**Ritu Adhikari**

**Supporting workflow in the healthcare system**

**Professor: Dr Ami Bhatt**

**Assignment: Week 5**

**Date: 6/30/2024**

**Introduction**

In the healthcare industry, it’s important to use time, money, human resources, and materials to the fullest. With this rapidly changing regulatory requirement and a critical life-saving mission, healthcare organizations should constantly attempt to provide high-quality services along with managing resources and controlling costs as effectively as possible. One way to keep up with this is via gap analysis, the assessment of our performance to identify the differences between our current state and where we want to be. It is intended to identify gaps, the reason behind the gaps in the organization, and cast a light on why these gaps exist helping us focus better on resources and energy on identified areas so that we can improve them. This paper covers the workflow analysis of the issue I have selected.

**Workflow issue**

The workflow issue I will be addressing in this assignment is the issue that arises with a poor EHR interface. When it is difficult to see or when there is confusion in navigation in an EHR interface, when we must click a million times to go to a certain screen, it creates frustration and takes all the time that could have been given in patient care. According to Binariks.com, Out of ten clinical personnel, seven reported burnouts related to EHR integration, Clinician exhaustion increases the chances of making mistakes, therefore convenient EHR screen design and user interface create a significant impact. The research done by AMA found that a one percent point increase in EHR usability scores decreases clinicians burnout by 3%.

**Workflow issues tied to EHRs/Objective**

EHR and interface are tied to each other. An interface plays a crucial role in an EHR system because it connects different components of a system. The interface is both a visual and operational design of an EHR that stores and manages patient health data, integrating various tools to assist healthcare teams. A good interface is needed for users to navigate these tools effectively. Poor interfaces can frustrate users and slow down the process, so it's crucial to prioritize the design principle of an interface that enhances user experience and usability. The interface serves as a medium between various EHR components. The main purpose of electronic health record solutions is to facilitate collaboration among healthcare teams by integrating various tools. A clear interface is important for users to work on these tools effectively.

**Workflow issue IOM’s six aims of care**

According to McGonigle and Mastrian, EHR was brought as a solution to achieve the goal of improving quality care while controlling cost because the healthcare system of the U.S. was facing enormous challenges.

IOM has outlined six aims for redesigning healthcare systems. Healthcare systems should be patient-centered, timely, effective, efficient, equitable, and safe. To achieve these aims, we can organize an approach by dividing the six aims into three levels that govern the design process. (Battles, 2006) A good interface can help us achieve these three levels.

Level 1: Patient-centered interface can be designed which currently influences health care. An interface can be designed in such a way that is easily understood and interpreted by the patient. For instance, the Patient portal with interactive and personalized tools, that have information more relevant to patient needs can be achieved through interface.

Level 2: A good interface is always secure. Security should be a priority when designing an interface. Poor interface can cause cognitive overload and fatigue, the users might have to process a lot of information and remember too many steps to complete the task leading to frustration and low engagement, with a higher chance of making errors that will compromise the safety of the patient. The care delivery system must be strong enough to prevent human errors or system failures that will harm the patient. In health care, it can be challenging to be completely error-free. However, a robust system is enough to recover from human error and system failure before it harms the patient. This can be achieved by a well-designed interface, there is no value of healthcare attribute if it is not safe at the center of the system. (Battles, 2006)

Level 3: This level includes the remaining quality aims- timely, efficient, effective, and equitable. These are also equally important and are achievable with a well-designed interface, that will assist us in finishing a task promptly making it an effective and efficient system, but according to Battles (2006), they should be considered only after levels one and two are fully addressed. When we talk about patient-centered care and safety, a well-designed good interface in an EHR can assist in achieving those aims.

**Goals for gap analysis with accomplishment hopes**

Organizations need to know where it is now and point out the gaps between their present state and future state. Once the gap is identified, my goal is to first complete a SWOT analysis of the change that I had proposed, then determine the current integration needs, Confirm the current enterprise architecture strategy (reusable assets versus new technology required), and Refine the case (CGI 2014)

My workflow concern was the issue with the poor EHR Interface. According to binariks.com, a user-friendly EHR system interface must include 14 core principles to enhance EHR/EMR usability and they are Consistency, Visibility, Match, Minimalism, Memory, Feedback, flexibility, message, error, closure, reversibility, language, control, and Documentation. By examining the workflow concern I hope to accomplish the above-mentioned user-friendly EHR interface system.

