

Strategies to Transitioning from ICD-9 to ICD-10 codes

Atar Baer, MPH, PhD
Epidemiologist
Public Health – Seattle & King County

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Strategy 1:

1. Review every ICD-10 code individually
2. Assign each code into a syndrome group
3. Reverse-translate ICD-10 to ICD-9 codes

ICD10 Code	Description	ICD-9 Code	Final DNBI Mappings
L571	ACTINIC RETICULOID	69273	Dermatologic
A060	ACUTE AMEBIC DYSENTERY	0060	Gastrointestinal
H65113	ACUTE AND SUBACUTE ALLERGIC OTITIS MEDIA (MUCOID) (SANGUINOUS) (SEROUS), BILATERAL	38100	Upper Respiratory

Disadvantage:

Sometimes groups of codes, rather than individual codes, constitute a syndrome classification

e.g.

fever *plus* cough = ILI

Need more than just a master index table for the conversion to account for one-to-many and many-to-one relationships

Strategy 2:

Starting with the syndromes of interest, rather than translating universe of all ICD-9 or -10 codes, may be more manageable

e.g.

Febrile

Upper respiratory

Lower respiratory

ILI

Gastrointestinal

Rash

Identify all ICD-9 and ICD-10 codes in the syndrome

Translate ICD-9 to ICD-10
Reverse-translate ICD-10 to ICD-9

ICD-9 Description	ICD-9 Code	ICD-10 Code	ICD-10 Description
DIARRHEA	787.9	K522	Allergic and dietetic gastroenteritis and colitis
Noninf gastroenterit NEC	558.9	K5289	Other specified noninfective gastroenteritis and colitis
INFECTIOUS DIARRHEA	9.2	A09	Infectious gastroenteritis and colitis, unspecified
DIARRHEA OF PRESUMED INFECTIOUS ORIGIN	9.3	A09	Infectious gastroenteritis and colitis, unspecified
FUNCTIONAL DIARRHEA	564.5	K59.1	Functional diarrhea
DIARRHEA	787.91	R197	Diarrhea, unspecified
DIARRHEA	787.91	K5289	Other specified noninfective gastroenteritis and colitis
INFECTIOUS COLITIS ENTERITIS AND GASTROENTERITIS	9.0	A09.0	Other and unspecified gastroenteritis and colitis of infectious origin
COLITIS ENTERITIS AND GASTROENTERITIS OF PRESUMED INFECTIOUS ORIGIN	9.1	A09	Infectious gastroenteritis and colitis, unspecified

Example of Strategy 2:

“Vomiting” sub-syndrome

First, identify all the ICD-9 codes associated with vomiting

Use the CMS ICD-9 code lookup tool to identify codes:

<http://www.cms.gov/medicare-coverage-database/staticpages/icd-9-code-lookup.aspx>



The screenshot shows a web browser window titled "ICD-9 Code Lookup - Windows Internet Explorer". The address bar displays the URL: <http://www.cms.gov/medicare-coverage-database/staticpages/icd-9-code-lookup.aspx?Keyword=vomiting&bc=AAAAAAA>. The page header includes the CMS.gov logo and "Centers for Medicare & Medicaid Services". Below the header, there is a search section titled "Find ICD-9 Code Lookup" with instructions: "Enter a keyword to conduct your search for ICD-9 Codes. After searching, select an ICD-9 Code link from the results table to populate the corresponding text box and close the pop-up window." The search input field contains "vomiting" and a "Search" button. Below the search section is a table with two columns: "ICD-9 CODE" and "ICD-9 CODE DESCRIPTION".

