple ICD-9-CM translation alternatives --Based on a consistent set of rules or reference data (rules that pick the correct code for a service area or the most frequently recorded ICD-9-CM code), choose one ICD-9-CM mapping for each ICD-10-CM/PCS code that translates to multiple ICD-9-CM alternatives <i>Note:</i> Because of translation differences between the two systems, “one” ICD-10-CM/PCS code may map to “one” ICD-9-CM cluster. |
| Research the translation differences between the two diagnosis code sets, for your own understanding or for planning future changes to a system or application | ICD-10-CM (diagnosis) GEM <i>[year]_l10gem.txt</i> ICD-9-CM diagnosis GEM <i>[year]_l9gem.txt</i> | -- Find the code of interest in both GEM files -- Compare the translation alternatives for the code of interest, when it is the source system code (the code being translated) and when it is the target system code (a translation alternative of a code in the other code set). -- <i>Note:</i> The code of interest may not be listed as a target system alternative. |

| | | |
|--|---|--|
| | | This in itself is useful information, to learn that the code is not considered a plausible translation based on the meaning and specificity of the source system code. |
| Research the translation discontinuities between the two procedure code sets, for your own understanding or for planning future changes to a system or application | <p>ICD-10-PCS (procedure) GEM <i>gem_pcsi9.txt</i></p> <p>ICD-9-CM procedure GEM <i>gem_i9pcs.txt</i></p> | <p>-- Find the code of interest in both GEM files</p> <p>--Compare the translation alternatives for the code of interest, when it is the source system code (the code being translated) and when it is the target system code (a translation alternative of a code in the other code set).</p> <p>--<i>Note</i>: The code of interest may not be listed as a target system alternative. This in itself is useful information, to learn that the code is not considered a plausible translation based on the meaning and specificity of the source system code.</p> |

Glossary

Applied mapping—distillation of a reference mapping to conform to the needs of a particular application (e.g., data quality, research)

Backward mapping—mapping that proceeds from a newer code set to an older code set

Cluster—in a combination entry, one instance where a code is chosen from each of the choice lists in the target system entry, that when combined satisfies the equivalent meaning of the corresponding code in the source system

Forward mapping—mapping that proceeds from an older code set to a newer code set

General Equivalence Map (GEM)—reference mapping that attempts to include all valid relationships between the codes in the ICD-9-CM diagnosis classification and the ICD-10-CM diagnosis classification

ICD-9-CM—International Classification of Diseases 9th Revision Clinical Modification

ICD-10-CM—International Classification of Diseases 10th Revision Clinical Modification

No map flag—attribute in a GEM that when turned on indicates that a code in the source system is not linked to any code in the target system

Reverse lookup—using a GEM by looking up a target system code to see all the codes in the source system that translate to it

Source system—code set of origin in the mapping; the set being mapped ‘from’

Target system—destination code set in the mapping; the set being mapped ‘to’