

**Project Plan:
Waverly Family Health Services
Practice Fusion Implementation**

Document Control

Document Information

	Information
Document Id	Part 2, version 1
Document Owner	Cathy Qori and Houssein Elkhazen
Issue Date	03/05/23
Last Saved Date	03/30/23
File Name	CQori_HElkhazen_ProjectPlan

Document History

Version	Issue Date	Changes
1.4	03/05/23	Section 1
2.0	03/30/23	Section 2
3.0	05/09/23	Completion

Document Approvals

Role	Name	Signature	Date
Project Sponsor	Dr. Waverly		03/05/23
Project Manager	C Qori H Elkhazen		03/05/23

Table of Contents

1. Planning Basis	2
1.1 Project Charter.....	2
1.2 Scope.....	5
1.3 Milestones.....	5
1.4 Phases.....	6
1.5 Activities.....	6
1.6 Tasks.....	7
1.7 Effort.....	7
1.8 Resources.....	9
2 Project Plan	10
2.1 Schedule (Gantt chart).....	10
2.2 Dependencies.....	11
2.3 Assumptions.....	11
2.4 Constraints.....	12
3 Quality and Test Plan	12
4 Project Closure Report	12
4.1 General Satisfaction with the System.....	13
4.2 Current Cost-Benefit Justification.....	13
5 Appendices	14
5.1 Appendix A: Hardware Test Plan.....	14
5.1.1 Hardware Test Plan.....	14
5.2 Appendix B: FMEA Tool.....	16
5.2.1 FMEA.....	18
5.3 Appendix C: Introduction to Post-Implementation Evaluation.....	22
5.3.1 Project Identification.....	22
5.3.2 System Proponent.....	22
5.3.3 History of the System.....	22
5.3.4 EVALUATION SUMMARY.....	22
5.3.5 General Satisfaction with the System.....	22
5.3.6 Current Cost-Benefit Justification.....	23
5.3.7 Needed Changes or Enhancements.....	23
5.3.8 ANALYSIS AND IMPLEMENTATION.....	23
5.3.9 Purpose and Objectives.....	23
5.3.10 Scope.....	23
5.3.11 Benefits.....	23
5.3.12 Development Cost.....	23
5.3.13 Operating Cost.....	24
5.3.14 Training.....	24
5.3.15 OUTPUTS.....	24
5.3.16 Usefulness.....	24

5.3.17	Timeliness	24
5.3.18	Data Quality	24
5.3.19	Security.....	24
5.3.20	Data Protection.....	24
5.3.21	Disaster Recovery	25
5.3.22	Audit Trails	25
5.3.23	System Access.....	25
5.3.24	COMPUTER OPERATIONS	25
5.3.25	Control of Workflow	25
5.3.26	Scheduling	25
5.3.27	EHR User Interface	25
5.3.28	Computer systems	26
5.3.29	Peak Loads	26
5.3.30	MAINTENANCE ACTIVITIES	26
5.3.31	Activity Summary	26
5.3.32	System Maintenance.....	26

1. Planning Basis

Module #2

1.1 Project Charter

Practice Fusion Installation for Waverly Family Health Services
HCIN 542

1.1.1. General Information

Project Sponsor:	Leslie Franson
Project Manager:	Cathy Qori and Houssein Elkhazen
Prepared by:	Cathy Qori and Houssein Elkhazen
Date:	February 19, 2023

1.1.2. Purpose

Our project is intended to plan and monitor the successful implementation of “Practice Fusion”, an outpatient electronic health record for the Waverly Family Health (WFHS) Services. As the clinic has no prior experience implementing EMR, our main goal is to plan, execute and monitor the transition from paper charts to digital content using the skills of staff and provider and the allocated resources.

We will set up and install the Practice Fusion electronic health record (EHR) for WFHS. Practice Fusion is hosted in the cloud. Limited customization will be provided. Details on modules to be installed and customization are listed in Section G below.