EHR interface style logic should be the same across the entire system. Users should be able to visualize and comprehend information that is displayed in the EHR user interface. Related information should be made accessible on one screen. To facilitate user information processing, the EHR system interface should match the real environment. Minimalism should be followed by eliminating unwanted steps so that the users can complete the required action with only a few clicks. Alerts and reminders should be limited to life-critical notifications that will lessen the time clinicians spend on navigation and dedicate more time to patients. Memory load to be reduced by replacing data entry with checkbox, saving information from previous forms, and many more. User action is to be accompanied by real-time feedback. Breadcrumbs can be implemented for navigation. Users should be able to customize the EHR system to reduce the time needed to complete a task by letting them use shortcuts, save settings, and add voice recognition. When a user does anything wrong, they should be able to add a concise error message with a troubleshooting option. It should have the ability to prevent data entry errors by checking the input automatically. EHR interface should have a function that allows users to go back to the previous screen along with editing and undo actions. The language used should be consistent and readable with common terminology and phrases. Users should feel that they are in control of every step without any confusing messages and unexpected results. EHR interface should be able to assist users with added information when a complex action is required.

I agree with McGonigle and Mastrian that EHR might look like simple automation from the surface, but its implication remains broad ranges from care-delivering ways to the nurse interaction with their patient using technology and to the research surrounding EHRs informing tomorrow’s nursing practice.

**Data collection method**

There are many methods we can use in data collection. According to indeed.com, the various data collection methods include Observation, Survey, Focus group, Interview, Design Thinking, and User testing. The data collection method I would be using is the Survey method.

There is usually little to no interaction between surveyors and those who are doing the surveys and, In this case, based on my workflow issue, the people who are doing the surveys will be the EHR users. To develop a user-friendly EHR interface via the survey method of data collection, we will focus on gathering multiple-choice and written answers about EHR interface. Firstly, the survey is sent to all the current EHR users with a deadline of 3 weeks. Short answers and multiple-choice questions with a space for additional comments if they want to share more. Once the deadline is met, the organization will collect all the data, analyze it, and decide on how to use the findings.

The individuals we will be including are mainly EHR users. Patients can be included to get an idea of how we can design a patient centered EHR interface. Mostly open-ended and short answer questions with additional space for comments are included. For instance, we can use the following type of questions where the responders can check the options provided.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Questions | I don’t know | Strongly disagree | Disagree | Agree | Strongly agree |
| I have enough knowledge on the current EHR |  |  |  |  |  |
| I am satisfied with the current HER system |  |  |  |  |  |
| I have enough time to take care of my patient while using the EHR |  |  |  |  |  |
| The screen in my HER responds quickly to actions |  |  |  |  |  |
| Do you want additional feature on your HER that will assist you in providing high quality care with minimum effort |  |  |  |  |  |

Checklists, Questionnaires, Case Studies, Surveys, and observation are the tools that can be used to collect data. Deciding on the tools is important for data collection because research is done for different purposes in different ways.

**Minimizing disruption**.

Communication needs to be transparent which helps in setting expectations and reducing surprises. Methods that do not require interference or constant interaction to be used, The approach needs to be respectful, Briefing before the team starts observation on what you are looking for and debriefing afterward to gather feedback and assist in mitigating any disruption caused.

**Avoiding biases**

Defining clear criteria will help evaluate the present state and identify gaps as this will reduce personal biases and ensure consistency. Gathering ideas from multiple sources such as different teams, and departments, to get a comprehensive view. Rather than personal opinions and assumptions relying on factual data and evidence along with using metrics benchmarks can help avoid biases. Maintaining Independent analysis by avoiding pressure from stakeholders

**Data record/quantify and analyze**

After collecting the data from the source, I will use a robust data recording system that ensures data consistency and integrity such as manual input processes, automated scripts, and data logging tools**.**

For data quantification, I will ensure that the data points are in consistent units and will aggregate data over pertinent time intervals that will be daily or weekly. I will also aggregate data by location or product.

