Case Scenario

Teaching Sample

“Mr Headache & Mr Head Injury”

(Please review prior to Day 2 of the Conference)
Mr Headache Case Scenario 1

Mr. Headache, a 75 year old male presented to the ER with a chief complaint of ground level fall with closed head injury. He arrived alone from assisted living facility without family. Family lives in a different state and patient is alert and oriented, but a poor historian. When queried about medical history, the pt reported, “I have high blood pressure. The doctor says I need to cut back on my fatty foods, something about my blood levels being too high or too low. I had a heart attack last fall. And I have pain in my joints, I’m not to spry on my feet any more, I have to use a cane to get around now a days. That’s why I’m living over at Summerdale so I can have help around the house. I fell down on the way to the afternoon tea. I don’t know if I tripped or what. There might be something else, I think … but I guess that’s about it.”

When asked for a family member’s contact information, the patient reports “Everyone I know is using a cell phone these days so, I couldn’t tell you any one’s telephone number.” For medication history, the patient reported, “Well, I take 2 pills for blood pressure one in the morning and two at night, a baby aspirin, those little white pills that go under my tongue when my chest hurts. There something else I’m on, some new medication, but I can’t remember and I’m not even sure what it’s for… I’m not one to create a fuss. I just take the pills when the doctor tells me to. I was here not long ago. I bet you already have a list of my medications.”

Per patient, a medical history is compiled: Hypertension, Hypercholesterolemia, Coronary Artery Disease, history of a MI within the last six months, and arthritis.

Medication List automatically compiled in the EHR from the last visit reveals:

- Lisinopril 20mg by mouth daily
- Lopressor 50mg by mouth twice daily
- Simvastatin 40mg by mouth daily
- Aspirin 81mg chewable by mouth daily
- Nitro sublingual 0.4 mg every five minutes as needed times 3

Based on a review of medical history and medications, along with a physical assessment no neurological deficits are found. Mr. Headache was diagnosed with a slight tender-to-touch hematoma to the right parietal scalp. The decision is made to evaluate a basic lab panel CBC, CMP and discharge the patient home with instructions to rest, continue taking regular medications, and follow up with his primary care physician the next day.

Throughout the night Mr. Headache’s condition deteriorates and he is readmitted to the ER comatose the next day. Upon evaluation of further clinical diagnostic tests, it is revealed that the patient has a subdural hematoma, an INR of 8.0., and the patient’s digitalis level is toxic.

After further investigation, it is learned that Mr. Headache was diagnosed with atrial fibrillation 1 year ago and is on Digoxin 0.5mg by mouth daily. Additionally, two months ago, he was started on Coumadin 2mg by mouth daily. Upon hearing of the omitted information, Dr Jones becomes irate stating, “Had I know all this information I would have included an EKG, digitalis level, PT with INR, and CT scan of the head without contrast last night.” Dr. Jones,
rants and raves about how the working conditions at the ER are below par. He told the Chief Operating Officer (COO) he will no longer respond to ER’s calls unless there are significant improvements in managing the healthcare information in the ER.

**Task for Students/participants**

Due to your expertise in EHR and interprofessional team approaches, your team has been invited by the Quality Improvement Officer to review Mr. Headache’s case. You are to determine the main causes that contributed to Mr. Headache’s misdiagnoses and make recommendations as to what actions are to be taken by the ER department to avoid reoccurrence.

Issues to consider in your presentation:

- What are the major causes of the misdiagnoses?
- How is the omitted information in Mr. Headache’s case used in patient evaluation and clinical decision making? Describe how the omitted information can be integrated and utilized in an EHR?
- What functional requirements are needed of the data set-up so it will be meaningful and useful to all healthcare providers?
- What meaningful use metrics are needed?
- Identify any workflow issues or common practices that contributed to Mr. Headache’s poor care.
- Describe how an interprofessional team approach along with the EHR improvements could have improved Mr. Headache’s care and ultimately, provide preventative measures such that similar cases will not reoccur.
Mr Head Injury Case Scenario #2

Mr. Head Injury, A 75 year old male presents to the ER with a chief complaint of ground level fall with closed head injury. He arrived alone from assisted living facility without family. Family lives in a different state and patient is alert and oriented, but a poor historian. When queried about medical history, the pt reported, “I have high blood pressure. The doctor says I need to cut back on my fatty foods, something about my blood levels being too high or too low. I had a heart attack last fall. And I have pain in my joints, I’m not too spry on my feet any more, I have to use a cane to get around now a days. That’s why I’m living over at Summerdale; they can help me out with ins and outs around the house. I fell down on the way to the afternoon tea. I don’t know if I tripped or what. There might be something else, I think … but I guess that’s about it.”

