ICD-10-CM Field Testing Project

National Committee on Vital and Health Statistics

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American Hospital Association

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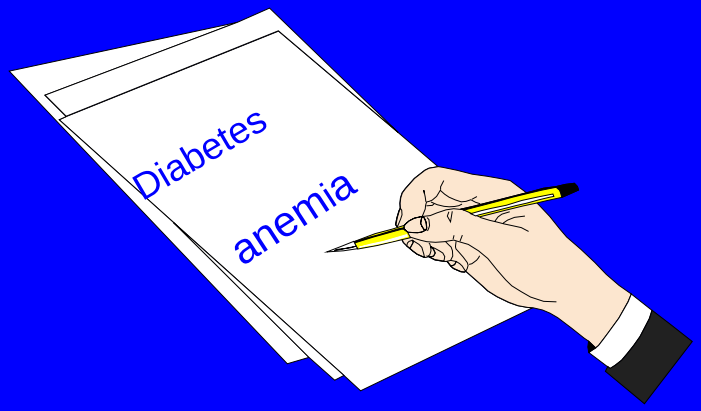
American Health Information Management Association

Purpose

- Assess functionality and utility of applying ICD-10-CM to actual medical records in a variety of healthcare settings
- Assess level of education and training required by professional credentialed coders to implement ICD-10-CM

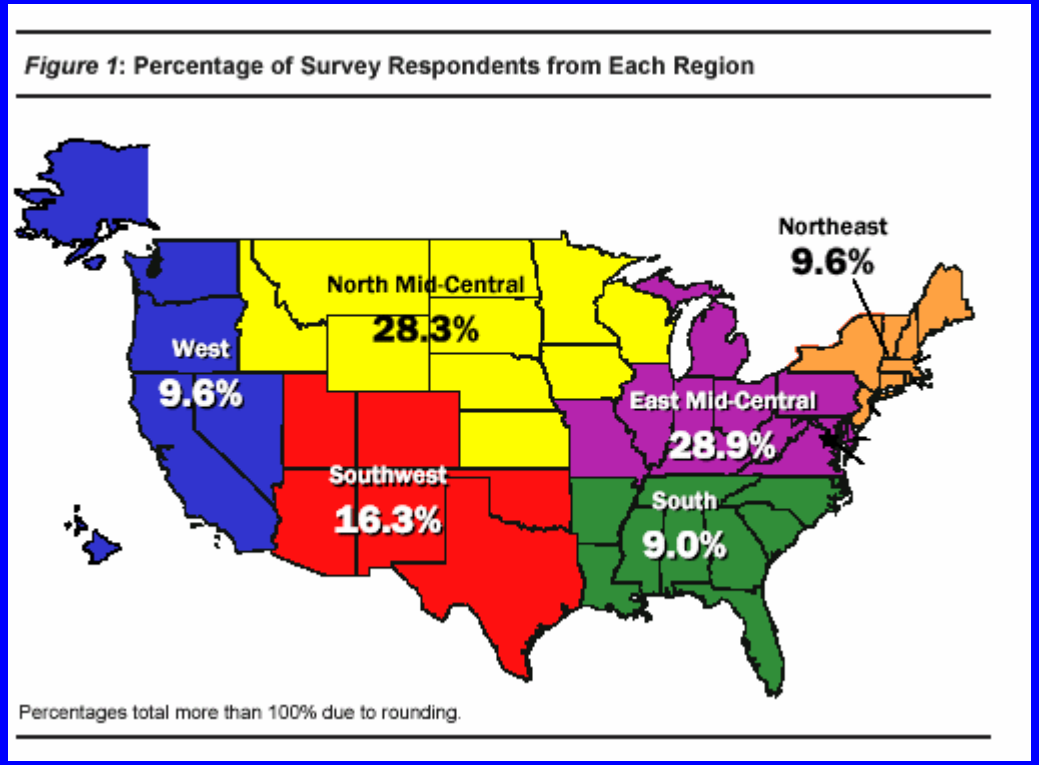


Selection of Participants

- AHA and AHIMA solicited HIM professionals
- Individual participants, not a healthcare organization
- Required computer capabilities
  - Access to web-based training program
  - Access to web-based survey instrument

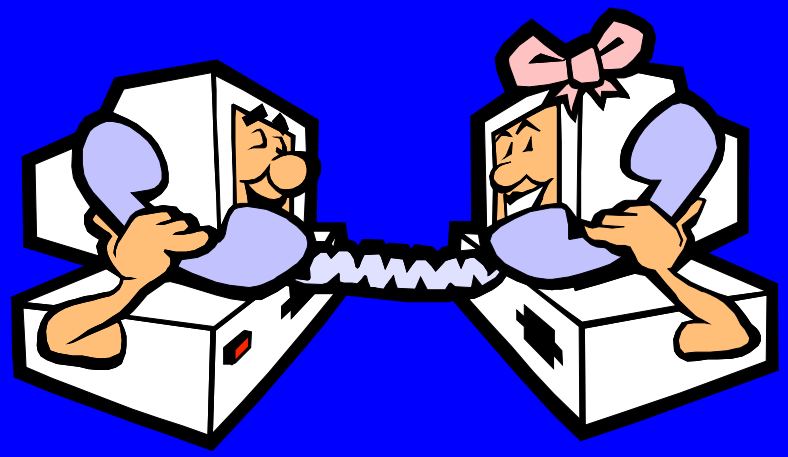
Number of Participants

- Total of 169 actively participated
- Representing a cross-section of all geographic regions of the country



Project Management

- Virtual Community of Practice (CoP) via AHIMA website
- Resources
  - Training materials
  - Coding guidelines
  - Link to survey forms



- Ongoing communication between participants and project coordinators

Training

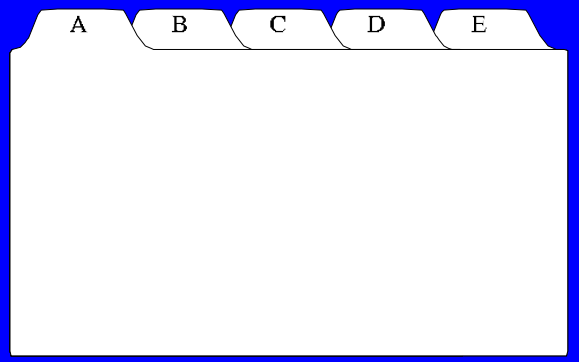
- Two hour archived audioseminar via internet
- Slide presentation
- Presented by NCHS staff
- ICD-10-CM guidelines

Research Methodology

- Descriptive survey research model used
- A panel of professors and researchers at the doctoral level from several academic institutions reviewed and advised on research methodology
- June 2003 version of ICD-10-CM tested
- Printed copies of index and tabular provided because ICD-10-CM is not yet available in a user-friendly electronic format

Study Limitations

- ICD-10-CM alphabetic index is the means by which diagnostic terms are located and the appropriate code or code categories are identified.
- Unfortunately the only available index file format was unwieldy, cumbersome and difficult to use



Study Limitations (cont.)

- ICD-9-CM: variety of hardcopy and electronic index tools
  - Code books--standard column formats and headings, font styles, and indentations with standard tabs
  - Electronic products--search engines for locating terms in the index
- ICD-10-CM: only available tool today was hardcopy-- confusing indentations, infrequent main headings, and lack of font style changes or other characteristics that would facilitate the ability to locate a term.

Study Limitations (cont.)

- Problem was unrelated to the ICD-10-CM structure itself, but rather just related to the available navigation tools and the format of the page layout
- Issue will be resolved when ICD-10-CM is implemented--user-friendly, easy navigable index tools, both electronic and paper products will be available

Record Selection

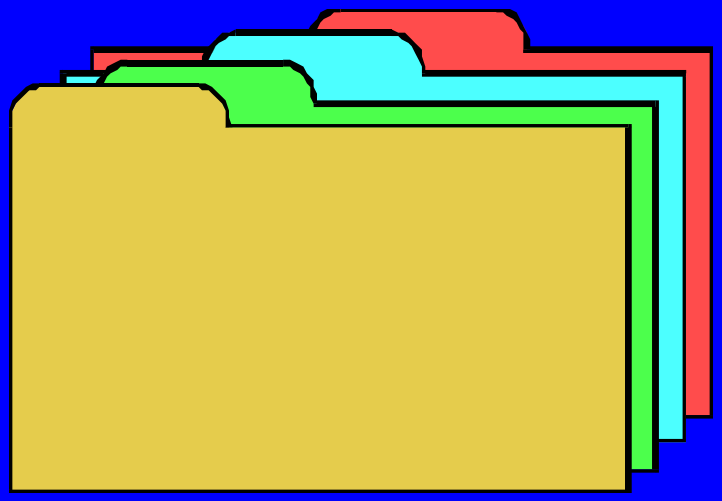
- 50 records, if possible, per participant
- Random selection from discharges/visits of any month from 2003
- Representative sample from diagnoses treated by facility - both inpatient and outpatient
- Disregard payer
- Do not “cherry-pick”

Process for Coding Records

- Data Collection period: June 30, 2003 through August 5, 2003
- Only discharged patients
- Use only complete records
- Assign both ICD-9-CM and ICD-10-CM diagnosis codes for each record
- Use Official Guidelines for Coding and Reporting

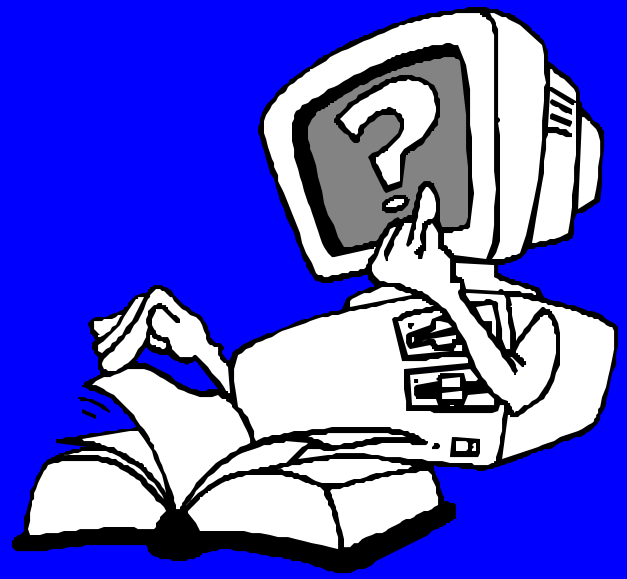
Process for Coding Records (cont.)