1.1.3. Constraints and Assumptions

We will perform a SWOT analysis to determine our project’s strengths, weaknesses, opportunities, and threats. Assumptions are identified below:

1. Paper charts have a common layout. This will simplify the conversion to the EHR.
2. All workstations, hardware and software needed to access Practice Fusion are already set up, installed, and functioning properly and meet the minimal technical and electronic requirements provided to WFHS by Practice Fusion.
3. A high-speed T1 line and office Wi-Fi network is already setup, installed, and functioning properly.
4. Mrs. Jones, the clinic director, will be the primary day-to-day point of contact for the duration of the project. She will communicate with the rest of the WFHS staff and provide timely communications with the project manager(s).
5. Having previous EMR installation experience, Mrs. Wright, APRN, will be among our superusers and subject matter experts when it comes to the clinical interface design and build of our EMR plus training and support of staff.
6. Having previous experience in IT, Mr. Lawrence (clinic accounts and billing), will be among our our superusers, subject matter experts, and the IT team helping with the design and build of our EMR, especially with the billing and coding aspect.
7. Change orders are required for any changes made after sign-off on the final project specifications. Be aware the change orders may incur additional cost. Cost estimates will be provided in advance.
8. We will train by role with assistance from our subject matter experts (SME) and superusers to achieve maximal potentiation of our human resources while avoiding overtime, outsourcing, and additional expenses.

Constraints:

1. As with any project, unexpected additional costs, limitations may develop related mostly to possible outsourcing, sick leave, overtime, and delays. We will conduct a gap and workflow analysis. The budget, timeline, success measures, and

communication plan will be reviewed and presented in advance with a 25% margin of error.

2. To reduce resistance to change due to the transition, we will include human factor change management and adequate training through live classes, simulation labs, and 1:1 training.

1.1.4. Project Scope Statement

The scope of this project includes setting up and installing the web-based Practice Fusion EHR for WFHS.

The project will be completed by August 31, 2023, provided project kick-off occurs on or before March 1, 2023. Training will begin after installation and additional training is available online through Practice Fusion (<https://www.practicefusion.com/ehr-training/>). The total project cost will be \$20,000.

1.1.5. Resource Requirements

1. A fully functioning high-speed T1 line and office Wi-Fi network.
2. All necessary hardware and software needed to access Practice Fusion is already setup, installed, and functioning properly.
3. The Practice Fusion license has been acquired (note: The license is not included in the estimated project cost.).
4. Mrs. Jones, the clinic director, will be the primary day to day point of contact for the duration of the project. She is authorized to sign contracts and change orders.
5. Mrs. Wright (NP) will be among our superusers and subject matter experts when it comes to the interface design and build of our EMR plus training and support of staff.
6. Our Project team members: Mrs. Johnson, Mrs. Wright, Ms. Felps, Ms. Smith MA, and Mr. Lawrence.
7. The practice will digitize 50 charts (enter the data into Practice Fusion) to be used as test cases to assess project efficacy.
8. WFHS is responsible for digitizing/entering patient charts into Practice Fusion.
9. A budget of \$20,000 and 6 months to complete the project.

1.1.6. Risks

1. Loss of Internet access. If Internet access fails for more than 2 hours during a workday, this may delay project completion. A proper downtime plan shall be set in advance in case of power/connection shortage or unexpected circumstances (natural disasters, mass casualties' incidents, etc.) plus cloud storage or data backup in other geographical areas.
2. The office will continue to use paper charts until the Practice Fusion installation project is completed and signed-off, and the security assessment and report are completed. Note that the security assessment is to be provided by another vendor. This will help prevent charting errors due to lack of Internet access.
3. Change orders are required for any changes made after sign-off on the final project specifications. Be aware the change orders may incur additional cost. Cost estimates will be provided in advance.
4. Physical access to the WFHS clinic will be necessary for final implementation and testing. If the location is not accessible for any reason, this will delay project completion.
5. Insufficiency. To save more time for the healthcare professionals to focus on direct patient care, We will perform workflow analysis to provide the best possible transition from paper to electronic charting. Once the interface is designed and built, we will test and confirmed that it meets the specifications and then launch the staff training phase.

6. To avoid redundancy, a gap analysis and an adequate investment in the planning phase must be developed to have a clear view of our current and future status with tangible goals in place.
7. Unforeseen costs, a 25% buffer zone is included in the project timeline.
8. Cybersecurity threats, proper cybersecurity protective measures (firewalls, staff training, security) must be implemented before go-live.
9. Resistance to change and continuous support. Change management culture and adequate training will be provided to the staff before go-live. IT and superuser support will be available 24/7 in the first week post go-live.

