The Future of Clinical Documentation – Documenting for More Accountable Care

Lynn Kosegi
Joan Topper
Juergen Fritsch, PhD
Agenda

• Clinical Documentation – Today’s trends and Challenges

• Geisinger Health System – Better Clinical Documentation to drive better care

• The Future – Technology to enable information-driven health care
Part I: Trends & Challenges in Healthcare Documentation
The EHR and Meaningful Use

The promise…

- Achieving Meaningful Use of EHR will –
  - Improve patient care
  - Reduce costs
  - Improve population health

How?
The Doctor’s Reality

“I can’t see the patient story”

“I CAN’T TELL WHAT’S NEW”

“I can’t tell how the patient feels”

“I see 2 fewer patients a day”

“I’m under-coding and under-billing”
From HIM Professionals

“MTs are editing in the EHR”

“Residents are texting”

“DOCTORS WON’T USE IT”
EMR Adoption

HIMSS EMR Adoption ModelSM Q2 2013

- 34.5% at Stage 3
- 10% at Stage 6
  - Physician documentation and structured templates
- 2.1% at Stage 7
  - Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP

1HIMSS Analytics, 2013
Information Demands

Meaningful Use
  - Problem list
  - Quality
    - Quality measures
    - PQRS
  - Clinical Decision Support
  - Patient-facing summary

ICD-10:
  - Specificity
  - ~5 times the number of codes

Accountable care
  - Value-based reimbursement
  - Patient satisfaction
Doctor’s little helpers…

...The tools that make it easier for doctors to do the right things faster also make it easier to do the wrong things faster…

- Templates
- Copy/paste
- Pull forwards
- Text expansion
Documentation Challenges

Glenn Krauss, BBA, RHIA, CCS, CCS-P, CPUR, FCS, PCS, CCDS, C-CDI

- RACs (Recovery Auditor Contractors) 2012:
  - $2.29 billion in overpayments
  - Mostly categorized as medical necessity short stays

“Well laid out and executed HPI sets the tone for establishment of medical necessity for admission, serving as a clear prism closely approximating the physician's clinical judgment and thought processes associated with the decision to admit the patient as an inpatient versus observation.”

Documentation Challenges

From Kathleen Sebelius, Secretary HHS
Eric Holder, Attorney General

“False documentation of care is not just bad patient care; it’s illegal.”

“These indications include potential “cloning” of medical records…”

“Hospitals may be using electronic health records to facilitate “upcoding” of the intensity of care or severity of patients’ condition…”

“Law enforcement will take appropriate steps to pursue health care providers who misuse electronic health records to bill for services never provided.”

Documentation Challenges

Patient satisfaction counts!

HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) survey
- First national, standardized, publicly reported survey
- Part of $1 billion in payment to hospitals based on satisfaction

27 questions including:
- “How often did doctors treat you with courtesy and respect?”
- Others about care giver communication

Documentation Paradox

**Increased demand for information**
- ICD-10
- Meaningful Use
- Quality measures, PQRS

**More difficult methods of information capture**
- Direct data entry
- Complex, highly-structured templates
The Current Situation

CHIEF COMPLAINT:
Patient is a 25 year old woman complaining of feeling frequently fatigued. She reported also occasional dizziness, sleeping difficulties and morning headaches.

OBJECTIVE:
Recent bout with the flu.

PHYSICAL EXAMINATION:
Vital signs are normal with a blood pressure of 120/80, pulse 62, temperature 98.6 degrees, weight 108 pounds.

ASSESSMENT:
Although flu symptoms were in remission, patient has not fully recovered yet.

PLAN:
Place patient on Biaxin for the next two weeks. The patient will call us if there is no improvement, any worsened or new symptoms.

Direct Data Entry
Structured and encoded information

• Tedious manual process
• Documentation lacks expressiveness of natural language
Narrative Documentation

Data needed to support

- Revenue cycle
- Quality and compliance
- Enterprise-wide efficiency

Most importantly….

