TeamSTEPPS CUS/SBAR Case Scenario

Summary / Overview of Hospitalization: A 64-year-old male with multiple health issues comes to the hospital with difficulty breathing. What should have been a simple 48-hour hospitalization ended up as a complicated 10-day hospital stay due to several lapses in medical care and team communication as well as a significant medication error. The patient's overall satisfaction with his stay was also low due to a lack of timely and effective team communication.

Past Medical History: Mr. Stanley Londborg is a 67-year-old male with epilepsy since childhood; hypertension (HTN) x 10 years; and chronic obstructive pulmonary disease (COPD) x 5 years. He has visited the hospital four times within the last year: twice for acute COPD exacerbation; once for HTN urgency due to medication non-compliance, and once for status epilepticus. He had smoked since age 14 but stopped 5 years ago when diagnosed with COPD. No alcohol use. No known drug allergies.

Home Medications

abuterol (Proventil®) 2puffs every 4 hours as needed for shortness of breath (rescue inhaler)
tiotropium (Spiriva®) 18mcg inhaler 2 puffs once daily for COPD
salmeterol (Serevent®) 50mcg/puff inhaler 2 puffs every 12 hours for COPD
amlodipine 5mg / valsartan 160mg (Exforge®) once daily for HTN
levetiracetam (Keppra XR®) 500mg once daily for epilepsy, started 1 week ago
lamotrigine (Lamictal®) 250mg every 12 hours for epilepsy x 2 years
valproic acid (Depakote®) 1g every 12 hours for epilepsy x 5 years

*[**Pharmacy / Provider**: Triple drug therapy for epilepsy is almost never helpful unless the patient is having multiple types of seizures which he is not. Triple therapy increases ADRs without increasing efficacy. Pharmacy / Provider collaboration may be needed to reconcile this issue. Should one of the drugs have been stopped when the levetiracetam was started? Should his neurologist be consulted? Should all 3 drugs be continued?]*

Day 1: Mr. Londborg presented to the emergency department with wheezing and difficulty breathing. Physical exam revealed acute worsening of COPD. The chest x-ray was negative for pneumonia. The patient was admitted for treatment of acute COPD exacerbation, most likely due to a bacterial respiratory tract infection. Lab work showed normal electrolytes and liver function tests but he had an elevated SCr (indicating acute kidney impairment). Mr. Londborg' s inhalers were temporarily discontinued and replaced with nebulized albuterol 2.5 mg and ipratropium 0.5mg administered by respiratory therapy (RT) q4h around the clock. All of his other home medications were continued PLUS new orders for oxygen per nasal cannula, prednisone 40mg daily (corticosteroid), clarithromycin (Biaxin XR®) 1000mg every 12 hours for pneumonia, and IV fluids.

*[**Pharmacy / Provider**: Clarithromycin has metabolism interactions with valproic acid and amlodipine. Using azithromycin or levofloxacin or moxifloxacin would be better.]*

Day 2: Mr. Londborg showed signs of respiratory improvement but was still short of breath. The provider ordered physical therapy twice daily to keep the patient ambulating. The nurse noted that while eating the patient often cleared his throat and coughed. *The **nurse** was concerned about possible aspiration and informed the medical **provider** about what she was observing in order to obtain an order for a swallow study speech language pathologist (SLP).* No overt signs of aspiration were noted during the swallow study but the SLP did note that the continued shortness of air was causing difficulty eating and suggested careful monitoring of positioning during eating and potential

diet modifications (e.g. smaller bites, swallow after each bite). This was explained to Mr. Londborg and it was recorded in his medical record but the information was not communicated back verbally to the healthcare team. The SLP also noted that Mr. Londborg was having significant difficulty hearing. When questioned, Mr. Londborg complained that he had lost one of his hearing aids and was having ringing in his ears which was new. So the SLP also requested in the patient chart that the medical provider order an audiology evaluation.

*[**SLP / Audiology / Nurse / Provider**: Normally swallow study results or requests for further referral orders (e.g. audiology evaluations) are communicated back to the nurse and/or medical provider verbally as well as documented in the chart. However, the SLP could not locate the patient's nurse or provider so a note was left in the chart instead. The SLP knows how busy the nursing staff is and that requesting close observation during meals might present a burden to nursing time but also knows that it will be very important to protect the patient from aspiration.]*

Day 3: Mr. Londborg was still having difficulty eating with coughing and choking. Today, his breathing seemed even more difficult. Nursing notes green sputum production with a foul odor. Mr. Londborg wasn't able to fully participate during physical therapy sessions due to his shortness of air. During PT, his O2 sats would drop and he would become tachycardic. Therefore, therapy typically had to be cancelled. The SLP had asked the audiologist about the hearing evaluation results but the audiologist was unaware of the situation because the provider had not ordered an audiology evaluation.