When he was asked for contact information for a close family member the patient reported, “Oh I left my address book at home.” For medication history, the patient reported, “Well, I take 2 pills for blood pressure one in the morning and two at night, a baby aspirin, those little white pills that go under my tongue when my chest hurts. There something else I’m on, some new medication, but I can’t remember and I’m not even sure what it’s for… I’m not one to create a fuss. I just take the pills when the doctor tells me to. And darn, I left my pills at home!”

Per patient, medical history is compiled: Hypertension, Hypercholesteremia, Coronary Artery Disease, history of a MI within the last six months, and arthritis.

Review of EHR for last hospitalization one year ago revealed he was admitted and diagnosed with new onset Atrial Fibrillation and included a detailed medication list compiled upon admission:

- Lisinopril 20mg by mouth daily
- Lopressor 50mg by mouth twice daily
- Simvastatin 40mg by mouth daily
- Aspirin 81mg chewable by mouth daily
- Nitro sublingual 0.4 mg every five minutes as needed times 3

Upon further review of discharge data from this previous admission, it is found that the patient was given a prescription for Digoxin 0.5mg by mouth daily and instructions to follow up with his cardiologist in three days after discharge.

In the EHR of a follow up office visit with his cardiologist two months ago, it was noted that the patient was started on Coumadin 2mg by mouth.

During his previous admission, the patient had given demographic information and an emergency contact which was compiled on a face sheet and available in the EHR and had a previous living will and power of attorney on file that had been scanned in by medical records and filed within the system for easy access.
The nurse calls the emergency contact on file and is connected with the pt’s daughter who lives in another state but knows the patient’s medical history and will obtain a detailed list of medications from her father’s local Pharmacy if needed.

The EHR utilizes Surescript solutions in which the patient’s prescriptions are automatically compiled in the record after they are prescribed and filled at the patient’s local pharmacy. The current list revealed the following medications:

- Lisinopril 20mg by mouth daily
- Lopressor 50mg by mouth twice daily
- Simvastatin 40mg by mouth daily
- Aspirin 81mg chewable by mouth daily
- Nitro sublingual 0.4 mg every five minutes as needed times 3
- Coumadin 2mg by mouth daily
- Digoxin 0.5mg by mouth daily

The Physical assessment revealed the patient had no neurological deficits and only slight tenderness and hematoma to the right parietal scalp.

Clinical diagnostic tests preformed based on patient’s chief complaint, history, and review of EHR included: EKG, CBC, CMP, digitalis level, PT with INR, and CT scan of the head without contrast.

Upon evaluation of clinical diagnostic tests, it is revealed that the patient has a subdural hematoma, an INR of 8.0, and the patient’s digitalis level is slightly above therapeutic. The patient was admitted to the Neuro-ICU for observation and treatment.
Tasks for the students/participants:

Due to your expertise in EHR and interprofessional team approaches, your team has been invited by the Quality Officer in the Institution to review Mr. Head Injury’s case. You are to determine the main factors that contributed to Mr. Head Injury’s successful diagnosis and treatments. You are asked to make recommendations on what processes to highlight to improve EHR use in the ER to improve meaningful use and enhance safe patient outcomes.

Issues to consider in your presentation:

- What informational systems were employed in Mr. Head Injury’s case?
- How could the lack of using these systems impact his care?
- How was the information in Mr. Headache’s EHR used in patient evaluation and clinical decision making?
- What knowledge was necessary for the multi-disciplinary team to effectively use the data that was integrated in the EHR?
- What factors were considered in the data set-up so that it was meaningfully used by all healthcare providers?
- What meaningful use metrics apply in this case?
- Identify any workflow issues or common practices that contributed to Mr. Head Injury’s care.

- Describe how an interprofessional team approach along with the EHR improvements contributed to Mr. Head Injury’s care and ultimately, how this approach and use of EHRs could be used to improve health outcomes in other areas of your institution or organization?

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