**Acute Care Storyboard for FHIR Clinical Connectation 1.0**

**Goal/Objective**

The objective of this storyboard is to describe the acute care process and the documentation that occurs along the storyline. The approach is to keep the flow of events simple and may not represent all instances of acute care.

**Actors**

Emergency Physician: Dr. Eric E. Mergency, MD

Patient: Robert Anyman

Triage Nurse: Sally Sorter, RN/BSN, CEN

Emergency Nurse: Jean Careful, RN/BSN, CEN

Registration Clerk: Reggie Star

Gastroenterologist: Dr. Tony Turn, MD

**Assumptions**

All actors have access to the necessary electronic systems/applications for documenting the care provided.

**Precondition**

Mr. Adam Everyman is a 46 year-old married man with a history of migraine headaches, who presents to the Emergency Department with abdominal pain.

**Triggers**

Patient arrives at the Emergency Department seeking care

**Flow of Events**

### Description of ED Encounter

#### Triage

Mr Everyman checks in with the ED greeter, providing his name and reason for visit. The triage nurse, Sally Sorter, RN finishes with the previous patient and welcomes Adam into the Triage area. Sally asks Adam more about what brings him to the ED today. Adam reports having abdominal pain for the last 2 days that is progressively getting worse. The pain never completely goes away and the last exacerbation, about 30 minutes ago the pain was an 8/10. Now the pain is about a 6/10. Adam reports vomiting twice in the last two days, yesterday evening and again about an hour ago. Adam reports the last emesis to be bright red, and bloody. Adam doesn’t remember for sure but he thinks his last stool was two days ago and was loose and dark. Adam does not think he has any medication allergies, he does not take any medications except for a daily multivitamin. Sally checks his vitals signs and records T 37.6 C, HR 96, RR 22 on room air, BP 132/80. Adam reports his weight as 184 lbs. Sally assigns the ESI acuity of 2 to Adam’s case and takes him and his wife who has accompanied Adam, to a room. In the room, Sally provides Adam with a gown, sheet and a urine cup and instructs Adam to collect a urine sample and get into a gown. Sally marks the room assigned to Adam on the tracking system and returns to the triage area.

#### Bedside RN Assessment

Jean Careful RN, the ED bedside nurse knocks on the door to Mr. Everyman’s room and introduces herself as Adam welcomes her in. Adam has changed into the patient gown and is laying down on the ED bed on his side with his knees pulled up. Jean asks Adam to tell her about his abdominal pain and if he as ever experienced anything like this before. Adam says no, besides his occasional migraine (1-2/year) he is healthy. When asked the level of his current pain Adam reports a 7/10 and clearly looks uncomfortable. Jean does a physical exam of Adam and finds him alert and oriented, respirations even and regular but shallow, heart tones normal with 1+ peripheral pulses, skin cold and clammy. His abdominal exam revels hyperactive bowel tones, and a tense but not hard abdomen.

#### MD Assessment and Orders

Dr. Mergency comes to Adam’s bedside while Jean is finishing her assessment. Dr. Mergency asks Adam questions about today’s illness and Adam’s past health history. Dr Mergency also asks Adam a few questions about Adam’s profession, diet and lifestyle. Dr. Mergency learns Adam is an accountant and very busy during this current tax season. He also learns Adam loves spicy Indian food – the spicier the better and he has been taking Ibuprofen several times of day lately due to stress headaches he has been having. He is worried about getting a migraine and the ibuprofen seems to help. Adam reports his current pain level is a 6/10 now that he is laying down, but he is also now feeling nauseated. Dr. Mergency’s physical exam and review of systems reveals that Adam has increased the amount of Ibuprofen he is taking recently. Dr. Mergency orders IV fluid (Normal Saline), pantoprazole 40mg i.v, ondanstron 8 mg i.v, fentanyl 25 mcg i.v., oxygen at 2L/nasal cannula, labs (Complete Blood Count, Comprehensive Metabolic Panel, Hepatic studies, Coagulation Studies, Urinalysis, Type and Cross) and an abdominal CT scan.

#### Registration

Once the clinicians have completed their initial assessments, Reggie Star stops by the Adam’s room to collect complete the full registration of demographic, insurance and copay information.