*[**PT / Provider / Nurse / Pharmacy**: The healthcare team was not checking the PT progress notes on a regular basis and assumed everything was going well with therapy and that the patient was mobile and ambulatory. Likewise, the PT assumed that the team would be checking the PT progress notes for updates.]*

*[**Pharmacy / PT / Provider**: Pharmacy normally evaluates all patients for risk of deep vein thrombosis (DVT clot) and recommends enoxaparin (Lovenox) prophylaxis if not ordered; however, when pharmacy saw that PT was ordered, they assumed he was ambulating enough that he would not need DVT prophylaxis so no rec was made.]*

*[**SLP / Nurse**: Mr. Londborg either did not understand, did not remember, or could not hear the SLPs instructions regarding eating more safely. Nursing was unaware of the swallow evaluation results/instructions so the patient was not being observed during meals. Worsening respiratory status and green, foul smelling sputum may indicate an aspiration pneumonia developing.]*

*[**Audiology / SLP / Provider / Nurse**: The SLP was alarmed that no one had acted upon the audiology eval. The audiologist will need to contact the provider or nurse directly to explain the situation and request the evaluation order. Because the audiologist and SLP work within the same office, the audiologist is surprised that the SLP hadn't mentioned the issue of hearing aids and new tinnitus verbally. This may need to be discussed.]*

Day 4: During a physical therapy session, Mr. Londborg complained that his left leg was "really hurting." Upon examination, the PT noticed that his left calf was swollen, red, and tender to touch. The PT made note of this in the medical record but could not find a nurse or provider to communicate these findings.

*[**PT / Provider / Nurse:** Normally a potentially significant or "dangerous" finding like this would be communicated back to the nurse and/or medical provider verbally as well as documented in the chart. This may require a conversation to figure out why such a*

significant issue was not verbally communicated. PT can also take this opportunity to express to the nurse or provider concerns about possible DVT]

Day 5: The patient complained of worsening leg pain to the nurse early in the morning and asked when he was going to get a replacement hearing aid as promised by the SLP several days ago. The nurse was unaware of the hearing aid issue but was more concerned with the leg pain. *The **nurse** looked through Mr. Londborg's medical record and noticed the PT documentation and then notified the **medical provider*** who ordered ultrasound to lower extremities, which revealed a blood clot in the left calf. Mr. Londborg's admission medication orders did not include the standard DVT prophylaxis.

Day 6: DVT treatment with enoxaparin (Lovenox®) should be started at 1mg/kg q12h. However, the order cannot be written by the provider and cannot be filled by pharmacy because the patient's height and weight are not in the chart. Also, the patient's renal function cannot be assessed without this information which is will affect the correct dose. *[Provider / Pharmacy / Nursing]*

Day 7: Audiology was finally consulted to assist Mr. Londborg with his missing hearing aid and to evaluate the new onset of ringing in the ears.

*[**Audiology / Provider / Pharmacy:** The patient's antibiotic is known to cause acute tinnitus. It is a rare side effect, but the audiologist has seen it happen before, especially in older adults who already have hearing impairment. The audiologist may wish to discuss this with the provider directly, or may wish to discuss it with the pharmacist since most likely an antibiotic change will be in order and the pharmacist may be able to assist the provider with alternate suggestions. The actual incidence of tinnitus from macrolides is unknown but several case reports are available in the literature.]*

Day 8: At 10 PM an environmental services staff member found Mr. Londborg on the floor of his room and immediately alerted the nurse. The nurse noted seizure activity and paged the medical provider. IV lorazepam (Ativan®) was ordered and administered to halt the seizure activity. Because no one witnessed his fall, once stabilized, Mr. Londborg was ordered a CT of the head which was negative for signs of bleeding. The provider reviewed the chart and medication history to determine possible causes of the seizure. The provider discovered that the seizure medication, levetiracetam, had not been given since admission. The medication was restarted.

*[**Pharmacy / Nurse / Provider:** A notation in the medication administration record (MAR) indicated that the medicine was not available in the automatic medication dispensing system on the floor and that doses would be manually sent to the floor from pharmacy daily. The notation (due to poor handwriting) was interpreted as a "hold" order by nursing who then notified pharmacy that the drug was on hold. When pharmacy was notified by nursing that the order was on hold, no one checked with the provider or the medication orders to verify that the medication was indeed on hold.*

Day 9: After his mental status improved, he complained of pain in his left shoulder and elbow, so the ***nurse** asked PT to evaluate this during his regularly scheduled PT session*. The PT evaluation revealed that Mr. Londborg was unable to move his left arm without severe pain; however, X-rays revealed no evidence of fracture. Pain medications were ordered.

Day 10: Mr. Londborg was discharged to home with no further complications.

"Medical Provider" = can mean a physician, physician assistant (**PA**), and/or advanced practice registered nurse (APRN)
SLP = speech language pathologist; **PT** = physical therapist; **RT** = respiratory therapist
COPD = chronic obstructive pulmonary disease; **DVT** = deep vein thrombosis; **HTN** = hypertension