Transitioning to ICD-10- and ICD-10-PCS: Challenges in Trend Analysis

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HCUP Partners Monthly Meeting

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Overview

- ❑ **Impact of the Transition on Data**

- ❑ **Analysis Over Time and Across Code Sets**

- ❑ **Mapping to and Selecting Appropriate ICD-10-CM/PCS Codes**

- ❑ **Reconciling Data for Calendar Year 2014**

- ❑ **Impact on Downstream Users of Data**

- ❑ **Appendix - Resources**

Impact of the Transition on Data

Reality of Impact

- ICD codes updated regularly so data have always been impacted

- Transition will change the way public health defines, identifies, analyzes and reports on *many* health conditions and health care services

- There will be some level of data discontinuity for analyses over time/across code sets

- No single best approach to conducting trend analyses; each program/project team will need to determine own approach

Analysis Over Time and Across Code Sets

Possible Universes of Data

- **Individual diseases (asthma)**

- **Ranges of codes (chronic lower respiratory grouping that includes asthma)**

- **Sub-categories or categories (all respiratory diseases)**

Type of Data Received

- ❑ **Already coded in ICD**

- ❑ **Self-reported diagnosis information**

- ❑ **Abstracted from narrative**

- ❑ **Complete narrative***

* Gold standard for use in comparability analysis; comparability ratios derived from dual coded data

Decisions, Decisions, Decisions…

❑ **<u>Many</u> decisions to be made; majority will be unique to individual organizations, programs and/or projects**

- Mapping between code sets (or not) for surveillance, research, statistical analyses, and evaluation of public health and/or health care services

- Public use data sets and education of users

  - Stakeholders that fund supplements to surveys

  - Stakeholders that create discharge/encounter data sets

❑ **Coordinated (public health) efforts: external cause of injury matrix and injury diagnosis matrix for injury reporting, reportable neoplasms (cancer registries)**

Macro Level Possible Strategies
Already Coded Data

- Map all ICD-9-CM codes into ICD-10-CM/PCS

- Start over and define conditions from beginning in ICD-10-CM/PCS

- Map a few key conditions/events into ICD-10-CM/PCS; start over with the rest

- Map all ICD-10-CM/PCS codes back into ICD-9-CM

- Map/aggregate ICD-10-CM/ICD-10-PCS codes to category level of detail

Mapping to and Selecting Appropriate ICD-10-CM/PCS Codes

Considerations for Mapping

- **There are "one-to-many" relationships (742.3 Congenital hydrocephalus maps to four ICD-10-CM codes)**

  - Will need to decide which of the "many" codes are needed

- **There are "many-to-one" relationships (21 ICD-9-CM codes for TB of lung map to one ICD-10-CM code, A15.0 TB of lung)**

  - Loss of detail for stages of TB and how confirmed

Considerations (Con't)

❑ **There are new concepts in ICD-10-CM that have no predecessor in ICD-9-CM (Glasgow Coma Scale, under dosing, blood type, blood alcohol level)**

  ▪ Can track conditions that were not available in ICD-9-CM

❑ **Some ICD-9-CM codes do not have a translation option in ICD-10-CM (ICD-9-CM code E927.3; V codes largely excluded)**

  ▪ Accept the loss and do nothing

  ▪ Use an alternative translation (V03.6 translates to Z23 Encounter for immunization)

  ▪ Propose to add codes into ICD-10-CM/PCS

Implications of Mapping Between Code Sets

- ❑ The identification or definition of "cases" has changed

- ❑ You may be identifying more or fewer individuals with condition/s of interest depending on in/exclusion of certain codes/code sets (TIA included in stroke)

- ❑ For some programs arriving at final ICD-10-CM/PCS codes will require extensive collaboration with external partners

Implications (Con't)

❏ **Mapping from ICD-9-CM to ICD-10-CM differently for the same health conditions/procedures**

- Judgment is needed to determine which ICD-10-CM/PCS codes to utilize going forward

