EHRs: Friend or Foe?

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Disclosures

CAP Education / CME Committee

No faculty, planner or presenter for this CME activity disclosed any relevant financial relationship with a commercial interest.

Objectives

At the end of this program the attendee will be able to:

- ✓ Discuss specific documentation and user errors that jeopardize patient safety.
- ✓ Discuss guidelines for documentation that address system and user factors and how to prevent each.
- ✓ Identify current and evolving risk in electronic medical record documentation
- ✓ Discuss the issues most often seen in professional liability lawsuits.

Technology and Healthcare

"It is widely believed that, when designed and used appropriately, health IT can help create an ecosystem of safer care…"

-Institute of Medicine, *Health IT and Patient Safety: Building Safer Systems for Better Care*

Crico Strategies – EHR Study

Crico EHR Study – Health IT

2012-2013

- 248 Closed Cases
  - Ambulatory Care – 146
  - Inpatient 77
  - ED 25

User and System-Related Factors

EHR-Related System and User Issues

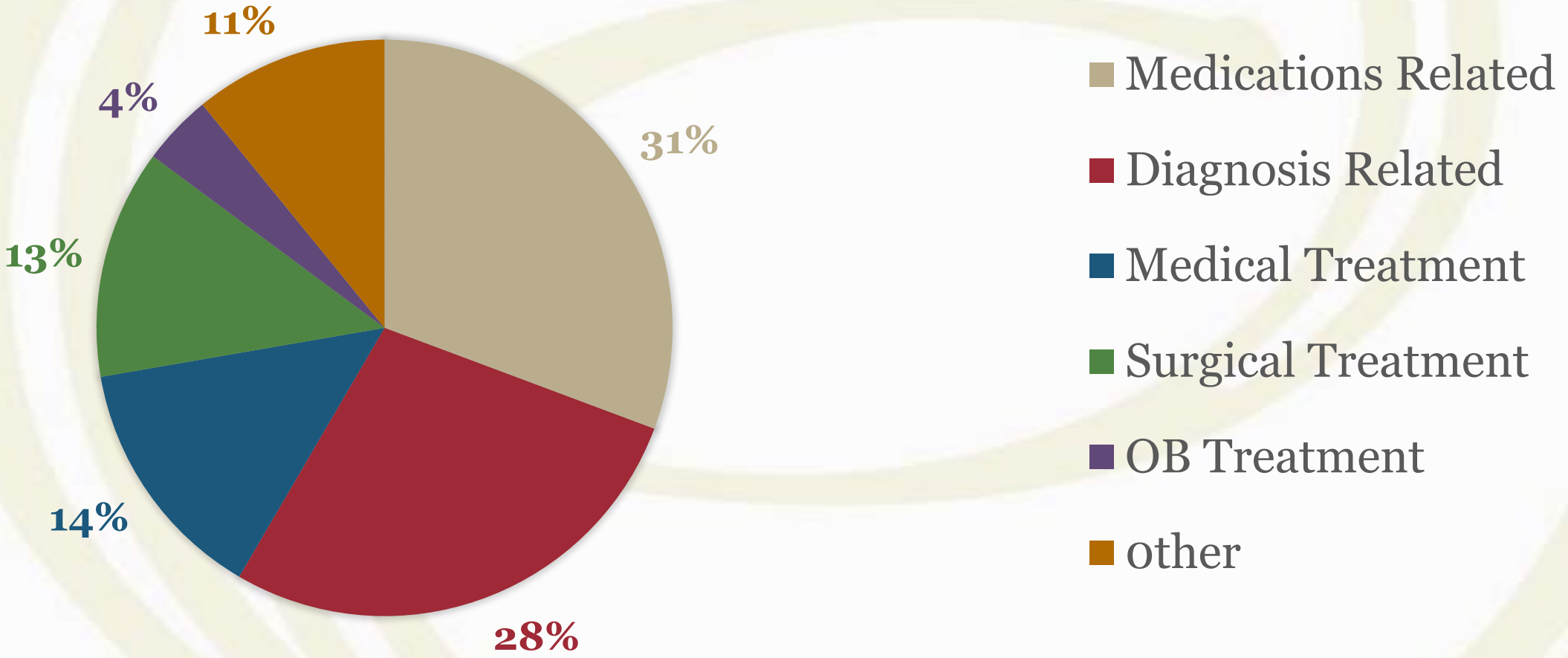
248 Cases

58% System Related Issues	63% User Related Issues
System and software design	User errors- MISC
Routing of electronic data	Hybrid Health Records- conversion issues
System dysfunction or malfunction	Incorrect Information
Integration problems/incompatible systems	COPY and Paste
Failure of alert-alarm-DSS	Training and education
Fragmented Information	All other

Cases – Contributing Factors

System-Related Cases	User-Related Cases
A pathology report of adenocarcinoma was delayed in reaching a pts. chart until after discharge. Also, no alert was sent to the PCP re: abnormal findings.	A physician received an alert that the patient was allergic to amoxicillin but ordered it anyway, resulting in an allergic reaction.
A PCP could not access the pts. radiology studies in the EHR at the time of a pts. visit. Also, the paper report was filed without MD seeing it. Resulting in a delay dx CA.	A patient developed amiodarone toxicity because the pts. history and medication list were copied from a previous note. Noting the patient was already on the medication resulting in overdose.

