From Lawrence Weed to Apex and ICD-10

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Change and Education
The Question:

Why is optimizing Problem List use important for patient care and the function of the Medical Center?
Outline

1) The problem-oriented medical record and the Problem List: the good, the bad and the ugly.
3) ICD-10 codes: why diagnostic codes matter for patient care as well as getting paid.
4) The Problem List and ICD-10 codes
Why start with Lawrence Weed?
The Problem-Orientated Medical Record

Each medical record should have a complete list of all the patient’s problems, including both clearly established diagnoses and all other unexplained findings that are not yet clear manifestations of a specific diagnosis, such as abnormal physical findings or symptoms. When the data warrant, these findings can be crystallized into a specific diagnosis. The “problems list” then is not static in its composition, but is a dynamic “table of contents” of the patient’s chart, which can be updated at any time.

The Problem List

“a compilation of clinically relevant physical and diagnostic concerns, procedures, and psychosocial and cultural issues that may affect the health status and care of patients”

The Problem List – The Good

• The problem list can serve as a central repository of clinically relevant information
• The problem list can track treatments, response to treatments and performance of diagnostic evaluation over time
• The problem list is available to all providers for review if located in a standardized location in the medical record
Inclusion of heart failure on the problem list in the primary care setting increased the odds of being prescribed recommended therapies.

Caveats:
- Retrospective, cross-sectional study
- No effect seen for treatment with beta-blockers
- All patients were in a single health care system with a single EHR

The Problem List – The Bad

Optimal use of the Problem List is limited by:

- Lack of consensus on who owns the problem list – the PCP? or a specialist consulting on the patient?
- Lack of consensus on what type of information should be included – for example should the Problem List contain only active medical problems vs historically important problems

Wright et al. BMC Medical Informatics and Decision Making 2011, 11:36
The Problem List – The Bad

Optimal use of the Problem List is limited by:

• Lack of consensus on the language to use in problem list names and descriptions?
• Lack of training on how to optimally use the problem list
• Time loss to add information to the Problem List
• Variability across specialties in use of the problem list

Wright et al. BMC Medical Informatics and Decision Making 2011, 11:36
The Problem List – The Ugly

• Lack of consistent use of the Problem List – as low as ~30% in even a major academic hospital in the inpatient setting – Bakel Hosp Pediatr. 2014 Jul;4(4):205-10

• Groups of physicians ignoring the problem list - Wright et al. BMC Medical Informatics and Decision Making 2011, 11:36
The Electronic Health Record

When the procedure outlined above has been done manually, a basis for computerization will have been provided, and when it is implemented, all data on a given problem will be instantaneously retrievable in sequence and a physician will be able to focus on one problem at a time, seeing the flow of data over extended periods. He will then be prepared to relate that fully digested problem to the other problems by returning to his up-to-date problem list.

The Electronic Health Record

- 1970s: the first EHR systems came on line
  - Many incorporated a problem-based approach
  - Most early systems did not survive

- 1980s and 90s: improvements in computing power and changes in the computer knowledge of clinical personnel fuel a new generation of EHRs
  - Managed care organizations interested in system-wide data management (Kaiser)
“proper coordination and appropriate resources will lead to achievement of the goal of widespread CPR [computerized patient record] utilization within a decade”

The Electronic Health Record

2000s: complete EHRs come on line with mature integration of patient information, ordering systems and pharmacy

2000s: the EHR becomes a critical component of billing process

• Clinical events are assigned numerical codes in the EHR based on the International Classification of Diseases

• Electronically stored health information and practitioner documentation is used to support levels of billing and diagnostic codes
Where are International Classification of Diseases (ICD) codes used
Where are International Classification of Diseases (ICD) codes used

1. **ENCOUNTER/PROCEDURE**
   - Physician sees patient/performs a procedure and writes a note

2. **CODING**
   - Coder reads the note, determines complexity or the type of procedure, assigns E&M/CPT code and associates ICD-9 codes with the encounter

3. **BILLING**
   - Professional billing charge or Hospital Charge is generated
Changing from ICD-9 codes to ICD-10 codes

ICD-9-CM
- Consists of three to five characters
- First character is numeric or alpha (E or V)
- Second, third, fourth, and fifth characters are numeric
- Always at least three characters
- Decimal is placed after the first three characters

ICD-10-CM
- Consists of three to seven characters
- First character is alpha
- All letters are used except U
- Second character is numeric
- Third, fourth, fifth, sixth, and seventh characters can be alpha or numeric
- Decimal is placed after the first three characters
UCSF’s Transition to ICD-10

