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Extreme Makeover - ICD-10 Code Edition: Demystifying the Conversion Toolkit

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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.



Conflict of Interest Disclosure

Deborah Kohn
has no real or apparent
conflicts of interest to report.



Learning Objectives

By attending this session, attendees will be able to:

- describe the differences between the plethora of available tools to assist in the ICD-10 implementation and conversion processes
- define the various types of vendor-provided and government-provided ICD-10 conversion tools
- develop a legacy database "purpose-built map" for ICD-10 conversion, if required
- determine the requirements for acquiring and using computer-assisted coding (CAC) software



Welcome to the Plethora of ICD-10 Conversion Tools!

- Translation engine tools
- Code mapping tools
- Crosswalks
- GEMs
- Code simulation tools
- Medical language / content management tools
- Computer-assisted coding software
- and more ...



What's a healthcare organization to use?



ICD-10 Tools To Consider Before and/or After Conversion

- **Translation / Mapping Engines**
 - ✓ **Code Mapping Tools**
 - Reference Maps
 - Purpose-built Maps
 - ✓ **Code Simulation Tools**
 - ✓ **Medical Language / Terminology / Content Management Tools**
- **Computer-assisted Coding (CAC)**
- **Business Analytics / Modeling**





ICD-10 Tools To Consider Before and/or After Conversion

Translation / Mapping Engines

Tools that provide all plausible translation alternatives or one “best” translation alternative for each code in the target system based on the complete meaning of the code in the source system



Code Mapping Tools

- The designation of all plausible code alternatives or one best code alternative depends on:
 - ✓ the use to which the map will be put
(**REFERENCE** or **PURPOSE-BUILT**)
 - ✓ the external data, such as volumes or prices, that are particular to the application that will use the map
- are **NOT** substitutes for learning how to use ICD-10 CM/PCS or for coding medical records



Code Mapping Tools

REFERENCE MAPS

- are tools to assist users with the conversion of large ICD-9 CM (or SNOMED or other) databases to ICD-10 CM / PCS
 - ✓ “find” and “replace” codes or lists of codes in large databases
- help users navigate the complexity of translating meanings from large ICD-9 (or SNOMED or other) databases to ICD-10
- present all plausible code translation alternatives



Code Mapping Tools

REFERENCE MAPS



e.g., **GEMS**

The **General Equivalence Mappings (GEMs)** is the public domain **REFERENCE MAP** product developed over several years by a coordinated effort between the Centers for Medicare & Medicaid Services (CMS), Centers for Disease Control & Prevention (CDC), the National Center for Health Statistics (NCHS), an encoder vendor, and other organizations.



Code Mapping Tools

REFERENCE MAPS

e.g., GEMS



ICD-9-CM ↔ ICD-10-CM

ICD-9-CM ↔ ICD-10-PCS

- CMS tested the effectiveness of the GEMs by converting v26.0 of the MS-DRGs (one of CMS' more complex payment systems) to a native ICD-10-based application
 - ✓ added to the CMS website
 - ✓ will be refined as needed!



GEMs are used to:

- **convert and test (i.e., normalize the data in) large database systems, such as ICD-9 CM databases to ICD-10 CM / PCS databases**
- **link trending data in long-term clinical / research studies**
- **analyze data collected during the conversion period and beyond**
- **track quality measures**
- **record morbidity & mortality**





GEMs are **NOT** substitutes
for learning how to use
ICD-10 CM/PCS
and / or
for coding medical records.



GEMs vs. Crosswalks

- There is **NO** straightforward, one-to-one “crosswalk” (i.e., one-to-one match) between all the ICD-9 and ICD-10 codes.
 - ✓ **One-to-one** (but values might be different)
 - ✓ **One-to-many** (each of which is a possible translation)
 - ✓ **Clusters** (one-to-multiple codes, all of which are required to be complete)
 - ✓ **No match** (there is no equivalent meaning from one code set to the other)



GEMs vs. Crosswalks

- **The 2010 Patient Protection and Affordable Care Act (ACA - Healthcare Reform) required that**
 - ✓ **the Secretary of Health and Human Services (HHS), in consultation with stakeholders, shall post on the CMS website a “crosswalk” between the previous and subsequent versions of ICD**
 - ✓ **any revised “crosswalk” be treated as a HIPAA code set standard adopted by the Secretary**