Clinical care
Question

How will health care providers use technology to enable the future of …

*Information-driven health care?*
Part II: Clinical Documentation Challenges for Accountable Care – Closing the Loop
Geisinger Health System
An Integrated Health Service Organization

Provider Facilities
- Geisinger Medical Center & Geisinger Shamokin Area Community Hospital
- Geisinger Wyoming Valley Medical Center
- Geisinger Community Medical Center
- Geisinger Bloomsburg Hospital
  - 2 Nursing Homes
  - 4 Surgery Centers
  - 77K admissions/OBS & SORUs
  - 1,619 beds

Physician Practice Group
- Multispecialty group
- ~1,029 employed physicians
- ~600 advanced practitioners
- 73 primary & specialty clinic sites
- ~2.1M clinic outpatient visits
- ~464 residents and fellow FTEs

Managed Care Companies
- ~322K members (incl. ~68K Medicare Adv.)
- ~100K Medicaid Managed Care Membership (GHP Family)
- Diversified products
- ~34K contracted providers/facilities
- 43 PA counties
Geisinger Health System

- Geisinger ProvenHealth Navigator Sites
- Contracted ProvenHealth Navigator Sites
- Geisinger Medical Groups
- Geisinger Specialty Clinics
- Geisinger Inpatient Facilities
- Ambulatory Care Facility
- Geisinger Health System Hub and Spoke Market Area
- Geisinger Health Plan Service Area
- LifeFlight Base
- Careworks Convenient Healthcare
- Non-Geisinger Physicians With EHR
Innovation: Clinical Reengineering

Core Focus
- Reliably close care gaps in a timely fashion
- Reduce unjustified variation and sins of commission
- Anticipate and mitigate problems before they occur
- Engage and activate patients

Data-Driven Strategies
- New models of care delivery (e.g., automation)
- Real-time actionable information
- “Hard-wiring” care
Reengineering Clinical Care

Patients and Conditions

Population Identification

100% Care Processes & Protocols (Digital)

Populations

Low

Efficiency & Reliability

High

Regular Care

Workflow Modification

Delegation and Algorithms

Automation

Patient Activation

Low Efficiency & Reliability

High Efficiency & Reliability

2013 AHIMA Convention and Exhibit
Reengineering: The Double Win

Care Team Work Triage

- Enhanced focus on provider work
- Working to top of their licensure

Patient Relationships
- Complex Medical Decision Making
  - Enhanced provider satisfaction
  - More reliable and efficient

Protocols and Automation
Documentation: Achieving a Balance

Comprehensive Documentation

Data Stewardship
Clinicians are overwhelmed by chronic disease and preventive care – aging of America intensifies this

Payment models and documentation requirements are changing

Documentation in EHR is not simple

Data in the EHR often of variable quality
## Diabetes Taxonomy & Goals of Therapy

### Old Diabetes Taxonomy

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>ICD-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM, Controlled, Type II</td>
<td>250.00</td>
</tr>
</tbody>
</table>

Non-specific diagnoses make it difficult to identify goals of therapy.

### New Diabetes Taxonomy

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>ICD-9 (code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Type 2, goal A1c below 7</td>
<td>250.00</td>
</tr>
<tr>
<td>DM Type 2, goal A1c 7-8</td>
<td>250.00A</td>
</tr>
<tr>
<td>DM Type 2, goal A1c to be determined</td>
<td>250.00B</td>
</tr>
<tr>
<td>DM Type 2, goal A1c: symptom mgmt</td>
<td>250.00C</td>
</tr>
</tbody>
</table>

More accurately describes patient needs, including ability to exclude from performance measure entirely.
Care Gaps Process

Leveraging Analytics to Improve Patient Care

Clinic
- EHR
  - Problem List loads
  - Decision Support Tools
  - Best Practice Alerts
  - Auto Orders
- Anticipatory Management Program
  - Nurse Reporting
    - Pre-visit call to patients with primary care appts
    - Outreach to patients w/o primary care appts

Patient
- Reporting
  - Pre-visit outreach via letter/IVR/portal
  - Targeted interventions
  - Unclosed loops (e.g., follow-up after abnormal Pap)

Proactive Patient Outreach
- Letter
- MyGeisinger Message
- Text Message
- Personal calls from Care Gaps Team
- IVR/AutoDialer

ATC Solution to manage communication across all collaborators

2013 AHIMA CONVENTION AND EXHIBIT

AHIMA American Health Information Management Association®
New Opportunity

Natural Language Understanding (NLU) applied to clinical documentation, coding, text data mining, and clinical decision support will provide Geisinger significant and lasting strategic & financial benefits.

