

System Proposal Document

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Introduction

Electronic Health Record (EHR) systems are essential for modern healthcare, facilitating communication and data management across hospitals, clinics, and private practices. However, implementation challenges can lead to workflow inefficiencies and user errors, particularly during system upgrades. This document examines a case study in which a newly implemented EHR system contributed to a diagnostic oversight at an OB/GYN practice. A physician failed to identify a Stage III ovarian cancer diagnosis due to poor report visibility within the system, leading to confusion and critical mistakes. The financial, legal, and patient care consequences of such errors highlight the need for improved workflow management. This proposal addresses EHR adoption challenges, outlines risks of diagnostic oversight, and presents a systematic approach to enhancing workflow efficiency, reducing errors, and ensuring safe and effective patient care.

Background

The selected case study displays the consequences of EHR oversight during the implementation of a new system. In this case study, an OB/GYN practice missed critical information for a patient in her fifties, whose family had a strong history of breast cancer. Her doctor had ordered BRCA1 and BRCA2 analysis from the laboratory, where her results were scanned into the OB/GYN practice's EHR system. When the doctor reviewed the lab report, they failed to identify critical information for a diagnosis in Stage III ovarian cancer. While reviewing the information, the provider scrolled too far down and missed the top of the report where the diagnosis was stated. When the provider scrolled towards the bottom of the report, it mistakenly said that no cancer was found, which caused confusion for the provider and made it difficult to discern what information was correct. This oversight stemmed from both user error and system

challenges, due to the practice's lack of understanding with the new EHR system. The financial and legal repercussions for the healthcare provider highlight the need for proper planning and execution when implementing EHR systems.

Problem Statement

The main problem is the diagnostic error caused by oversight and unfamiliarity with the newly implemented EHR system, which resulted in poor patient care. This issue stems from a failure to correctly read scanned data, accompanied by a lack of system training for staff, and poorly defined protocols for reviewing laboratory results. This issue not only resulted in poor patient care but also led to legal liability and financial losses for the healthcare provider. Without properly addressing these issues, healthcare practices risk further diagnostic errors, increased liability, and a reduced level of patient care.

Audience

The target audience for this proposal includes Healthcare Providers, Administrators, and EHR Developers. Each group has unique roles, responsibilities, and needs that must be addressed throughout the project to ensure its success. Healthcare Providers include physicians, nurses, and other front-line medical staff who work directly in the EHR system daily. This group requires up-to-date training materials, effective workflows, and clear protocols for reviewing patient information. Healthcare Administrators, on the other hand, oversee both operational and financial aspects of healthcare facilities. They need to ensure that the EHR system improves efficiency for providers while reducing risks and complying with healthcare and state regulations. Finally, EHR Developers are responsible for designing, implementing, and supporting the EHR system. They require detailed feedback on system issues, workflows, and the usability of the system.

To effectively communicate with these key stakeholders, the communication plan must be tailored to each group. For the Healthcare Providers, this will include hands-on training sessions where they can learn the workflows and how to find the needed data, while also having access to reference guides and documentation on how to use the system. Additionally, a group of providers will be selected to regularly review the system to ensure it is functioning correctly. Healthcare Administrators will receive regular updates and reports on the system, to include outcomes of patient care and feedback from providers. Finally, EHR Developers will be provided with detailed feedback from providers and administrators alongside meeting frequently with other key stakeholders to address issues that are found. By ensuring each group's needs and concerns are addressed, the project aims to enhance the success of EHR implementation while minimizing errors that could negatively impact patient care.

Systems Requirements

Requirements Modeling

To improve the existing EHR system, a workflow management system has been proposed to address key challenges in patient diagnosis management, task tracking, and user feedback collection. The identified requirements focus on improving workflow efficiency, reducing errors, and ensuring compliance with regulations. This new system will introduce structured processes to alert providers about critical diagnoses, incorporate task management tools, and streamline user feedback collection. These enhancements aim to minimize diagnostic oversight and improve overall healthcare effectiveness.

The following **Outputs** will be used in the system:

- This system must include critical diagnoses alerts, which will generate real-time alerts for critical patient diagnoses to notify healthcare providers and management immediately.
- There will be automated notifications that will be sent to providers and management when tasks are assigned to a provider.
- Consolidated reports of user feedback for the EHR development team so they can continuously improve the EHR system.

The following **Inputs** will be used:

- Input fields will be used to capture and update patient diagnosis information accurately after laboratory results are submitted.
- Training completion data tracking which training the providers and staff have completed in the workflow management system.
- A user feedback form will be utilized so that providers and other staff can input their feedback directly within the EHR system.

The following **Processes** will be used:

- Automatically trigger alerts for critical patient diagnoses, which will notify both the healthcare provider working with the patient and the management team.

The following **Performance** metrics will be used:

- The system should display important alerts within seconds of receiving the critical diagnosis trigger event.

- The system should be capable of handling inputs from multiple users simultaneously without performance issues.
- The system should ensure a 99.9% up time to support continuous healthcare operations.

The following **Controls (Security)** will be used:

- All patient and user data must have encrypted data to comply with HIPPA regulations (Office of the National Coordinator for Health Information Technology, n.d.).
- There will be role-based access controls to make sure that only authorized users can access or modify this sensitive information.
- Detailed logs of all system access and modifications for auditing will be in place.

