ICD-10 Transition Overview

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Centers for Disease Control and Prevention
Overview

- Why the transition
- Who else is affected
- What CDC is doing
- Differences between ICD-9-CM and ICD-10 code sets
- Implementation Issues
Overview

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Background

- International Classification of Diseases (ICD) used to classify clinical diagnoses and in-hospital procedures

- Department of Health & Human Services has mandated a transition to ICD-10-CM/PCS on October 1, 2014
  - ICD-10-CM – Clinical Modification (medical diagnoses)
  - ICD-10-PCS – Procedure Coding System (hospital inpatient procedures)

- Mandate affects all entities covered by Health Insurance Portability and Accountability Act (HIPAA)

- ICD-10 was implemented for mortality reporting in the U.S. in 1999
# ICD Revisions

<table>
<thead>
<tr>
<th>ICD Revision No.</th>
<th>Year of Conference When Adopted</th>
<th>Year in Use in the U.S.</th>
<th>ICD, Clinical Modification</th>
<th>Year in Use in the U.S.</th>
</tr>
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<tbody>
<tr>
<td>First</td>
<td>1900</td>
<td>1900-1909</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>1909</td>
<td>1910-1920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>1920</td>
<td>1921-1929</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>1929</td>
<td>1930-1938</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>1938</td>
<td>1939-1948</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sixth</td>
<td>1948</td>
<td>1949-1957</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seventh</td>
<td>1955</td>
<td>1958-1967</td>
<td></td>
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</tbody>
</table>
Implementation of ICD-10
International Perspective

- Endorsed by the World Health Assembly in 1990
- World Health Organization publishes ICD-10 in 6 official languages of WHO; also available in 36 other languages
- ICD-10 was implemented for mortality reporting in the U. S. in 1999
## Implementation of ICD-10 for Morbidity Uses

<table>
<thead>
<tr>
<th>Year of Implementation</th>
<th>Number of Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>8</td>
</tr>
<tr>
<td>1996</td>
<td>10</td>
</tr>
<tr>
<td>1997</td>
<td>15</td>
</tr>
<tr>
<td>1998</td>
<td>14</td>
</tr>
<tr>
<td>1999</td>
<td>11</td>
</tr>
<tr>
<td>2000</td>
<td>8</td>
</tr>
<tr>
<td>2001</td>
<td>5</td>
</tr>
<tr>
<td>2002</td>
<td>8</td>
</tr>
<tr>
<td>2003</td>
<td>5</td>
</tr>
<tr>
<td>2004</td>
<td>2</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
</tr>
<tr>
<td>2006</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>95</strong></td>
</tr>
</tbody>
</table>
Use of ICD in the U.S.

- ICD-10-CM was developed by CDC/National Center for Health Statistics
- ICD-10-PCS was developed by Centers for Medicare and Medicaid Services
- These two agencies are responsible for ICD-10 code sets use in U.S.
- ICD-10-CM/PCS in public domain, however cannot be altered except through the Coordination and Maintenance Committee Meeting process
HIPAA Administrative Simplification:
Modifications to Medical Data Code Set Standards

- Adopts ICD-10-CM as replacement for ICD-9-CM Volumes 1 and 2
- Adopts ICD10-PCS as replacement for ICD-9-CM Volume 3
- October 1, 2014 – Compliance date for implementation of ICD-10-CM/PCS
- Use of CPT codes remains unchanged
Current Situation is not Sustainable

ICD-9-CM is not sufficiently robust to serve the health care needs of the future

- Due to the classification’s age (30+ years) its content is no longer clinically accurate
- Need better data to drive changes needed in health care today
- The number of available codes is limited and the structure is restrictive
- Unable to compare at international levels or compare ICD-9-CM diagnosis data with ICD-10 mortality data
Benefits of the New Coding Sets

- Updated medical terminology and classification of diseases and procedures
- Allows easier comparison of mortality and morbidity diagnosis data
- Provides better data for:
  - Measuring care provided to patients
  - Tracking public health
  - Making clinical decisions
  - Identifying fraud and abuse
  - Improved data for epidemiological research
  - Designing payment systems/processing claims
ICD-10 Code Sets Final Rule