ICD-9 CODE	ICD-9 CODE DESCRIPTION
078.82	EPIDEMIC VOMITING SYNDROME
307.54	PSYCHOGENIC VOMITING
536.2	PERSISTENT VOMITING
564.3	VOMITING FOLLOWING GASTROINTESTINAL SURGERY
569.87	VOMITING OF FECAL MATTER
643.20	LATE VOMITING OF PREGNANCY UNSPECIFIED AS TO EPISODE OF CARE
643.21	LATE VOMITING OF PREGNANCY DELIVERED
643.23	LATE VOMITING OF PREGNANCY ANTEPARTUM
643.80	OTHER VOMITING COMPLICATING PREGNANCY UNSPECIFIED AS TO EPISODE OF CARE
643.81	OTHER VOMITING COMPLICATING PREGNANCY DELIVERED
643.83	OTHER VOMITING COMPLICATING PREGNANCY ANTEPARTUM
643.90	UNSPECIFIED VOMITING OF PREGNANCY UNSPECIFIED AS TO EPISODE OF CARE
643.91	UNSPECIFIED VOMITING OF PREGNANCY DELIVERED
643.93	UNSPECIFIED VOMITING OF PREGNANCY ANTEPARTUM
779.32	BILIOUS VOMITING IN NEWBORN
779.33	OTHER VOMITING IN NEWBORN
787.01	NAUSEA WITH VOMITING
787.03	VOMITING ALONE

Decide* which codes you want to keep, and which codes you want to toss out

Probably don't want codes of this sort:

Pregnancy-related vomiting
Bilious newborn vomiting
Vomiting following surgery
Psychogenic vomiting
Vomiting of fecal matter

*May need clinical guidance to aid with decision-making

Next, use a conversion tool to map each of the ICD-9 codes to ICD-10 codes

Example: <http://www.aapc.com/ICD-10/codes/index.aspx>



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ICD-10 Implementation

What is your Progress?

YOU

ON TRACK
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WARNING

Countdown to ICD-10

[Home](#) > [ICD-10 Implementation](#) > [ICD-10 Codes](#) > Code Online Translator Tool

ICD-10 Code Translator

The ICD-10 code online translator tool allows you to compare ICD-9 to ICD-10 codes. ICD-9 is being expanded from 17,000 to approximately 141,000 ICD-10 codes, and this online tool can help you [map](#) that expansion. (Note: this tool only converts ICD-10-CM codes, not ICD-10-PCS.)

Note: For a better explanation of the code format, please refer to our [ICD-10 conversion and mapping tutorial](#). For help with mapping, consider our [ICD-10 mapping services](#).

- ICD-9 to ICD-10
- ICD-10 to ICD-9

Enter Code:

ICD-9 787.03 > ICD-10

CODE	DESCRIPTOR
R11.10	Vomiting, unspecified
R11.11	Vomiting without nausea
R11.12	Projectile vomiting

Then, use a tool to identify ICD-10 codes associated with that syndrome

There may be new descriptors that did not exist in the ICD-9 world, so you want to make sure you capture these codes in your classification schema

<http://apps.who.int/classifications/icd10/browse/2010/en>

Again, use clinical judgment to decide which concepts to keep

ICD-10 Version:2010 - Windows Internet Explorer

http://apps.who.int/classifications/icd10/browse/2010/en

File Edit View Favorites Tools Help

ICD-10 Version:2010

ICD-10 Version:2010

Search vomiting [Advanced Search]

ICD-10 Versions - Languages Info

- **Vomiting** associated with other psychological disturbances
- **Vomiting** following gastrointestinal surgery
- Excessive **vomiting** in pregnancy
- Late **vomiting** of pregnancy
- Other **vomiting** complicating pregnancy
- **Vomiting** of pregnancy, unspecified
- **Vomiting** in newborn
- Nausea and **vomiting**
- Psychogenic **vomiting**
- Erosion of teeth: due to: persistent **vomiting**
- Excessive **vomiting** starting after 22 completed weeks of gestation
- **Vomiting** due to diseases classified elsewhere, complicating pregnancy
- Diarrhea, diarrheal (disease) (infantile) - and **vomiting**, epidemic A08.1
- **Disease_diseased - winter vomiting (epidemic) A08.1**

Classification of Diseases and Related Health Problems 10th Revision

Using the hierarchy on the left or by using the search functionality

Online browser is available in the Help

Done Internet | Protected Mode: Off 100%

Next, use a conversion tool to map each of the ICD-10 codes to ICD-9 codes

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- ICD-9 to ICD-10
- ICD-10 to ICD-9

Enter Code:

ICD-10 R11.2 > ICD-9

<u>CODE</u>	<u>DESCRIPTOR</u>
787.01	Nausea with vomiting

Finally:

Annotate your translations with notes or questions to share with colleagues

Swap code sets with colleagues and identify/discuss areas where translations are not the same so that we can improve our syndrome definitions