For data analysis, I will compare present data with the baseline metrics that are already established which will assist me in identifying the trends and deviations. Using statistical methods, I will analyze the pattern and relationships in the data, and at the end I will create a graph or chart that will help in understanding the trends and present findings. Following this I will be monitoring continuously and refining data collection, analysis, and quantification from the insight I have gained.

**Establishing baseline metrics to normalize data from different information sources.**

First, it is very important to understand the data source and the data type, formats, and any known problems in the data. The next step is identifying the common metrics across all data sources that are suitable for normalization. Dates, numerical values timestamps can be the common metrics. Following this we move towards cleaning the data and preprocessing, where we clean the data and address missing values that will make sure our data is ready for normalization and further analysis. The next step will be normalization, according to Splunk.com, normalization is organizing data entries ensuring that they look similar across all the records so that it is easier to search group and analyze the information. After this we choose a baseline Source by selecting a data source as a baseline, following this, we apply the normalization technique across all data sources, and we then evaluate normalization for effectiveness.

**Illustration of my current-state workflow**

1: Receiving input: First, we receive initial input from the user

2: Processing input: Input is processed using chat processing and knowledge Retrieval. In chat processing language model is used to understand the context and information is retrieved based on a query for the data stored.

3: Generating response: Response is generated based on processed input and is formatted appropriately for delivery.

4: Delivering output: The response that is generated is delivered via an appropriate channel (Interface) to the users.

5: Feedback: feedback is collected to improve future responses and update knowledge.

**Swimlane:**

A diagram of a medical record

Description automatically generated **Fig: Example of a basic EHR interface related to appointments.**

**Conclusion:**

The interface complexity is usually proportional to the system complexity. The more features in the software, the more challenging it becomes to develop an intuitive interface. We must face challenges during this process, but the end product is worth it. If we design a proper EHR interface, we don’t have to worry about redesigning later which saves time, and unexpected software development expenses lowering the cost.

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**Ritu Adhikari**

**Supporting workflow in the healthcare system**

**Professor: Dr Ami Bhatt**

**Assignment: Week 7**

**Date: 7/14/2024**

**Introduction**

Workflow can be described as a set of tasks that are grouped chronologically into processes, and there are people or resources needed to accomplish a given task. Clinical workflow takes place in clinical settings, and it plays a crucial role in providing effective and safe patient care. I completely agree with Tiley that a Successful project should be completed on time and must be within the budget that meet the requirements and satisfy users. A project manager will first have a meeting with all the stakeholders to figure out useful features, following this planning, scheduling, and reporting on system development is done. For any project to be successful, an efficient workflow process will provide a clear roadmap for the entire team. This paper describes current workflow issues, the result of gap analysis, gaps within the current workflow, issues related to HER, and the finalized version of the current workflow model.

**Results of gap analysis and how they address the goals set**

The workflow issue I addressed in this course was the issue that could arise with a poorly designed EHR interface. Once the issue was identified, my goal was to develop a user-friendly EHR system interface that includes 14 core principles for enhancing EHR usability. According to bianriks.com, the 14 core principles are Consistency, Visibility, Match, Minimalism, Memory, Feedback, flexibility, message, error, closure, reversibility, language, control, and Documentation. To achieve the goals set I first completed a SWOT analysis of the change proposed followed by determining the current integration needs then confirmed the current architecture strategy which is reusable assets versus new technology required and ended with Refining the case. (CGI 2014). A gap analysis was needed to design an interface that improves user experience and usability.

Gap analysis ensures that the goals are addressed effectively by firstly identifying Discrepancies and that was done by comparing the current state and the state where we want to be, once we identify the state where we want to be, we then work on setting priorities by prioritizing gaps that are urgent to address in achieving set goals, following this action steps are defined, resources are allocated as it helps in understanding required resources to address identifying gaps. Progress is then monitored to see if the changes are effective and what kind of adjustments are needed. Lastly, Continuous improvement that helps move closer to the goals and adapt to new circumstances was implemented to address the goal set. Gap analysis can assist in providing a structured pathway that helps align organizational efforts with planned objectives and achieve wanted outcomes.