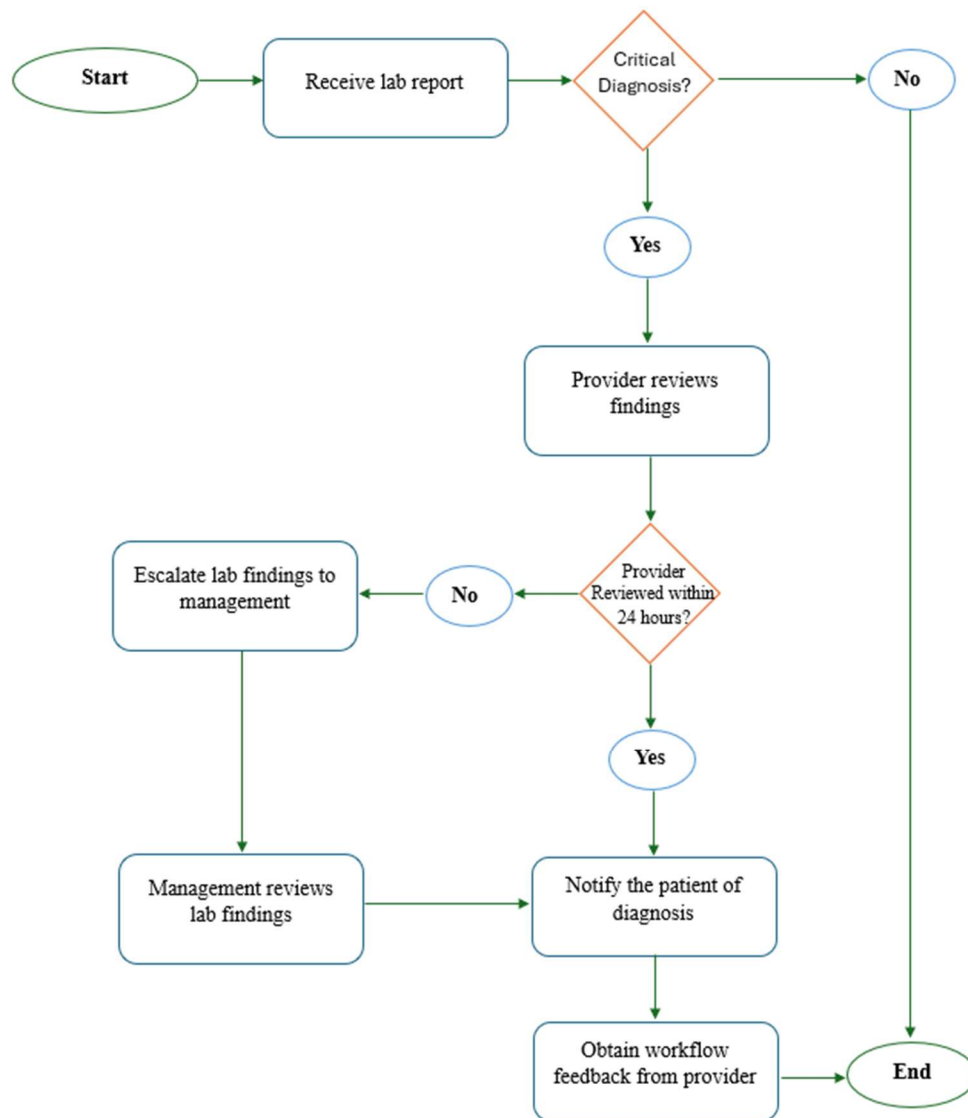
Business Process Model

Business processes play a crucial role in ensuring efficiency, accuracy, and accountability within healthcare systems. Below is a business process model diagram that illustrates how the new workflow management system in the Electronic Health Records system processes will function to enhance patient safety and reduce diagnostic errors. To begin, a lab report will be processed and sent to the workflow management system which will then determine if it is a critical diagnosis or not. If it is, the provider will be required to review the findings and determine the critical diagnosis. From there, the provider will have 24 hours to review these findings. If they do not review the diagnosis, the findings will be reported directly to management who will either follow up with the provider or finish the process themselves. If the provider reviews the diagnosis, they will then notify the patient and confirm in the system that the patient has been notified. After this process, they will be asked to provide feedback on the

workflow management system so that the EHR developers can continue to improve the new system.