EHR Related Allegations



Crico Strategies . Annual Benchmarking Report – Malpractice Risks in the Diagnostic Process. 2014.

Medication Related Cases

PCP e-refilled levothyroxine. Another medication Glipizide was also refilled (which was another patient's medication). Pt. took both and three weeks later was hospitalized.	**Pt. brought to ED unresponsive with a Blood Sugar of 22. Admitted and was in vegetative state.**	**Conversion to e scribe, records mergered during conversion.**
Long time patient was prescribed and excessive dose Primadona. Usual dose 750mg or 2.250g/day. Instead received 3g/day.	**Pt. got up at night, fell and sustained a fractured wrist.**	**Office was transitioning to EHR and e prescribing.**
Pt. received an Rx for Augmentin and experienced an adverse reaction and went to the ED.	**The EHR notes an allergy RED alert for Augmentin.**	**Phys. Inexperienced with EHR.**

CAP Closed Claims

User Related Issues

- Specific User-Related Issues Presented Through Case Examination
  - Copy & Paste – Also known as ‘Cut & Paste’
  - Templates and Dropdowns
  - Alert Fatigue
  - Conversion Issues – Paper to EHR
  - Education and Training

Copy & Paste – Cut & Paste

Copy & Paste

EMR/EHR Risks

ALLEGATION TRENDS

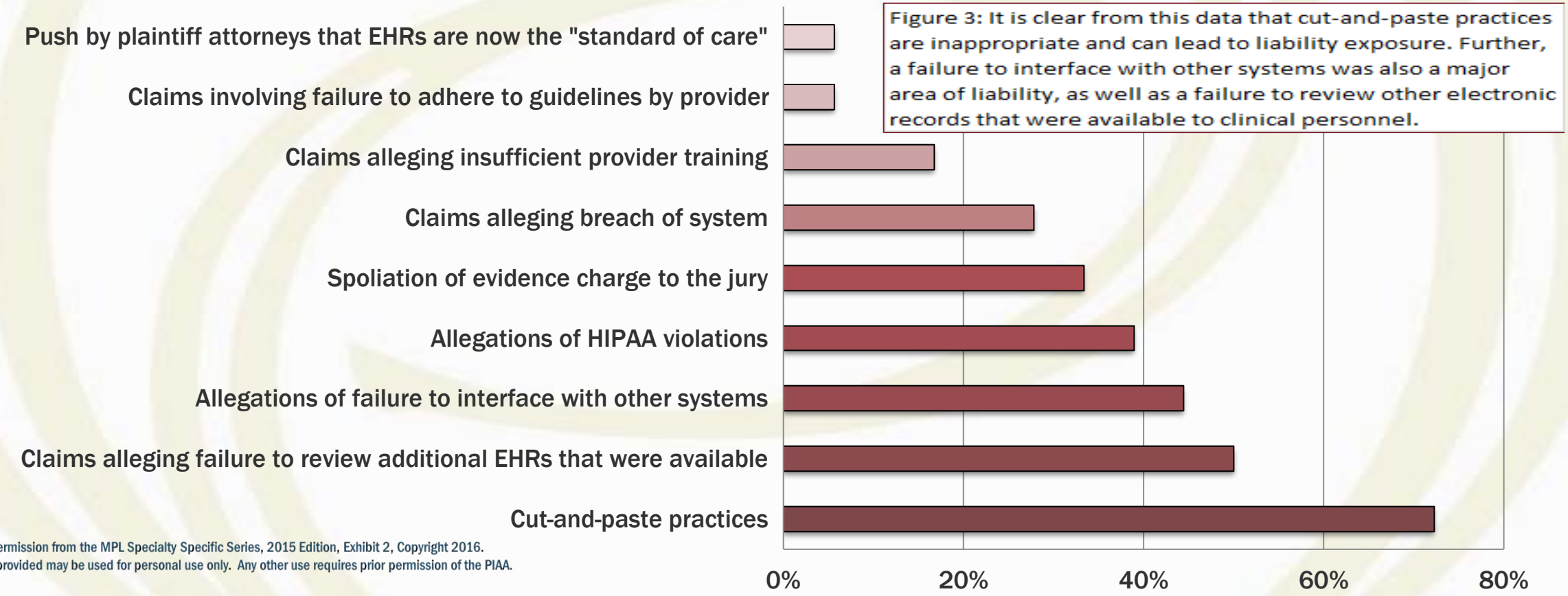


Figure 3: It is clear from this data that cut-and-paste practices are inappropriate and can lead to liability exposure. Further, a failure to interface with other systems was also a major area of liability, as well as a failure to review other electronic records that were available to clinical personnel.

