PHPM 631 Online

- How is everyone doing adjusting to learning online
- Getting comfortable with zoom
- Much more use of gdrive: collaborating online
  - https://pinformatics.org/phpm631/Participate
- FAQ
- Syllabus addendum
- Gradings posted for assignments 3 & 4

Questions: type into chat box on zoom
Next week

- Read Chapter 9
- Quiz 8
- Assignment 6: due next week (3/29)
  - Outside readings for week after
  - Worksheet: group
  - Flyer: individual

Assignment 6: Security & Privacy Worksheet and Flyer

- Readings:
  - CH 9
  - Outside readings on the website/assignment 6
- Worksheet: Group
  - Work on the activities and discuss answers and submit one per group
  - Use gdocs to work remotely together to co-edit. Submit by sharing the gdocs with Michelle and Dr. Kum (we will look at history of the document)
- Flyer: Individual
  - Based on what you learned, make a flyer individually and submit
Outside readings


- [L] FAQ & Tutorial on Privacy Preserving Interactive Record Linkage.
  - FAQ
  - Tutorial


- [L] Zero Day Attack

Standards and Codes

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Course URL: http://pinformatics.org/phpm631

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Standard

- A common language to communicate
- Why?
  - Interoperability, portability, and data exchange
- What
  - Agree to what are relevant elements
  - Agree to coding system
  - Sometimes, agree to classification system
- Health Care in the US
  - HIPAA, HITECH
  - Office of the National Coordinator for Health Information Technology (ONC)
  - CMS: E-prescribing & EHR Incentive Programs
  - Texas State Laws

Standards Development Process

- Ad hoc: a group of interested people agree without a formal adoption process (medical images: DICOM)
- De facto: a vendor controls such a large segment of the market, that its product becomes the recognized norm (SQL)
- Government mandate: government mandates the adoption (HIPAA)
- Consensus: representatives from various interest groups come together to reach a formal agreement of specifications (HL7, ANSI)
Vocabulary & Terminology Standards
- Code sets required by HIPAA
  - ICD-10 (ICD-9-CM): diagnosis & procedures (inpatient)
  - CPT: physicians procedures (outpatient)
  - NDC: national drug codes
  - CDT: dental terminology
  - HCPCS: ancillary services and procedures
- Uniform Data Standard for patient medical record information (PMRI)
  - Systematized nomenclature of medicine - clinical terms (SNOMED CT)
  - Logical Observation Identifiers Names and Codes (LOINC) laboratory subset
  - Unified Medical Language (UMLS): RxNorm

Data Interchange Standards
- HL7: messaging standard
- DICOM: digital images (CT scans, MRIs)
- NCPDP: prescription drug
- ANSI ASC X12N: health insurance (claims)

Type of Standards

ICD-10-CM

- Specific improvements from ICD 9 CM & ICD 10 include:
  - the addition of information relevant to ambulatory and managed care encounters;
  - expanded injury codes;
  - the creation of combination diagnosis/symptom codes to reduce the number of codes needed to fully describe a condition;
  - the addition of sixth and seventh characters;
  - incorporation of common 4th and 5th digit subclassifications;
  - Laterality: (side of the body affected) is a new coding convention added to relevant ICD-10 codes to increase specificity
  - and greater specificity in code assignment.
- The new structure will allow further expansion than was possible with ICD-9-CM.
Standard billing forms

- One of two standard billing forms are submitted to a third-party payer
  - UB-04: uniform bill (or CMS-1450)
    - For inpatient, hospital-based outpatient, home health care, and long-term care services
    - Institutional care
  - CMS-1500
    - Health care provider services (physician services)
    - non-institutional provider claims

CPT

- Standard for physician’s office, outpatient, ambulatory care coding for reimbursement purposes
- HCPCS Level 1
- Copyrighted with all rights to publication and distribution held by the AMA (American medical association)
- There are official guidelines for accurate coding, and health care facilities that do not adhere to these guidelines are liable to charges of fraudulent coding practices
ICD

- Coding of both diagnosis and procedures
- Moved to ICD-10-CM: diagnosis
  - Based on ICD-10: statistical classification of disease published by the WHO
  - Approved by AHA, AHIMA, CMS, NCHS
- Moved to ICD-10-PCS: procedures (only for inpatient)
- Used for determining the diagnosis related group (DRG) into which patients are assigned.
- DRG are the basis for determining appropriate inpatient reimbursements for Medicare, Medicaid, and many other health care insurance beneficiaries
- Thus, accurate ICD coding is vital to accurate reimbursement
- [http://www.cdc.gov/nchs/icd/icd10cm.htm](http://www.cdc.gov/nchs/icd/icd10cm.htm)