- Review entire medical record
- Assign codes as completely and accurately as possible, according to existing medical record documentation
- Do not query physicians



Data Submission

- Data elements determined by AHA and AHIMA staff in consultation with researchers
- Data submitted via web-based survey tool developed by Ohio State University (OSU) and housed on OSU server



Surveys

- Demographic Survey - participant's background and type of organization where employed
- Record Survey - completed once for each record coded
- Follow up Survey - completed once at conclusion of project - general impressions, opinions
- Supplemental Survey – completed once a few weeks after conclusion of project

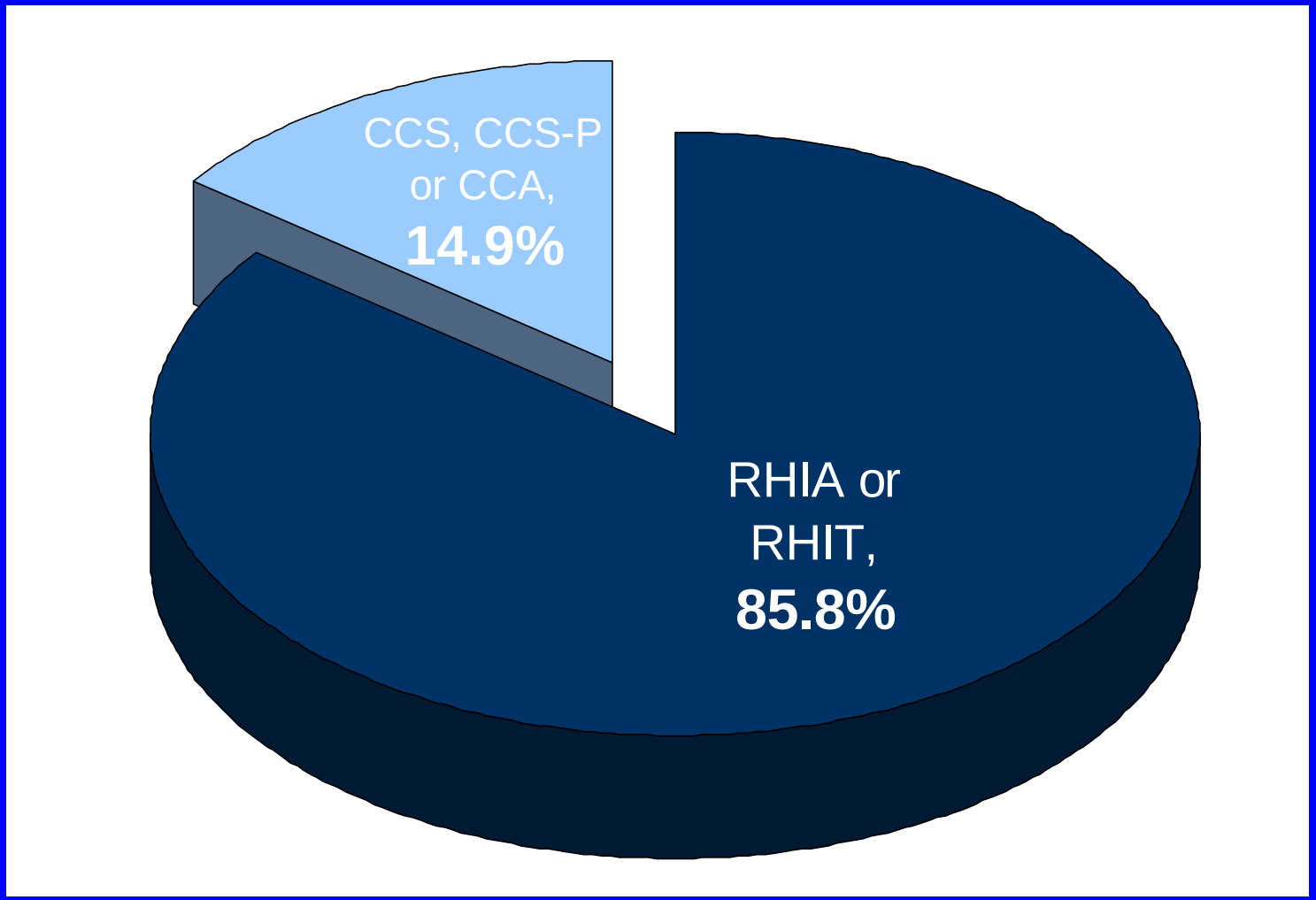
Validation

- Diagnostic information from every 5th record for ½ of participants was re-coded
- Additional data submitted was comprised of diagnoses documented in the medical record and ICD-10-CM code assigned
- AHA and AHIMA professional coding staff recoded validation forms in ICD-10-CM

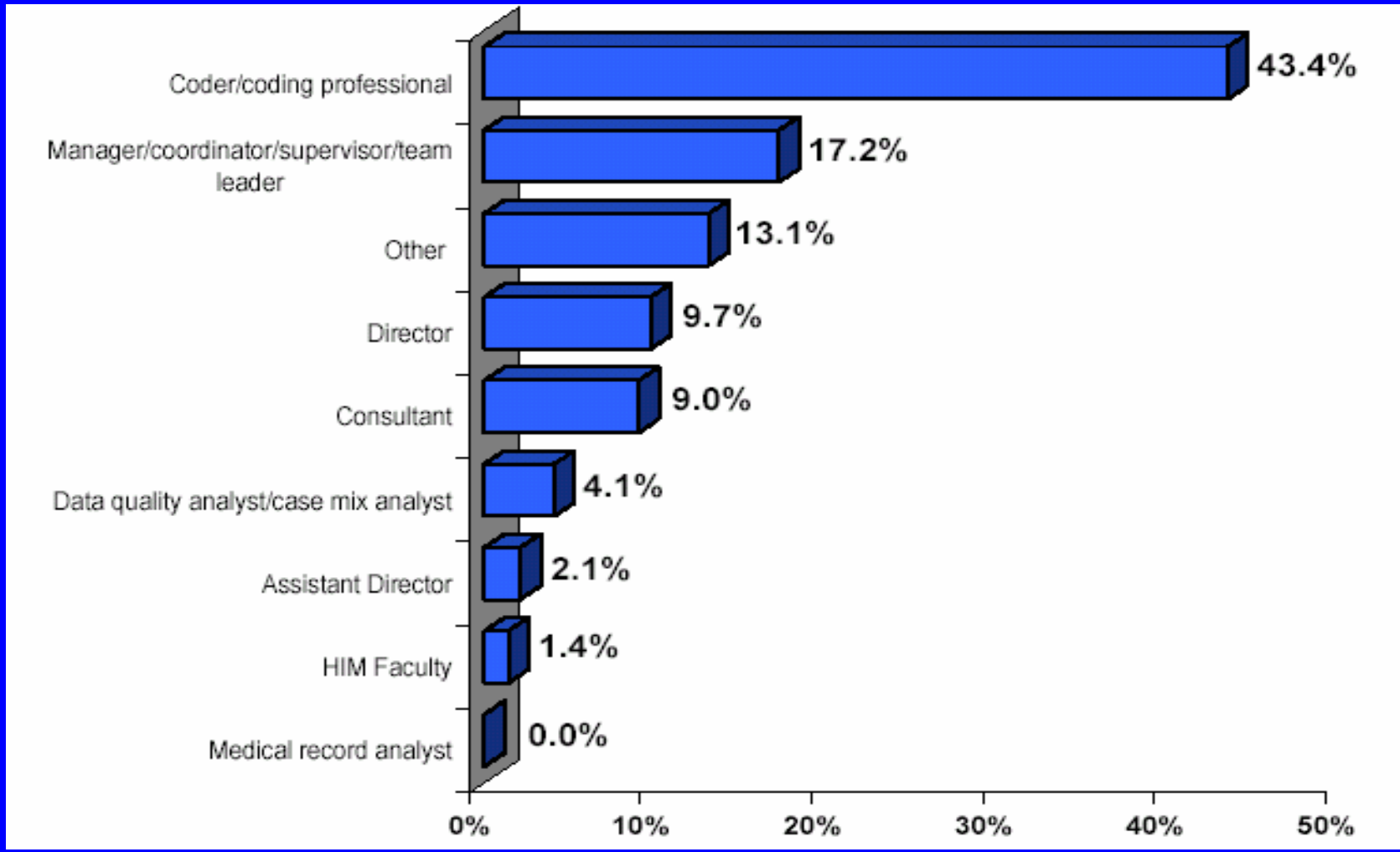
Results

- OSU health informatics and statistical staff cleaned the data, tabulated the results, and reported results to AHA and AHIMA
- Demographic survey and record survey completed by all participants; 152 respondents completed follow-up survey; 145 respondents completed supplemental survey