**Issues (gaps) within the current workflow.**

The issue in the current workflow is a poorly designed EHR interface that has affected healthcare professionals and other EHR users as there is a high number of frustrations and clinical burnouts questioning the safety of both healthcare personnel and patients. EHR interfaces that are complex and cluttered with unwanted information can lead to errors and confuse healthcare personnel. Unintuitive navigation can make it harder to find essential patient information which can slow down workflow. There can be security concerns where patient sensitive information can be exposed to unauthorized users or cyberattacks. Poor integration comes with poor interface leading to incomplete patient records, increasing the chance of errors. Interface that is not flexible can hinder user satisfaction and efficiency.

**Issues related to electronic health records (EHRs) and one or more meaningful use objectives.**

Poor interface will lead to incorrect data entry that can have serious consequences for patients affecting safety and treatment outcomes, data quality and interoperability is affected that will limit the effectiveness of clinical decision support. Meaningful use and widespread adoption of technology depends on the successful integration of information technology in clinical workflow which is vital in successful implementation and meaningful use of electronic health record technology. Poorly designed interfaces will lack features such as a patient portal where patients can assess their information, schedule an appointment, communicate with health care providers, and more. When there is no patient engagement health care professionals may struggle in meeting meaningful use objectives. There may not be seamless integration with outside systems or standardized data affecting health information exchange because of poorly designed EHR interface. Clinicians who are working through complex diverse tasks have concerns over electronic health record implementation and the potential impact that may have on routine workflow and outcomes, they have concerns over unwanted alerts and alarms they must deal with daily. The American Recovery and Reinvestment Act of 2009 has proposed meaningful EHR users, and the Centers for Medicare and Medicaid Services has proposed meaningful use, both meaningful use and meaningful users assist in the integration of EHR technology in clinical settings. To be recognized as meaningful users clinicians have to fulfill three criteria established by ARRA that will build the foundation for connecting between a rewarding EHR implementation and its meaningful application. The criteria are clinicians must demonstrate that they are using certified electronic health care technology, exchanging health information to advance the quality of health care delivery, and reporting clinical measures. (Bowens et.al) Poorly designed EHR interfaces can’t assist in achieving those criteria defined by ARRA and CMS to promote the effective use and adoption of EHR therefore EHR interfaces must be optimized in healthcare organizations so that we can deliver high-quality care and achieve meaningful use.

**Finalized model of the current-state workflow**

In my previous paper, I presented the swim lane of current state workflow focusing on the appointment where I included patients, healthcare workers, and facility admin. That was a basic interface related to appointments. In this finalized model of the current state workflow, I gathered information from gap analysis and tried to include all EHR users of a patient and the entire workflow from registration to post-discharge.

A diagram of a company

Description automatically generated **Figure: The final version of the current-state workflow / Description of the swim lanes**

The swim lanes of the user-friendly EHR Interface I have presented start with Patient Registration, Once the patient comes to a hospital, they will first come to the patient registration, where they will interact with the registration staff who then will capture patient data, insurance details, and unique patient identifiers such as medical record number. Once the registration task is completed it can be assessed by health care personnel such as doctors, interaction takes place with the doctor who then will conduct Assessments and enter the findings in the EHR system, then tests are ordered if needed. There will also be interaction with Nurses and Nurse assistants who will monitor patient conditions and vital signs, following this nurse will administer medications and document medication administration as well as nursing assessments and interventions. When the patient is ready for discharge there will be interaction with the discharge planner, pharmacists, and Patient, Discharge planner will prepare a discharge summary and instructions following the provider’s instructions, and the patient will be educated about post-discharge instructions and medications, follow-up appointments and referrals are also scheduled as this time. Once the patient is discharged there will be interaction with Administrators and IT staff who will manage accounts in the EHR system, create reports and analytics for quality improvement, and at the end ensure compliance with health care regulation standards.