Copy & Paste

- ✓ Results in “Note Bloat”
- ✓ Propagates errors
- ✓ Raises questions about authorship, provenance
- ✓ Stifles thoughtful reflection, creativity and critical analysis
- ✓ Undermines Integrity of Record and Provider Credibility

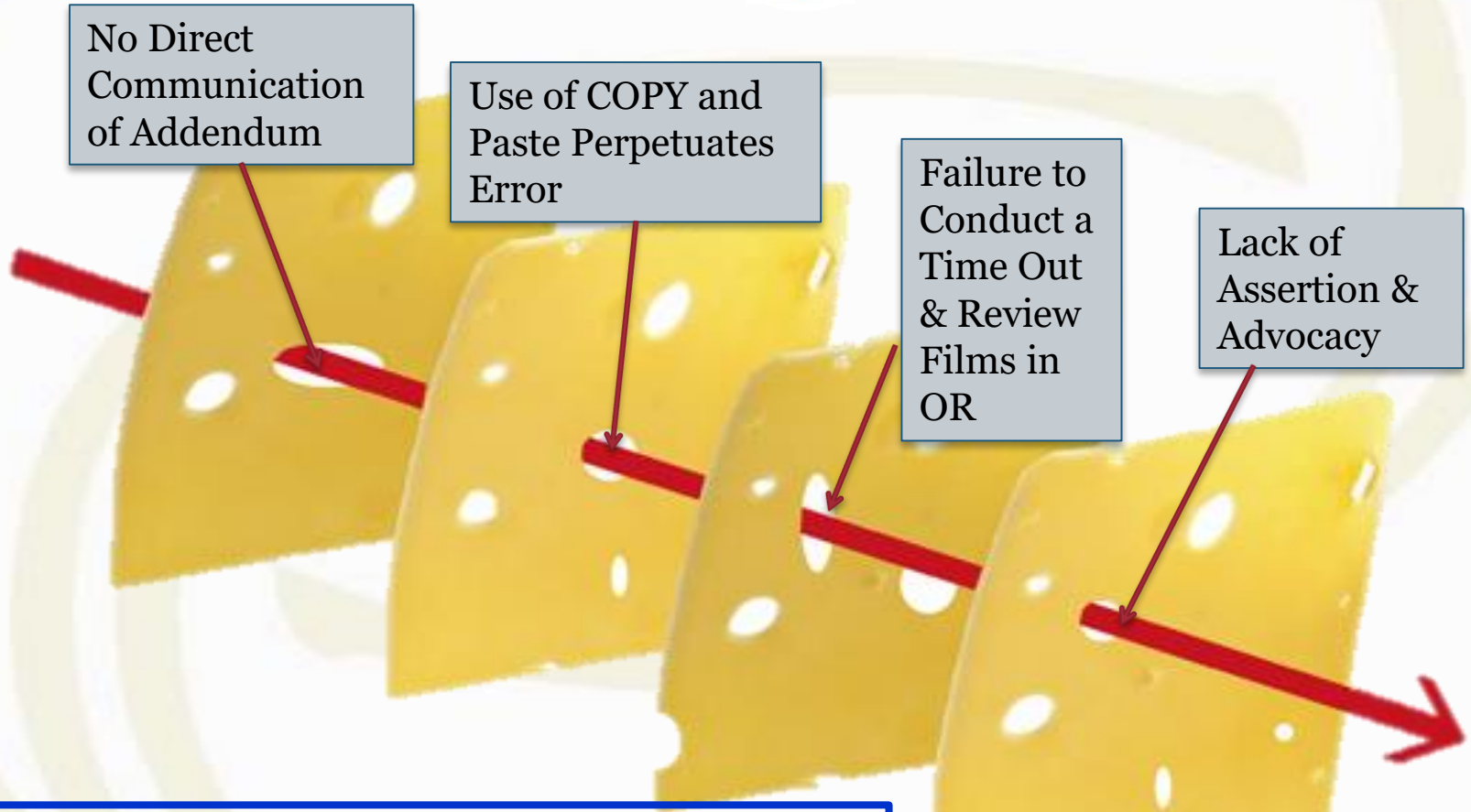

Case
Study

Copy & Paste

CASE STUDY: SUMMARY OF FACTS

Summary	Allegations	Injury
• CP Pt presents to ER with hematuria urologist orders CT • Radiologist notes "mass on left kidney" later addends report to reflect "right" kidney • Urologist copies and pastes incorrect information into note • Surgeon copies and pastes urologists note • No Time Out or Films in the OR • Incorrect Kidney removed	• Improper performance • Battery • Lack of Informed Consent	• Removal of healthy kidney. • Post-Procedure dialysis • Kidney Transplantation 

Root Causes & Systems Failures



Error perpetuates across continuum and escapes detection

Settlement: Trust Limits

California Medical Board Investigation

- **Gross Negligence:** failed to review the pt's radiographic images prior to performing a nephrectomy and on the day of surgery
- **Repeated Negligent Acts**: failed to obtain and personally review the radiographic images or a report of those images; instead, cloned the notes without updating them or ensuring accuracy
- **Failure to Maintain Adequate and Accurate Records:** fraudulent (because the surgeon even copied the part of the urologists note indicating that he had seen the patient in the ER…)

California Medical Board Disciplinary Order

- Physician's and Surgeon's certificate is revoked. However, the revocation is stayed and the physician is placed on probation for three (3) years on the following terms:
- Wrong-Site Surgery Course: Within 60 days of the effective date of the decision, physician shall enroll in a Wrong-Site Surgery Course.
- Medical Record Keeping Course: Within 60 days of the effective date of the decision, physician shall enroll in a Medical Record Keeping Course.
- Notification: Within seven (7) days of effective dated a true copy of the Decision and Accusation must be presented to every hospital where privileges or membership is maintained.
- Supervision of Physician Assistants: During the probation, the physician is prohibited from supervision physician assistants.

Just How Big is the Problem?

