E-Iatrogenesis: Quality Assurance as Part of Information Governance

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Conflict of Interest

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No real or apparent conflicts of interest to report.
Agenda

• Learning Objectives
• STEPS
• Rationale for documentation QA program
• Overview of EMR self-documentation methods
• Benefits of QA programs
• Case report: Document Integrity at Spectrum Health
Learning Objectives

• Recognize the high rate of errors in electronic medical records
• Identify types and causes of errors in medical records
• Describe a framework for monitoring error rates as part of overall information governance strategy
• Demonstrate one facility’s Document Integrity program
• Illustrate the need for supportive technology measures in any EHR Quality Assurance program
Realizing the Value of QA

**Savings:** Reduces long-term impact and risks of erroneous data, improves, operational efficiency, contributes to accurate coding and billing

**Patient engagement:** Improves communication between patients and providers and allows patients to better understand their record

**Electronic documentation:** Facilitates data reporting, enhanced communication and secondary uses of data including EBM

**Treatment:** Promotes culture of safety and high reliability for higher quality care

**Satisfaction:** Improves communication between providers and ensures usable documentation leading to clinician satisfaction and higher levels of trust
What is Quality?*

• Dimensions
  – Correctness
  – Concordance
  – Plausibility
  – Completeness
  – Currency

• Assessments
  – Comparison
  – Element Agreement
  – Element Presence
  – Source Agreement
  – Validity Checks
  – Distribution Comparison
  – Log Review

*Weiskopf & Weng, 2013
Rationale for QA Program

• High rate of errors in clinical documentation
  – Widely reported but effects not studied
  – Study: discrepancies found in ~28% of progress notes (Carroll et al, 2003)
  – Anecdotal evidence from clinicians and HIM
• Increased demands for more documentation for both primary and secondary uses
• Litigation risk for EHR vendors due to errors caused by poor design/end-user difficulties
• Regulatory requirements: The Joint Commission
• Best practices: Information Governance (AHIMA)
Joint Commission

• Sentinel Event Alert 54 (2015): Safe implementation of health information technology, encouraging actions centering on safety culture, process improvement, and leadership

• Quick Safety article (4/27/2015):
  - “There are insufficient comprehensive quality assurance and process improvement programs for health care documentation”
  - Safety Actions to Consider: Ongoing quality assessment (QA) in health care documentation and the use of best practices are critical to the delivery of safe patient care and the avoidance of patient harm related to transcription.
Information Governance

• Best practices published by AHIMA
• Emerged in response to new challenges associated with EMR
• Premise
  – An organization should be able to demonstrate to patients, consumers, stakeholders, and regulatory agencies that information in their EHR is authentic, timely, accurate, and complete.
• Purpose
  – Oversees availability, usability, and integrity of data
    • Quality and accuracy of data
  – Recognizes the effects of poor quality data on provider trust, patient care, reimbursement, risk management, and e-discovery
EMR Documentation Methods

• Introduced new term: E-iatrogenesis
  – Describes patient harm resulting from the use of health information technology (Avitzur, 2013)
• Foster (new) careless and inaccurate documentation behaviors (J. L. Bernat, 2013)
• Lack policies and procedures to verify and improve quality of documentation
EMR Documentation Methods (cont)

• Templates
  – Design
    • HIM excluded from design and implementation
    • Deployed with errors
    • HIM unable to make changes after go-live
  – Problems
    • Incorrect checkbox selection
    • Incorrect template selection
    • Contradictions and inconsistencies
EMR Documentation Methods (cont)

• Free text
  – Keyboarding errors
  – Copy/Paste
    • Note bloat
    • Skewed timelines
    • No attribution
    • Study: 84% of notes contained errors, average 7.8 errors per patient
  – Speech recognition technologies (SRT, Dragon)
    • Poor recognition
    • Very high error rate (study: 22% of radiology reports)
    • Failure to review
    • Insufficient proofreading skills
      – Omitted words, wrong words, nonsense errors, grammatical errors
SPEECH WRECKS

Imagine your medical record without healthcare documentation specialists...

Speech recognition (SR) technology is like “autocorrect” on your smartphone...it is far from perfect. Healthcare documentation specialists are auditing and correcting medical records to ensure their accuracy and completeness. Below are examples the specialists caught in draft medical records produced by SR—some very funny, while others are potentially fatal. Employ healthcare documentation specialists for quality patient care documentation.

Dr: The procedure is successful...
SR: THE PROCEDURE IS NOT SUCCESSFUL...