- Facilitate quality care delivery
- Feed information from previous care encounters
- Change care pathway through patient involvement
- Promote accurate and timely clinician documentation
- Reduce administrative costs through efficiencies
Closed Loop Roadmap

Transform the efficient and effective delivery of patient care through the development and use of a closed-loop, concurrent clinical documentation and clinical decision support system.
Use Cases – Follow-up Care

Abdominal Aortic Aneurysm (AAA)
- Interrogate Radiology reports to identify AAA patient population
- Stratify the patient population by severity/size of the aneurysm
- Assess follow-up care

Vertebral Fracture (VF)
- Interrogate Radiology reports to identify VF patient population
- Assess referral to Osteoporosis Clinic
Use Cases – Follow-up Care

FINDINGS:
Anterior in the left lower lobe, there is a moderate-sized region of lung consolidation that measures 5.8 x 3.0 cm transversely. There are several air bronchograms within it. At the anterior edge of it, there is a round collection of dense tissue without air bronchograms that measures 3.2 x 3.4 cm transversely. There is concern that this is a malignant lung mass. A biopsy of it should be considered. These changes in the left lower lobe have developed since the prior CT scan. Prior chest x-rays show an enlarging density at this site.

There is mild scarring in the apex of the left lung similar to the prior exam. There are moderate to severe emphysematous changes in the lungs. There are moderate fibrotic changes in the right lung base. There is no pleural effusion.

There is a mildly enlarged node in the aortopulmonary window of the mediastinum that measures 1.9 x 1.6 cm transversely. There is a precarinal lymph node that is mildly enlarged and measures 1.5 x 1.3 cm transversely. There is no gross left hilar adenopathy but evaluation for adenopathy is limited without intravenous contrast. There is no subcarinal, right hilum, chest wall or axillary adenopathy.

The thoracic aorta is normal in caliber and intact. There is a small aneurysm of the upper abdominal aorta that measures 3.4 x 3.5 cm transversely. The adrenal glands are normal. There is a 1.2 cm cyst in the upper pole right kidney and a few cysts in the left kidney with the largest measuring 2.5 cm. There are no gross bone lesions.

IMPRESSION:
- Moderate size region of lung consolidation anterior in the left lower lobe. At the anterior edge of it there is a round collection of dense tissue without air bronchograms that measures 3.2 x 3.4 cm transversely. There is concern that this is a malignant lung mass. Biopsy of it should be considered.
- Two mildly enlarged mediastinal nodes.
- Small aneurysm of the upper abdominal aorta that measures 3.4 x 3.5 cm transversely.
Use Case – Dangerous Abbreviations

Identification of Joint Commission ‘do not use’ abbreviations

- Monthly review time reduced from 27 hours to 5 hours (81% decrease)
- 8 hours/month IT savings

Expansion of reviews to a larger inpatient population
+ Improved timeliness of review (w/ workflow reengineering)
+ Ease of including additional unapproved abbreviations
= Improved Patient Safety

Goal: Move prompting to point of documentation

OUTPUT:
Urine 2.6 cc/kg/hr

RECOMMENDATIONS:
Finish pip/tazo tomorrow then home on po vanco alone per prior notes-complete several more days qid then 125 mg qod for at least 1 month.

- DVT/GI prophylaxis - Heparin 5000 U q 12

MS04 PCA on hold due to hypotension.