ICD-9 Description	ICD-9 Code	ICD-10 Code	ICD-10 Description	Notes
NAUSEA WITH VOMITING	787.01	R11.2	Nausea with vomiting, unspecified	Include the entire R11 group?
VOMITING ALONE	787.03	R11.10	Vomiting, unspecified	
		R11.11	Vomiting without nausea	
		R11.12	Projectile vomiting	

Syndrome Classification Exercise

1. **Using Influenza-Like-Illness (ILI) or Heat-Related Illness (HRI) syndromes, translate related ICD-9 codes to ICD-10 codes.**

<http://www.aapc.com/ICD-10/codes/index.aspx>

or

<http://www.icd10data.com/Convert>

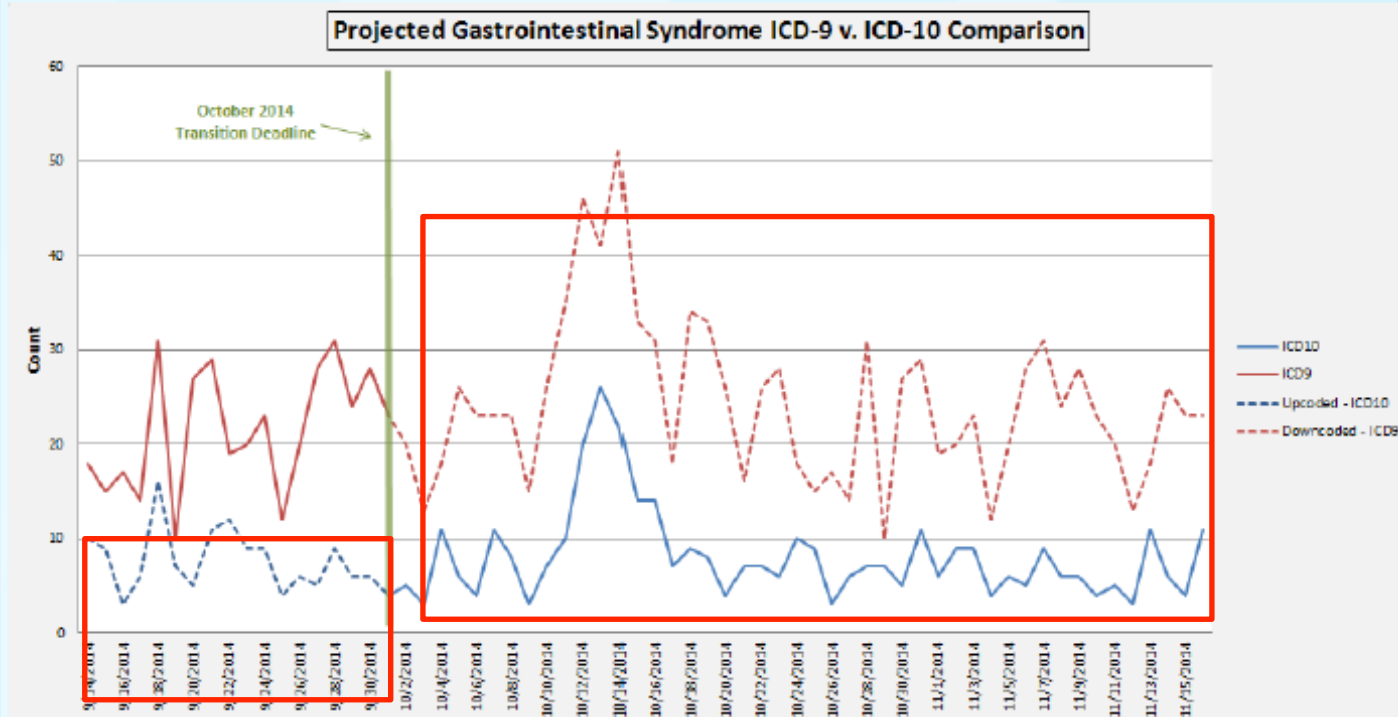
2. **Next, reverse translate related ICD-10 codes to ICD-9 codes.**
3. **Compare results.**

Other ICD-10 Conversion Challenges

1. What if providers don't send ICD-10 codes beginning 10/1/2014?
 - a. What accommodations will have to be made?
2. DB changes
 - a. Will there be a need for separate ICD-9/ICD-10 fields in the Diagnosis Code Table?
 - b. How can one distinguish between an HL7 DG1 ICD-9 and ICD-10 code?
3. Impact on analysis
 - a. Assignment of ICD-10 codes to ICD-9 historical baselines (What code should be chosen or specific condition?)
 - b. Assignment of ICD-9 codes to ICD-10 baselines
 - c. How do we reconcile with non-conforming provider data?