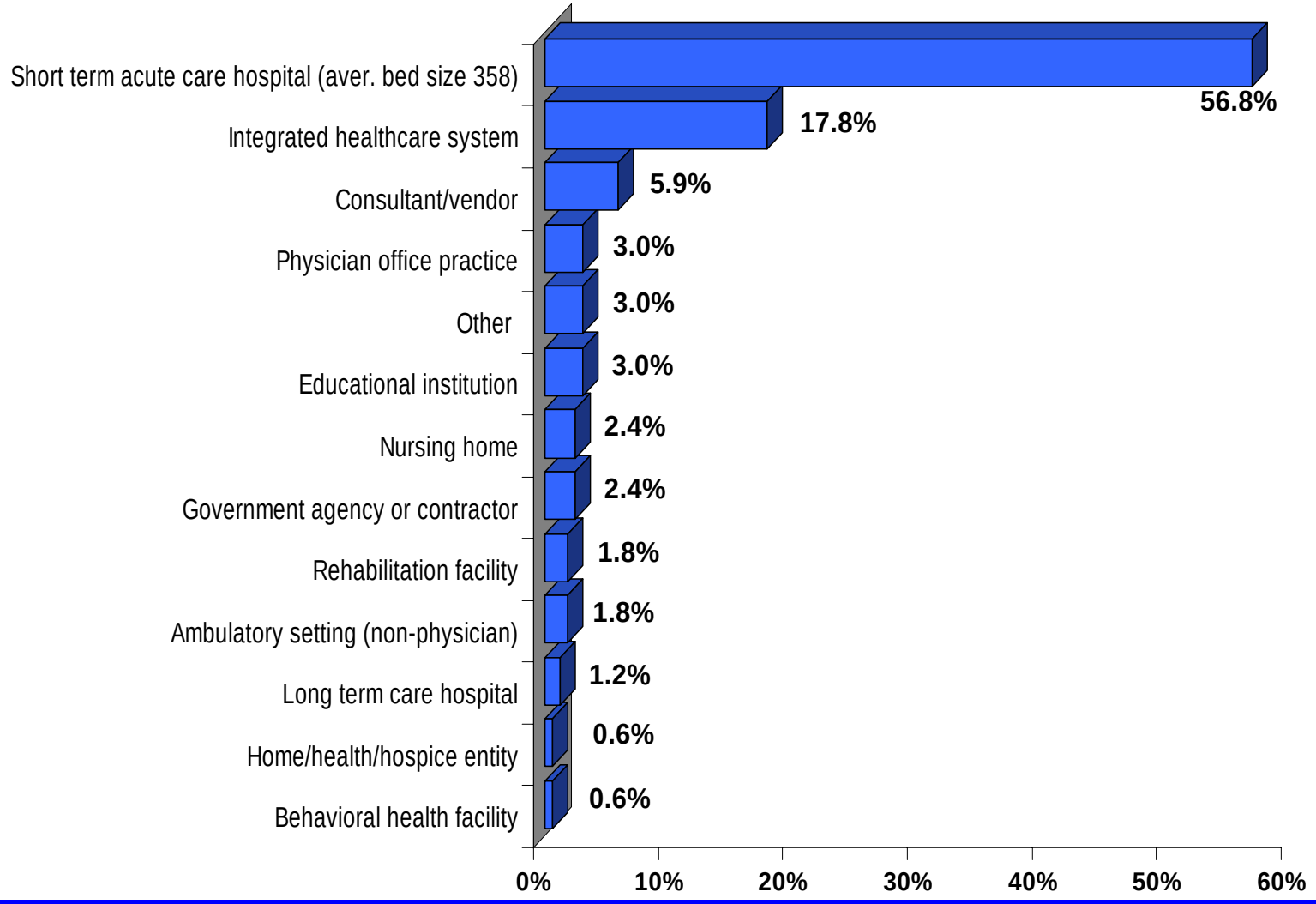
Participants' Credentials



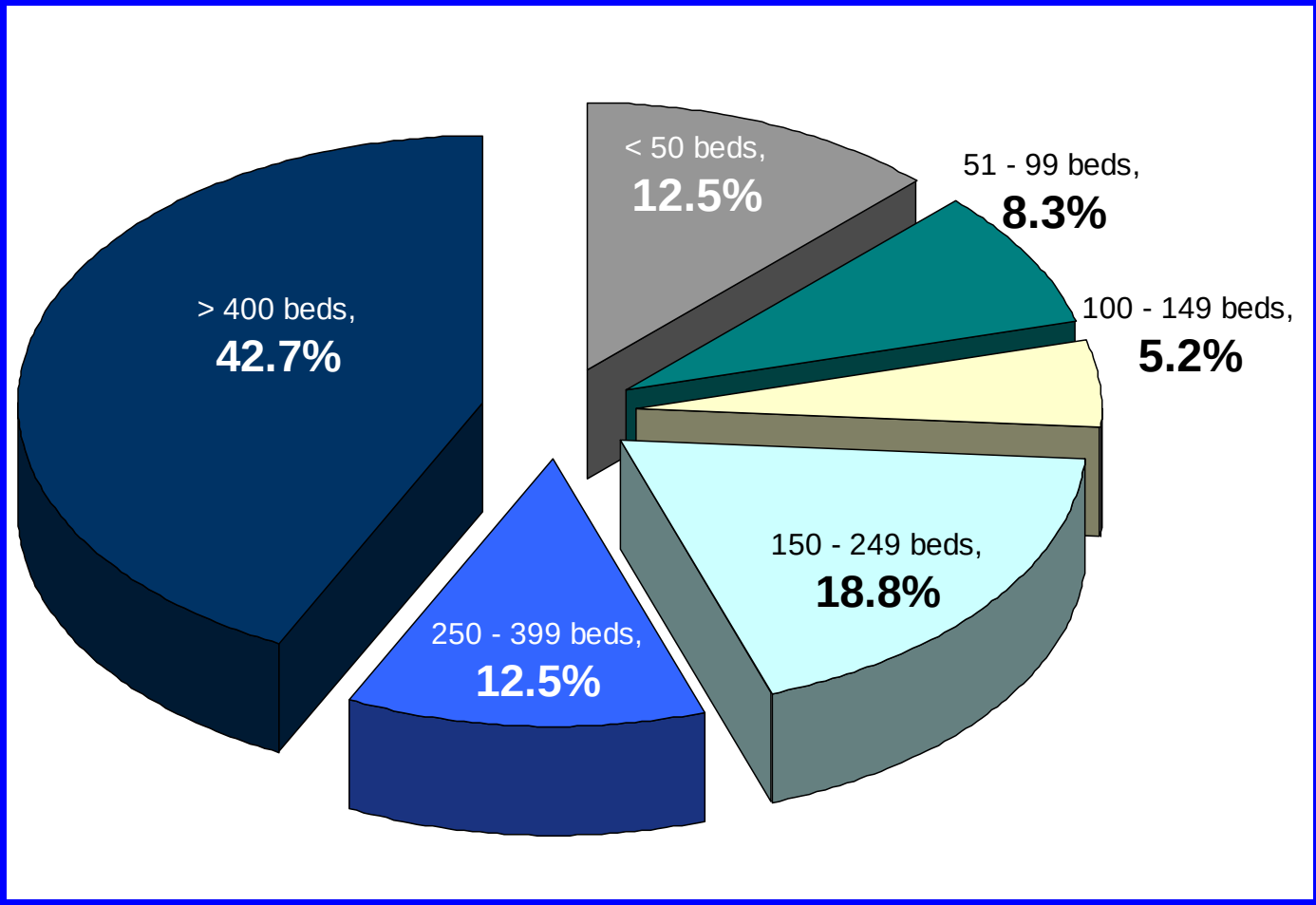
Job Titles


Coder/coding professional
43.4%
Manager/coordinator/supervisor/team leader
17.2%
Other
13.1%
Director
9.7%
Consultant
9.0%
Data quality analyst/case mix analyst
4.1%
Assistant Director
2.1%
HIM Faculty
1.4%
Medical record analyst
0.0%
0%
10%
20%
30%
40%
50%