Figure 1

Business Process Model Diagram for the Workflow Management System



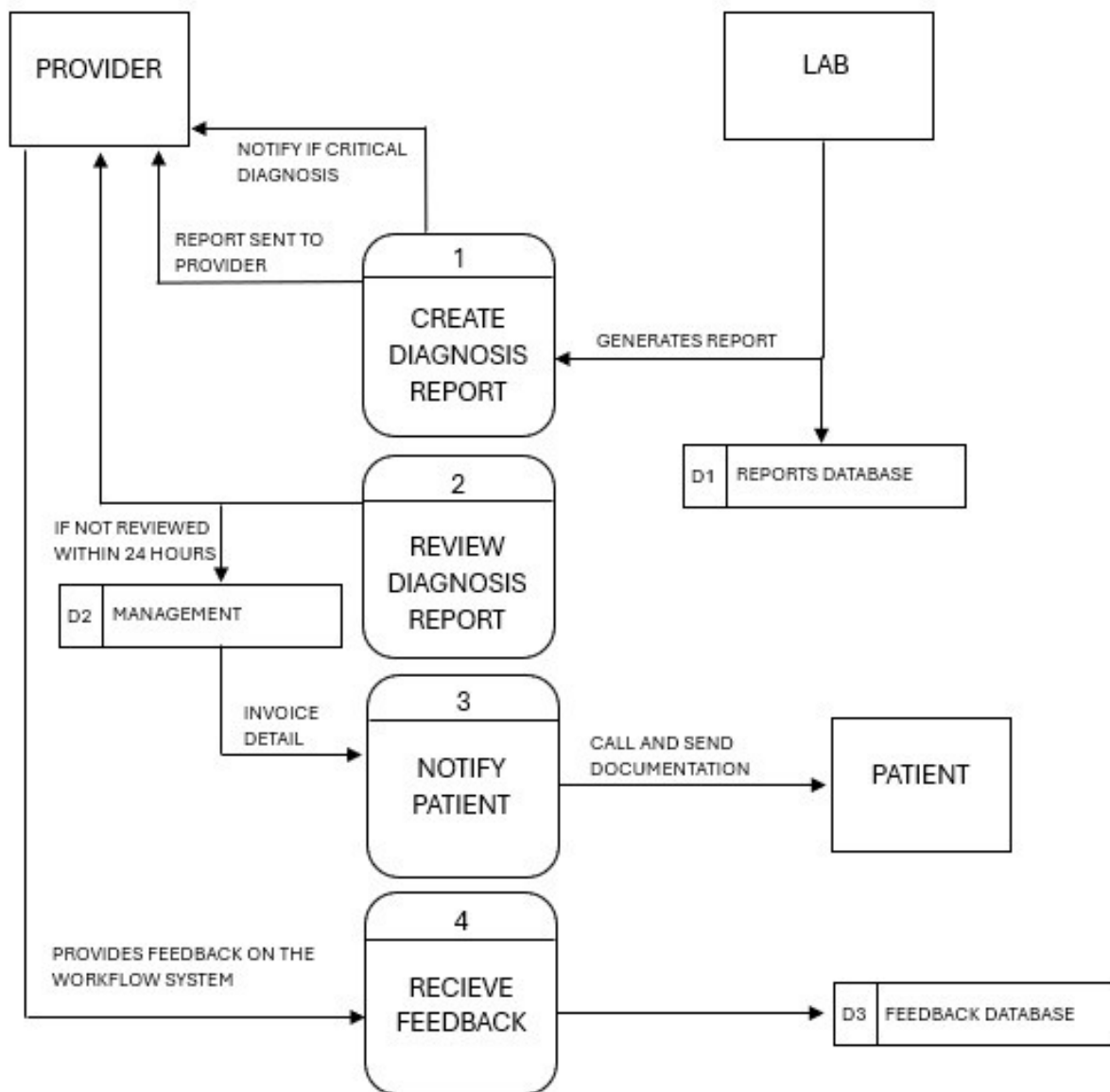
Data Flow Diagram

The process begins with the Lab, which generates a report and stores it in the Reports Database (D1) before sending it to the Provider. If the diagnosis is critical, the provider is notified and must review the report (Process 2) within 24 hours; otherwise, it is escalated to

Management (D2). After reviewing, the provider notifies the patient (Process 3) through calls and documentation, with the system recording the details. Finally, the provider submits feedback (Process 4), which is stored in the Feedback Database (D3) to support system improvements.

Figure 2

Data Flow Diagram for the Workflow Management System



Data Dictionary

The data dictionary for the workflow management system requires multiple field names with various data types. The data dictionary includes key fields such as `lab_report_id`, `patient_id`, and `provider_id`, which are uniquely assigned to each lab report, patient, and provider, respectively. Additionally, fields like `critical_status` (Boolean) determine whether a diagnosis requires urgent attention, while `alert_timestamp` (DateTime) records when alerts are triggered. Other fields, such as `review_status` and `escalation_status`, track the review process, ensuring that providers address critical diagnoses promptly. Lastly, `feedback_provided` and `feedback_comments` store input from users, supporting continuous system improvements. By structuring the data elements in a standardized format, the data dictionary enhances system reliability, facilitates integration, and ensures compliance with data governance policies.

Table 1

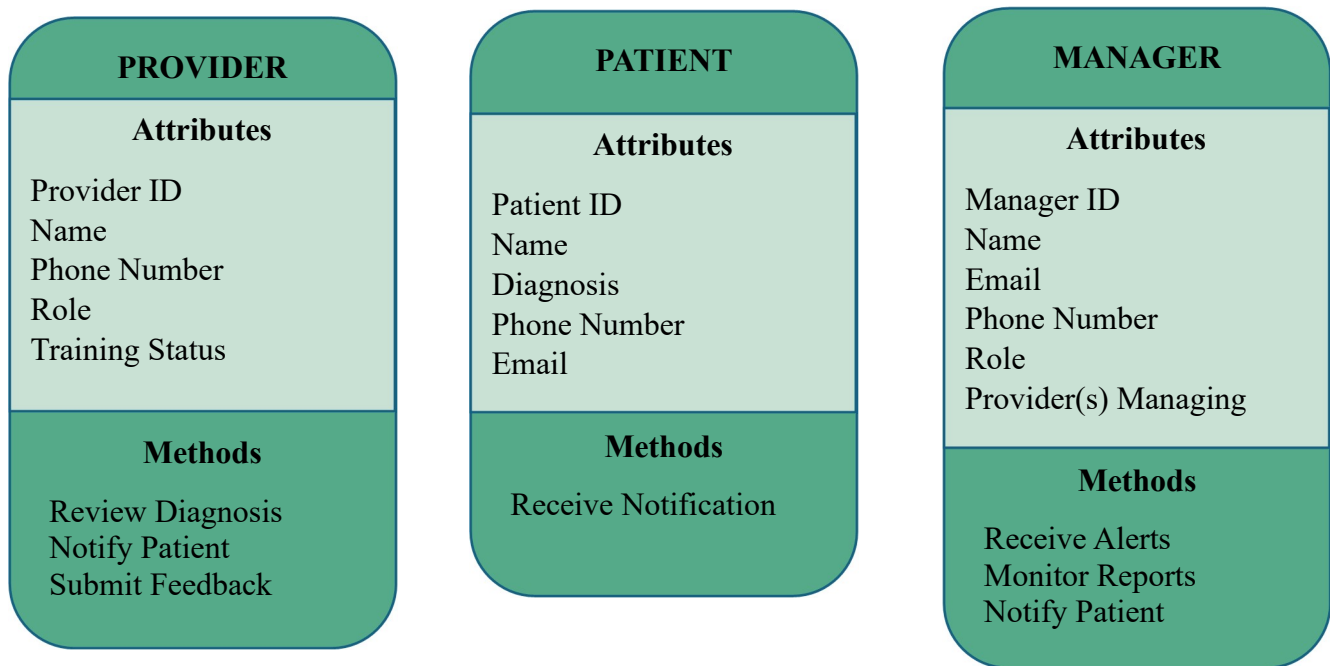
Data Dictionary Table for the Workflow Management System

Field Name	Data Type	Description
<code>lab_report_id</code>	Integer	Unique identifier for each lab report that is produced.
<code>patient_id</code>	Integer	Unique identifier for each patient.
<code>provider_id</code>	Integer	Unique identifier for the provider.
<code>diagnosis_code</code>	Integer	System code that identifies the patient's diagnosis.
<code>critical_status</code>	Boolean	Indicates whether a diagnosis is critical (True) or not critical (False).
<code>alert_timestamp</code>	DateTime	The date and time the initial alert was produced.
<code>review_status</code>	Boolean	
<code>review_timestamp</code>	DateTime	The date and time the lab results were reviewed by either the provider or management.
<code>reviewed_by_id</code>	Integer	The unique staff ID of who reviewed the diagnosis.

escalation_status	Boolean	Returns True if the diagnosis was escalated to management.
manager_id	Integer	Unique staff ID of the provider's manager.
patient_notified	Boolean	Determines whether the patient was notified (True) or not (False).
patient_notified_timestamp	DateTime	The date and time that the patient was notified of the diagnosis.
feedback_provided	Boolean	Shows if the provider gave feedback (True) or not (False).
feedback_comments	String	If the provider gave feedback, their comments are displayed.