- Single implementation date for all users
  - Date of service for ambulatory and physician reporting
  - Date of discharge for inpatient settings
- ICD-9-CM codes will not be accepted for services provided on or after October 1, 2014
- ICD-9-CM claims for services prior to implementation date will continue to flow through systems for a period of time
Overview

- Why the transition
- **Who else is affected**
- What CDC is doing
- Differences between ICD-9-CM and ICD-10 code sets
- Implementation Issues
Who Else is Affected? Anyone Who…

- Utilizes already-coded ICD-9-CM data
- Supports systems that consume ICD-9-CM data
- Analyzes public-use data files derived from or including ICD-9-CM codes
- Assigns codes to verbatim diagnosis/procedure information
- Uses ICD-9-CM codes to define health conditions or service coverage
Overview

- Why the transition
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- **What CDC is doing**
- Differences between ICD-9-CM and ICD-10 code sets
- Implementation Issues
ICD-10 Transition Workgroup

- CDC formed this Workgroup in 2011 under the Information Resources Governance structure to facilitate transition for CDC
- Representation from all Centers/Institute/Offices
- Two Co-Chairs, 3 support team members
- Executive Lead
Goals of Workgroup

- Create awareness of transition
- Identify impacted programs within CDC
- Identify program needs/gaps/issues
- Address commonly identified needs where possible
- Leverage and repurpose existing resources; share developed resources
Completed Workgroup Activities

- CDC Needs Assessment survey (all CDC programs)
  - Training Needs supplement survey
- CDC Impact Analysis (4 CDC programs)
- Resource Repository
- Internal intranet site (link)
- Posters for NCHS and AMIA conferences (2012)
Upcoming Workgroup Activities

- Training (this overview, General Equivalence Mappings, birth defects/disabilities/blood disorders, injuries, general CM, etc.)
- Outreach campaign to create awareness
- External internet site
- Share resources/trainings
- Conference presentations
Overview

- Why the transition
- Who else is affected
- What CDC is doing
- **Differences between ICD-9-CM and ICD-10 code sets**
  - Clinical Modification
  - Procedure Coding System
- **Implementation Issues**
## ICD-10-CM Structure

### Differences Between ICD-9-CM and ICD-10-CM

<table>
<thead>
<tr>
<th>ICD-9-CM</th>
<th>ICD-10-CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,025 codes</td>
<td>69,823 codes</td>
</tr>
<tr>
<td>3 -5 characters</td>
<td>3 -7 characters</td>
</tr>
<tr>
<td>First character is numeric or alpha (E or V)</td>
<td>Character 1 is alpha (all letters except U are used)</td>
</tr>
<tr>
<td>Characters 2-5 are numeric</td>
<td>Character 2 is numeric</td>
</tr>
<tr>
<td>Always at least 3 characters</td>
<td>Characters 3 -7 are alpha or numeric</td>
</tr>
<tr>
<td>Use of decimal after 3 characters</td>
<td>Use of decimal after 3 characters</td>
</tr>
<tr>
<td></td>
<td>Use of dummy placeholder “x”</td>
</tr>
<tr>
<td></td>
<td>Alpha characters not case-sensitive</td>
</tr>
</tbody>
</table>
ICD-10-CM
Major Modifications

- Addition of sixth character
- Addition of laterality
- Combining dagger/asterisk codes
- Created combination diagnosis/symptoms codes
- Deactivated procedure codes
ICD-10-CM
Major Modifications [continued]

- Added trimesters to OB codes (fifth-digits from ICD-9-CM will not be used)
- Revised diabetes mellitus codes (5th digits from ICD-9-CM will not be used)
- Expanded codes (e.g., injury, diabetes)
- Added code extensions for injuries and external causes of injuries
Injury Codes in ICD-9-CM/ICD-10

- **Open wounds**
  - laceration w/foreign body
  - laceration w/o foreign body
  - puncture wound w/foreign body
  - puncture wound w/o foreign body
  - animal bite

- **Superficial wounds**
  - abrasion
  - blister
  - contusion
  - external constriction
  - superficial foreign body
  - insect bite
ICD-10-CM
Expanded Injury Codes

- Detail for open wounds added at 5th digit
- S41.01 Laceration of shoulder without foreign body
- S41.02 Laceration of shoulder with foreign body
- S41.03 Puncture wound of shoulder without foreign body
## Place of Occurrence