- 167,000 computerized records, found physical exams were copied **in their entirety** in 3% of charts. *U.S. Department of Veterans Affairs*

- 2,000 progress notes for 135 patients in ICU

  82% of notes had 20% or more copied text

  Critical Care Medicine Feb, 2013

Copy and Paste

CASE STUDY: SUMMARY OF FACTS

• 78-year old man who "with an alleged history of 'PE' (interpreted by the clinicians as pulmonary embolism) received an unnecessary CT scan to rule out a suspected 'recurrence' of pulmonary embolus.	• Earlier in the medical record the abbreviation 'PE' had been used in the electronic note to indicate that the patient had a physical examination. Not a pulmonary embolism.	• This is a vividly example of how "Copy and Paste" can promulgate a mistake that will live on in the EHR forever.

Copy & Paste Risk Strategies

- Avoid copying and pasting of text from another person's note without attribution, as that is plagiarism and may constitute billing fraud.
- Avoid repetitive copying and pasting of laboratory results and radiology reports.
- Note important results with proper context, and document any resulting actions. Avoid wholesale inclusion of information readily available elsewhere in the EHR because that creates clutter and may adversely affect note readability.
- Review and update as appropriate any shared information found elsewhere in the electronic record (e.g., problems, allergies, medications) that is included in a note.
- Include previous history critical to longitudinal care in the outpatient setting, as long as it is always reviewed and updated. Copying and pasting other elements of the history, physical examination or formulations is risky, as errors in editing may jeopardize the credibility of the entire note.

Source: "Electronic Health Record Documentation Guidelines V 1.2, 2012-2013," Dept. of Medicine, Weill Cornell Medical College, New York-Presbyterian Hospital

Template Temptation & Dropdown Dilemma

Template Temptation

- Auto-populate feature can populate inaccurately or before events being documented occur
- Documentation must reflect what was actually done
- Should tell a story– the patient should come into focus
- Too generic, not intuitive to use