Object Modeling

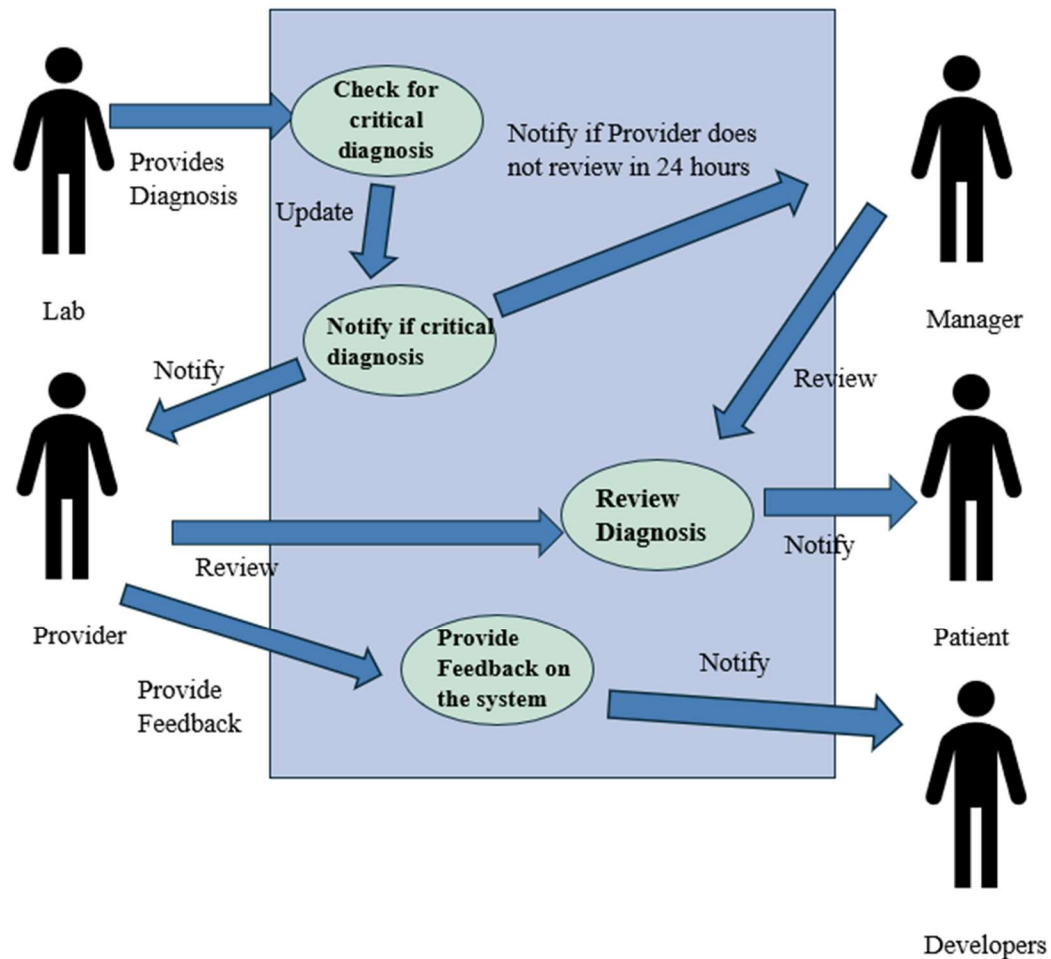
The object model for the workflow management system defines key entities and their interactions to ensure efficient handling of patient diagnoses and alerts. The Provider object contains attributes such as the Provider ID, Name, Phone Number, Role, and Training Status, allowing healthcare professionals to manage patient diagnoses effectively. Its methods include Review Diagnosis, Notify Patient, and Submit Feedback, ensuring that critical cases are addressed promptly. The Patient object stores Patient ID, Name, Diagnosis, Phone Number, and Email, enabling seamless communication and ensuring patients receive timely notifications through the Receive Notification method. The Manager object is responsible for overseeing providers and workflow operations, with attributes including Manager ID, Name, Email, Phone Number, Role, and Providers Managing. Managers play a crucial role in monitoring system activities, as reflected in their methods: Receive Alerts, Monitor Reports, and Notify Patient. This object-oriented approach improves system modularity, scalability, and maintainability, ensuring that each entity has clearly defined roles and interactions to enhance patient safety and workflow efficiency.

Figure 3*Object Models for the Workflow Management System***Use Case Diagram**

The Use Case Diagram illustrates the interactions between key actors, such as the Lab, Provider, Manager, Patient, and Developers, and the workflow management system. The process begins when the Lab provides a diagnosis, which is then checked for critical conditions. If the diagnosis is critical, the system notifies the Provider, who must review the diagnosis within 24 hours. If the Provider does not review it in time, an escalation notification is sent to the Manager. Once reviewed, the Provider notifies the Patient about their diagnosis. Additionally, the system allows the Provider to submit feedback, which is directed to Developers for continuous system improvement. This structured workflow ensures timely diagnosis review, accountability, and improved patient safety, reducing the risk of missed critical diagnoses.