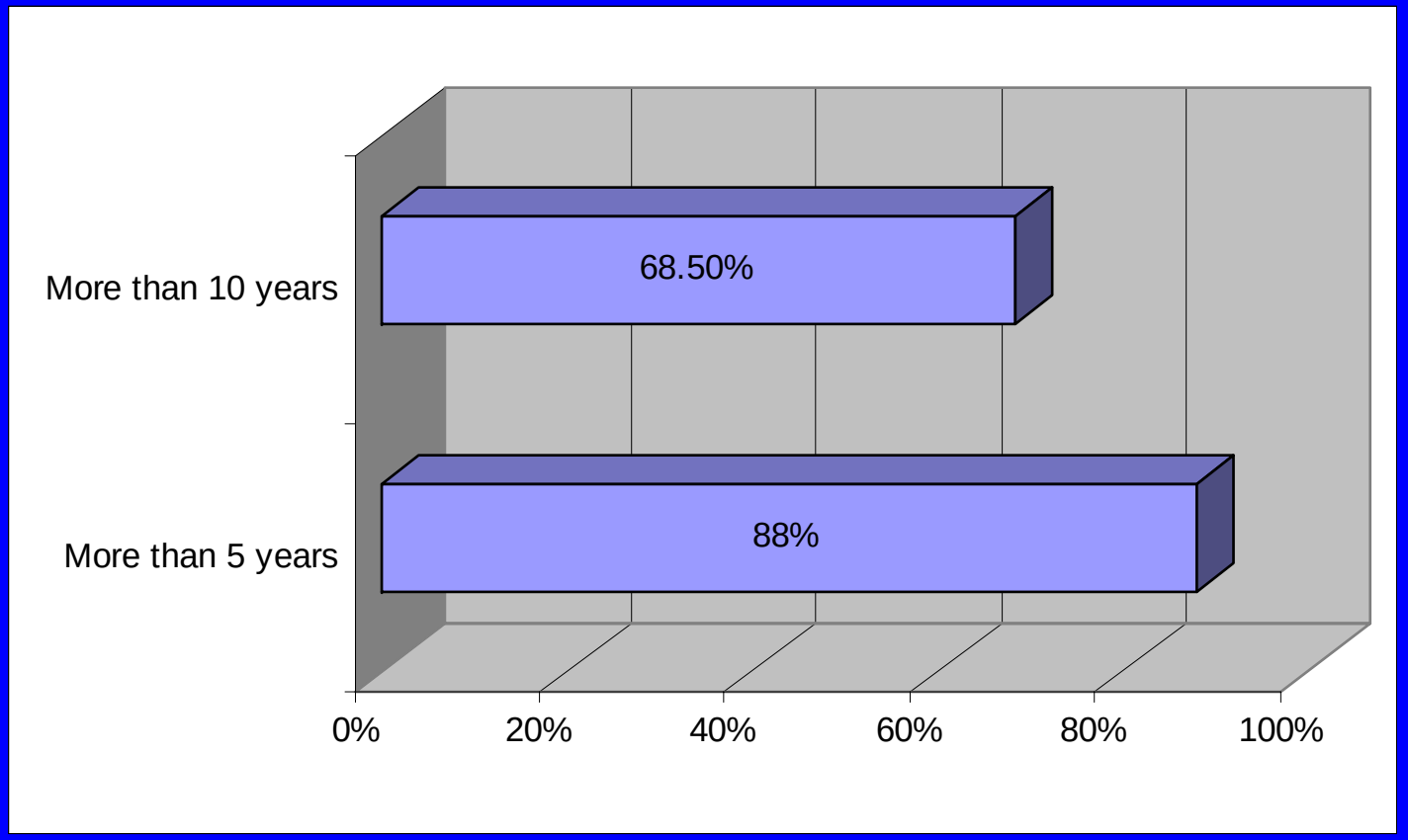
Place of Employment



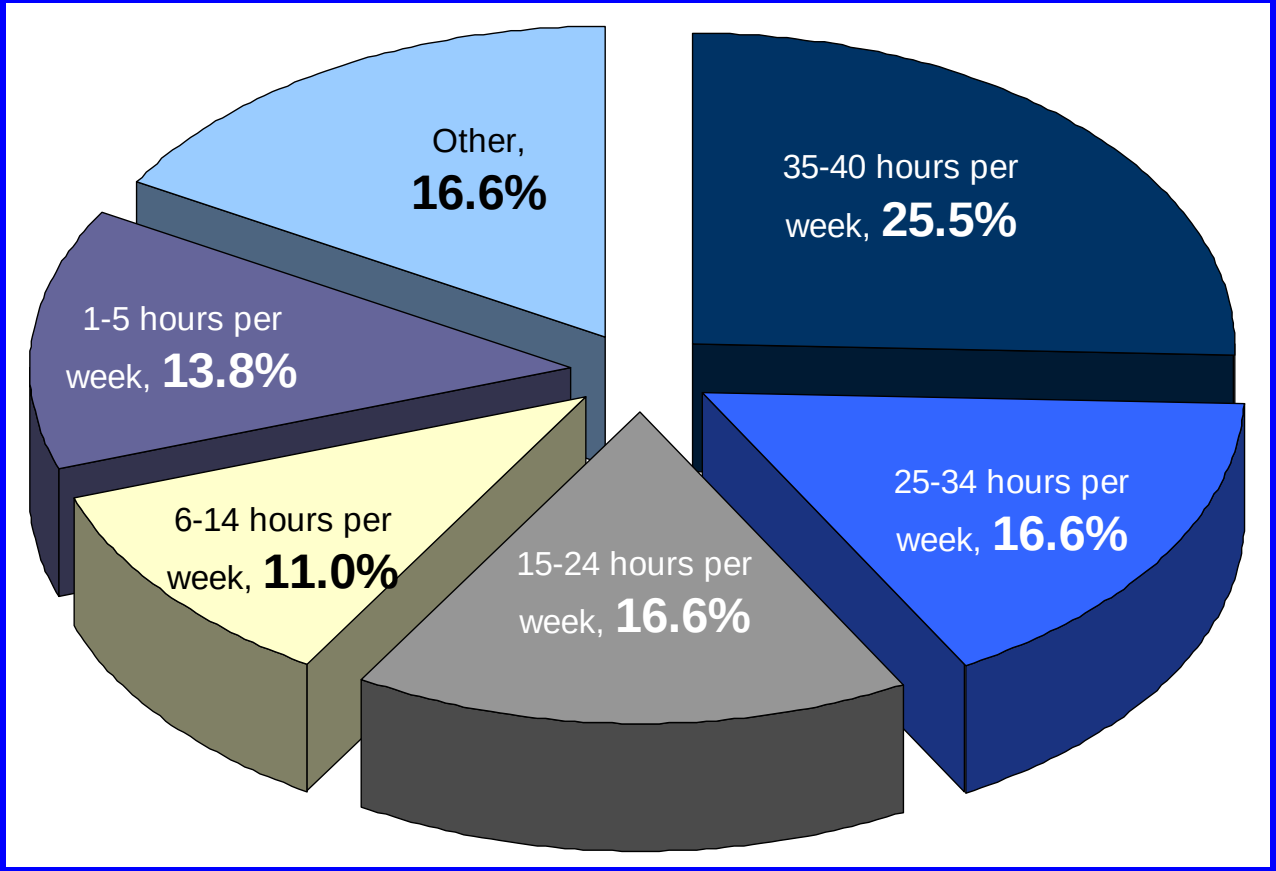
Short Term Acute Care Hospital by Bed Size



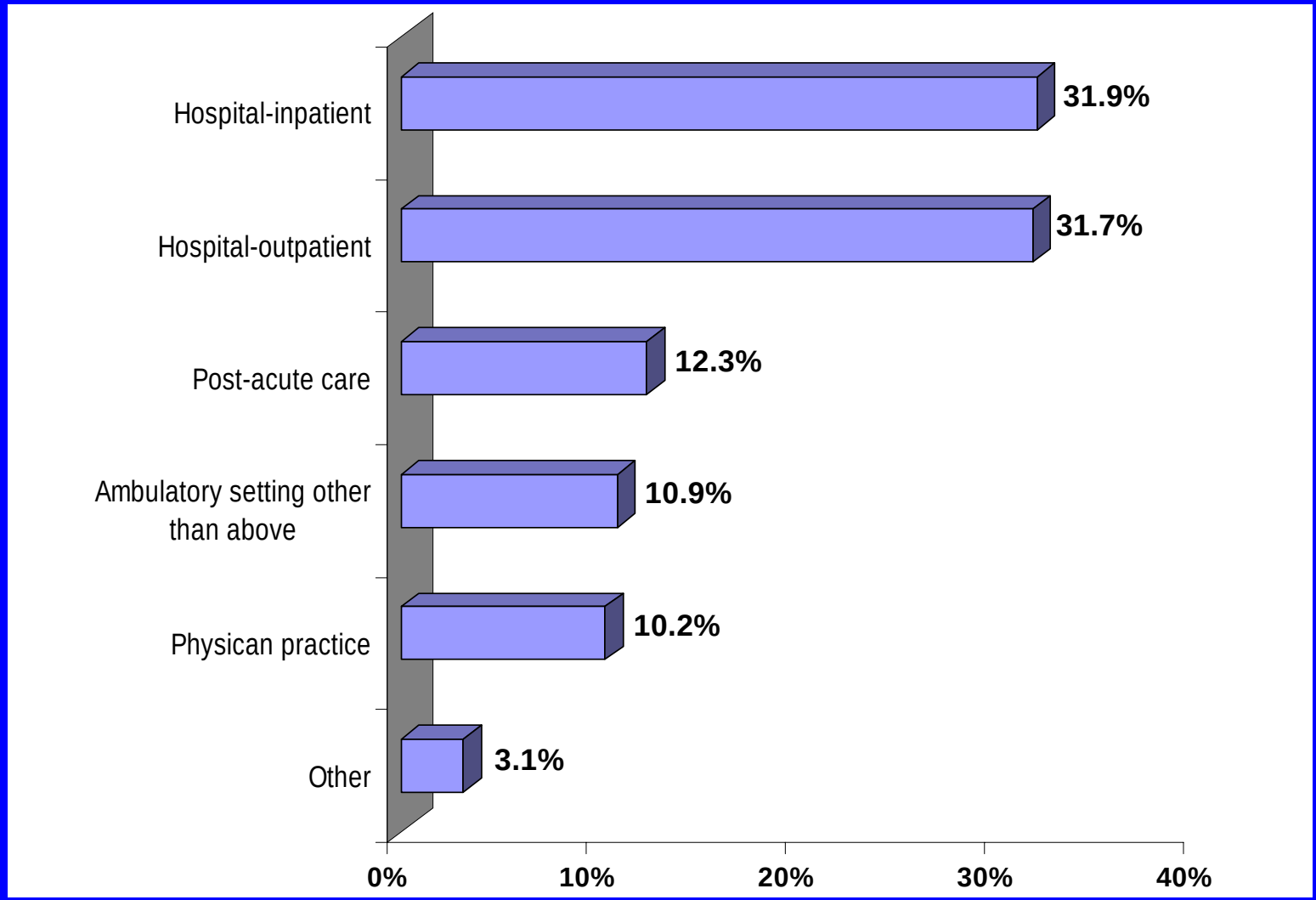
Years of Coding Experience



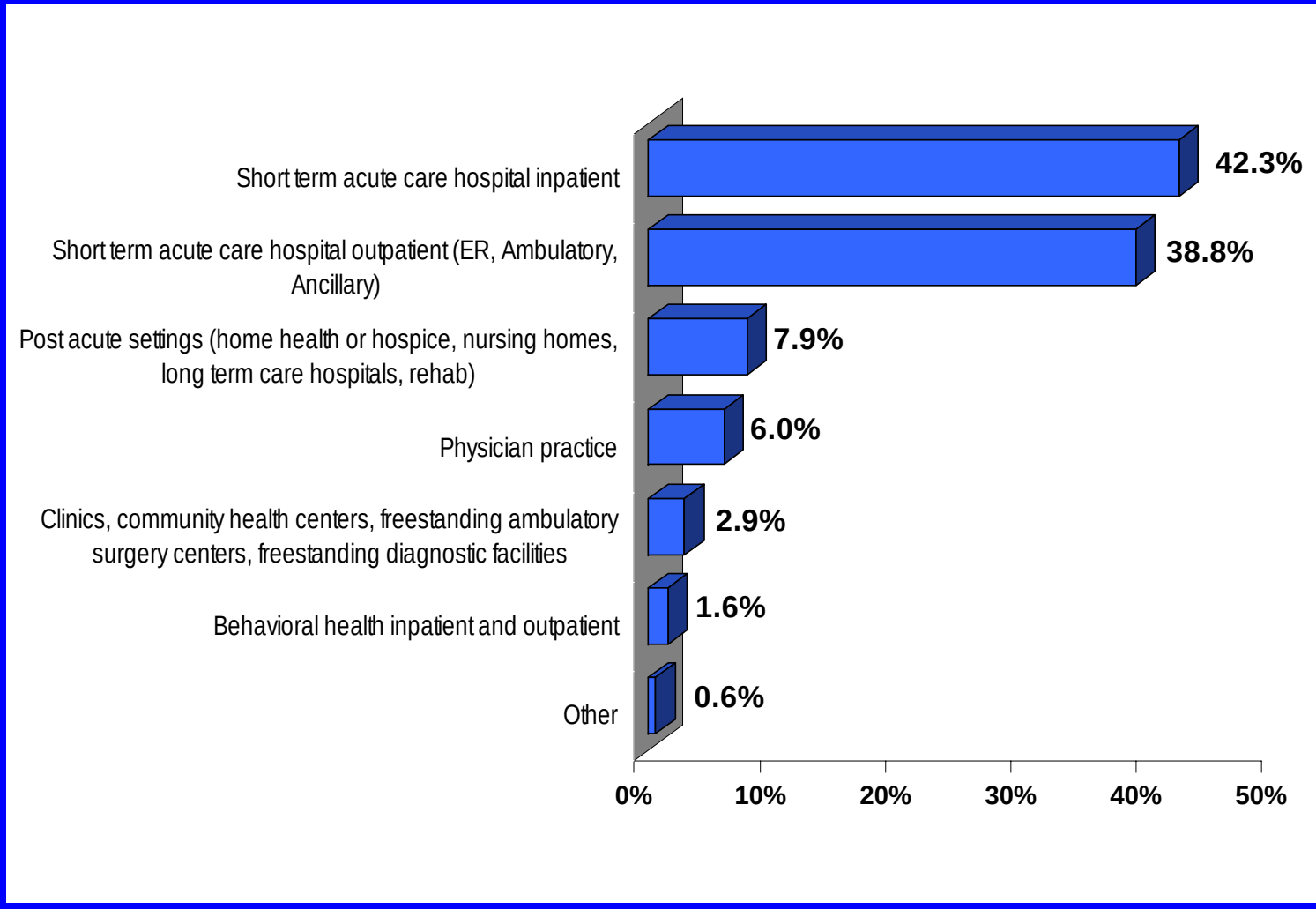
Number of Hours Per Week Spent Coding



Type of Coding Experience

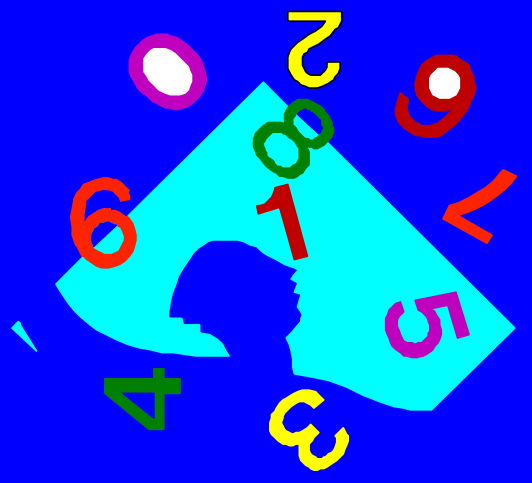


Type of Medical Record Coded



Number of Codes Assigned

- ICD-10-CM – 23,122
- Total number of non-specific codes – 2,847 (12.3% of total number of reported codes)