Dr: The patient had influenza A.
SR: THE PATIENT HAD A PLEASANT DAY.

Dr: Single lung transplant
SR: SING-A-LONG TRANSPANT

Dr: Lipitor 20, two pills a day
SR: LIPITOR 22 PILLS A DAY

Dr: Pravastatin 40 mg a day
SR: GABAPENTIN 200 MG A DAY

Dr: Aspirin 325 mg p.o. daily
SR: DIGOXIN 250 MG P.O. DAILY

Dr: ALLERGIES: SULFA. (Next)
SR: ALLERGIES: XOPENEX

Dr: Nystatin
SR: HIASPAN

Dr: Arterial insufficiency.
SR: CHEERIO INSUFFICIENCY

Dr: Pulmonary vein isolation system.
SR: PULMONARY BAGEL ISOLATION SYSTEM

facebook.com/groups/speechwrecks
Once and Done

• Pros
  ✔ Information immediately available
  ✔ Continuity of care
  ✔ Billing
  ✔ Clinical decision support

• Cons
  ✗ Introduction of new types of error
  ✗ Overall increase in documentation errors
  ✗ Assumes authors proofread, detect, and correct errors
  ✗ Removes QA and risk-management contributions of HIM
Consequences and Risks

• Unintended consequences
  – Facilitates greater amounts of bad data (quantity over quality)
  – Compromises data integrity
    • Contributes to poor organizational reputation among patients and stakeholders
    • Undermines clinician cooperation and collegiality
    • Diminishes continuity of care
• Risks of unmonitored documentation
  – Patient impact
    • Patient safety compromised
    • Quality outcomes threatened
    • Patient dissatisfaction
Consequences and Risks (cont)

- Financial impacts
  - $ Delays in revenue cycle
  - $ Inadequate reimbursement
  - $ Increased cost of error resolution across information systems

- Compliance Issues
  - Unreliable/invalid reporting and analytics
  - TJC: 52% noncompliance rate with standard RC.01.01.01
    “The hospital maintains complete and accurate medical records for each individual patient.”

- Legal consequences
  - § Fraud citations
  - § Medical negligence
Secondary Use of Data

• Implications for typos, nonsensical sentences, incorrect spelling, incorrect terminology, nonstandard abbreviations
  – Natural language processing
  – Computer assisted coding
  – Data mining and analytics
    • Quality reporting
    • Evidence-based medicine
    • Clinical decision support
    • Epidemiology
    • Population health
    • Research
QA vs CDI

• Quality Assurance programs
  – Ensure quality and documentation integrity
  – Look for root causes to eliminate faulty processes
• CDI (Clinical Documentation Improvement) programs
  – Ensure accurate representation of services through complete and accurate reporting of diagnoses and procedures

• Organizations need both to ensure documentation integrity and regulatory compliance throughout the healthcare continuum.
Benefits of a QA Program

• Essential to Information Governance
• Essential for culture of safety in high-reliability organizations
• Increased patient safety
• Improved communication
• Achievement of organizational goals
• Recognition of information as a strategic organizational asset
• Increased operational efficiency
• Increased effectiveness
• Reduced costs
• Improved compliance
Spectrum Health

• Largest not-for-profit integrated healthcare delivery system in West Michigan
  – 12 hospitals
  – 2000+ beds
  – 170 ambulatory and service sites
• Nationally recognized health plan, Priority Health
• Largest employer in West Michigan
  – 22,000+ employees
  – 1200+ employed physicians/advance practice providers

Currently utilizes both CERNER (inpatient) and EPIC (outpatient)
Two-Fold QA Policy

• CCAP (Concurrent Clinical Assurance Program)
  – Nurses round with providers to help them understand the level of documentation required to best represent the proper severity of illness (SOI) and risk of mortality (ROM) requirements for patients

• Clinician-Created Document Integrity Audit
  – Retrospective review by healthcare documentation auditors (formerly medical transcriptionists)
    • Ensures quality and patient safety
    • Identifies and reports errors that put patients, providers, and Spectrum Health at risk
Current Documentation

• Transcribed Documents
  – Standardized
  – Quality-driven
  – Professional in appearance
  – Consistent formatting
  – Mandatory headings enforced
  – Abbreviations limited

• Provider-Created Documents
  – No voice (dictation) to compare
  – Information pulled in from EHR automatically (labs, rads, etc.)
  – Information copied/pasted
  – Information added via picklists and free text
  – All but JC dangerous abbreviations considered acceptable
  – Formatting inconsistent
  – Mandatory headers not consistently enforced
**VITAL SIGNS:** The patient's blood pressure 141/83, heart rate 82, respirations 20, temperature 36.9, pulse oximetry 95% on room air.