Figure 4

Use Case diagram for the Workflow Management System



Systems Design

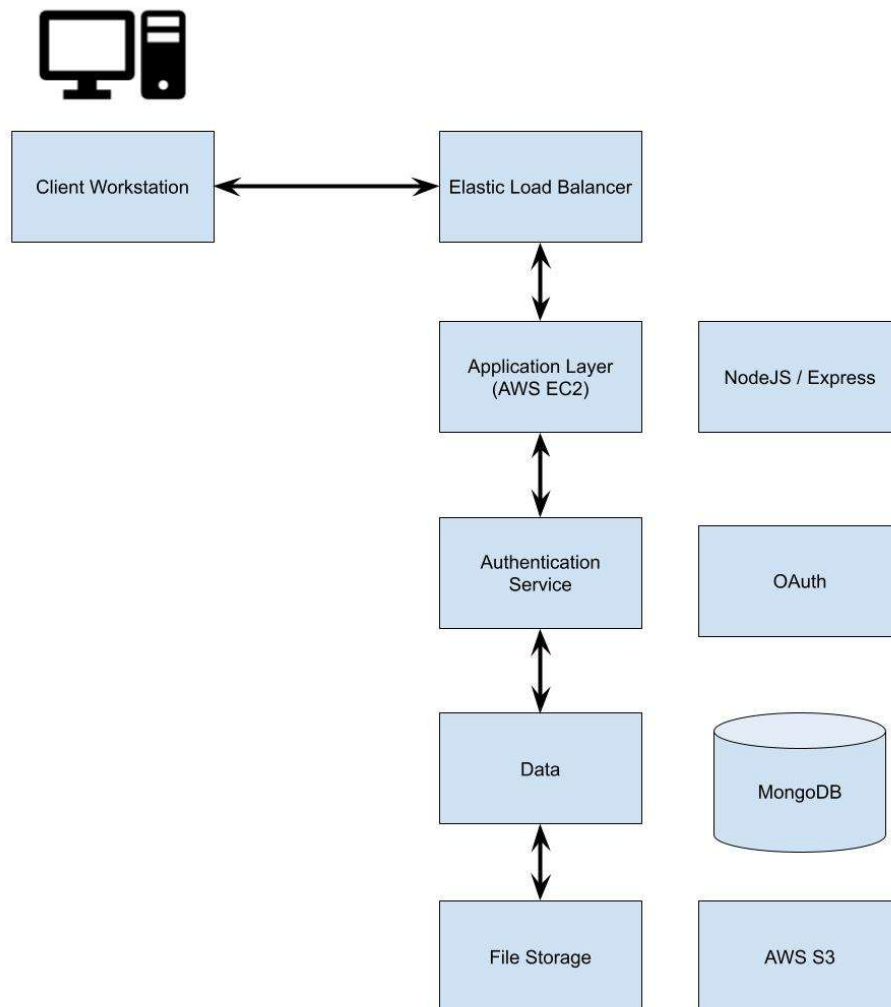
Specifications

This system is designed with a scalable web-based architecture hosted on AWS, leveraging an Elastic Load Balancer to distribute traffic efficiently across application instances running on AWS EC2. The Node.js/Express backend handles business logic, while an OAuth-

based authentication service ensures secure access. MongoDB is used for database management, supporting high availability and real-time updates for tracking critical patient diagnoses. AWS S3 provides file storage for records and supporting documents. The system is optimized for both desktop and mobile, ensuring accessibility, while real-time updates enhance workflow efficiency for healthcare providers.

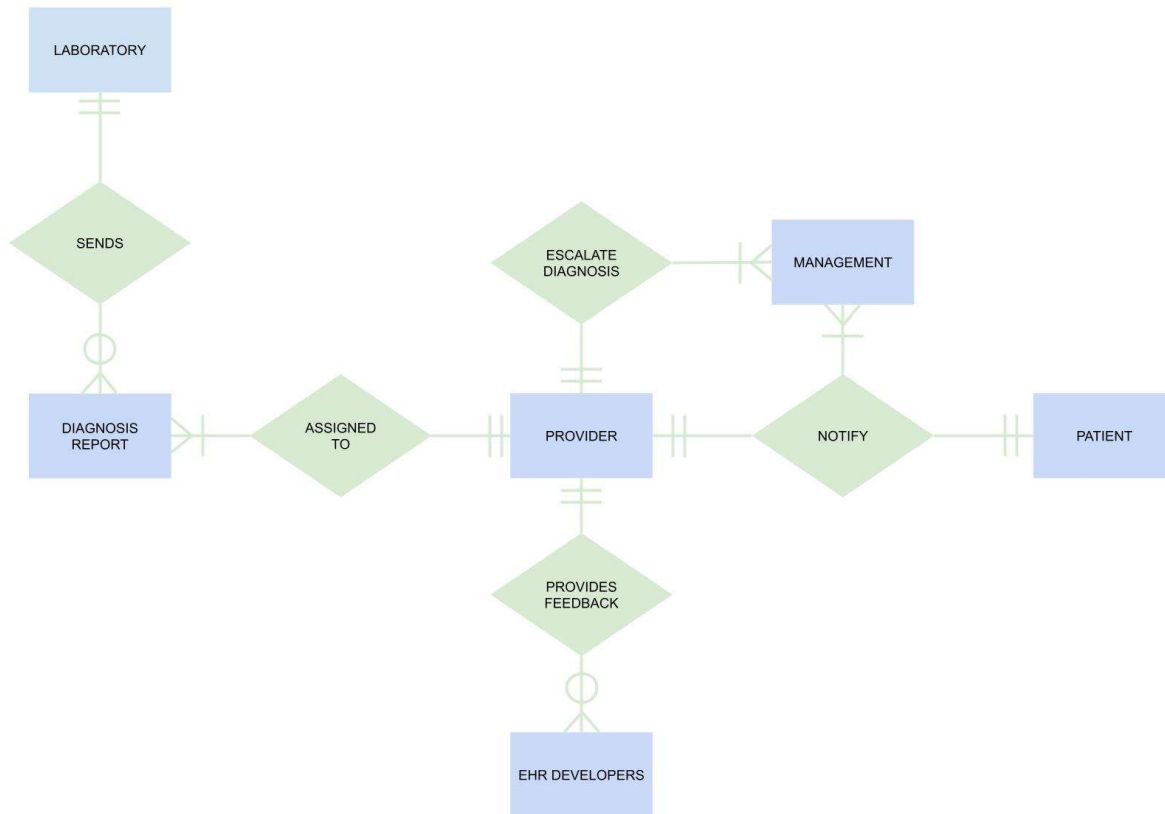
Figure 5

Physical Design of the Workflow Management System



Data Design

The data design process begins with a diagnosis report being produced by the Laboratory, which is then interpreted by the Workflow Management System and assigned to the Provider. At this stage, the Provider has several options: they can review the diagnosis and notify the patient, escalate the case to management, and optionally provide feedback on the system. The Laboratory has a one-to-zero, one, or many relationship with the Diagnosis Report, as a single laboratory may generate no reports, a single report, or multiple reports for a patient. Each diagnosis report is then assigned to a single Provider. If escalation is necessary, the case may be referred to one or multiple managers, depending on the severity of the diagnosis or if a provider does not have time to review the diagnosis within 24 hours. When notifying the patient, there is a one-to-one relationship, as each provider corresponds with a single patient. Lastly, if the Provider submits feedback on the system, there is a one-to-one or one-to-many relationship, as multiple developers on the EHR team may review and act on the feedback.