#### Diagnostic Tests and Initial Treatments

When Dr. Mergency ordered the diagnostic studies for this patient the lab and radiology technicians were notified of pending tests. Jean Careful RN, verified the urine sample Adam collected was his and sent it for laboratory analysis. The Lab tech came to Adam’s bedside and drew the proper amount of blood into the proper blood collection tubes for the ordered hematology studies.

A few minutes after Dr. Mergency leaves Adam’s room, Jean returns with the medications Dr. Mergency has ordered for Adam. Jean places Oxygen at 2L/nasal cannula on Adam and places an IV in his right anterior forearm. Once the IV catheter is in place Jean starts an IV drip of NS at 100 ml/hr. and she administers the medications to Adam following the “7 rights” of medication administration. Jean makes sure the call light is within Adam’s reach and instructs him how to use it. She also determines the bed is in its lowest setting, determines Adam is alert and aware enough to not have both side rails up and instructs he call anytime he needs to get up for assistance. Jean asks Adam and his wife if they have any questions and answers them.

After about 40 minutes, the CT technician comes to Adam’s room and transports him to the CT suite where Adam has an abdominal CT scan. The CT technician verifies the scan images pass the quality control and returns Adam to his ED room.

#### Results

Laboratory evaluation reveals normal coagulation studies, serum electrolytes levels, and liver function. Adam’s hemoglobin, however, is low, at 7.5 gm/dL (normal is 13.8 – 17.2 gm/dL for men). His red blood cell count, at 2.8 million/mm3, is also low (normal is 4.7 – 6.1), as is his platelet count, at 160,000/mm3 (normal is 150,000 – 400,000). His white blood cell count is 5.2 million cells/mcL (normal is 4.5 to 10 million cells/mcL)

The results of the CT scan indicate a thickening of the antrum of the stomach. There is no sign of appendicitis or pancreatitis on the scan.

#### Reassessment

Thirty minutes after administering the medications, Jean returns to Adam’s room to check on him. Adam reports his pain and nausea are better but not completely gone. His pain level is now a 4/10. Jean rechecks Adam’s vital signs and gets the following values HR = 84, RR= 16, BP = 126/78 , Pulse ox = 99% on 2L O2/nc.

#### Disposition

Dr. Mergency reviews the lab and CT scan results and returns to visit with Adam and to evaluate the effect of the medication therapy. In the room Adam is looking more comfortable then before and reports having pain at a level of 4/10. His nausea is much better. Dr Mergency explains to Adam and Adam’s wife it looks like Adam is experiencing peptic ulcer disease. Dr Mergency also tells Adam and Adam’s wife that since his pain is improved and the lab results indicate Adam is not anemic from any potential gastric bleeding, Adam can go home, but must refrain from taking any more ibuprofen or other non-steroidal anti-inflammatory drugs such as aspirin, Tylenol or naproxen. Dr. Mergency recommends Adam follow a simple, mild diet and to take a proton pump inhibitor medication called pantoprazole 40 mg one time a day. It is a pill that is also called Protonix. Dr Mergency asks Adam the name and address of Adam’s preferred pharmacy to complete a prescription for the medication. Dr. Mergency instructs Adam to take the medication until he is seen in the outpatient setting by a gastroenterologist, Dr. Tony Turn. Dr Mergency encourages Adam to drink plenty of water but to avoid coffee, tea, carbonated beverages and alcohol

A few minutes after Dr. Mergency left Adam’s bedside, Jean RN returns with patient information education handouts regarding peptic ulcer disease, and the new prescription ordered by Dr. Mergency as well as phone numbers to make an appointment with Dr. Tony Turn. Jean answers all of Adam and Adam’s wife’s questions regarding Adam immediate care. She has Adam sign the emergency department discharge papers and bids him and his wife farewell after determining they are comfortable finding their way to the exit door.

**Post Condition**

Adam Everyman is discharged from the Emergency Department to home in the care of himself and his wife. Adam has received and understands the interventions (diet) and medications needed to not aggravate his gastric ulcer prior to being by Dr. Turn. Adam Everyman tolerates his abdominal pain, without any reoccurrences of his bloody emesis prior to his visit to Dr. Tony Turn 4 days later. Adam is treated by Dr. Tony Turn for the next few months until his gastric ulcers and the accompanying symptoms are resolved. The emergency department and emergency physician billing are completed and submitted.

*Note: There are several alternative flows to the above scenario. These are considered out of scope for this exercise and are not included.*