- Others who study same/similar condition/s may select a different set of ICD-10-CM/PCS codes; without collaboration among the respective entities studying the same conditions, multiple condition definitions by those who analyze the same condition could develop

❏ **Collaborate on/share mappings or lists of ICD-10-CM/PCS codes with partners**

- Leverage "ICD-10-CM/PCS Transition" community on phConnect

Reconciling Data for Calendar Year 2014

Possible Strategies

❑ **Backwards map the 3 months of ICD-10-CM/PCS coded data into ICD-9-CM and report together**

❑ **Let 9 months of ICD-9-CM coded data represent entire year**

❑ **Report on first 9 months and last 3 months of data separately**

❑ **Forward map the 9 months of ICD-9-CM coded data to ICD-10-CM and report together**

❑ **Convert reporting from CY to FY, if feasible**

Impact on Downstream Users of Data

For Data Users: Selection and Interpretation of Data

❑ **Users of data derived from ICD codes need to understand how the data have changed**

- Understand origin of the data

- Selection/extraction of data for independent analysis

- Understand published data analysis/reports

❑ **Interpretation of data**

- May be considered new baseline year

- May not be able to draw conclusions for first year or two

Age-adjusted death rates for Nephritis, nephrotic syndrome, and nephrosis: United States, 1968-2005
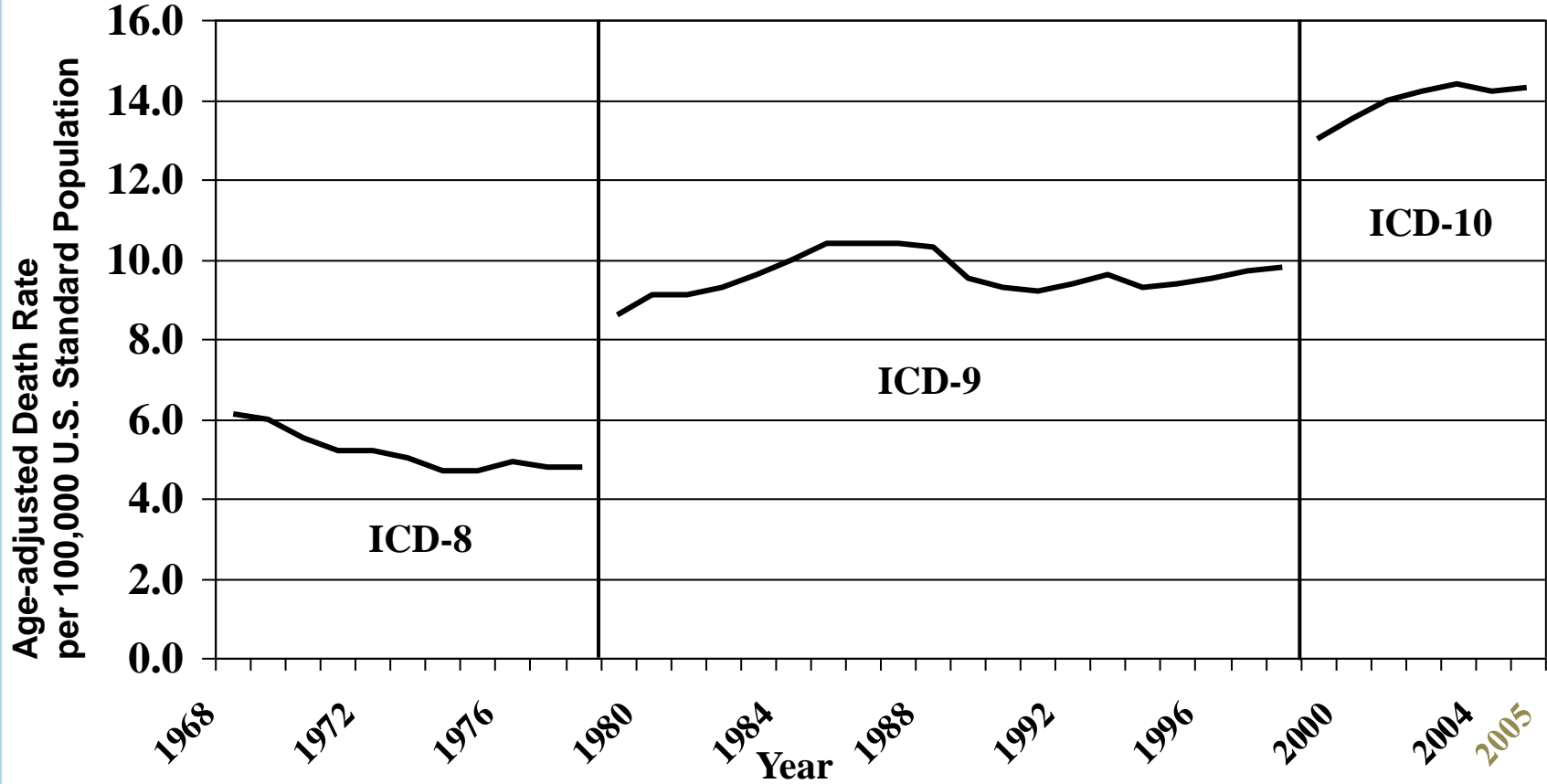
Reference: Robert Anderson (2011). Coding and Classifying Causes of Death: Trends and International Differences. In Rogers, Richard G., and Crimmins, Eileen M (Eds), International Handbook of Adult Mortality (467-489). Springer Science.