Figure 6*Entity Relationship Diagram for the Workflow Management System***Table 2***Laboratory table*

Lab Report ID	Patient ID	Diagnosis	Critical?	Notes
189299	9210298374	Breast Cancer	True	Immediate oncology consultation recommended.
189291	3893847390	Stage 4 Pancreatic Cancer	True	Consult oncologist ASAP
189287	0912374893	Severe Sepsis	True	ICU admission necessary

Table 3*Diagnosis Report Table*

Lab Report ID	Patient ID	Provider ID	Diagnosis	Report Status	Date Received
189299	9210298374	P29883	Breast Cancer	Pending Review	2025-03-04
189291	3893847390	P29883	Stage 4 Pancreatic Cancer	Pending Review	2025-03-02
189287	0912374893	P29883	Severe Sepsis	Notify Patient	2025-03-01

Table 4*Provider Table*

Provider ID	Provider Name	Assigned Reports	Phone Number
P29883	Dr. Glip-Glop	[189287, 189291, 189299]	603-209-0920
P89281	Dr. Squanch	[189311, 189328]	603-209-1222
P73894	Dr. Zorp	[189323]	603-209-2222

Table 5*Management Table*

Manager ID	Manager Name	Providers Managing	Escalated Reports
M4822	Dr. Scribbles	['P29883', 'P29884']	[189299, 189291]
M4823	Dr. Wesley	['P29885']	[189287]

Table 6*Feedback Table*

Provider ID	Subject	Comments
P29883	System Bug	Error in diagnosis review submission.
P89281	UI Improvement	Make patient phone number editable

Table 7*Patient table*

Patient ID	Patient Name	Phone Number	Patient Notified?
9210298374	Maria Clark	603-555-0198	False
3893847390	Emily Sanchez	603-555-0245	False
912374893	Robert Williams	603-555-0307	True

User Interface Design

This application will have a user-friendly interface, since many providers have busy schedules and need an easy and efficient interface to navigate. This will be a widget, or data-driven application within the currently existing Electronic Health Records system, so providers can have quick and easy access to it. The main dashboard (Figure 9) displays all critical diagnoses assigned to a provider, prioritizing urgent cases and offering quick access to required actions such as reviewing diagnoses or notifying patients. Upon selecting an action, a popup interface provides detailed patient information with interactive checkboxes for reviewing, confirming inconsistencies, and notifying the patient, streamlining decision-making (figure 10). The system focuses on usability through minimal cognitive load, consistency, error prevention, responsiveness, and accessibility. A help page offers guidance for navigation, while a feedback button allows providers to report issues and suggest improvements. The system is designed to be intuitive, with a well-organized layout, consistent design elements, and easy navigation to help providers complete tasks efficiently.

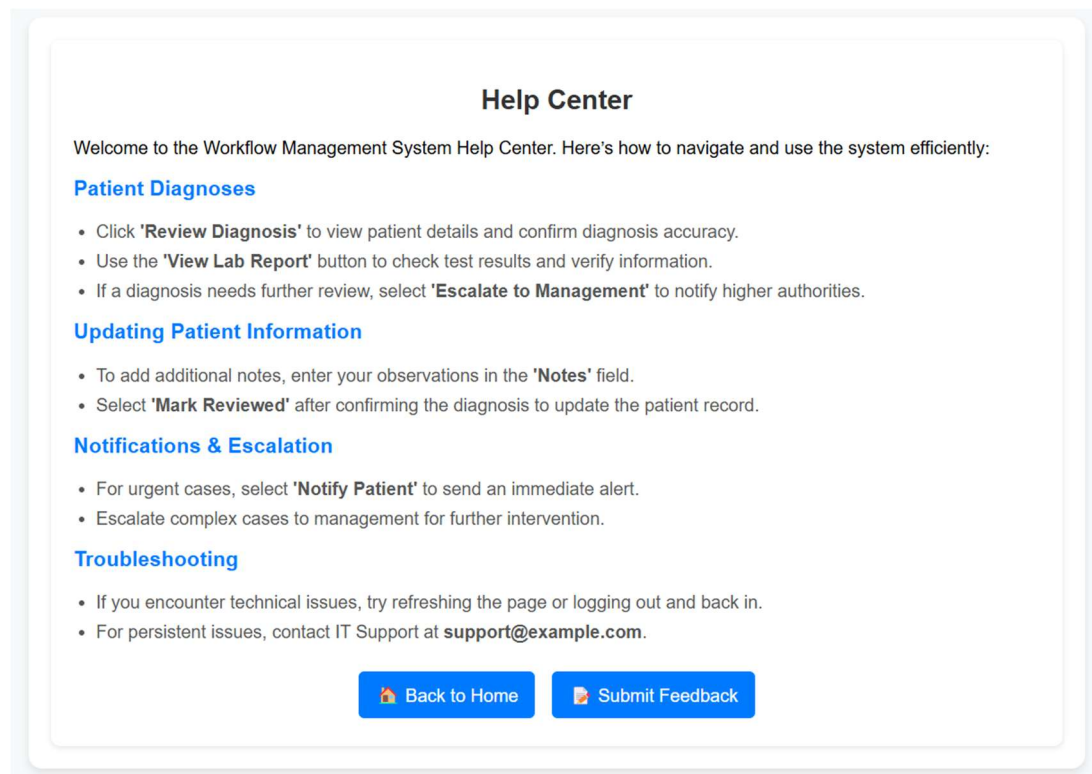
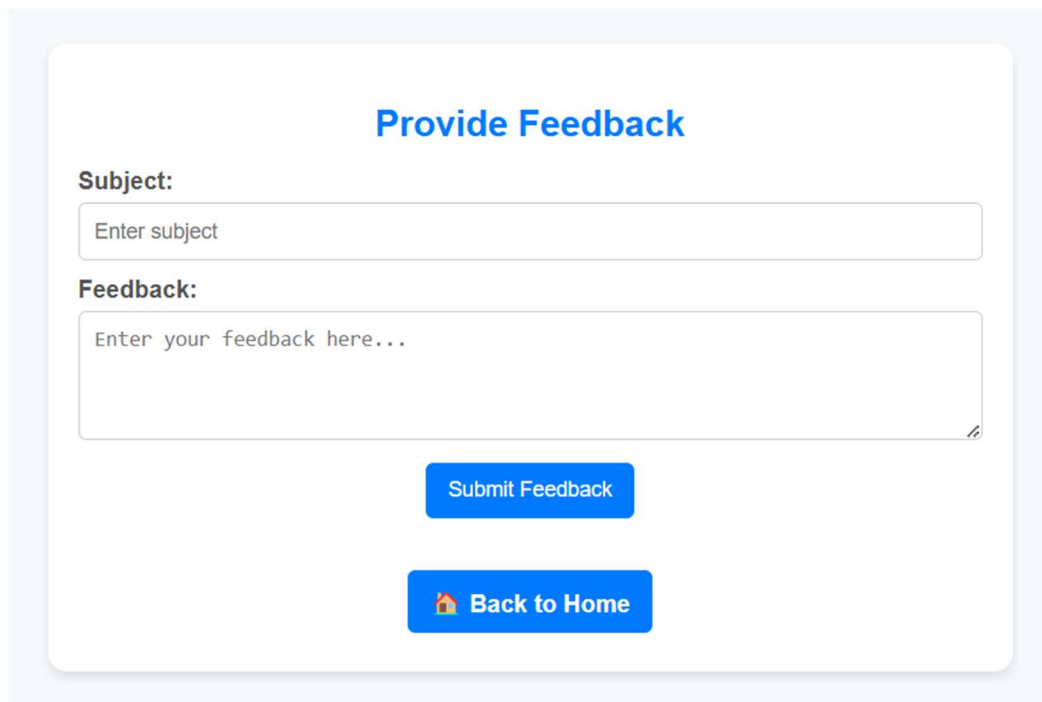
Figure 9*Help Screen for the Workflow management System*