1.1.7. Success Metrics: Criteria for Evaluating Project Success and Milestones

1. The implementation plan will be completed in 6 months.
2. Our planning phase will last 3 months during which we will define our project team members, informaticist, analyst, stakeholders, end-users, superusers, and subject matter experts. A gap and workflow analysis shall be completed and our budget, timeline, success measures, and communication plan will be reviewed taking into consideration a 25% margin of error. Design/build and test shall last for 2 months, during which two 2-hour meetings will be held twice per week for the first 4 weeks then once per week for the second 4 weeks. Analysts, Informaticist, and SME superusers will select the most convenient interface design and testing method. The Practice Fusion software meets security requirements established by the Department of Health and Human Services. After implementation and testing, we will provide 4 weeks of training for staff. We will train by role according to clinical schedules to avoid overtime and additional expenses. Training must be conducted 1 month before go-live.
3. Go-live shall be held on a Friday at 12pm, we will work on reducing workload during that day. We will offer support for one week post go-live. Help-desk IT support is available 24/7 from Practice Fusion.
4. Final implementation specifications will be established beginning at the project kick-off meeting. Per the project timeline, we have 10 business days, including kick-off day, to receive sign-off from WFHS on the specifications. Delay in specification finalization will delay the entire project.
5. The following modules of Practice Fusion will be setup and installed:
 - a. Clinical decision support (CDS), no customization
 - b. Calculators
 - c. Flow sheets, graphs, customized
 - d. Patient lists and registries, no customization
 - e. Medication ordering (e-scribing), no customization
 - f. Reminders, customized
 - g. Order sets and protocols, customized
 - h. Explain, differential diagnosis support, no customization.
 - i. Radiology CDS, no customization
 - j. Lab CDS, no customization
 - k. Public health alerts, no customization

1.1.8. Key Stake Holders

1. Dr. Waverly, clinic owner and medical director

2. Dr. Jones, physician and clinic partner
3. Mrs. Jones, clinic director, primary contact for project and authorized to sign contracts and change orders.

1.1.8. Executive Summary
To be specified later

1.2 Scope

The scope of this project includes setting up and installing the web-based Practice Fusion EHR for WFHS. The project will be completed by August 31, 2023, provided project kick-off occurs on or before March 1, 2023. Training will begin after installation and additional training is available online through Practice Fusion (<https://www.practicefusion.com/ehr-training/>). The total project cost will be \$20,000.

Work Break Down Structure Module #3

1.3 Milestones

A *milestone* is “a major event in the project” and represents the completion of a set of activities. Examples of milestones include:

- Project Charter approval
- Project Team appointed
- Project Quality and testing plan approved
- Project evaluation plan approved

List and describe the key project milestones within the following table. Examples are provided that you may utilize:

Milestone	Description	Delivery Date
Charter approved	The Business Case has been documented and was approved by the Project Sponsor.	01/01/2023
Project Team appointed	Project team members, stakeholders, end-users, superusers and subject matter experts (SME) are selected	01/15/2023
Work Break Down Structure (WBS) and Gantt chart.	WBS/Gantt Chart approved	02/12/2023
Planning	Gap and workflow analysis, budget, timeline, success measures and communication plan confirmed, return on income (ROI) evaluated and accepted	04/10/2023
Design/Build Test	Analysts, Informaticist, SME Superusers to select the most convenient interface design and testing method with cybersecurity supervision	05/24/2023
Training	Staff training completed and updated prior to “Go Live”	06/21/2023
Go Live	Go Live: Switch from paper based to electronic Health Record	06/22/2023
Post Go Live Evaluation	End users’ Evaluation, surveys and success measures are reviewed	01/01/2024

1.4 Phases

A *phase* is “a set of activities which will be undertaken to deliver a substantial portion of the overall project”. Examples include:

- Project Initiation
- Project Planning
- Project Execution
- Project Closure.

List and describe the major project phases within the following table.

Phase	Description	Sequence
Project Initiation	Defining the project by developing a Project Charter as well as recruiting the project team.	Phase # 1
Project Planning	Plan the project based on the scope of change, current state vs future state, determine and select EMR design	Phase # 2
Project Execution	Transition from paper to EMR and Go Live	Phase # 3
Project Closure	Assess Outcome and success metrics, feedback from end-users, overall benchmark, lessons learned, closure and continue to other projects	Phase # 4

1.5 Activities

An *activity* is “a set of tasks which are required to be undertaken to complete the project.” Examples include:

- Develop Quality Plan
- Formulate Supplier Contracts
- Perform Project Closure.