**GENERAL:** The patient alert and oriented x3, and anxious.

**HEENT:** Eyes: Reactive. Pharynx not visualized.

**NECK:** Supple.

**CHEST:** Lungs are diminished.

**CARDIOVASCULAR:** Heart: Regular with 1/6 systolic murmur.

**ABDOMEN:** Obese.

**EXTREMITIES:** Trace edema.

**NEUROLOGICAL:** Cranial nerves 2-12 not assessed.

**DIAGNOSTIC STUDIES**

Pertinent laboratory studies: Sodium 150, potassium 4.5, chloride 103, bicarb 23, BUN of 15, creatinine 0.74, glucose 96, calcium 9.4, alkaline phosphatase 141, AST 33, ALT 20. **WBC** of 8.04, hemoglobin 14.8, hematocrit 42.3, platelets 212. **Troponin 0.066**.

EKG shows bi-ventricular paced rhythm. He is currently in sinus rhythm.
Physical exam portion of a General H&P template
Clinician-Created Document Audit Program

- Audit within 24 hours of completion (goal)
- Audit all document types formerly transcribed by HIM
  - 193,725 total documents audited by 27 auditors in 2015
  - Average auditor audits 4.28 documents per hour (14 min/doc)
- Identify critical errors and correct; track all others
- Develop escalation strategy in collaboration with Risk Management, Coding, Quality, Medical Staff Office, and other shareholders across the system
- Share dashboard information with executive leadership
QA Best Practices Toolkit

- Quality Assurance for Clinician Created Documentation Toolkit
  - Developed by AHDI (Association for Healthcare Documentation Integrity) and AHIMA
  - Includes
    - QA Best Practices Checklist
    - QA Program Sample Policies and Procedures
    - QA Categories and Examples (Error types/definitions)
  - Dashboard Best Practices
  - Dashboard Templates and Samples
  - Model Job Descriptions
Error Categories

**Critical Errors**
- Wrong Medication/Dosage
- Wrong lab value
- Wrong patient/demographics
- Use of JC Unapproved Abbreviations
- Medical word misuse
- Incomplete or missing data
- Incorrect side/site
- Inconsistencies
- Copy/Paste without attribution
- Dragon failure to edit
- Incorrect template/work type

**Non-Critical Errors**
- Wrong word form/spelling/typo
- Wrong lab value typo
- Wrong patient/wrong content within body of report
- Failure to edit
- Confusing/questionable information
Audit Process – Current State

• Manually run list of all provider-created documents created on given day and create audit lists
• Auditors claim list and begin audit.
• Documents copied/pasted from EHR into Word document
• Pertinent errors identified, noted, and data manually calculated
  – Critical errors escalated for correction
  – Education opportunities identified
• Data harvested from audits and tracked by individual provider spreadsheet
• Data from individual provider spreadsheets linked to overall compilation used for identification of trends and dashboard reporting
Interval History

32 yo female with hx CF with history of severe obstructive lung disease, CFRD, CF related cirrhosis with hx pancytopenia and edema hx, osteoporosis, sinus disease, GERD, depression, chronic pain, RLS, HTN, small liver lesions being followed radiographically at Henry Ford and in eval for lung/liver transplant. Possible hx PJ PNA on prophylaxis (Noncritical – Spelling) anemia, Migraines, low CD4 count, and frequent admissions.

She was admitted on 2/23 from slow increase over time of her CF symptoms. She was started on ceftazidime, tobramycin inhaled, and bactrim. AMT, palliative care, and DGMS were asked to see the pt. ID saw the pt on 2/25 due to new culture results and because of susceptibilities (Noncritical – Spelling) her antibiotics were adjusted. Tobra was DC due to increased creatine.

Today in the room the pt states overall feeling 40% back to baseline. She is still having less but present intermittent dark hemoptysis. She is having good bowel movements but still feels her abdomen is distended. She denies sinus issues. Yesterday nursing was concerned about her level of sedation related to pain meds.