ICD-10-CM Official Guidelines for Coding and Reporting

- A joint effort between the healthcare provider and the coder is essential to achieve complete and accurate documentation, code assignment, and reporting of diagnoses and procedures.
- The importance of consistent, complete documentation in the medical record cannot be overemphasized.
- Without such documentation accurate coding cannot be achieved. The entire record should be reviewed to determine the specific reason for the encounter and the conditions treated.
ICD-10-CM Code Structure
http://www.roadto10.org/icd-10-basics/

- Codes with three characters are included in ICD-10-CM as the heading of a category of codes that may be further subdivided by the use of any or all of the 4th, 5th, and 6th characters.
- Digits 4-6 provide greater detail of etiology, anatomical site, and severity.
- A code using only the first three digits is to be used only if it is not further subdivided.
- A code is invalid if it has not been coded to the full number of characters required. This does not mean that all ICD-10 codes must have 7 characters. The 7th character is only used in certain chapters to provide data about the characteristic of the encounter.

ICD-10-CM Indexes
A summary of the chapters found in the Tabular List

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Code Range</th>
<th>Estimated # of Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A00-B99</td>
<td>1,056</td>
<td>Certain infectious and parasitic diseases</td>
</tr>
<tr>
<td>2</td>
<td>C00-D49</td>
<td>1,620</td>
<td>Neoplasms</td>
</tr>
<tr>
<td>3</td>
<td>D50-D89</td>
<td>238</td>
<td>Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism</td>
</tr>
<tr>
<td>4</td>
<td>E00-E89</td>
<td>675</td>
<td>Endocrine, nutritional and metabolic diseases</td>
</tr>
<tr>
<td>5</td>
<td>F01-F99</td>
<td>724</td>
<td>Mental, Behavioral and Neurodevelopmental disorders</td>
</tr>
<tr>
<td>6</td>
<td>G00-G99</td>
<td>591</td>
<td>Diseases of the nervous system</td>
</tr>
<tr>
<td>7</td>
<td>H00-H59</td>
<td>2,492</td>
<td>Diseases of the eye and adnexa</td>
</tr>
<tr>
<td>8</td>
<td>H60-H95</td>
<td>642</td>
<td>Diseases of the ear and mastoid process</td>
</tr>
<tr>
<td>9</td>
<td>I00-I99</td>
<td>1,254</td>
<td>Diseases of the circulatory system</td>
</tr>
<tr>
<td>10</td>
<td>J00-J99</td>
<td>336</td>
<td>Diseases of the respiratory system</td>
</tr>
<tr>
<td>11</td>
<td>K00-K95</td>
<td>706</td>
<td>Diseases of the digestive system</td>
</tr>
<tr>
<td>12</td>
<td>L00-L99</td>
<td>769</td>
<td>Diseases of the skin and subcutaneous tissue</td>
</tr>
<tr>
<td>13</td>
<td>M00-M99</td>
<td>6,339</td>
<td>Diseases of the musculoskeletal system and connective tissue</td>
</tr>
<tr>
<td>14</td>
<td>N00-N99</td>
<td>591</td>
<td>Diseases of the genitourinary system</td>
</tr>
<tr>
<td>15</td>
<td>O00-O9A</td>
<td>2,155</td>
<td>Pregnancy, childbirth and the puerperium</td>
</tr>
<tr>
<td>16</td>
<td>P00-P96</td>
<td>417</td>
<td>Certain conditions originating in the perinatal period</td>
</tr>
<tr>
<td>17</td>
<td>Q00-Q99</td>
<td>790</td>
<td>Congenital malformations, deformations and chromosomal abnormalities</td>
</tr>
<tr>
<td>18</td>
<td>R00-R99</td>
<td>639</td>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified</td>
</tr>
<tr>
<td>19</td>
<td>S00-S99</td>
<td>39,869</td>
<td>Injury, poisoning and certain other consequences of external causes</td>
</tr>
<tr>
<td>20</td>
<td>V00-V99</td>
<td>6,812</td>
<td>External causes of morbidity</td>
</tr>
<tr>
<td>21</td>
<td>Z00-Z99</td>
<td>1,178</td>
<td>Factors influencing health status and contact with health services</td>
</tr>
</tbody>
</table>
### Example: Laterality

- Laterality code descriptions include right (1), left (2), bilateral (3), or unspecified designations (0 or 9)
- **CONDITIONS: CENTRAL CORNEAL ULCER AND MALIGNANT NEOPLASM OF LOWER-OUTER QUADRANT OF FEMALE BREAST**

<table>
<thead>
<tr>
<th>Condition: Central Corneal Ulcer</th>
<th>ICD-9 coding table</th>
<th>ICD-10 coding table</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 370.03 Central corneal ulcer</td>
<td>• H16.011 Central corneal ulcer, right eye OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• H16.012 Central corneal ulcer, left eye OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• H16.013 Central corneal ulcer, bilateral OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• H16.019 Central corneal ulcer, unspecified</td>
<td></td>
</tr>
</tbody>
</table>