Number of ICD-10-CM Diagnosis Codes by Chapter

Chapters	Number of Codes
Diseases of the circulatory system	3885
Factors influencing health, health services	2441
Endocrine, nutritional and metabolic diseases	2230
Symptoms, signs and abnormal clinical findings, not elsewhere classified	1585
Diseases of the digestive system	1560
Diseases of the respiratory system	1439
Diseases of the musculoskeletal system	1374

Number of ICD-10-CM Diagnosis Codes by Chapter

Chapters	Number of Codes
Injury, poisoning, other consequences	1235
Mental and behavioral disorders	1163
Diseases of the genitourinary system	1046
Diseases of the nervous system	792
External causes of morbidity	714
Diseases of blood and blood-forming organs	696
Neoplasms	622

Number of ICD-10-CM Diagnosis Codes by Chapter

Chapters	Number of Codes
Pregnancy, childbirth, and puerperium	600
Certain infectious/parasitic diseases	455
Diseases of skin and subcutaneous tissue	322
Diseases of eye and adnexa	296
Congenital malformations, deformities	240
Diseases of ear and mastoid process	214
Perinatal conditions	213
TOTAL	23,122

Comparison of Coding Times

- No difference between ICD-9-CM and ICD-10-CM coding times in 3,616 records (58.6%)
- Overall average coding time was almost twice as great in ICD-10-CM
  - 6.37 minutes in ICD-9-CM
  - 12.14 minutes in ICD-10-CM

ICD-10-CM Coding Time

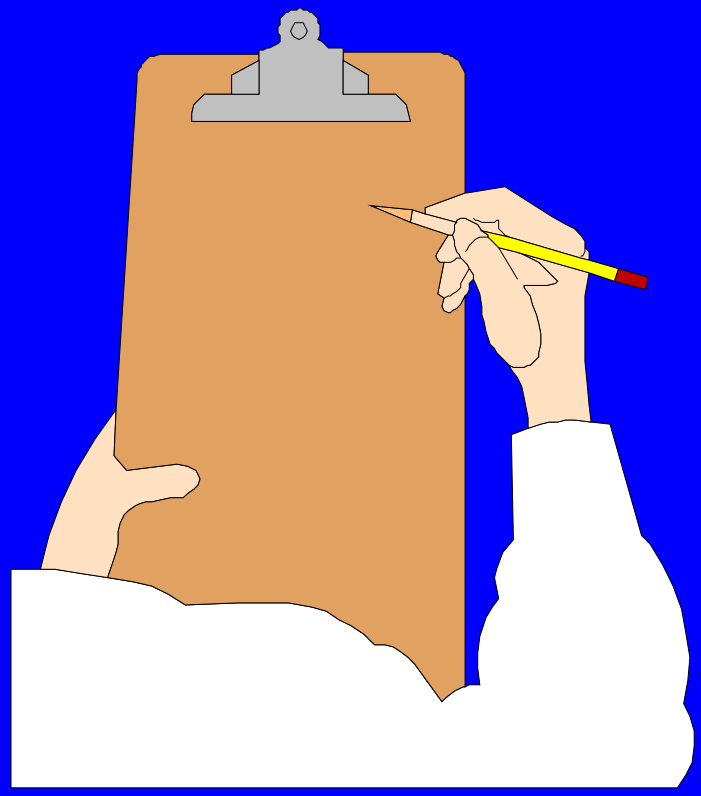
- Majority (91.9%) of cases where ICD-10-CM coding time was increased were due to index file format and/or difficulty locating term in index
- Average ICD-10-CM coding time expected to be higher
  - Less familiar with ICD-10-CM than ICD-9-CM
  - Minimal training
  - Lacked user-friendly coding tools

Validation of Coding Accuracy

- 360 validation forms were submitted (5.8% of total number of records coded)
- 79.2% of participant's and validator's code assignments matched
- Reasons for coding errors included:
  - New feature in ICD-10-CM
  - Erroneous assumption based on different amounts of information available to participant and validator
  - Difficulty in using index file format resulted in selection of incorrect code

Opportunities for System Improvement

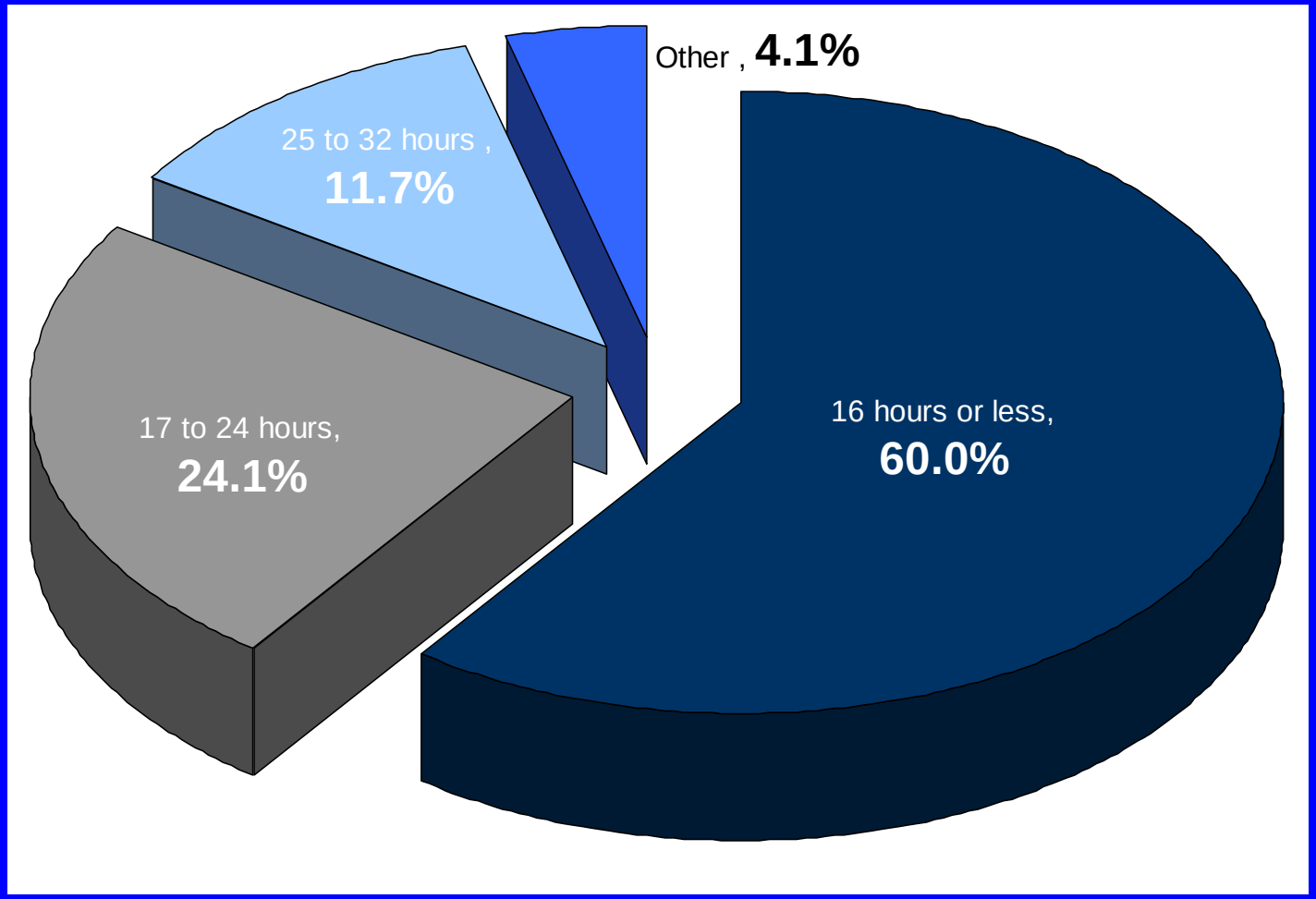
- "Problem identification form" submitted
  - Specific ICD-9-CM code(s) assigned
  - Specific ICD-10-CM code(s) assigned, if possible
  - Narrative description of problems encountered during code assignment