Objective

Respiratory: Breath sounds are equal, Symmetrical chest wall expansion, small crackles throughout. Respirations: Are within normal limits. Pattern: Regular. Breath sounds: No crackles present, No rhonchi present, No wheezes present. (Critical – Inconsistency within PE – respiratory)

Impression and Plan

Severe obstructive lung disease FEV1 1.55 (45%) CFR-cirrhosis with hx pancytopenia and edema (Noncritical – Spelling)

Chronic pain, Migraines, pancytopenia (Noncritical – Spelling) Dr. Mulder

PJ PNA hx on prophylaxis (Noncritical – Spelling) Bactrim as outpt

Osteoporosis, malnutrition (Noncritical – Spelling) nutrition, vitD, Oscal, MTV, Zinc

Dispo: Pt overall doing good, improving day 9/14. Discussed with pt nursing concerns about sedation yesterday. Her methadone is already down to 1x a day from BID. Will work on her using less PRN dosing. Bowels moving but still some abdominal distention so needs to continue to have this.
Example 1
hydrate nephrosis  hydronephrosis (Noncritical – Wrong word form/spelling/typo) and urethral  ureteral (Critical – Medical word misuse) thickening

Example 2
Impression and Plan
-Trend troponin. Troponin I was 9.17 (Critical - Wrong lab value outside the normal range) and repeat Troponin T was 1.240

Example 3
She states that once her contractions returned they have continued to increase in frequency but have not increased in frequency (Critical - Inconsistency).
# Reporting

### Provider, A

| Month     | Total # Documents Reviewed | # of Error Free Documents | Wrong Patient/Encounter | Wrong Template/Note Type | Wrong Med/Drug Dosage | Copy/Paste Attribution | Use of JC Do Not Use Abbrevs | Other Inconsistencies, Med Word Misuse, etc. | Wrong Word Form/Spelling/Typo | Failure to Edit | Other |
|-----------|---------------------------|---------------------------|-------------------------|--------------------------|-----------------------|--------------------------|---------------------------------|----------------------------------|-----------------------|-------|
| January   | 87                        | 1                         | 0                       | 0                        | 0                     | 1                        | 2                               | 18                               | 885                   | 65    | 13    |
| February  | 46                        | 0                         | 0                       | 0                        | 0                     | 1                        | 0                               | 20                               | 392                   | 90    | 9     |
| March     | 52                        | 0                         | 0                       | 0                        | 0                     | 4                        | 3                               | 16                               | 540                   | 102   | 13    |
| April     | 105                       | 0                         | 0                       | 0                        | 0                     | 5                        | 2                               | 36                               | 885                   | 185   | 34    |

### Provider Name

| Provider Name | Total # Documents Reviewed | # of Error Free Documents | Wrong Patient/Encounter | Wrong Template/Note Type | Wrong Med/Drug Dosage | Copy/Paste Attribution | Use of JC Do Not Use Abbrevs | Inconsistencies, Med Word Misuse, Other | Wrong Word Form/Spelling/Typo | Failure to Edit | Other |
|---------------|---------------------------|---------------------------|-------------------------|--------------------------|-----------------------|--------------------------|---------------------------------|----------------------------------|-----------------------|-------|
| Provider, A   | 326                       | 6                         | 0                       | 0                        | 0                     | 11                       | 38                              | 90                               | 2702                  | 442   | 69    |
| Provider, B   | 257                       | 4                         | 0                       | 0                        | 0                     | 18                       | 32                              | 4                                | 2082                  | 255   | 15    |
| Provider, C   | 288                       | 19                        | 0                       | 2                        | 1                     | 34                       | 23                              | 6                                | 1666                  | 201   | 17    |
| Provider, D   | 123                       | 4                         | 0                       | 0                        | 0                     | 0                        | 8                               | 5                                | 1502                  | 55    | 16    |
| Provider, E   | 500                       | 90                        | 0                       | 2                        | 0                     | 161                      | 127                             | 4                                | 1202                  | 359   | 30    |
| Provider, F   | 315                       | 34                        | 0                       | 0                        | 0                     | 69                       | 93                              | 2                                | 1115                  | 130   | 11    |
| Provider, G   | 362                       | 66                        | 0                       | 2                        | 0                     | 58                       | 53                              | 12                               | 982                   | 229   | 17    |
Jan-Apr 2015 Total PowerNotes Audited (non-progress notes) - 106136
Audit Process – Future State

• Manually run list of all provider-created documents created on given day and create audit lists
• Auditors claim list and begin audit.
• Documents copied/pasted from EHR into TQAudit
  – Pertinent errors identified (data automatically calculated)
  – Critical errors escalated for correction
  – Education opportunities identified and training provided