List and describe the major project activities within the following table.

Phase	Activity	Description	Sequence
Project Planning	Set up our scope of practice and resources	Set up our project team members, role responsibilities (IT, SME, Superusers, Cybersecurity, Analyst). Formulate our WBS and Gantt Chart.	After Project initiation but before of developing quality plan
Project Planning	Formulate supplier Contract	Set up contract with the EMR Vendor after evaluation of current/future status and the Return on Investment.	At the end of Project Planning and before Execution
Project Planning	Develop Quality Plan	Produce a document describing Quality Assurance and Quality Control and process review activities to be undertaken.	After the Project Plan but before the formulation of supplier contracts
Project Execution	Development and testing of the EMR	Develop, design, build, and test EMR in coordination with our specialists (IT, SME, Superusers, Cybersecurity, Analyst).	After execution phase start and before staff and healthcare providers training
Project Execution	Staff and Healthcare	Train our end users on the new EMR using live classes, online modules, 1:1 training train by role	After our EMR built is complete, training must

	Providers Training		be done just before Go Live
Project Execution	Data Entry	Staff is responsible for entering 50 charts to be used as test data.	To be completed and tested before Go Live.
Project Execution	Go Live and Post Go Live	Big Bang Go Live Launch switch from paper to EMR, provide helpdesk, IT and at elbow support during first week post Go Live.	Go Live must be done right after staff training is completed and before Project Closure
Project Closure	Benchmarking and project closure	Evaluate success measures, benchmark, project closure, final reporting and lessons learned	At the end of the project, after Go Live launched successfully

1.6 Tasks

A 'task' is simply an item of work to be completed within the project. List all tasks required to undertake each activity, within the following table:

Phase	Activity	Task	Sequence
Project Planning	Set up our scope of practice and resources	Identify stakeholders, sponsors, end-users.	#1
		Set up Budget, resources, desired outcome.	#2
		Identify our present/future state and Return on Income.	#3
		Set up WBS, Gantt Chart and communication plan	#4
Project Planning	Formulate supplier Contract	Negotiate and Set up contract with the EMR	#5
Project Planning	Develop Quality Plan	Identify Quality Targets	#6
		Identify Quality Control and Assurance Techniques	#7
		Document Quality Plan	#8
Project Execution	Development and testing of the EMR	Workflow analysis	#9
		Design EMR Interface	#10
		Build EMR & Functional Test of EMR	#11
		Confirm IT and cybersecurity compatibility.	#12
		Gain user acceptance after frequent meetings with SME and superusers	#13
Project Execution	Staff and Healthcare Providers Training	Train By Role: Train our end users on the new EMR using live classes, online modules, 1:1 training, avoid overtime	#14
Project Execution	Go Live and Post Go Live	Big Bang Go Live Launch	#15
		Provide helpdesk, IT and at elbow Support during first week post Go Live	#16
Project Closure	Benchmarking and project closure	Evaluate success measures through Surveys, end users feedback	#17
		Benchmarking, evaluate ROI	#18
		Project closure, final reporting and lessons learned	#19

1.7 Effort

For each task listed above, quantify the likely 'effort' required to complete the task.

Phase	Task	Effort (Number Of Days)
Project Planning	1. Identify stakeholders, sponsors, end-users.	15
	2. Set up Budget, resources, desired outcome.	15
	3. Identify our present/future state and Return on Income.	8
	4. Set up WBS, Gantt Chart and communication plan	7
Project Planning	5. Negotiate and Set up contract with the EMR Vendor	15
Project Planning	6. Identify Quality Targets	7
	7. Identify Quality Control and Assurance Techniques	4
	8. Document Quality Plan	4
Project Execution	9. Workflow analysis	30
	10. Design EMR Interface	15
	11. Build EMR and Functional Test of EMR	15
	12. Confirm IT and cybersecurity compatibility.	7
	13. Gain user acceptance after frequent meetings with SME and superusers	8
Project Execution	14. Train By Role: Train our end users on the new EMR using live classes, online modules, 1:1 training, avoid overtime	30
Project Execution	15. Big Bang Go Live Launch	1
	16. Provide helpdesk, IT and at elbow support during first week post Go Live	7
Project Closure	17. Evaluate success measures through surveys, end users' feedback.	15
	18. Benchmarking, evaluate ROI.	7
	19. Project closure, final reporting and lessons learned	7

1.8 Resources

For each task identified, list the resources allocated to complete the task.