<table>
<thead>
<tr>
<th>ICD-10-CM Code</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y92.0xx</td>
<td>Home</td>
</tr>
<tr>
<td>Y92.1xx</td>
<td>Residential institution</td>
</tr>
<tr>
<td>Y92.2xx</td>
<td>School, other institution and public administrative area</td>
</tr>
<tr>
<td>Y92.3xx</td>
<td>Sports and athletic area</td>
</tr>
<tr>
<td>Y92.4xx</td>
<td>Street and highway</td>
</tr>
<tr>
<td>Y92.5xx</td>
<td>Trade and Service areas</td>
</tr>
<tr>
<td>Y92.6x</td>
<td>Industrial and construction area</td>
</tr>
<tr>
<td>Y92.7x</td>
<td>Farm</td>
</tr>
<tr>
<td>Y92.8xx</td>
<td>Other specified place</td>
</tr>
</tbody>
</table>
Overview

- Why the transition
- Who else is affected
- What CDC is doing
- **Differences between ICD-9-CM and ICD-10 code sets**
  - Clinical Modification
  - Procedure Coding System
- Implementation Issues
# ICD-10-PCS Structure

## Differences Between ICD-9-CM Volume 3 and ICD-10-PCS

<table>
<thead>
<tr>
<th></th>
<th>ICD-9-CM</th>
<th>ICD-10-PCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Codes</td>
<td>3,824 codes</td>
<td>71,924 codes</td>
</tr>
<tr>
<td>Character Length</td>
<td>3-4 characters</td>
<td>7 characters</td>
</tr>
<tr>
<td>Character Type</td>
<td>All characters are numeric</td>
<td>Each can be either alpha or numeric</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Numbers 0-9; letters A-H, J-N, P-Z</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alpha characters not case-sensitive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Each code must have 7 characters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No decimal</td>
</tr>
</tbody>
</table>

Each code must have 7 characters.
ICD-10-PCS System Structure
16 Sections

- Medical and Surgical
- Obstetrics
- Placement
- Administration
- Measurement and Monitoring
- Extracorporeal Assistance and Performance
- Extracorporeal Therapies
- Osteopathic
- Other Procedures
- Chiropractic
- Imaging
- Nuclear Medicine
- Radiation Oncology
- Physical Rehabilitation and Diagnostic Audiology
- Mental Health
- Substance Abuse Treatment
Medical and Surgical Procedures Character Assignments

Section

Body System

Root Operation

Body Part/Region

Approach

Device

Qualifier
ICD-10-PCS Structure: Characters and Values

- A character is a stable, standardized code component
  - Holds a fixed place in the code
  - Retains its meaning across a range of codes
- A value is an individual unit defined for each character

<table>
<thead>
<tr>
<th>Section</th>
<th>Body System</th>
<th>Body Part</th>
<th>Approach</th>
<th>Device</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>Products of Conception</td>
<td>0 Open</td>
<td>Z No Device</td>
<td>0 Classical</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Products of Conception</td>
<td>7 Via Natural or Artificial Opening</td>
<td>Z No Device</td>
<td>3 Low Forceps</td>
</tr>
</tbody>
</table>

|         | 0           | Products of Conception | 0 Open | Z No Device | 4 Mid Forceps |
|         | 0           | Products of Conception | 7 Via Natural or Artificial Opening | Z No Device | 5 High Forceps |
|         | 0           | Products of Conception | 0 Open | Z No Device | 6 Vacuum |
|         | 0           | Products of Conception | 7 Via Natural or Artificial Opening | Z No Device | 7 Internal Version |
|         | 0           | Products of Conception | 0 Open | Z No Device | 8 Other |
|         | 0           | Products of Conception | 7 Via Natural or Artificial Opening | Z No Device | 9 Other |
Overview

- Why the transition
- Who else is affected
- What CDC is doing
- Differences between ICD-9-CM and ICD-10 code sets

Implementation Issues

- Implications for systems, processes and people
- Tools/GEMs
Implications for Systems

Changes may be needed to accommodate the new codes:

- Extend character length (to 7), code title lengths
- Increase messaging capacity
- Increase storage capacity
- Modify system logic and edits (e.g., age, sex)
- Update system documentation
- Modify links with other systems
- Test/validate system use of new code sets
Implications for Processes - General

