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**Supporting workflow in the healthcare system**

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**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

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**The final version of the current-state workflow / Description of the swimlanes**

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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