GEMs vs. Crosswalks

- On September 15, 2010, the ICD-9 CM Coordination & Maintenance Committee:
 - ✓ clarified that the “**crosswalks**” mentioned in the ACA refer to the **GEMs** posted on the CMS website
 - ✓ legislated that the **GEMs** posted on the CMS website are the nation’s HIPAA code set standard map between ICD-9 CM and ICD-10 CM/PCS



Code Mapping Tools

PURPOSE-BUILT MAPS

- maps in which decisions have been made to identify the closest matching code from all possible codes (e.g., the one best alternative)
- typically are backward maps – mapping from multiple ICD-10 CM/PCS codes back to ICD-9 CM codes
- can use the **GEM REFERENCE MAPS** as **starting points** to develop **PURPOSE-BUILT MAPS**



Code Mapping Tools

PURPOSE-BUILT MAPS

e.g.,

REIMBURSEMENT MAPS

OUTPATIENT-FOCUSED MAPS

PUBLIC HEALTH-FOCUSED MAPS

RESEARCH-FOCUSED MAPS

OTHER MAPS



Code Mapping Tools

PURPOSE-BUILT MAPS

e.g., REIMBURSEMENT MAPS

- CMS developed **backward ICD-10 REIMBURSEMENT MAPS** for Medicare inpatient reimbursement from the **GEM REFERENCE MAPS ...**

in response to other payers' requests

- ✓ potential tool for payers, not providers

to help other payers prepare for the conversion and support the phase-out of ICD-9 after the conversion.

- ✓ temporary mechanism for **backward** mapping records containing ICD-10 codes to “reimbursement-equivalent” ICD-9 codes.



Code Mapping Tools

PURPOSE-BUILT MAPS

e.g., REIMBURSEMENT MAPS

- are posted to the CMS website
- CMS has stated:
 - ✓ that it does not plan to use the Reimbursement Maps for any purpose
 - ✓ that they were created to demonstrate the GEMs could be used to develop a “crosswalk”



Code Mapping Tools

REFERENCE MAPS

PURPOSE-BUILT MAPS

-Observations-

- **Important** for renegotiating payer contracts
- Expect to see more Purpose-Built Maps after the ICD-10 Conversion.



Code Simulation Tools

- are substitutes for learning how to use ICD-10 CM / PCS or for coding medical records
- typically developed by the encoder vendors
- typically include a toggle between the two classification systems
- can be used before and after conversion



Code Simulation Tools

-Observations-

- **Watch for current versions!**
 - ✓ On September 15, 2010, the ICD-9 CM Coordination & Maintenance Committee **partially froze** both the ICD-9 CM and ICD-10 CM / PCS code sets.
 - ✓ On September 14, 2011, the ICD-9 CM Coordination & Maintenance Committee released the 2012 release of ICD-10-CM.



Medical Language / Terminology / Content Management Tools

- attempt to standardize terminology using dozens of international code sets (SNOMED-CT, LOINC, RxNorm, ICD-10, CPT, etc.)
 - ✓ e.g., SNOMED or ICD-10 for problem lists to meet Meaningful Use requirements?
- able to codify the clinical content of a health record at the point-of-care
- typically are embedded in other tools
 - ✓ e.g., Code Mapping Tools, Code Simulation Tools, and Healthcare Information Systems



Medical Language / Terminology / Content Management Tools

-Observations-

- **Consider acquiring!**
 - ✓ Helps to create a single source of Language or Terminology truth (via a server) for the enterprise!
 - e.g., Is it ALS or Lou Gehrig's Disease?



ICD-10 Tools To Consider Before and/or After Conversion

- **Translation / Mapping Engines**
 - ✓ **Code Mapping Tools**
 - Reference Maps
 - Purpose-built Maps
 - ✓ **Code Simulation Tools**
 - ✓ **Medical Language / Terminology / Content Management Tools**





ICD-10 Tools To Consider Before and/or After Conversion Computer-Assisted Coding (CAC)



Computer-Assisted Coding

- Automatically generate codes
- CAC uses
either
 - ✓ natural language processing (NLP) /
natural language understanding (NLU)
 - or**
 - ✓ structured data input
 - or both**



Computer-Assisted Coding

- **NLP / NLU** helps boost a coding professional's productivity by using artificial intelligence to identify concepts in free text and to associate codes from controlled vocabularies to the relevant phrases in the text.