Case
Study

Templates & Drop Downs

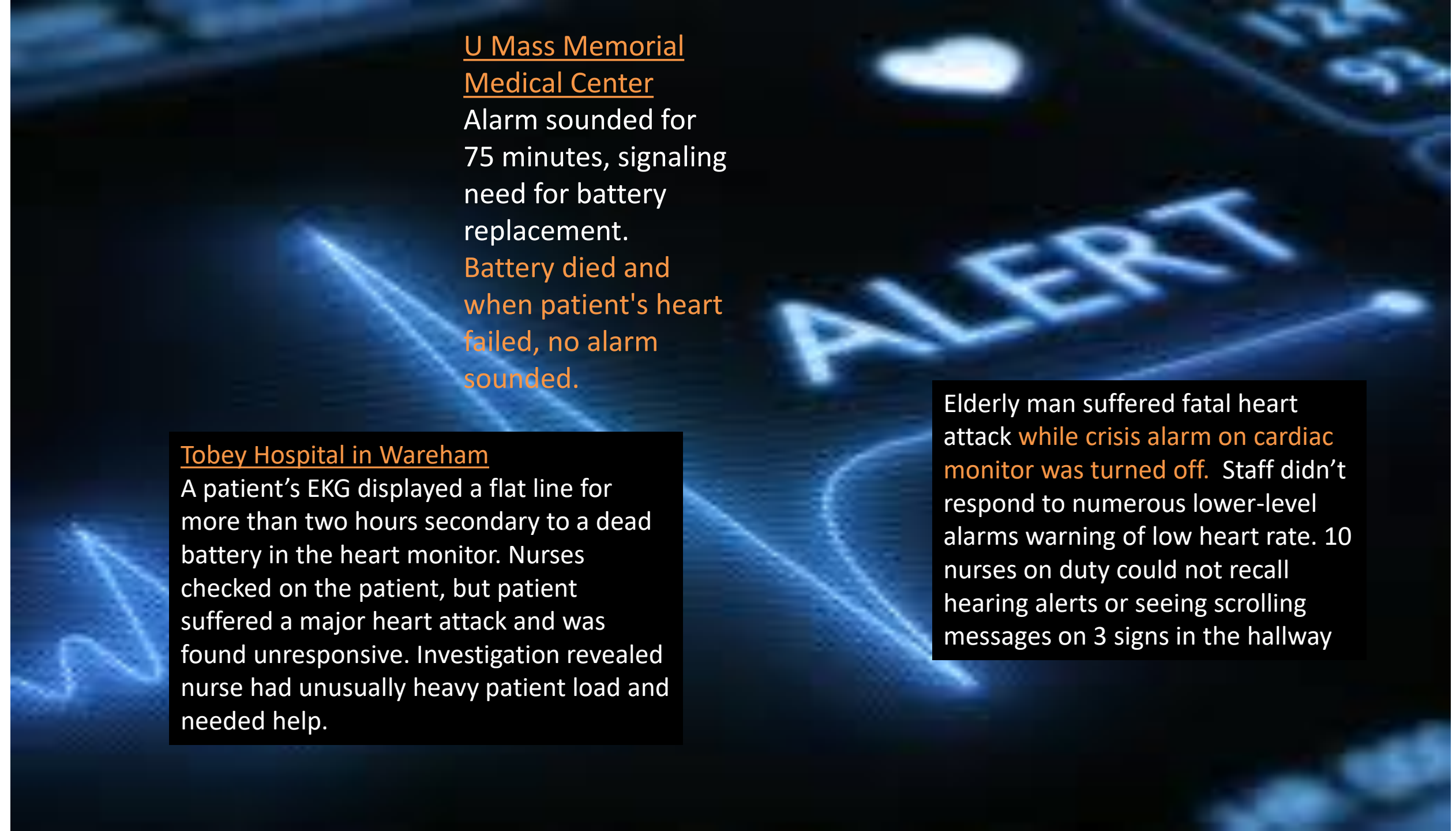
CASE STUDY: SUMMARY OF FACTS

Summary	Allegation	Injury
• 33 year old male seen by MD 33 times over 33 months. • Complaints of low back pain. • MD prescribed Norco, Oxycontin, Roxicodone and eventually Valium and Ativan. • MD referred pt to pain management specialist who continued medications and early refill pattern and added Fentanyl patch. • One month after last visit, pt. found unresponsive and died.	• Documentation of office visits was completely unchanged, template-like entries. • Failure to update assessment of the patient.	• One month after last visit, pt. found unresponsive and ultimately died. • Autopsy poly-drug intoxication.

Settlement

- California Medical Board Disciplinary Order:
  - Controlled Substances – Maintain records & access to records & inventories (Detailed Order)
  - Complete a Prescribing Practices Course.
  - Complete a Medical Record Keeping Course.
  - Complete a Professionalism Program (Ethics Course).
  - Complete a Clinical Training Program.
  - Submit within 30 days a proper individual for monitoring the practice/billing
  - During probation, physician is prohibited from practicing pain management

Too Many Alerts,
Too Little Time



U Mass Memorial Medical Center

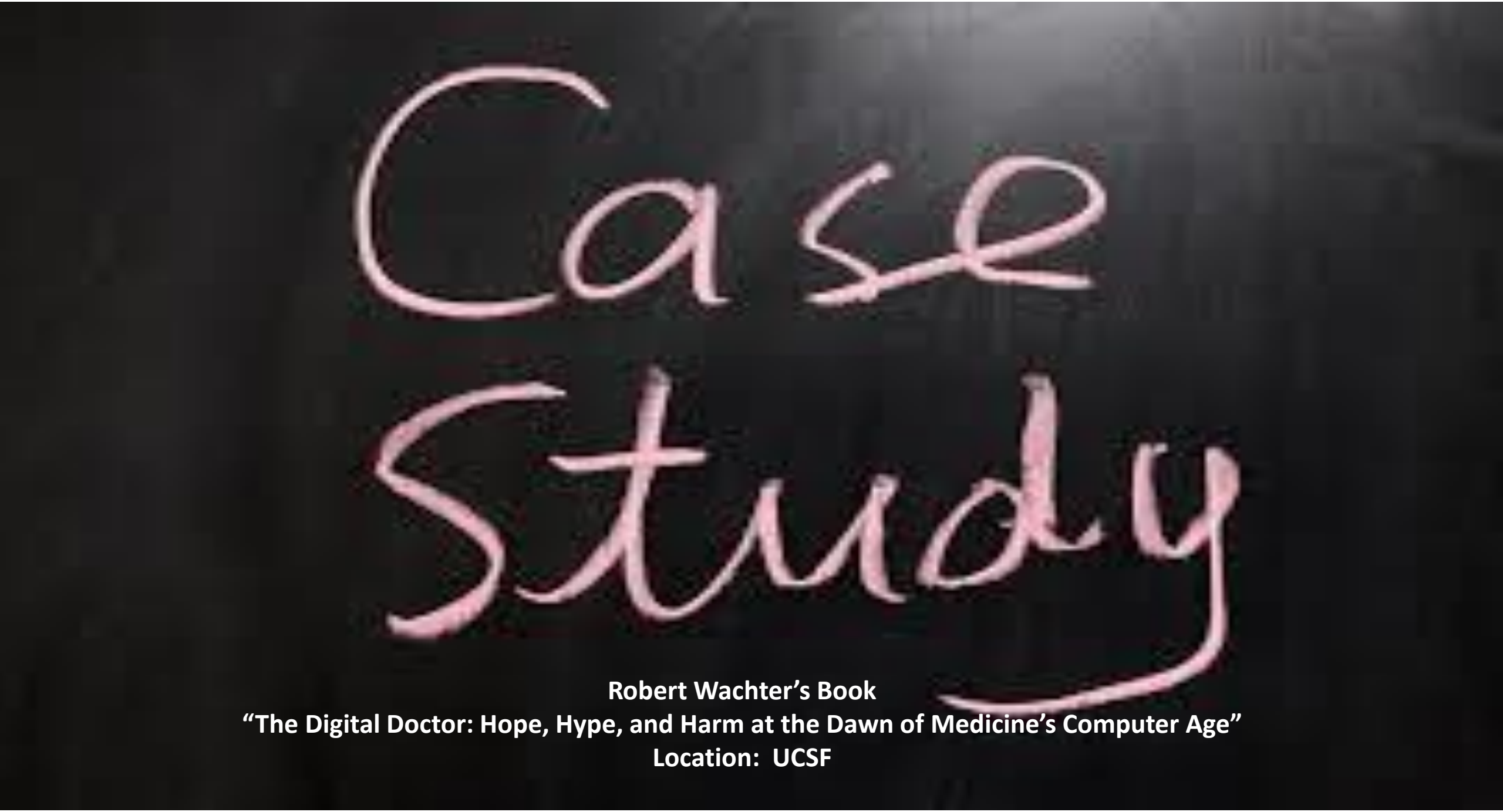
Alarm sounded for 75 minutes, signaling need for battery replacement.