Every section of the workflow model corresponds to specific tasks performed within the EHR system. To enhance its efficiency, usability, and user satisfaction the 14 principles I have mentioned in my previous paper are integrated in each stage to meet healthcare professional needs while maintaining healthcare standards and regulations. Layout and terminology are consistent in different sections of patient records, patient information is displayed based on user roles and aligned with the user’s current task. Clutter is avoided by only showing essential patient details with an option to expand information. Prior entries and suggestions are displayed for updating patient records. Real-time feedback is provided via error alerts, confirmation messages, and more. Easy updating and editing of patient records with clear control is allowed. When ordering tests and procedures, clear communication, confirmation messages, and validation checks were implemented for error prevention. Clear language with an ability to control completeness of documentation and level of detail with an audit trail of changes made. All the metrics need to be visible and interpretable. This workflow model integrating the core principles improves patient outcomes and assists healthcare professionals in providing quality care. Based on organizational, health care professionals, and patient needs adjustments can be made to the workflow model. Going back to the 14-core principle and the swim lane I have presented Consistency, visibility, match, and minimalism are seen while conducting assessment and entering findings in the EHR system. Memory, feedback, and flexibility in conducting assessment and documenting it with interventions, while providing education on the unit or before discharging patients and creating reports and analytics for quality improvement. Message, error prevention, and closure are seen while ordering tests and medications. Reversibility, language, and control documentation while conducting the assessment, administering medications, documenting, and educating.

A workflow gap may exist at any phase when there is a poorly designed interface or when the 14 core principles are not followed in the phase when they are to be followed which might affect the entire workflow. There can be a gap during the data entry phase disrupting the initial phase of data capture, It can happen during the information retrieval phase, and there can be issues during documentation or reporting.

**Conclusion:**

In this ERA of technology, clinical workflow coordination relies increasingly on the use of computerized systems but there is evidence that suggests the current-generation EHR systems failed to adequately support clinical workflow as well as the cognitive tasks of clinicians. Because of the critical patient safety risks and burnout and clinical inefficiencies concerns resulting from suboptimal workflow, we need a well-designed user-friendly EHR interface that will help in improving clinical workflow in the EHR context. (Zheng et al., 2020)’

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**Ritu Adhikari**

**Supporting workflow in the healthcare system**

**Professor: Dr Ami Bhatt**

**Assignment: Week 10**

**Date: 8/4/2024**

**Introduction**

Gap analysis assists organizations in identifying areas of improvement and pinpointing growth opportunities**.** EHR capabilities have increased over the last decades after its implementation. However, there is still a significant gap remaining for patients and clinicians. It is still an EHR struggle to communicate between hospital systems that compel the team to fax paperwork wasting money, time, and resources. This paper explains the major gap, how it relates to operational efficiency, future state workflow, strategy useful for the project, how culture affects long-term success, and the issues that might impact the successful long-term implementation of a project.

**Proposed solution and how it addresses the major gap and operational efficiency**.

The solution I have proposed is to get a user-friendly well-designed EHR interface to deal with the issues that come with a poorly designed EHR interface. A well-designed EHR Interface can lead to improvement in operational efficiency as it can address the issue that is created by a poorly designed EHR system.

Poorly designed EHR interface comes with Navigation and Usability issues. Their complex and unintuitive navigation can frustrate users increasing the time required to complete a task. In a poorly designed EHR interface data entry time is increased, errors are frequent as well as data inconsistencies. Screens are cluttered with a lot of information and poorly organized data can overwhelm users making it harder to find important information. Poorly designed EHRinterface struggles with integration and Intraoperability leading to fragmented patient information and increased effort to reconcile data. There are not adequate error prevention mechanisms or alert systems with high rates of clinical errors because of poor design. Customization and Flexibility in a poorly designed EHR interface are limited and may not align with their specific needs.