Figure 10

Provide Feedback Screen

The image shows a web form titled "Provide Feedback" in blue text. Below the title, there are two input fields. The first is labeled "Subject:" and contains the placeholder text "Enter subject". The second is labeled "Feedback:" and contains the placeholder text "Enter your feedback here...". Below these fields are two blue buttons. The first button is labeled "Submit Feedback". The second button is labeled "Back to Home" and includes a small house icon. The entire form is set against a light blue background.

System Architecture

The system architecture of the Workflow Management System is a three-tier model, separating the application into the user interface, application server, and data server. Following modern best practices, the system is designed to optimize data processing efficiency while maintaining strict security compliance (Rosenblatt, 2016, p. 331). It integrates seamlessly with the existing EHR system to enhance accountability among healthcare providers while ensuring HIPAA compliance for patient data protection. The cloud-based infrastructure, hosted on AWS, provides scalability and cost-efficiency, reducing the need for on-premise servers. Role-based access control ensures that only authorized personnel can access sensitive information. The system employs RESTful APIs to interface with EHR databases, laboratory information

management systems (LIMS), and provider management tools, ensuring real-time updates and seamless data exchange. Automated audit logs track all modifications for compliance and accountability. With a responsive web interface developed in HTML, CSS, and JavaScript, the system is accessible across both desktop and mobile devices, enabling providers to efficiently manage critical diagnoses, escalate cases when necessary, and ensure timely patient notifications without disrupting workflows

Feasibility Analysis

The proposed Workflow Management System presents a highly feasible solution to address the critical issue of missed diagnoses in the current Electronic Health Records system. From an operational standpoint, this system enhances efficiency by introducing structured workflows that ensure all critical diagnoses are reviewed and acted upon in a timely manner. This mitigates the risk of oversight, as seen in the case of a patient whose breast cancer diagnosis was overlooked due to the inefficiencies in the current system. By automating notifications, tracking response times, and escalating unreviewed cases to management, the system ensures accountability and improves patient outcomes. Since this application directly ties into the current EHR, it makes it easy to implement and use for providers and management. Additionally, it leverages modern web technologies such as HTML, CSS, JavaScript, Node.js, and MongoDB, ensuring scalability and reliability while role-based access control and encryption maintain HIPAA compliance, securing patient data. The use of RESTful APIs allows smooth interoperability with laboratory systems and provider dashboards, ensuring a real-time, automated workflow for managing critical diagnoses. This system will be designed with horizontal scalability, which allows it to handle increasing users by distributing traffic across multiple servers.

From a cost perspective, the initial expenses will primarily be for developing the system, ensuring security compliance measures, and for staff training. Using AWS (Cloud-based infrastructure) will provide a cost-effective solution by allowing dynamic resource allocation depending on user traffic on the application. Long-term maintenance costs will include system updates, security patches, and support services, all which can be mitigated by using open-source libraries and software development best practices. Additionally, the reduction in malpractice risks and legal liabilities due to missed diagnoses further contributes to the system's financial viability by potentially lowering insurance premiums and legal expenses for healthcare organizations. The implementation timeline will be in phases to minimize disruptions to current healthcare operations. In the initial phase, we will focus on developing the dashboard and correctly retrieving information from the laboratory's reports. The second phase will focus on integrating the critical diagnosis alerts and escalation workflows into the dashboard. Finally, the last phase will include the development in user feedback mechanisms. Each phase will include User Acceptance Testing, where selected providers and staff will test the system for its workflow capability and for issues. Overall, this Workflow Management System is a scalable, cost-effective, and essential improvement that directly addresses the current gaps in patient diagnosis management while ensuring compliance, efficiency, and long-term adaptability.

Project Plan

Work Breakdown Structure

To implement a workflow management system, there must be a collaborative effort between EHR developers, the system analyst, administrators, and providers. First, the EHR developers and the system analyst will be involved in planning the design and architecture of the workflow management system. The developers will also be directly involved in creating the

custom forms and widgets, alongside the alert system implementation for this system after a plan has been established. Not only this, but they will need to perform ongoing maintenance and updates to this system, while ensuring security and compliance with HIPPA. Administrators, on the other hand, will have a direct impact on how smoothly the system is implemented. They will oversee system development and manage project timelines while being directly involved in stakeholder communication. They will also coordinate training of the new system and ensure that the system adheres to regulatory standards and hospital policies. Finally, the providers will be directly involved in testing the new system before implementation and providing feedback after implementation if any issues arise or workflows could be improved.

Project Monitoring and Control Plan

Monitoring this project and having an efficient control plan is important in ensuring the success of this new implementation. This plan includes project tracking, quality assurance, risk management, and change control strategies. Project progress will be tracked with Jira, which is a common project management tool that can organize tasks into sprints, assign specific tasks, log bug fixes, and track progress of a project. Additionally, we will have weekly standup meetings between the administrators, the system analyst, and EHR developers to ensure the team is on the same page. These meetings will align with the Agile methodology, which emphasizes frequent communication, iterative development, and adaptability to project needs (Tilley & Rosenblatt, 2016, p. 22). Furthermore, quality assurance and testing will be frequently used between the providers, administrators, and EHR developers. This will include developers creating unit tests to verify individual components of the workflow management system, administrators performing workflow testing to ensure seamless integration within the EHR, and providers conducting user acceptance testing (UAT) to confirm that the system meets clinical needs. Security testing will

also be conducted to verify compliance with HIPAA regulations and data protection policies. Any issues identified during testing will be logged as Jira tickets and prioritized for resolution.