Task	Resources
<ol style="list-style-type: none"> 1. Identify stakeholders, sponsors, end-users. 2. Set up Budget, resources, desired outcome. 3. Identify our present/future state and Return on Income. 4. Set up WBS, Gantt Chart and communication plan 	<ol style="list-style-type: none"> 1 Project Manager 2 Ms. Felps, front office clerk (Project team member) 2 Mr. Lawrence, clinic accounts and billing [Project team member (has I.T experience)] 3 Mrs. Johnson, physician's assistant (will function as project team member) 4 Mrs. Wright, MSN, NP, nurse practitioner [Project team member (has previous EHR install experience)]
<ol style="list-style-type: none"> 5. Negotiate and Set up contract with the EMR 	<ol style="list-style-type: none"> 5 Dr. Waverly, clinic owner and medical director (*Key stakeholder) 5 Mr. Lawrence, clinic accounts and billing [Project team member (has I.T experience)] 5 Ms. Smith MA, back office medical assistant (Project team member)
<ol style="list-style-type: none"> 6. Identify Quality Targets 7. Identify Quality Control and Assurance Techniques 8. Document Quality Plan 	<ol style="list-style-type: none"> Ms. Smith MA, back office medical assistant (Project team member) Dr. Jones, physician and clinic partner (*Key stakeholder) Mrs. Johnson, physician's assistant (will function as project team member)
<ol style="list-style-type: none"> 9. Workflow analysis 10. Design EMR Interface 11. Build EMR and Functional Test of EMR 12. Confirm IT and cybersecurity compatibility. 13. Gain user acceptance after frequent meetings with SME and superusers 	<ol style="list-style-type: none"> Mrs. Wright, MSN, NP, nurse practitioner [Project team member (has previous EHR install experience)] Ms. Felps, front office clerk (Project team member) Mr. Lawrence, clinic accounts and billing [Project team member (has I.T experience)] Mrs. Jones, clinic director (*Key stakeholder) Dr. Jones, physician and clinic partner (*Key stakeholder)
<ol style="list-style-type: none"> 14. Train By Role: Train our end users on the new EMR using live classes, online modules, 1:1 training, avoid overtime 	<ol style="list-style-type: none"> Mrs. Wright, MSN, NP, nurse practitioner [Project team member (has previous EHR install experience)] Mrs. Jones, clinic director (*Key stakeholder) Dr. Jones, physician and clinic partner (*Key stakeholder) Mr. Lawrence, clinic accounts and billing [Project team member (has I.T experience)]
<ol style="list-style-type: none"> 15. Big Bang Go Live Launch 16. Provide helpdesk, IT and at elbow Support during first week post Go Live 	<ol style="list-style-type: none"> Mrs. Wright, MSN, NP, nurse practitioner [Project team member (has previous EHR install experience)] Mr. Lawrence, clinic accounts and billing [Project team member (has I.T experience)]
<ol style="list-style-type: none"> 17. Evaluate success measures through Surveys, end users' feedback. 18. Benchmarking, evaluate ROI. 19. Project closure, final reporting and lessons learned 	<ol style="list-style-type: none"> Ms. Felps, front office clerk (Project team member) Ms. Smith MA, back office medical assistant (Project team member)