Well-designed EHR interface, with its clear labels, intuitive navigation, and logical flow allows users to get the information they need which will minimize errors and reduce cognitive load. Streamlined data entry methods are used in a well-designed EHR interface such as smart templates, and easy data exchange functionalities that will reduce documentation time and assist in ensuring consistent, accurate data. In a well-designed EHR interface some customizable dashboards and views will assist users in focusing on the most relevant information, Information is organized in a way where critical data are prioritized, and screen space is used efficiently. They have robust integration abilities and interoperate smoothly with other systems ensuring that patient data is updated consistently across platforms, enhancing care coordination, and reducing duplicate data entry. Clinical decision support, with real-time alerts and error checking function in a well-designed HER interface, will assist healthcare workers in making informed decisions and preventing potential mistakes. In a well-designed interface, customization feature allows to fit the specific needs of multiple users or departments and improve user satisfaction.

The gaps created by poorly designed interfaces can be bridged by a well-designed EHR interface by enhancing usability, improving data accuracy, streamlining processes, and supporting data integration that will contribute to increased operational efficiency leading to quality patient care and effective use of resources.

**Future-state workflow model:**

Healthcare organizations are working towards introducing technological interventions such as EHR data, and medical equipment logs for developing quantifiable metrics to supplement qualitative analyses that exist in the present. As per Vankipuram and Colleagues, as a part of the American Recovery and Reinvestment Act (ARRA), The Health Information Technology for Economic and Clinical Health (HITECH) introduced incentives to adopt and use EHRs for healthcare organizations that led to an increase in EHR adoption. 96% of US non-federal acute care hospitals reportedly possessed certified EHR technology and 84% had adopted a basic EHR which was up from 9.4% in 2008 as of 2015. This has brought a new dimension to clinical workflow. However, EHR also came with some significant drawbacks ranging from a lack of patient involvement to undesirable effects on physicians’ productivity advocating for a need for a well-designed EHR interface.

**Future state workflow model**

A diagram of a patient flow

Description automatically generated **Figure: Future State Workflow Model**

**Real-world scenario**

**Background:** Dr. Reyona is a neurologist at a busy hospital. One of her patients has a chronic seizure that needs adjustments to her treatment plan. The hospital uses a well-designed EHR interface to enhance data integration, clinical decision-making, and patient engagement.

**Future-state workflow steps and how they would be used in the real world.**

**1: Check-in**

The process starts with the Patient scheduling an appointment which can be done from the Patient portal. Once the appointment is made Patient arrives at the clinic and checks in with a self-service computer such as Kiosk present in the reception area. The system verifies patient identity using biometric authentication and updates information such as insurance details and addresses. The patient completes a pre-visit questionnaire including updates on her symptoms, and medication used.

**2: Data Integration and preparation**

In this step, the EHR interface will automatically sync patient pre-visit questionnaire answers with his electronic record, pulling data from his home seizure monitoring device, that is connected to the electronic health record via a secure application programming interface. The system will flag any serious issue based on the patient’s recent data such as frequent seizure events and create a reminder for Dr Reyona to review the information before seeing the patient.

**3. preparing for consultation:**

Before the patient enters the exam room, Dr. Reyona will review the patient’s personalized dashboard that displays an integrated view of patient data, medication lists, recent activity on his seizure monitoring device, and lab results on her computer screen. The EHR interface will then provide clinical decision support tools such as suggested treatment adjustments depending on the patient’s current condition and present clinical guidelines for seizure management.

**4: Consultation**:

In this step, Dr Reyona will use a voice activated EHR interface to access the patient’s data, information is quickly pulled up on his recent seizure activity, medication, and lab results. Evidence-based treatment options with potential outcomes for each choice are suggested by the EHR system. Dr Reyona discusses treatment adjustments with her patient using interactive visualization of his data.

**5. Order Entry and documentation:**

Documentation of the consultation is done via voice recognition decreasing the need for manual typing. Notes are then captured by the system updating patient records in real time. Medication, lab tests, imaging, or any follow-up appointment orders are placed by Dr. Reyona. If there is any drug interaction or lab requirements for lab tests, the system provides alerts to prevent any type of error because “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”. (McGonigle & Kathleen, 2022)

**6. Follow-Up and Engagement:**

Once the consultation is over, the patient will receive a summary of that visit with medication instructions, treatment plan, and follow-up appointments via a patient portal that is safe and secure. The EHR interface will also send automated reminders to take medication on time to the patient.