LESS tracking + MORE educating = Improved results!
Error Perpetuation

• Failure to update and maintain Problem List (one example of inaccurate Problem List carried forward NINETEEN times within one record)

• Radiology reports carried forward with errors (typically due to poor speech recognition results)
  - Radiology report must be addended as well as all documents referencing that report

• Documents within the medical record that are copied and pasted into other documents may later be addended

• Providers are not catching inaccuracies in information that is auto-populating their documentation
History of Present Illness
This is a 39-year-old female with a history of acute intermittent porphyria. She is on a planned hemin infusion every 28 days that runs for 4 days but following her 5/28 to 6/02 infusion, an attempt was made to extend to 6 weeks intervals. Pt admitted today 2 days shy of 6 weeks following a complaint of Intense, both areas of usual pain when her porphyria is uncontrolled. She is on MS contin and pm dilaudil, which she states she was well controlled on for about 3 weeks, and feels over the previous 3 weeks her pain has been between 5-8/10 and unrelieved on her current pain regimen. She states that she has her usual nausea and occasional chest discomfort, which she reports is common with her porphyria. She has no vomiting and has been eating well.

Review of Systems
Musculoskeletal: No back pain, No neck pain, No joint pain

Current medications: (Noncritical - Failure to edit - Duplicate headings/formatting/words)

Past Medical History:
1. Acute Intermittent porphyria.
2. Cirrhosis, likely secondary to NASH.
5. Chronic (Critical - Medical word misuse) and pancreatic lesions.
6. Thyroid nodule.
7. Menorrhagia, with endometrial polyps, followed by Brad A. Irving, DO.
8. Hypertension.
10. Hypothyroidism.
11. Seizure disorder.
*Final Report*

**Patient:**

**MRN:**

**FIN:**

**Basic Information:**

Additional Information: Chief Complaint from Nursing Triage Note: Chief Complaint 06/28/15 16:10 Chief Complaint 6 nosebleeds in last 24 hrs. Pt able to stop them but keep reoccurring.

**History of Present Illness:**

The patient presents with epistaxis. The onset was 1 days ago. The course/duration of symptoms is resolved. Location: Right nare. Type of Injury: none. The degree at onset was minimal. The degree at present is none. Risk factors consist of hypertension. Prior episodes: occasional. Therapy today: local therapy self-packed nare. Associated symptoms: none. Additional history: none.

**Review of Systems:**

- **Constitutional symptoms:** Negative except as documented in HPI.
- **Respiratory symptoms:** Negative except as documented in HPI.
- **Cardiovascular symptoms:** Negative except as documented in HPI.
- **Musculoskeletal symptoms:** Negative except as documented in HPI.
- **Hematologic/Lymphatic symptoms:** Negative except as documented in HPI.
Acceptable In Your Medical Record?

- Recovering heroine (*heroin*) addiction
- Knows current president but not the ones afterwards
- Patient’s fluid from her peritoneum was taken out by her husband was sent to the lab…
- She reports retinopathy in her toes and denies retinopathy in her eyes.
- The patient had fowl (*foul*) smelling emesis…
- Patient also reports wheezing (*wheezing*)
- Shortness of bread (*breath*) and dyspnea on exertion…
- …an incarnated (*incarcerated*) hernia
- Pitting edema into her things (*thighs*) R>L
- Wearing seatbelt but airbag was not diploid (*deployed*)
Huh?

The patient p/w AMD and dizziness. Dr. Zee was CTSP in c/s. She was admitted to GMF. She o/w only complained of LEE. She was MA4E. The attending DTWP and after E&M with MMSE will d/c to ECF.
Supportive Technologies Needed

- Automated flags/keyword triggers
- Automatic attribution when information is copied and pasted
- Alerts when information is not updated or inconsistent
- Audit and reporting capabilities within EHR
- HIM template review and correction capabilities
- Quality data tracking
- Provider report card capabilities
- Dashboard
Resources/References

- **Toolkits**
  - AHDI-AHIMA Clinician-Created Documentation Resource Kit
  - AHDI/MTIA/AHIMA Healthcare Documentation Quality Assessment and Management Best Practices

- **References**
  - A Guide to Better Physician Documentation
  - AHIMA: Copy and Paste Position Statement
  - The Joint Commission - Most Challenging Requirements in 2013
  - The Joint Commission Quick Safety (April 2015) Transcription translates to patient risk
  - The Joint Commission Sentinel Event Alert 54: Safe use of health information technology
  - TQAudit – Quality Audit Management System by Tyrrell Software
Questions

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