Modification may be needed for:

- Definitions of health conditions based on ICD codes
- Data collection
- Statistical analysis
- Data extraction
- Data tables
- Publications
- Reports
Implications for Processes - Analysis and Reporting

- For 2014
  - 9 months of ICD-9-CM coded data
  - 3 months of ICD-10-CM coded data

- Trend analysis from one code set to another and over time

- Elimination of previously used codes

- Very detailed information
  - Data aggregation
Implications for People

Training/orientation will be needed for:

- **Primary users (medical coders who assign codes to diagnosis text)**
- **Secondary users (epidemiologists, scientists statisticians, IT personnel, programmers, etc. who use already coded ICD-9-CM data)**
- **Project managers**
- **Users of public-use data files**
Implications of Unsuccessful Transition for CDC

- Users unable to carry out core daily activities (BioSense)
- Inaccurate data (Stroke Registry, Cancer Registries, national health care surveys, Birth Defects, etc.)
- Claims for services not processed or paid (World Trade Center Health Program)
- Public-use data files not available (injuries, national surveys)
Overview

- Why the transition?
- Who else is affected?
- What is CDC doing?
- Differences between ICD-9-CM and ICD-10 code sets

**Implementation Issues**

- Implications for systems, processes and people
- Tools/GEMs
Tools

ICD-9-CM and ICD-10-CM/PCS codes are very different and tools are needed to convert data

- General Equivalence Maps (GEMs)
  - Designed to aid in converting applications and systems from ICD-9-CM to ICD-10-CM/PCS codes
  - Bi-directional mappings (backward and forward maps)
  - “Find and replace” codes or lists of codes
Use of GEMs

- Converting ICD-9 based systems or applications to ICD-10 based applications
- Creating one-to-one backwards mappings (also known as a crosswalk) from incoming ICD-10 based records to ICD-9 based legacy systems
- Migrating ICD-9 historical data to a ICD-10 based representation for comparable longitudinal analysis
- Creating ICD-10 based test records from a repository of ICD-9 based test records
- GEMs are not a substitute for learning how to use ICD-10-CM and ICD-10-PCS
Specific Examples of the Need for GEMs

- One ICD-9-CM code represented by multiple ICD-10-CM codes
- One ICD-10-CM/PCS code represented by multiple ICD-9-CM codes
- There are new concepts in ICD-10-CM that have no predecessor in ICD-9-CM (e.g., under dosing, blood type, Glasgow Coma Scale)
- Use of GEMs very important in identifying differences that would have been highlighted if dual-coding could have been undertaken
Summary

- ICD-10 code sets are very different than ICD-9-CM
  - Number of codes higher
  - Much more detailed information
  - There will be many challenges (condition definitions, trend analyses)

- Level/type of impact on programs dependent on level/type of interaction with codes
  - Systems (structure, capacity)
  - Processes (revised, new)
  - People (training)
Questions?

Email: ICD-10Transition@cdc.gov

For more information please contact Centers for Disease Control and Prevention
1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov     Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Resources

- Fact sheet:

- General Equivalence Maps (GEMs)
  - Version 2013 ICD-10-CM, GEMs, Guidelines
    - [http://www.cdc.gov/nchs/icd/icd10cm.htm#10update](http://www.cdc.gov/nchs/icd/icd10cm.htm#10update)
  - Version 2013 ICD-10-PCS Files, GEMs, Coding System

- Systematized Nomenclature of Medicine—Clinical Terms (SNOMED CT) to ICD-10-CM map
Resources (continued)

- **Cancer case finding lists for ICD-10**

- **American Health Information Management Assoc. (AHIMA)**
  - [http://www.ahima.org/icd10/default.aspx](http://www.ahima.org/icd10/default.aspx)

- **American Hospital Association (AHA)**

- **Heath Information and Management Systems Society (HIMSS)**
  - [http://www.himss.org/ASP/topics_ICD10Playbook.asp](http://www.himss.org/ASP/topics_ICD10Playbook.asp)
Helpful Links

- Centers for Medicare and Medicaid Services ICD-10 website

- National Center for Health Statistics ICD-10 website
  - http://www.cdc.gov/nchs/icd/icd10cm.htm