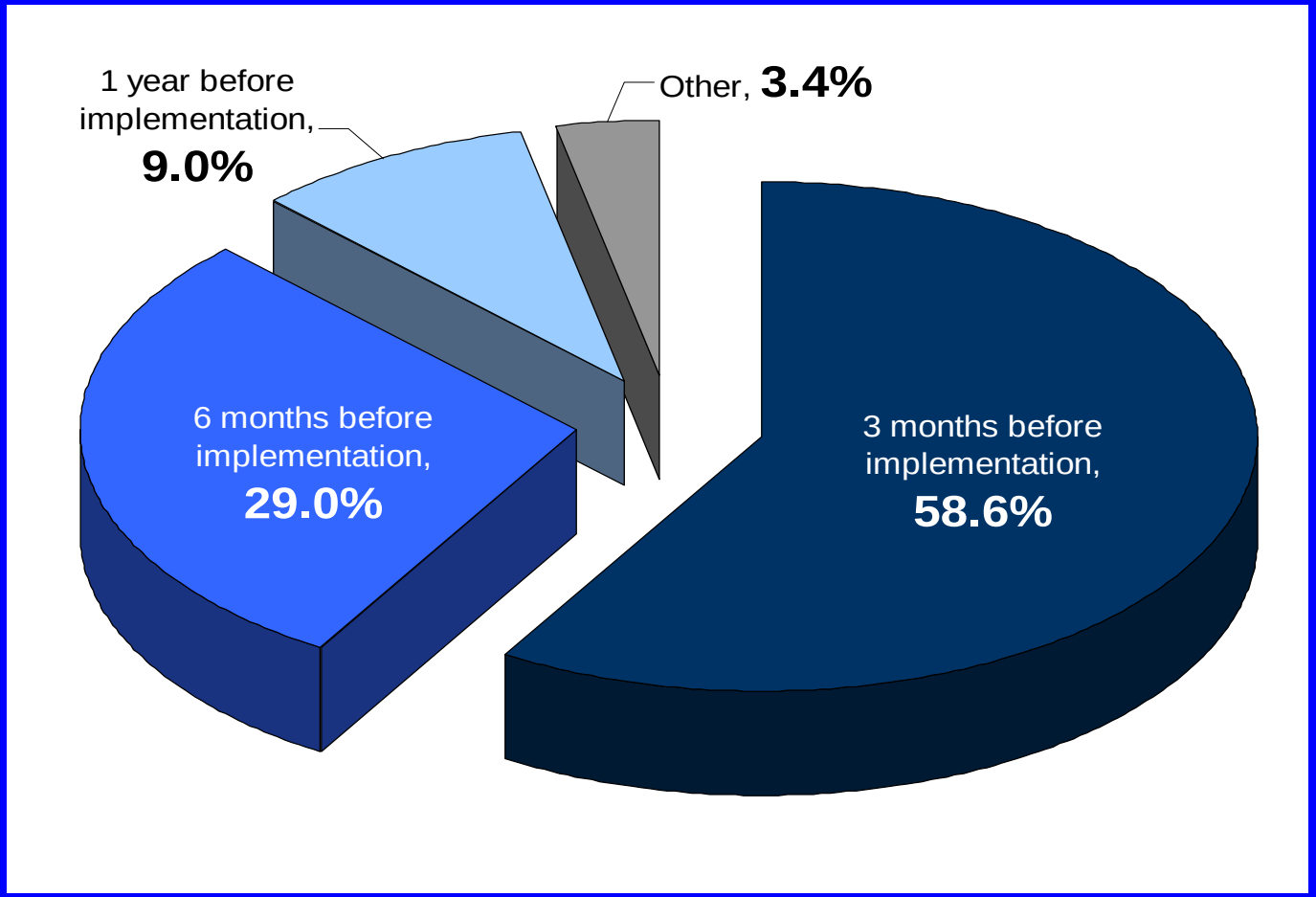
Opportunities for System Improvement

- 305 unique issues regarding errors or conflicts in instructions or index entries or other problems assigning ICD-10-CM code
- For 151 diagnoses, participant was unable to identify appropriate code
- Problems will be reported to NCHS for consideration of modifications to facilitate the coding process

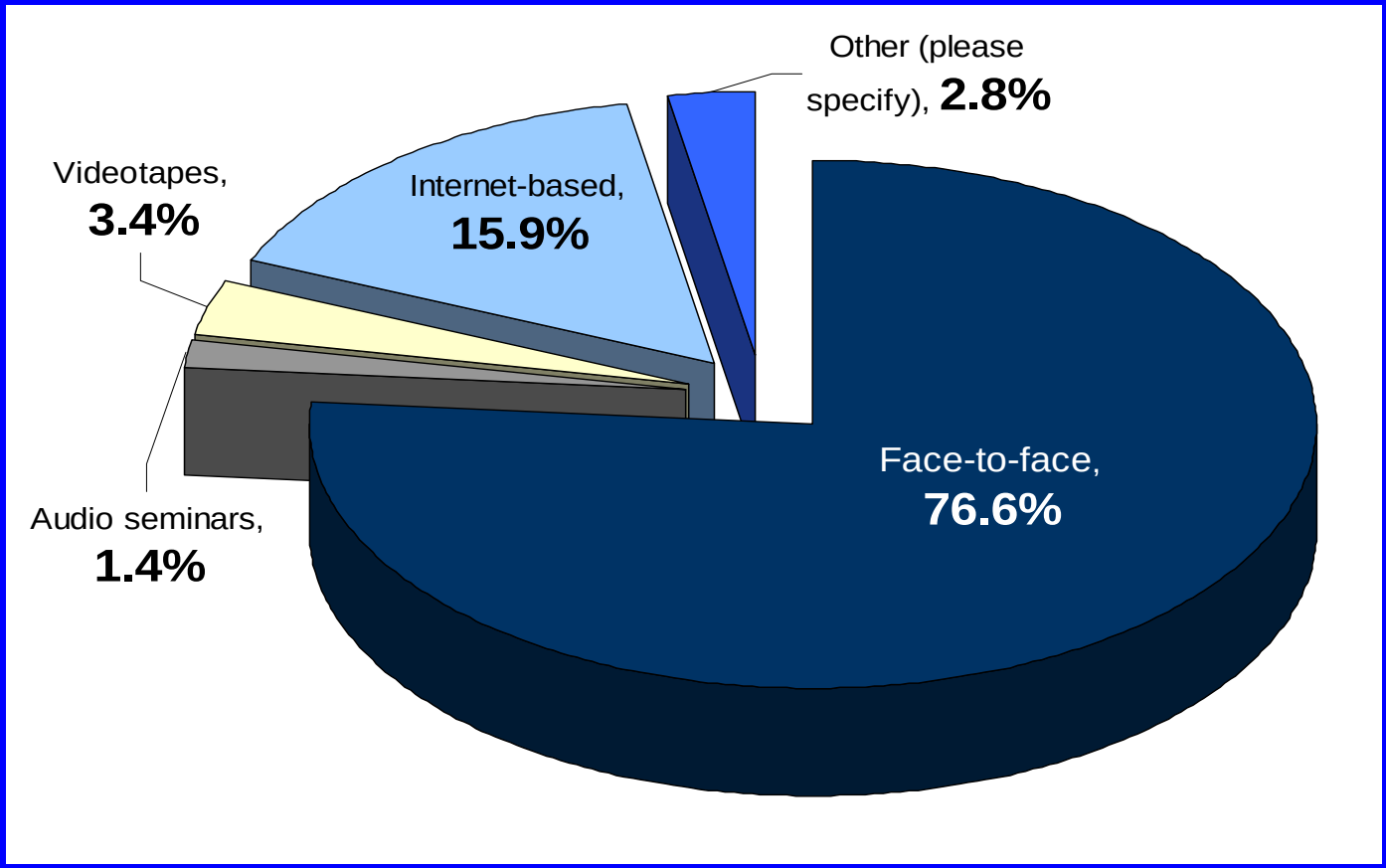
Training Needed for an Experienced Coder