Battery died and when patient's heart failed, no alarm sounded.

Tobey Hospital in Wareham

A patient's EKG displayed a flat line for more than two hours secondary to a dead battery in the heart monitor. Nurses checked on the patient, but patient suffered a major heart attack and was found unresponsive. Investigation revealed nurse had unusually heavy patient load and needed help.

Elderly man suffered fatal heart attack while crisis alarm on cardiac monitor was turned off. Staff didn't respond to numerous lower-level alarms warning of low heart rate. 10 nurses on duty could not recall hearing alerts or seeing scrolling messages on 3 signs in the hallway

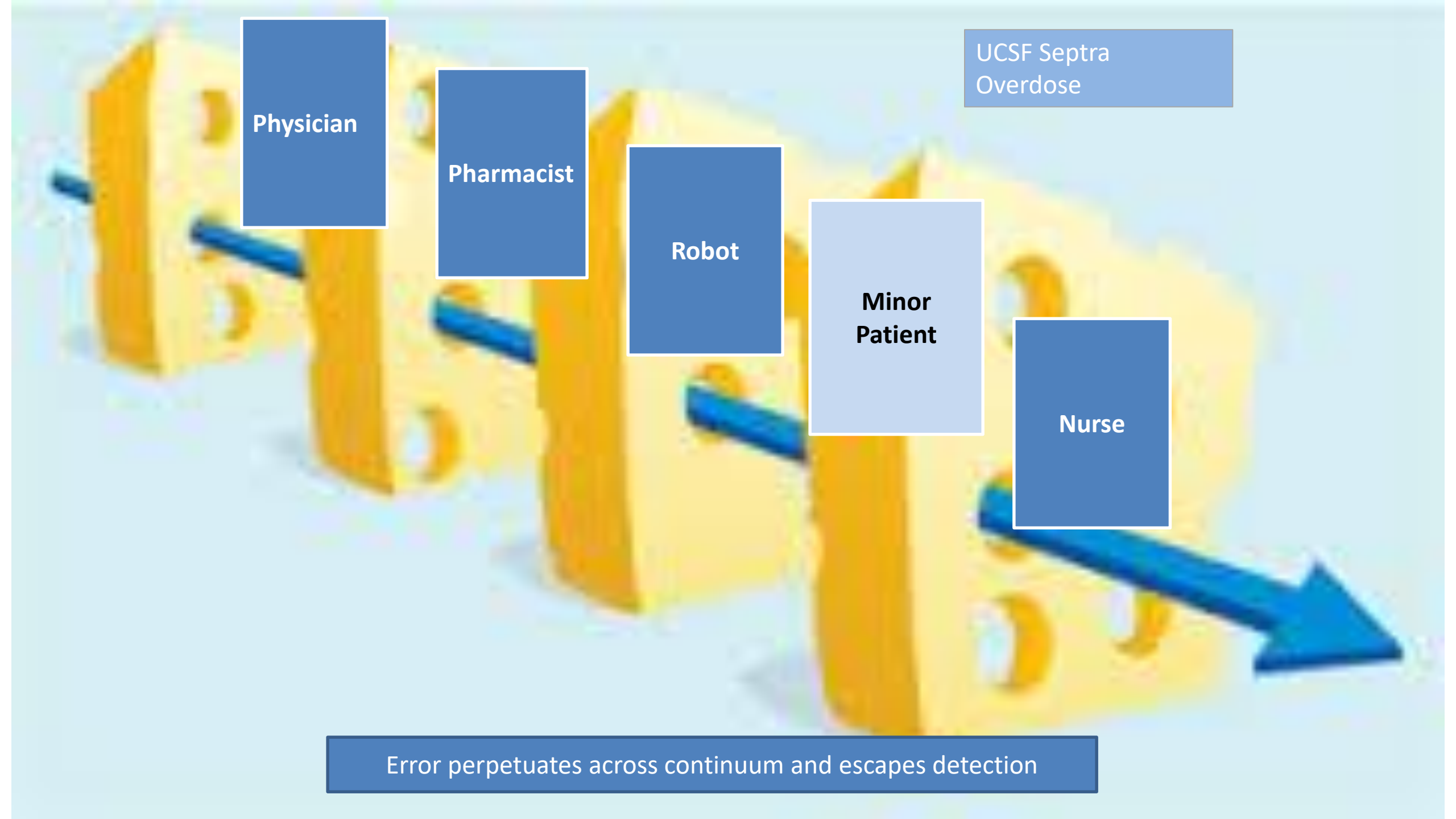


Robert Wachter's Book
"The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine's Computer Age"
Location: UCSF

Alert Fatigue

CASE STUDY: SUMMARY OF FACTS @ UCSF

Summary		Injury
• 16 yr. old with rare genetic disease took prophylactic Septra 160mg BID • Admit for colonoscopy. Resident wrote 1 double strength septra 160 mg. • CPOE converted mg/kg and determined dose to be 38 ½ double strength pills. • Resident only saw the 160 mg on the screen. Sent the order but received an immediate alert – it was disregarded.	• More alerts on the peds unit disregarded. • Pharmacy busy. Pharmacist reviews, signs off because knows physician. Disregards alerts. • Robot fills prescription, no one checked robot. • 38 ½ pills placed in medication drawer. • First year float nurse, thought it was odd but proceeded to administer.	• Experienced a grand mal seizure and coded.