Possible Trending Impact (Con't)

- **Behavioral Risk Factor Surveillance System**

  - Changed sampling methodology in 2011 to conduct landline and cellular telephone-based surveys, as well as changed weighting methodology

  - 2011 considered baseline year for data and 2011/2012 data not directly comparable to previous years

- **National Immunization Survey**

  - Also changed sampling methodology in 2011 to include both landline and cellular telephone-based surveys

  - Sampling change noted as limitation in publications but no break in trends over time

Possible Strategies for Deciding How to Trend

❑ **Comparability analysis for already coded data**

- Take existing year/s of ICD-9-CM-based reporting and map them forwards into ICD-10-CM

- Evaluate how original estimates (based on ICD-9-CM) compare with new estimates (ICD-10-CM)

- Make determination from there (e.g., refine what ICD-10-CM codes to use and redo comparison, move forward with selected ICD-10-CM codes, etc.)

❑ **Comparability ratios for narrative information**

- Dual code data

- Divide estimate for one coding scheme by estimate for other

- Use to estimate values if coded in other coding scheme

Summary

❑ **Many challenges to come with trending data over time and across code sets**

❑ **Pathways will depend on unique circumstances of each condition, range of codes used, reason for analysis, level and type of data collected, and ability to analyze and understand comparability between code sets**

Questions?

Big Change
ICD-10-CM/PCS is coming October 1, 2014
Will you be ready?

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.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

APPENDIX - RESOURCES

Helpful Links

- **BRFSS: http://www.cdc.gov/brfss/data_documentation/index.htm**

- **NIS MMWR: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6234a1.htm**

- **Comparability ratios for ICDA-8 and ICD-9-CM
  http://www.cdc.gov/nchs/data/series/sr_02/sr02_104.pdf**

- **Comparability of Cause-of-death Between ICD Revisions
  http://www.cdc.gov/nchs/nvss/mortality/comparability_icd.htm**

- **2014 General Equivalence Mappings – Diagnosis Codes
  http://www.cdc.gov/nchs/icd/icd10cm.htm and select "General Equivalence Mapping Files"**

- **2014 General Equivalence Mappings – Procedure Codes
  https://www.cms.gov/Medicare/Coding/ICD10/2014-ICD-10-PCS.html**

- **FAQ on GEMs: http://www.cms.gov/Medicare/Coding/ICD10/downloads/GEMs-CrosswalksBasicFAQ.pdf**

- **Public Health Transition to ICD-10-CM/PCS
  http://www.cdc.gov/nchs/icd/icd10cm_pcs.htm**