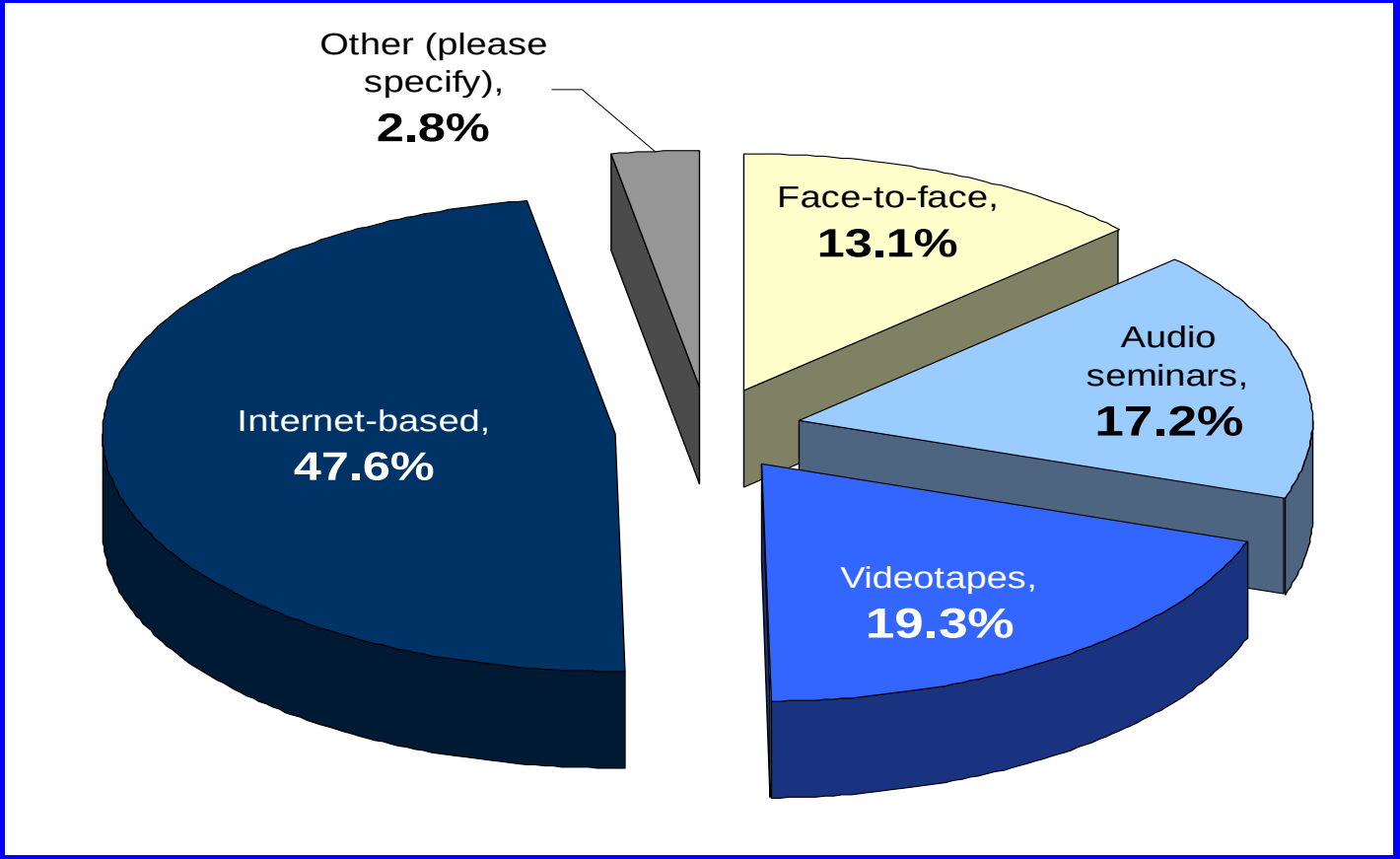
Timing of Training



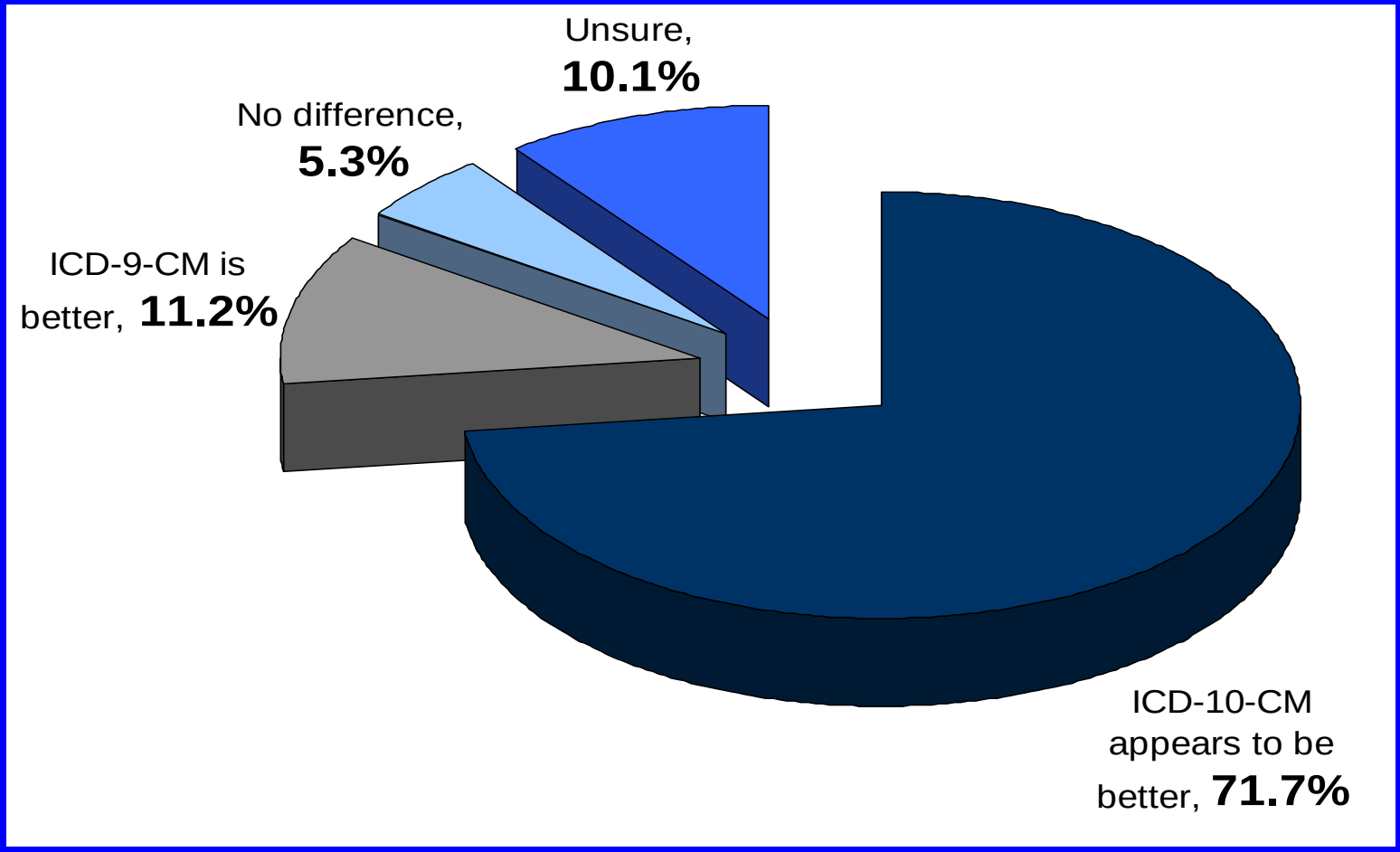
Training Method – First Choice



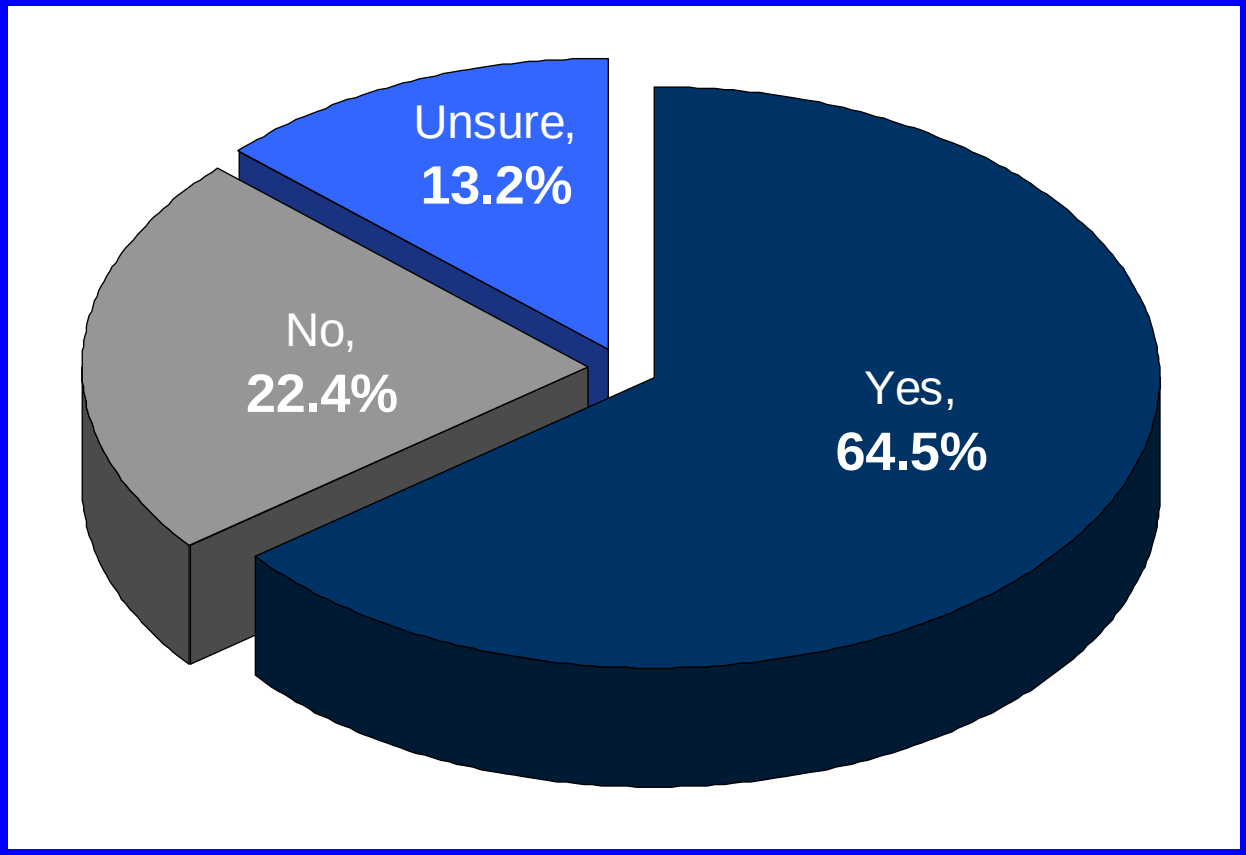
Training Method – Second Choice



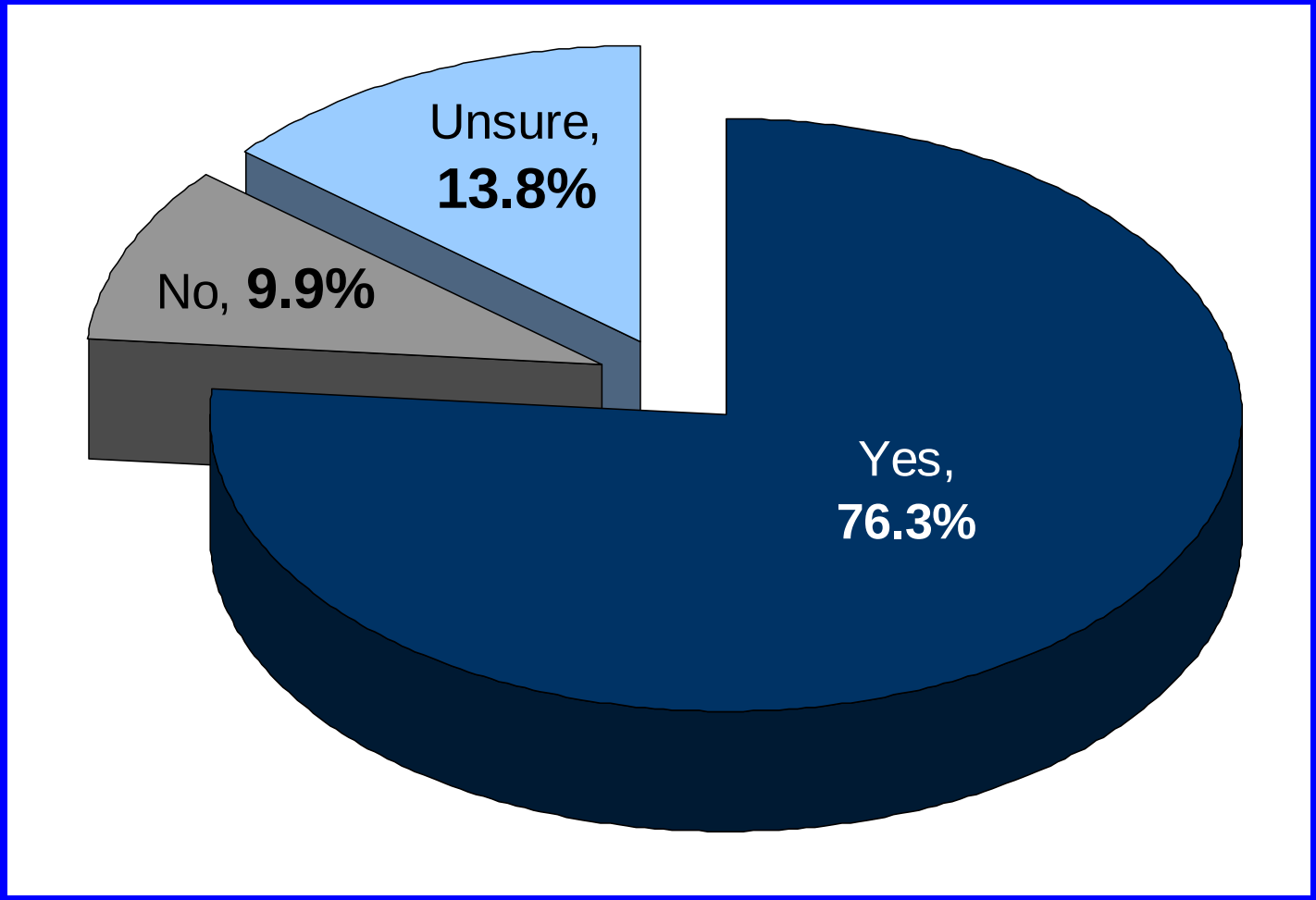
Comparison of Clinical Descriptions



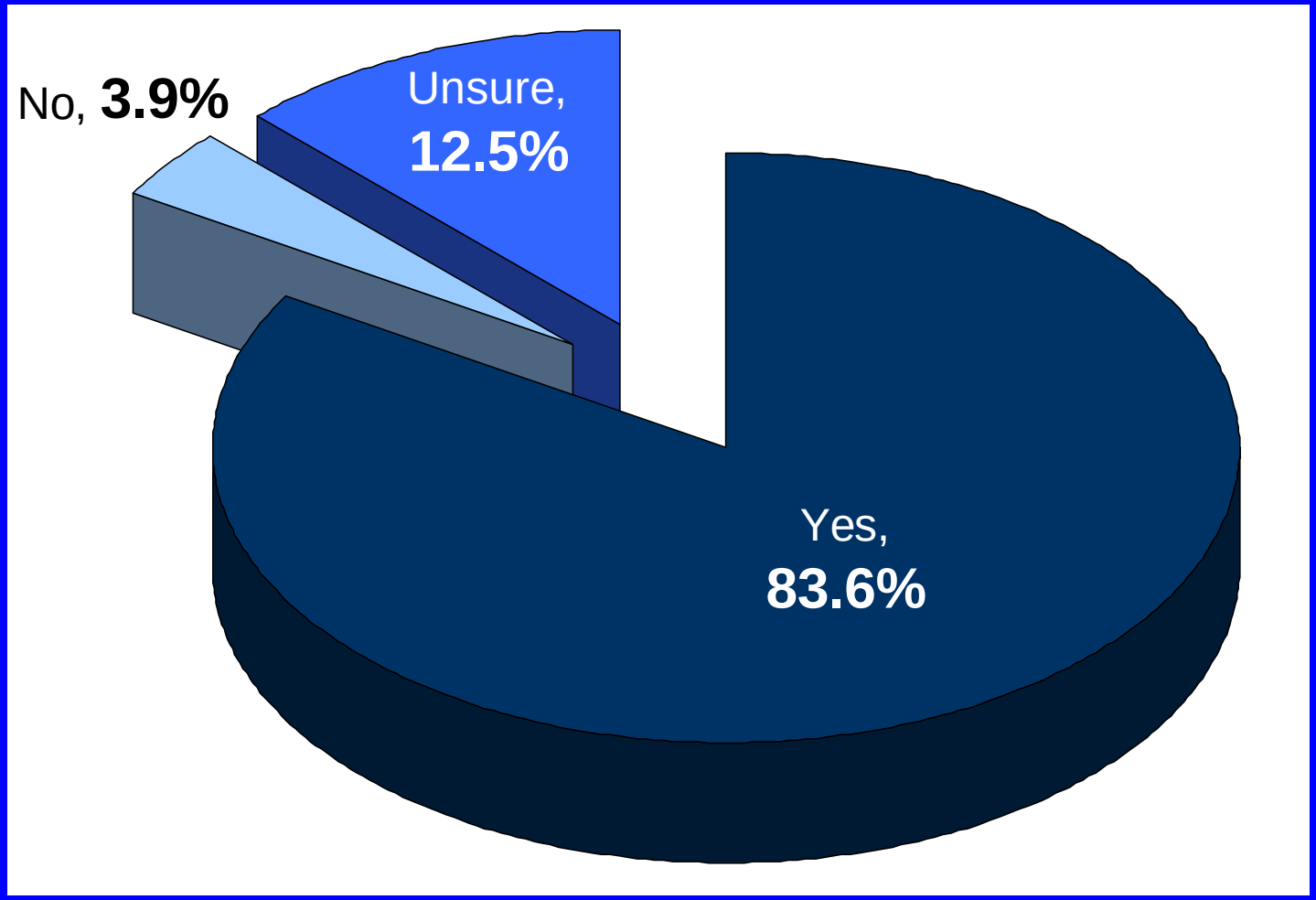
Were notes, instructions, and guidelines in ICD-10-CM clear and comprehensive?



Does ICD-10-CM appear to be an improvement over ICD-9-CM?



Do you support migration to ICD-10-CM?



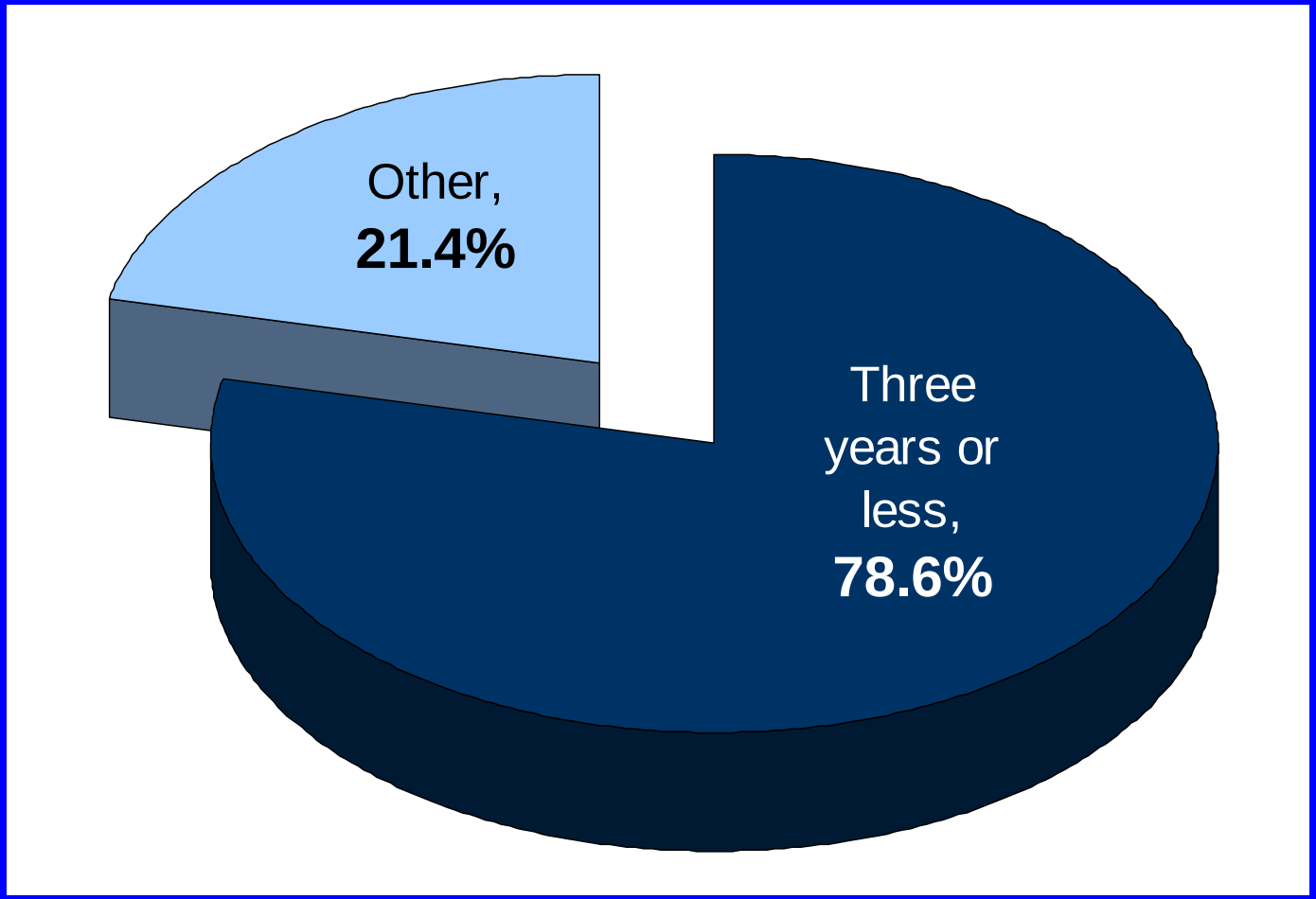
Comments for Not Supporting Migration to ICD-10-CM

- Index tool was too difficult - it needs an overhaul
- Concerns
  - the cost to change
  - about availability of resources to assist coders.

Comments for Being "Unsure" About Supporting Migration to ICD-10-CM

- Problems with the index tool
- Poor physician documentation would prevent reaping benefits from the greater specificity of ICD-10-CM
- Other concerns
  - cost of implementation
  - shortage of coders
  - systems will need to change

If you support migration, how soon should it be implemented?