Physician
Pharmacist
Robot
Minor
Patient
Nurse
UCSF Septra
Overdose
Error perpetuates across continuum and escapes detection

Alert Fatigue

Outcome

- Outcome unknown
- Suggested improvements:
  - Differentiate alert signals
  - Establish crisis alarms
  - Overriding should be a conscious decision
  - Beware of automation Bias!


Legal Defense 101

Defense Challenges

- Reviewing records→ discrepancy between printed record and what appears on computer screen. Difficult for MD to interpret printed record during deposition

- Late Entry→ system logs actual time information is entered, may not reflect when procedure actually completed. How does one prove events happen at the time the witness says?

- Scanned and Shredded→ Scanned copy of poor quality. Once original is destroyed no way to recover data. Could result in “spoliation argument”

- Plaintiff’s counsel argues→ EHR features represent standard of care

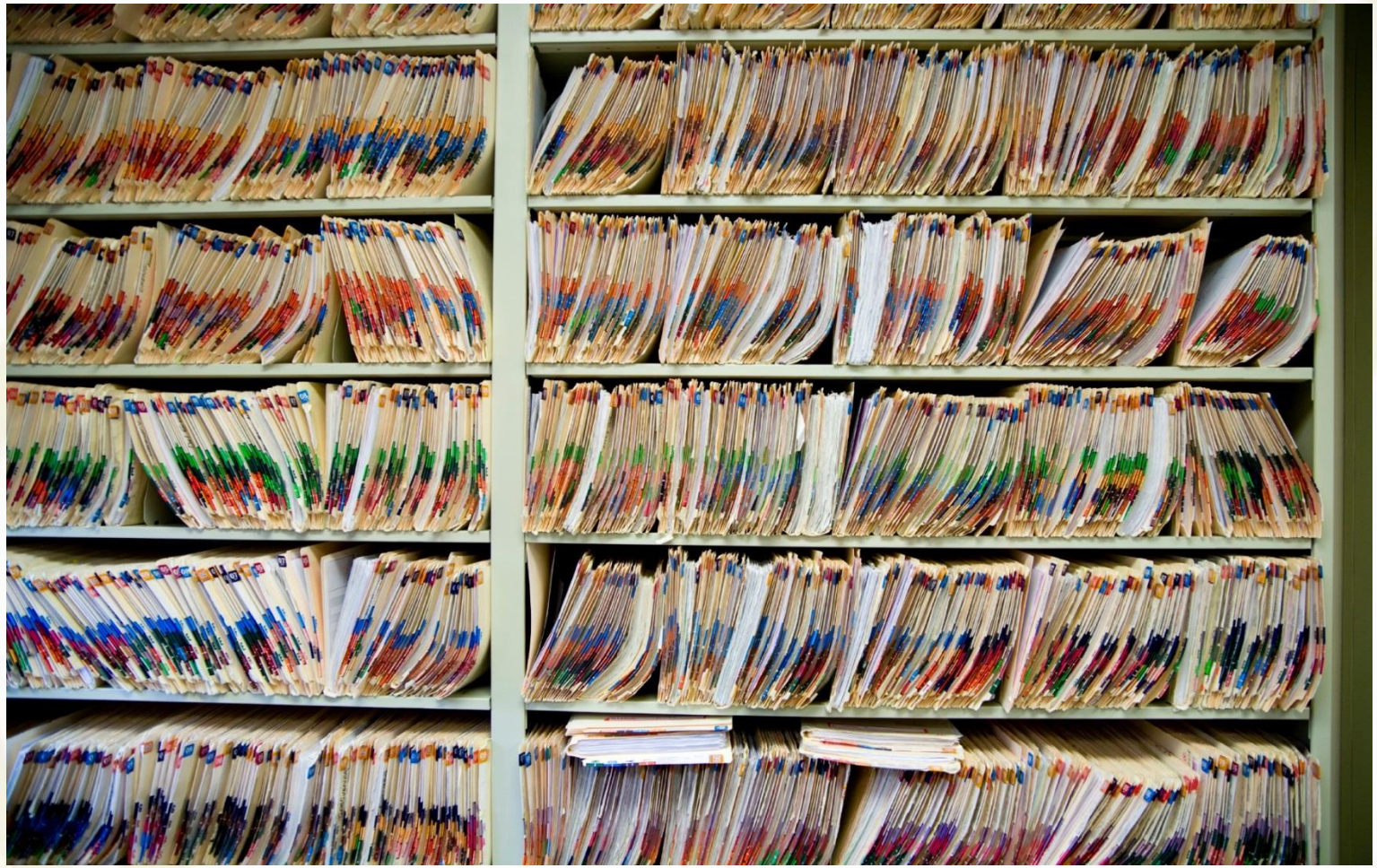
Be Mindful of Metadata

- "Data that describes other data"
- Reveals→
  - logon logoff times,
  - what was reviewed and for how long
  - changes and additions made and when
  - whether alerts/warnings were overridden
- E-discovery
- Could be beneficial to defense!