- 4/1/2013 - 11/20/2013: Hospital Coder Training
- 1/1/2013 - 4/17/2013: Project Workgroups Launched
- 12/1/2013: APeX 2012 Upgrade Stabilized
- 7/1/2013 - 12/20/2013: Pro Fee Coder Training
- 1/15/2014 - 9/30/2015: Dual Coding Feedback Loops, Provider Practice Change, APeX Provider Tools Optimization

10/1/2015: NEW ICD-10 Compliance

ICD-10 Transition @UCSF
### Single ICD-9 codes map to multiple ICD-10 codes

<table>
<thead>
<tr>
<th>Dx Code</th>
<th># of ICD-10 codes</th>
<th>Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>41400 - Coronary atherosclerosis of unspecified type of vessel, native or graft</td>
<td>1</td>
<td>544</td>
</tr>
<tr>
<td>42731 - Atrial fibrillation</td>
<td>3</td>
<td>534</td>
</tr>
<tr>
<td>4241 - Aortic valve disorders</td>
<td>5</td>
<td>168</td>
</tr>
<tr>
<td>4254 - Other primary cardiomyopathies</td>
<td>4</td>
<td>93</td>
</tr>
<tr>
<td>4240 - Mitral valve disorders</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>7823 - Edema</td>
<td>3</td>
<td>70</td>
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<tr>
<td>27800 - Obesity, unspecified</td>
<td>4</td>
<td>68</td>
</tr>
<tr>
<td>4271 - Paroxysmal ventricular tachycardia</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>4239 - Unspecified disease of pericardium</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>3051 - Tobacco use disorder</td>
<td>8</td>
<td>32</td>
</tr>
</tbody>
</table>
Single ICD-9 codes map to multiple ICD-10 codes

<table>
<thead>
<tr>
<th>ICD-9 Code</th>
<th>ICD-9 Terminology</th>
<th>ICD-10 Code</th>
<th>ICD-10 Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>42731</td>
<td>Atrial fibrillation</td>
<td>I480</td>
<td>Paroxysmal atrial fibrillation</td>
</tr>
<tr>
<td>42731</td>
<td>Atrial fibrillation</td>
<td>I482</td>
<td>Chronic atrial fibrillation</td>
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<td>42731</td>
<td>Atrial fibrillation</td>
<td>I4891</td>
<td>Unspecified atrial fibrillation</td>
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<tr>
<td>3051</td>
<td>Tobacco use disorder</td>
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<td></td>
</tr>
</tbody>
</table>
The ICD-10 Calculator

- Implemented January 15, 2014
- Appears when entering a diagnosis or pulling a diagnosis from the Problem List to Visit Diagnosis in the Outpatient Setting
ICD-10 Calculator
• Diagnosis Association – Orders

Database Matches

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Code</th>
<th>Code Set</th>
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<tbody>
<tr>
<td>334457</td>
<td>Cholecystolithiasis complicating pregnancy</td>
<td>026.619, K80</td>
<td>ICD-10-CM</td>
</tr>
<tr>
<td>020966</td>
<td>Cholecystolithiasis complicating pregnancy, first trimester</td>
<td>026.611, K80</td>
<td>ICD-10-CM</td>
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<tr>
<td>781729</td>
<td>Cholecystolithiasis complicating pregnancy, second trimester</td>
<td>026.612, K80</td>
<td>ICD-10-CM</td>
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<tr>
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<td>026.613, K80</td>
<td>ICD-10-CM</td>
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<td>626770</td>
<td>Cholelithiasis complicating pregnancy, antepartum</td>
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<td>026.611, K80</td>
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<td>Cholelithiasis complicating pregnancy, antepartum, third trimester</td>
<td>026.613, K80</td>
<td>ICD-10-CM</td>
</tr>
</tbody>
</table>

Select a more specific diagnosis in order to bill for your work

Trimester: unspecified trimester, first trimester, Second Trimester, third trimester

Visit Diagnosis
Cholecystolithiasis complicating pregnancy, second trimester [026.612, K80.20]
ICD-10 Problem List Calculator

- Appears when a new problem is entered in the inpatient setting
The precision of titled, problem-oriented progress notes and conclusions is directly related to the precision and integrity with which the problems are initially defined.
What can we do to optimize Problem List usage?

• Understand that problem lists are viewed by outside providers as well as the patient themselves – the Problem List is a central hub for coordinating information in APeX

• Work to establish consensus on workflows for use of the Problem Lists

• Modify Problem Lists to eliminate duplication and out of date problems

• Track usage, accuracy and quality of the problem list

• Feed quality information on Problem List use back to providers
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