Baseline Development Challenge

Potential impact on time series analysis



Once you've translated your syndrome classifications, how
do you analyze your data to
address the “changing baseline” problem?

Two potential strategies (among many*):

- (1) Reverse-translate ICD-10 → ICD-9
- (2) “Upcode” ICD-9 → ICD-10

* CoP should help identify other strategies

These strategies are difficult to implement because of the

many-to-one

and

one-to-many

relationships among code sets

Another strategy:

Search through both the ICD-9 and ICD-10 universes when creating syndrome classifications

```
If ICD-9 is __ or __  
or __ or __ or __  
or __ or __ or __  
then syndrome_9=1;  
else syndrome_9=0
```

```
If ICD-10 is __ or __  
or __ or __ or __  
or __ or __ or __  
then syndrome_10=X;  
else syndrome_10=0
```

If syndrome_9=1 or syndrome_10=1 then syndrome=1; else syndrome=0

By **separating out** ICD-9 and ICD-10 codes, you can analyze how implementation of ICD-10 affects changes in baseline and long-term trends

In some settings,
you may be able to ask hospitals to send

ICD-9 codes in one field,
and
ICD-10 codes in a separate field

Or you may receive data (e.g., HL7) with:

all diagnostic codes in one field

and

type of code (ICD-9 or ICD-10) in a separate field

You may need to
programmatically
identify and separate the code sets

In some systems, the diagnosis field is a catch-all for all sorts of codes:

presumptive
final
admitting
discharge
billing

There may be delimiters denoting multiple codes per patient. e.g.:

Patient 1: 036.0, 787.03, 780.6, 782.1

Patient 2: 787.9, 787.01

Patient 3: 789, E865, 988.1

One option is to leverage the
date of visit
and create two separate fields:

ICD-9 field (visits prior to Oct 1, 2014)
ICD-10 field (visits after Oct 1, 2014)

But **it's possible** that not all hospitals/providers in your jurisdiction will adopt the changes exactly on that date.

So after October 1, 2014, you may start to receive data that have a mixture of ICD-9 and ICD-10 codes in a single diagnosis field:

Hospital 1, patient 1: 036.0, 787.03, 780.6, 782.1

Hospital 1, patient 2: 787.9, 787.01

Hospital 1, patient 3: 789, E865, 988.1

Hospital 2, patient 1: T61.01XA, R10, R11.10

Hospital 2, patient 2: A37, G44.1

Hospital 2, patient 3: A83.2

Fortunately, the universe of ICD-9 codes and ICD-10 codes
looks nothing alike

ICD-9 codes were mostly numeric (E- and V-codes are some exceptions),
ICD-10 codes are alphanumeric

So it's unlikely that by calling out a specific set of ICD-10 codes, you would accidentally confuse these with ICD-9 codes

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558.9	K5289
9.2	A09
9.3	A09
564.5	K59.1
787.91	R197
787.91	K5289
9.0	A09.0
9.1	A09

If index(diagnosis, "787.9") or index(diagnosis, "558.9") or index(diagnosis, "9.2"), or index(diagnosis,"9.3") or index(diagnosis, "564.5") or index(diagnosis, "787.91") or index(diagnosis, "9.0") or index(diagnosis,"9.1") then **diarrhea_9**=1; else **diarrhea_9**=0;

If index(diagnosis, "K522") or index(diagnosis, "K5289") or index(diagnosis, "A09"), or index(diagnosis,"K59.1") or index(diagnosis, "R197") or index(diagnosis, "K5289") or index(diagnosis, "A09.0") then **diarrhea_10**=1; else **diarrhea_10**=0;

Need to create rules to handle placement of decimals and zeros

No surprise, not all hospitals send codes in the same way – need to programmatically standardize the code formats before ingesting them into a syndrome classifier.