**7. Quality Improvement and Data Analytics:**

Patient outcomes over time are tracked by the EHR system, Predictive analytics is used to identify patterns and recommend further interventions if needed. Dr. Reyona reviews complete data from similar patients to monitor the effectiveness of the treatment plan so that she can adjust based on comprehensive clinical trends and outcomes.

This future-state EHR interface in the real world will alter the traditional workflow to an integrated, efficient, and patient-centered experience, improving data accuracy and accessibility and enhancing patient engagement. There is a seamless integration between patient management and clinical practice leading to better health outcomes and healthcare delivery.Top of Form

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**Steps needed to transition from the current state to the future-state workflow.**

When an organization is transitioning from a current state to a future state then there is a Change. If we are looking for a smooth transition, we need Change management in any organization which is crucial for navigating changes effectively. Changes can bring disruption in workflow and operations, to minimize this change management plays a vital role by planning and executing changes in a structured and controlled manner. It increases the likelihood of rewarding adoption and new system integration by involving organization employees in the process. The change management process includes training and practices and assists in addressing fears that reduce resistance. Progress tracking and the impact of changes are also included in Change management as it helps in monitoring and evaluating change making sure desired outcomes are achieved. Change management makes sure that the change aligns with organizational goals and promotes organizational resilience through the development of a structured approach to change.

Overall, to adapt effectively and for a smooth transition, change management will provide a framework for planning, executing, and evaluating changes.

According to hbs.edu, We can follow the following five steps in the change management process.

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### 1. Prepare the Organization for Change

To successfully implement change, there should be both logical and cultural preparation and before doing logical preparation, cultural preparation should take place first to achieve the best outcome. Employees should be assisted in recognizing and understanding the need for change by their managers. Obtaining this initial buy-in will assist in implementing the change removing friction and resistance that can come later.

### 2. Crafting a Vision and Planning for Change

Once Employees and the organization are ready for the change, the leader should construct a thorough, realistic, and strategic plan. The plan should include strategic goals, and key performance indicators such as how can we measure success, what metrics should be moved and what is the baseline on how things stand at present. Stakeholders and teams should be allocated, we need to know who will oversee the task, who is the responsible body for implementation, who signs off at a critical stage, and what steps and actions are included in the project along with what falls outside of the project scope.

### 3. Implementing the Changes

### Once we have the plan, steps outlined to implement the needed change are followed. In this phase, employees should be empowered by the change managers to take needed steps for achieving the goals. Continuous communication of the organization’s vision is important during this process to remind members of the team why change is being pursued.

### 4. Implant Changes Within Company Culture and Practices

### Sometimes employees may regress to the old way of performing things, mainly during the transition phase, therefore change managers must prevent this with an adequate plan. If changes are embedded in a company’s culture and practices, it won’t be that easy for backsliding to occur. Whenever we are considering change, New organizational structures, and reward systems should be considered as tools to help change stick.

### 5. Reviewing Progress and Analyzing Results

### Change initiative completion does not mean that it was successful, and our job is done, analysis and review need to be done as it helps managers/leaders to understand if it was a success, failure, or both. Reviewing and analyzing offer valuable insights that we can leverage in the future.

### Potential implementation strategy for the redesigned workflow

### The strategy that can be useful for my redesigned workflow can be a phased rollout with pilot testing, the redesigned workflow is introduced gradually in stages. Firstly, the new EHR interface can be used in a unit or department and based on their feedback and performance in that department adjustments can be made before it is implemented in the entire organization.

### Strategy’s appropriateness for your workflow and practice setting, along with the thought process regarding this strategy.

### Phased Rollout and pilot testing can be useful for my project because it can minimize disruption, if there is any issue it is only limited to that unit or department instead of the entire organization. Pilot testing allows for careful monitoring of how a newly designed workflow performs in a real-world environment to address unpredicted issues before its full deployment. We can get early feedback that can provide valuable insights into how the workflow is being received. This helps us identify areas of improvement and additional needs for training. Training can be given to the pilot group ensuring they are well prepared to use the system effectively and they can be used as a model in subsequent phases. Phase rollout helps in resource management by allowing more manageable resources.