Significant Comments Regarding How Soon ICD-10-CM Should Be Implemented

- Fix the index problems first
- Implementation should take place as soon as vendors and payers can accommodate the change
- “ASAP!”
- “Did not answer ‘yes’ but feel it is in the best interest of our profession to get on with this as soon as possible.”

Next Steps

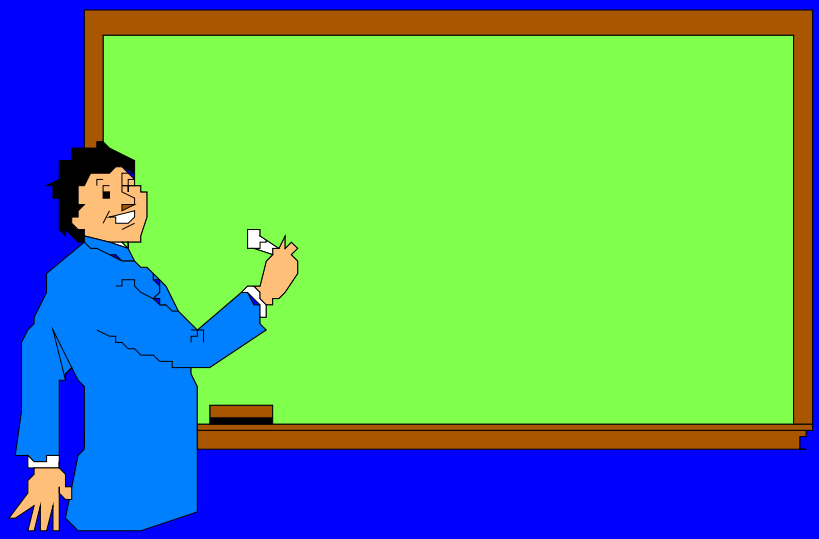
- Summary of data on problems assigning ICD-10-CM codes and will be provided to the National Center for Health Statistics
- Further review and analysis of the field-testing data will be conducted

Conclusion

- Migration to ICD-10-CM favored
- ICD-10-CM seen as an improvement over ICD-9-CM
- Coding system can be applied to medical records in a variety of healthcare settings, without necessitating a change in documentation practices
- ICD-10-CM more applicable to non-hospital settings than ICD-9-CM

Conclusion (cont.)

- Maximum of 16 hours of training thought to be sufficient
- Face-to-face training and Internet-based training preferred



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Questions?