Computer-Assisted Coding

- **NLP / NLU Engines**
 - ✓ Symbolic Rules-based
 - ✓ Statistical-based
 - ✓ Pattern Matching-based
 - ✓ Blended
 - ✓



Computer-Assisted Coding

- **Using NLP / NLU in CAC systems**
 - ✓ Steps in the workflow can prevent coders from receiving the health record until key documents are available.
 - ✓ Coding professionals still need to review the codes generated by the CAC to ensure accuracy and proper reimbursement.



Computer-Assisted Coding

- **Structured data input** is driven by healthcare providers documenting care in electronic health / medical records.



Computer-Assisted Coding

- **Using structured data in CAC systems**
 - ✓ HIM professionals' expertise is required regarding health record content management.
 - ✓ Coding professionals still need to review the codes generated by CAC to ensure accuracy and proper reimbursement.



Computer-Assisted Coding

- **Additional features can include:**
 - ✓ Improving concurrent coding
 - ✓ Improving remote coding
 - ✓ Integrating coding workflow
 - ✓ Reimbursement analysis
 - ✓ Enhanced business intelligence



Computer-Assisted Coding

- **MUST be INTEGRATED with your:**
 - ✓ Encoder System
 - ✓ Clinical Documentation Improvement (CDI) System (with Clinician Queries)
 - This system guides the clinician through the documentation process, automatically capturing the clinician documentation.
 - ✓ Voice / Text / Speech System
 - ✓ Coding Workflow Application
 - If you don't have this app in your abstracting system, either get it or determine if it is included in CAC system!



Computer-Assisted Coding

Many vendors have or are developing CAC tools!

■ **CAVEATS!**

- ✓ Currently, all are built for ICD-9 use
- ✓ To date, some CAC products have been installed

ONLY IN

➤ inpatient environments

OR

➤ outpatient (ambulatory care) environments

OR

➤ ancillary departments (e.g., radiology, cardiology)



Computer-Assisted Coding

-Observations-

- **Consider acquiring!**
 - ✓ With CAC's emphasis that the data must be in an electronic format (structured), **the ARRA/HITECH incentive payments not only will drive adoption of the meaningful use of certified EHRs, but also it will drive adoption of CACs.**



Computer-Assisted Coding

-Observations-

- **Consider acquiring!**
 - ✓ With the overwhelming increase in the quantity of ICD-10 codes, **enhancing the productivity of coders with CAC will become critical.**



ICD-10 Tools To Consider Before Conversion

Business Analytics / Modeling



Business Analytics / Modeling

Many vendors have or are developing tools that:

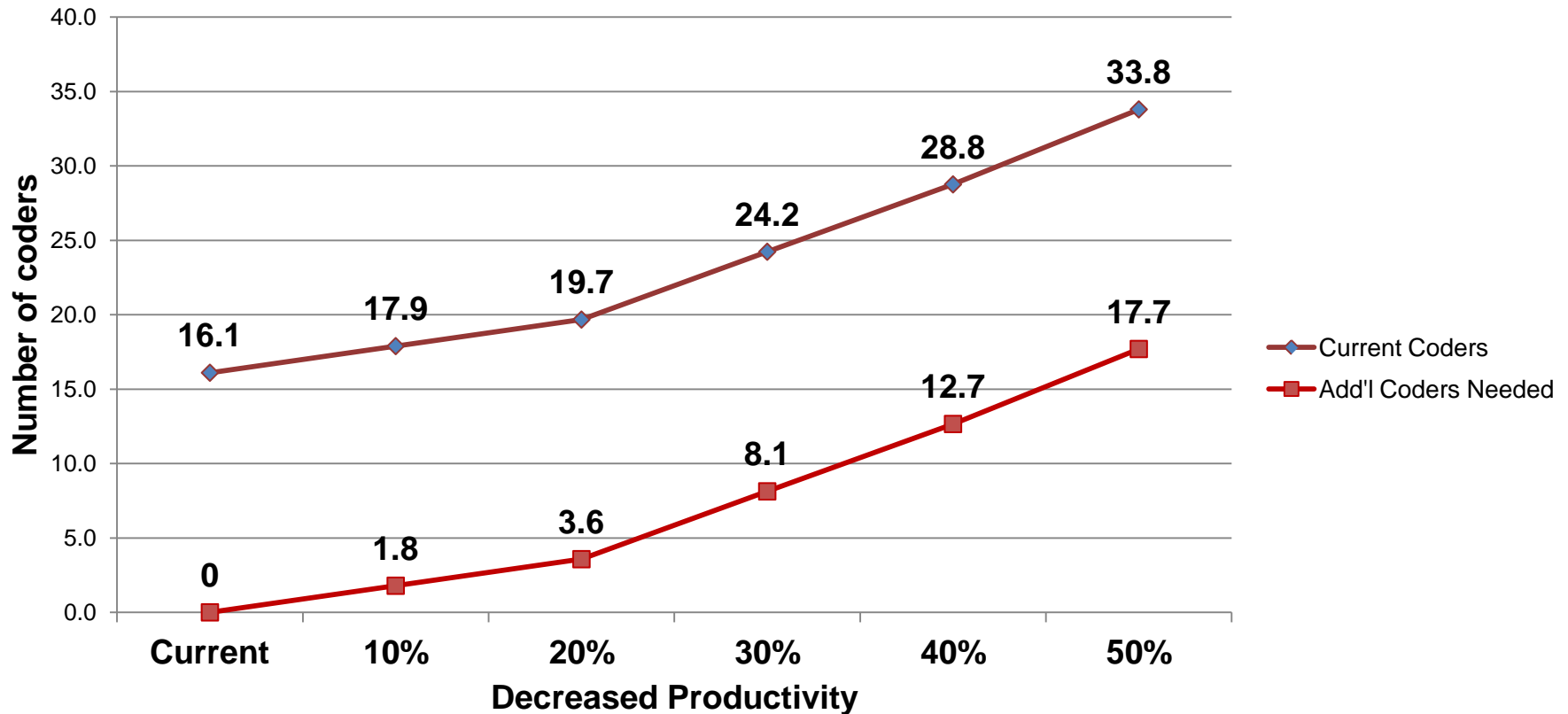
- help users create a map to migrate/convert historical ICD-9 data to ICD-10 for modeling and predicting
- identify areas where ICD-9 codes are utilized within current business applications and will need to be converted to ICD-10
- can be used for many types of analytic purposes
- test software changes (and include test scripts)



How Many Coders Will You Need?

Source: ELIPSe, Inc., 2011

Projected Need for Coders 2013-2014





ICD-10 Implementation Cost Prediction Modeling Tool

COST IMPACT AND TIMING OF THE ICD-10 CONVERSION BY CATEGORY

Source: HIMSS 2011 ICD-10 Task Force

Year:	2011	2012	2013 (to 3Q)	2013 (3Q) - 2014 (??-)	2015
Status:	<u>Preparation</u>	<u>Preparation</u>	<u>Preparation</u>	<u>Transition</u>	<u>Permanent</u>
Cost Category					
<u>Coding</u>					
Compensation			Low	High	Med
Training	Low		High	Med	Med
Productivity			Low	High	Med
Recruiting	Low		Med	High	Med
Accuracy				High	Med
<u>Revenue</u>					
Training	Low	Low		Med	
Productivity				High	Med
Accuracy				High	Med
Renegotiate contracts			Med	High	High
Revenue /Claim					Med
Denial Rate				High	Med
<u>IT</u>	Med	Med	High	Med	Low
<u>PM</u>	Low	Med	High	Med	Low



ICD-10 Implementation Cost Prediction Modeling Tool

PROJECTED IMPACT OF THE ICD-10 CONVERSION ON YOUR ORGANIZATION

Source: HIMSS 2011 ICD-10 Task Force

Sources of cost	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	TOTAL
Coding	\$ 630,000	\$ 732,500	\$ 562,250	\$ 362,250	\$ 362,250	\$ 2,649,250
Revenue Cycle	\$ 2,500	\$ 14,500	\$ 3,744,800	\$ 2,166,438	\$ 1,000,000	\$ 6,928,238
Project Management	\$ 1,000,000	\$ 1,000,000	\$ -	\$ -	\$ -	\$ 2,000,000
IT	\$ -	\$ 21,375,000	\$ -	\$ -	\$ -	\$ 21,375,000
Total ICD-10 Transition	\$ 1,632,500	\$ 23,122,000	\$ 4,307,050	\$ 2,528,688	\$ 1,362,250	\$ 32,952,488



Business Analytics / Modeling

-Observations-

- Why not utilize?
- **Data analytics are practical!**



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Questions?????

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