To mitigate risks, a risk management strategy will be put in place as well. These risks can range from system integration failure, provider resistance to adopting the new system, security issues, and workflow inefficiencies. To address this, there will be pre-implementation pilot testing, comprehensive provider training, and weekly security audits. Risk mitigation measures will also be documented and reviewed during weekly standup meetings. Finally, there will be change control strategies to make sure future system updates are managed correctly. Any modifications or issues must be submitted through Jira, which will then be reviewed then either approved or denied by the administrators. Then, if approved, they will schedule these updates for upcoming sprints. This structured approach will allow for continuous development and improvements while minimizing disruptions in the existing workflow and EHR system.

Timeline

This timeline will consist of 5 phases: Planning, System Design and Architecture, Development, Integration and Testing, and Training and Deployment. This project will span approximately 18 weeks, beginning with a week-long planning phase, where project scope, responsibilities, and scope will be defined. Then, there will be a System Design and Architecture phase, where the focus will be on analyzing the current HER system and designing the new workflow management system so that the Development phase will go smoothly. Next, in development, the EHR team will build the custom form, task management features, feedback reporting, and the critical findings alert system. Once development is complete, it will be the Integration and Testing phase, where the developers, providers, and administrators will work together to test the system and make sure it functions as designed. Finally, in the Training and

Deployment phase, all staff will be trained in the new system, and there will be a pilot launch session where further feedback will be gathered. At this stage, the development team will implement final adjustments before system deployment. Refer to Figure 1 below for more information.

Figure 11

Workflow Management System Gantt Chart

ID	Task Mode	Task Name	Work	Duration	Start	Finish
1		Planning Phase		38 hrs 7 days	Mon 2/3/25	Tue 2/11/25
2		Define Project Scope		8 hrs 2 days	Mon 2/3/25	Tue 2/4/25
3		Identify stakeholders		4 hrs 1 day	Wed 2/5/25	Wed 2/5/25
4		Gather system requirements		12 hrs 2 days	Wed 2/5/25	Thu 2/6/25
5		Assign project roles and responsibilities		8 hrs 2 days	Thu 2/6/25	Fri 2/7/25
6		Approve project plan		6 hrs 2 days	Mon 2/10/25	Tue 2/11/25
7		System Design and Architecture		86 hrs 12 days?	Tue 2/11/25	Wed 2/26/25
8		Analyze current EHR System		8 hrs 1 day?	Tue 2/11/25	Tue 2/11/25
9		Design workflow management system architecture		40 hrs 5 days	Wed 2/12/25	Tue 2/18/25
10		Develop data flow diagrams		16 hrs 2 days	Wed 2/19/25	Thu 2/20/25
11		Define security and compliance requirements		12 hrs 2 days	Fri 2/21/25	Mon 2/24/25
12		Obtain approval for system design		10 hrs 2 days	Tue 2/25/25	Wed 2/26/25
13		Development Phase		192 hrs 30 days?	Wed 2/26/25	Tue 4/8/25
14		Develop custom form		48 hrs 6 days	Wed 2/26/25	Wed 3/5/25
15		Implement feedback reporting system		48 hrs 6 days	Thu 3/6/25	Thu 3/13/25
16		Develop task assignment functionality		48 hrs 6 days	Fri 3/14/25	Fri 3/21/25
17		Build alert system for critical diagnoses		48 hrs 6 days	Mon 3/24/25	Mon 3/31/25
18		Conduct internal development testing		0 hrs 7 days	Mon 3/31/25	Tue 4/8/25
19		Integration and Testing Phase		140 hrs 18 days	Tue 4/8/25	Thu 5/1/25
20		Perform unit testing on individual components		12 hrs 2 days	Tue 4/8/25	Wed 4/9/25
21		Workflow testing with administrators		40 hrs 5 days	Thu 4/10/25	Wed 4/16/25
22		System integration testing with EHR		8 hrs 1 day	Thu 4/17/25	Thu 4/17/25
23		Security and Compliance Audits		16 hrs 2 days	Fri 4/18/25	Mon 4/21/25
24		User acceptance testing (UAT) with providers		40 hrs 5 days	Tue 4/22/25	Mon 4/28/25
25		Identify and log issues in Jira		8 hrs 1 day	Tue 4/29/25	Tue 4/29/25
26		Resolve identified issues and retest		16 hrs 2 days	Wed 4/30/25	Thu 5/1/25
27		Training and Deployment		168 hrs 42 days?	Fri 5/2/25	Mon 6/30/25
28		Develop training materials and guides		40 hrs 5 days	Mon 6/2/25	Fri 6/6/25
29		Conduct provider training sessions		40 hrs 5 days	Mon 6/9/25	Fri 6/13/25
30		Execute a pilot phase with select providers		40 hrs 5 days	Mon 6/16/25	Fri 6/20/25
31		Gather feedback from pilot phase		8 hrs 1 day	Mon 6/23/25	Mon 6/23/25
32		Make necessary system adjustments based on feedback		32 hrs 4 days	Tue 6/24/25	Fri 6/27/25
33		Workflow Management System goes Live		8 hrs 1 day?	Mon 6/30/25	Mon 6/30/25

Conclusion

Implementing this Workflow Management System within the existing Electronic Health Records System is important in reducing diagnostic errors, increasing provider efficiency, and improving patient safety. This System Proposal Document addresses the critical issue of missed diagnoses because of oversight and lack of user familiarity in the current system, as demonstrated in the OB/GYN case study. By incorporating structured alerts, task management, and provider feedback mechanisms, the proposed system ensures timely review of critical diagnoses and enhances healthcare providers' ability to manage patient information accurately. The proposed solution balances technical feasibility, regulatory compliance, and user-centered design, leveraging modern web technologies and cloud-based infrastructure for scalability and reliability. With a detailed implementation plan that includes stakeholder training, risk mitigation strategies, and iterative testing, this system can be seamlessly integrated into existing EHR environments. By prioritizing user experience, accountability, and patient care, this Workflow Management System has the potential to significantly enhance healthcare operations, reduce liability risks, and ultimately improve patient outcomes.

References

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- Tilley, S., & Rosenblatt, H. J. (2016). Systems Analysis and Design (11th ed.). Cengage Limited. <https://mbsdirect.vitalsource.com/books/9781337424202>