GI / HEPATOBILIARY:
-Nutrition: replete 80ml / hr and protein slurry 100ml qd.
Closed Loop Documentation Objectives

- Inform physician during the documentation process, in real-time
- Improve clinical documentation quality
- Drive accuracy and completeness of patient chart
- Apply CDS rules based on documentation content
- Generate actionable information to physician
Geisinger’s Commitment

Our professional obligation to our patients and colleagues

Our ethical obligation to our community

Our fiduciary obligation to our Board and organization
Our Patients are Counting On Us.
Part III: The Future of Clinical Documentation – The Road Ahead
The Cost of Technology
Clinical Documentation & Industry Challenges

Accurate, complete & compliant documentation

ICD-10

CDI

ACO

Meaningful Use
Effective Documentation Improvement

- Provider Dictation
  - Clinical Documentation Services
    - Clinical Note
    - Aggregated Into
  - CDI Workflow
    - Patient Chart
    - Patient Discharged
- Queries
  - Billing Coding Workflow
  - Payer / CMS Workflow
    - Bill

Reimbursement for Services
Effective Documentation Improvement

- Provider Dictation
- Clinical Documentation Services
- Clinical Note
- Aggregated Into
- Patient Chart
- Patient Discharged
- CDI Workflow
- Reimbursement for Services
- Queries
- Payer / CMS Workflow
- Bill
- Billing Coding Workflow

2013 AHIMA Convention and Exhibit
Effective Documentation Improvement

Provider Dictation

Clinical Documentation Tools

Clinical Note

Aggregated Into

Patient Chart

Patient Discharged

CDI Workflow

Queries

Reimbursement for Services

Payer / CMS Workflow

Billing Coding Workflow

Bill
Closed Loop Clinical Documentation

- Need feedback mechanism to inform & shape physician behavior *during* the documentation process, in real-time
- To improve clinical documentation quality
- To drive accuracy and completeness of charts for billing purposes
- Requires understanding of meaning of clinical statements in narrative reports
Relevant Technologies

- **Natural Language Understanding (NLU):** Technology that enables computers to derive meaning from natural human language as found in medical documentation.

- **Semantic Reasoning:** Technology to infer useful consequences (‘actions’) from asserted clinical facts.

Neither technology is perfect, so any useful solution requires humans in the loop.
Natural Language Understanding (NLU)

- Syntax – grammatical structure of sentences
- Semantics – word meanings and relations
- Pragmatics – context contributing to meaning

<table>
<thead>
<tr>
<th>SUBJ</th>
<th>V-PT</th>
<th>NEG</th>
<th>ANATOMY</th>
<th>SYMPT</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>she</td>
<td>has</td>
<td>no</td>
<td>chest</td>
<td>pain</td>
<td>today</td>
</tr>
</tbody>
</table>

Who? Where? When?
Natural Language Understanding (NLU)

- Word sense disambiguation:
  - “Patient suffers from severe depression”.
  - “Electrocardiogram shows ST depression in lead 5”.

- Expressions of certainty:
  - “diagnosis of pneumonia doubtful at this point”
  - “nausea and vomiting possibly indicating concussion”

→ Controlled Medical Vocabularies
→ Taxonomies
→ Ontologies (SNOMED-CT)
Healthcare Applications

- Computer Assisted Coding (CAC)
- Closed Loop Clinical Documentation
- Data Mining of unstructured clinical notes
  - Clinical Documentation Improvement
  - ICD-10 Readiness Assessment
  - Predictive Analytics (e.g. readmission risk)
  - Population Health Analytics
The patient was recently admitted for diabetic complications and a recent ultrasound showed echogenic kidneys bilaterally.
Speech Understanding and Natural Language Understanding technologies need to be embedded in scalable platform that manages & deals with

- Evolving and task-dependent requirements
- Evolving/changing ontologies and clinical vocabularies
- Configuration needs to suit a particular task
- Feedback loop to enable continuous, automatic learning/improvements
- Technology-driven workflow
Conclusions

- Increasing regulatory requirements – including coding to ICD-10 – demand more specific, complete & compliant clinical documentation
- Training physicians is necessary but not sufficient
- Technologies such as NLU and Semantic Reasoning are increasingly being used to
  - Build Closed-Loop Clinical Documentation workflows to interact with & inform physicians
- These will prove to be one of several vital tools to successfully master the transition to ICD-10…
- At the time of Clinical Documentation