Risk Reduction Strategies

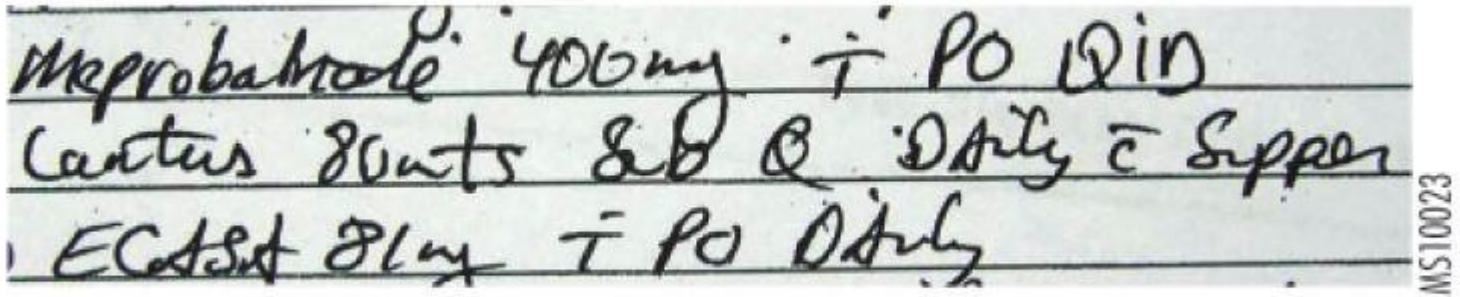
- Use the system as intended, don't deviate, drift or get creative
- When in doubt→ ASK!!
- Address overrides
- Question Authority—especially if it's a computer
- Attribute notes to author and review templates
- Educate the Patient
- Resist alteration

Before EHRs



Before EHR's

Figure 3. Order Written for 8 Units of Lantus Insulin Misread as 80 Units



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Before EHRs

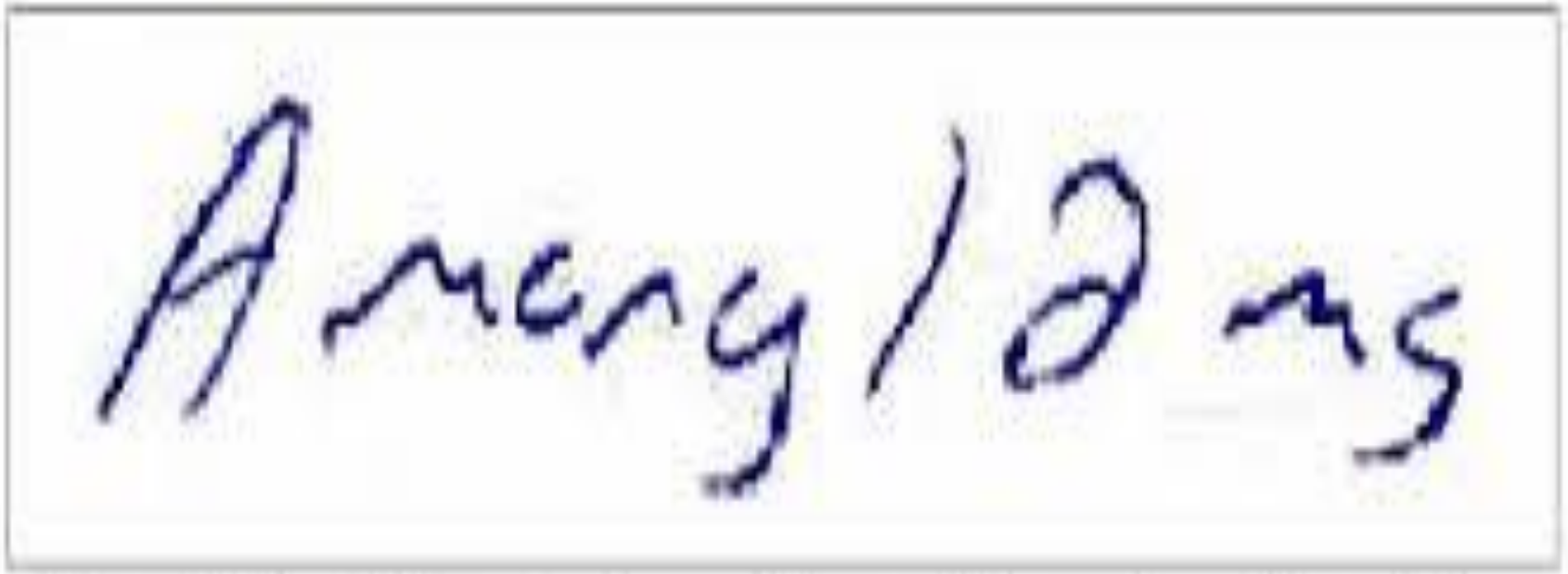

Figure 3. An Order for Amaryl 2 mg Misread as 12 mg. Provided courtesy of ISMP.


CASE IN POINT
by Tom Fishburne
THIS WON'T HURT AT ALL. IT'S NOT LIKE PULLING MEDICAL RECORDS FOR A MALPRACTICE SUIT. THAT REMINDS ME, AREN'T YOU A LITIGATOR?
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Now


Any
Questions