**Discussion: Three**

**Scenario 1:**Stephanie is a nurse practitioner at Central Care Hospital who is often involved in administering prescribed medications for patients in the general care ward. When a physician sees a patient, he or she uses the hospital’s EHR system to document findings and recommendations for treatment but submits medication and drug orders by faxing prescriptions to the hospital’s pharmacy. Before Stephanie administers the medications from the pharmacy, she must cross-check the medication and dosage with the physician’s notes and patient information in the EHR system. In doing so, Stephanie often identifies problems with the medication the physician prescribed; patients are sometimes prescribed a medication to which they have a known allergy or one that conflicts with another medication they are currently taking. In addition, the pharmacy sometimes sends the wrong medication or the wrong dosage. Furthermore, for patients who have been transferred from other parts of the hospital such as the intensive care unit or the maternity ward, Stephanie often encounters duplicate drug orders or incorrect medications sent from the pharmacy.

**The most prominent workflow gap in the scenario**

The most prominent workflow gap in the scenario is patients being prescribed the medication to which they have known allergies or one that conflicts with the medication they are currently taking. Pharmacy sending the wrong medication or wrong dosage. Duplicate medication orders for those patients who were transferred from other units such as the intensive care unit or the maternity ward.

**Who is responsible for the gap**

In this era of EHR, clinical workflow coordination relies increasingly on the use of computerized systems but there is also evidence from Zheng et al., 2020 suggesting that current-generation EHR systems inadequately support clinical workflow and the cognitive tasks of clinicians. Therefore, a common phenomenon in EHR is Suboptimal workflow. Results from a wide range of problems, including poor software usability, complex intersystem dependencies, and the lack of sociotechnical integration of software systems into complex behavioral, organizational, and societal surroundings can be responsible for the gap. Along with the present EHR system, pharmacy for not checking the medication before sending it, providers who are ordering duplicate orders for transferred patients, and organizations for not using a better EHR system are responsible for the gap.

**Outcome or consequences of the gap**

The outcome of the gap could have been a medical error if the Nurse practitioner didn’t check the medication. According to McGonigle and Kathleen, “Preventable medical errors are the third leading cause of death in the United States and cost our country tens of billions of dollars a year”. It was time-consuming for the Nurse practitioner to go through everything not being able to give her valuable time in patient care. The reputation of the organization won’t be that great.

**How gap analysis can be conducted to gather further information**

According to Westland, Gap analysis can be conducted via four basic steps.

1: Identify Current State: In this step, we need to know where we are at present, following this we need to be clear on what is being addressed and what is not which will keep our analysis focused.

2: Identify where we want to go: We need to figure out what we want to do and if we are getting there, we need to know if that is our desired state or future target.

3: Identify the gap: By this time, we already know where we are and where we want to go. In this step, we identify the gap and a way to close the gap

4: Bridge the Gap: After knowing the gap and the way to close the gap we must select the date at which the gap will be closed.

Lastly, we need to follow up on the improvement

**Strategies for addressing gap/steps in the selection of the best strategy**

 Healthcare organizations can redesign the existing and implement new workflow processes that are intended to improve patient safety. Blocks and barriers limit how specific actions like ordering medications and sending prescriptions can be intentionally designed and embedded in the EHR. Halbesleben et al (2010) Screen-capture software can be used to record all EHR interface-level interactions to understand emergency physician workflow and workarounds which can be mouse clicks and keystrokes. There was a study conducted at four healthcare systems that used two different EHR vendor products and sought to measure the variability in workflow and resulting time-on-task and error rates. Physicians completed six different clinical scenarios. Screen capture software was able to understand EHR interaction patterns that would not be possible to capture by log data. There was a wide variability in workflow, time-on-task, and error rates. Physicians showed different workflows within a single healthcare system. some physicians were able to finish tasks without any errors in half the time as others. This highlights the need to more closely analyze workflow to reduce burdensome processes and reduce the likelihood of error. Increasing physician awareness of different EHR workflows can reduce error rates and take less time.  Those physicians using unmanageable ones can change their behavior by simplifying EHR workflow by redesigning EHR systems to eliminate unnecessary keystrokes and clicks. (Zheng et al., 2020)

There can be a misalignment between ideal workflow as perceived by software designers and healthcare administrators versus clinicians experience in daily practice. This might happen when workflow blocks are embedded by health IT. Thus, workflow predefined in EHR systems is unable to accommodate complex or unexpected situations. On top of this, It is exacerbated by poorly designed software user interfaces, inadequate user training, low specificity of computerized alerts, and adoption of a common EHR across medical specialties. (Zheng et al., 2020)

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**Response 1:**

Hello Kathryn

After reading your post, I wanted to dig down more on the process owners as you brought up this important topic in work analysis. I agree with you that workflow analysis and gap identification first step would be building a team who are also called “process owners”. The gap you have mentioned in the Scenario can be closed via workflow analysis which can be achieved by great teamwork.

The is a negative impact on patient care without the presence of an efficient workflow therefore workflow analysis should be part of every technology implementation. A dedicated team in workflow analysis is needed for its success.  Process owners are the persons directly engaged in the workflow analysis. They can speak about the intricacy of process including process variation from the normal. Individuals who can contribute information about the current state of workflow and offer suggestions need to be included in the team. Team Members should also have the authority to decide how the process should be redesigned. In the early stage, the team should decide which workflow will be examined to avoid confusion or spending time unnecessarily on workflow that does not ultimately matter to the outcome. Workflow redesign should define the beginning and end and a few high-level steps of the process. There can be confusion and the conversation may get sidetracked if we are focused more on process steps in great detail, so we should avoid focusing on process steps in great detail in the beginning. (McGonigle & Kathleen, 2022)

**References:**

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**Response: Two**

Hello Niketa,

Thank you for the post

The policy requiring the creation of a summary report that is handed to the patient during discharge is one of the best strategies that can close this gap. Along with this using Electronic health records by patients to share information can be beneficial as they are projected to yield significant improvements in efficiency and cost savings. Health information technology has rapidly expanded, applications such as MyChart will allow patient to view their EHR during inpatient hospitalization and after discharge.

My Chart was designed to improve inpatient education and engagement and to strengthen patients' relationships with their care team. It allows patients to view in real-time information on their vital signs, laboratory results, medical procedures, and medications.  Patients can learn about their care team, request services, and access educational information via My Chart. (Winstanley et al., 2017) This tool improves the quality and safety of care by sharing real-time information such as daily scheduled medication and test results and providing a mechanism to recognize and communicate with the healthcare team. Appointments can be scheduled along with price estimates and costs using this application.

This saves time for medical workers that can be used in patient care. Hospitals can also install EHR which has interoperability software with the ability of two or more systems to exchange health information and use the information once it is received. (Lewis, 2023)

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