The Thought Process would begin with conducting an assessment of the present workflow and its needs, current workflow analysis is done to identify areas where the newly designed EHR interface needs improvement, doing this assists in defining clear objectives in the pilot phase and making sure that the redesigned workflows align with the goals of the organization.

Following the assessment, a pilot group is selected that includes EHR users with different roles and responsibilities. A mix of users is chosen because the feedback collected includes different aspects of workflow. The pilot phase is designed and implemented by developing a detailed plan with specific goals, criteria, and timelines, new workflow is implemented within the pilot group with close monitoring of the performance and feedback. Evaluation is done after implementation and required adjustment is done based on evaluation results to refine workflow and prepare for the next pilot study. Depending on the success of the pilot phase and refinements made we proceed with a full-scale rollout, Insights gained from the pilot phase are included in the training to support plans for broader implementation.The system’s performance is continuously monitored with user feedback after full rollout. We need to be prepared for further adjustments as needed with ongoing support to make sure of the long-term success of the newly designed workflow.

The above-mentioned strategy will result in a thoughtful transition to a newly designed system as it allows for a controlled introduction, EHR users feedback is integrated with iterative improvements leading to a successful full-scale implementation. Top of FormBottom of Form

**Organizational structure affecting the long-term success of a project**

Organizational decision patterns are shaped by a strong culture, which drives the behavior of all members. The way employees do things in an organization surrounds the shared beliefs, values, and attitudes that spread through all parts, these patterns provide stability for the organization. An organization's culture consists of the beliefs, values, and norms, of organization members and their behaviors. Culture is multidimensional and a powerful force in an organization. The same person if placed in a different organization will act differently because of the strong embedded culture that creates social ideals guiding individual behavior. Strong cultures are a means to strengthen an organization’s performance, adapt to the change and its changing environment with an increasing chance of survival, and continue their competitive performance. It is critical to understand the culture of any organization to run successful projects. I agree with Sudha that culture resides in all organizations, influencing the dynamics of how people perform, relate, and perceive the organization's impact on their lives.

**Specific factors and how they might impact the successful long-term implementation / Strategy for addressing each factor selected.**

Certain factors might impact the successful long-term implementation of the EHR system, below are the issues with their strategy.

Challenges with Adoption and User Resistance: Some healthcare professionals may be resistant when it comes to adopting a new EHR system and those are mostly who are accustomed to manual processes or the existing process. This resistance can bring disruption in the workflow and inefficiencies. One big reason behind this challenge is inadequate training leading to poor utilization of the EHR resulting in potential errors and decreased productivity.

Implementing a robust training program with hands-on practice, 24/7 help desk availability, support from superusers, and ongoing refresher courses as needed can be a strategy to deal with the issue of this challenge.

The challenge with the integration, if the newly designed EHR interface does not integrate well with the existing system, there can be data silos leading to fragmented patient records, high risk for errors, and increased manual data entry. The workload is increased due to poor integration with an increased burden on staff because of the need to manually reconcile or duplicate data impacting overall efficiency. The strategy to address this issue is to invest in Interoperability, choosing an EHR interface that has interoperability, collaborating with IT vendors before full deployment, and establishing a data-sharing protocol.

Poorly designed EHR interface will result in workflow Disruption that does not align with the present workflow creating inefficiencies resulting in longer time spent on charting, high chances of errors decreasing overall productivity. The strategy to address this issue is involving the end users in the designing and customization process, doing so would make sure that the interface will align with the workflows. Gathering feedback and pilot testing to identify areas of improvement before a full-phase deployment can assist with this challenge.

**Conclusion**

Health IT implementation is shown to have wide-ranging benefits, but some challenges impact successful deployment. Effectively designed health IT systems in clinical settings need an understanding of IT systems, how they work, what they will impact, and many more. Addressing the issue can increase the likelihood of a successful long-lasting EHR system. Strategies that can reduce potential issues can lead to an effective and efficient EHR system.

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