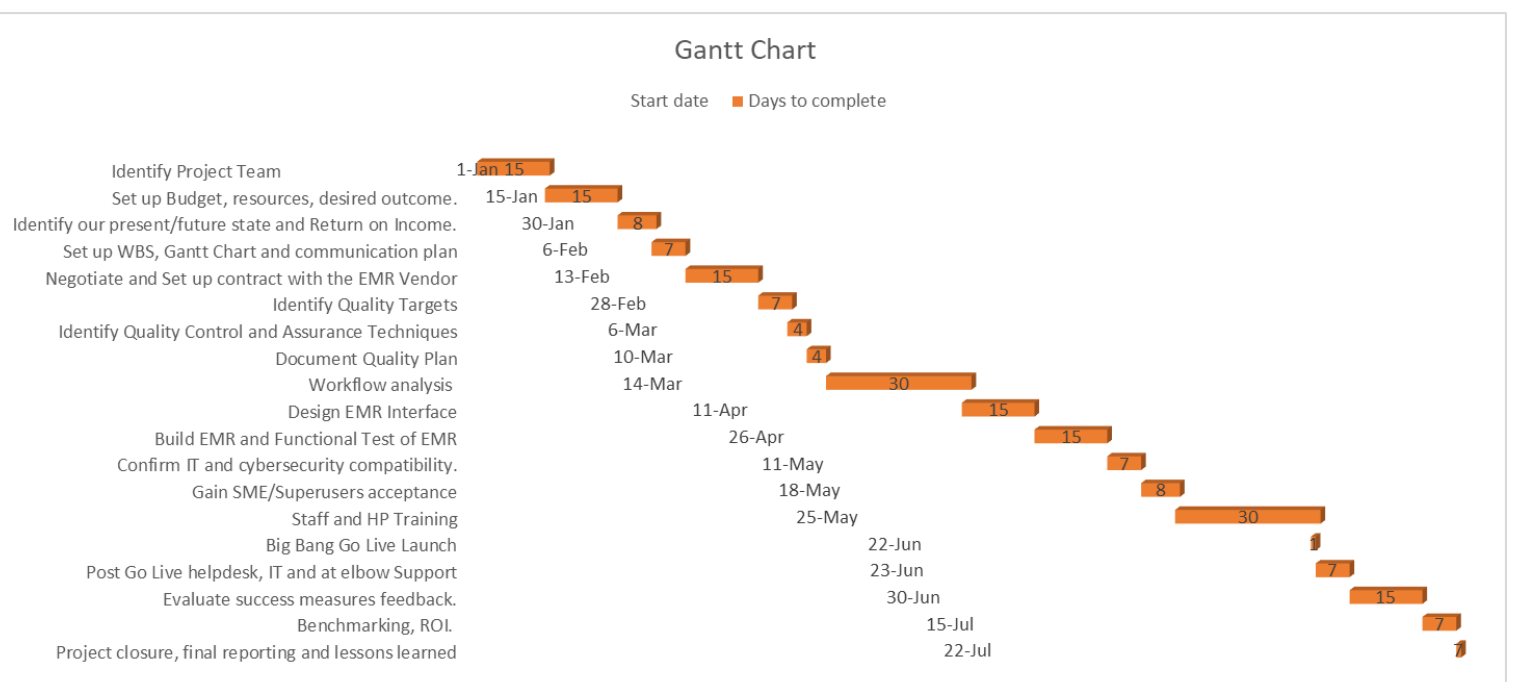
2 Project Plan

2.1 Schedule (Gantt chart)

Provide a summarized schedule for each of the phases and activities within the project you have identify using the supplied Gantt chart template. The Gantt chart will provide a time sequence for all your phases and important activities.

ID	Task Name	Duration	January				February				March				Apr			
			5/01	12/01	19/01	26/01	2/02	9/02	16/02	23/02	1/03	8/03	15/03	22/03	29/03			
3	INITIATION	16 days	[Gantt bar from 5/01 to 21/01]															
4	Develop Business Case	4 days	[Gantt bar from 5/01 to 9/01]															
10	Perform Feasibility Study	5 days	[Gantt bar from 12/01 to 17/01]															
17	Establish Terms of Reference	4 days	[Gantt bar from 19/01 to 23/01]															
23	Appoint Project Team	3 days	[Gantt bar from 26/01 to 29/01]															
28	Set-up Project Office	3 days	[Gantt bar from 2/02 to 5/02]															
33	Perform Stage-Gate	1 day	[Gantt bar at 19/01]															
34																		
35	PLANNING	48 days	[Gantt bar from 26/01 to 13/03]															
36	Create Project Plan	9 days	[Gantt bar from 26/01 to 4/02]															
47	Create Resource Plan	5 days	[Gantt bar from 9/02 to 14/02]															
54	Create Financial Plan	5 days	[Gantt bar from 16/02 to 21/02]															
61	Create Quality Plan	4 days	[Gantt bar from 23/02 to 27/02]															
67	Create Risk Plan	6 days	[Gantt bar from 1/03 to 7/03]															
75	Create Acceptance Plan	4 days	[Gantt bar from 8/03 to 12/03]															
81	Create Communications Plan	4 days	[Gantt bar from 15/03 to 19/03]															
87	Create Procurement Plan	4 days	[Gantt bar from 22/03 to 26/03]															
93	Contract Suppliers	6 days	[Gantt bar from 29/03 to 4/04]															
101	Perform Stage-Gate	1 day	[Gantt bar at 4/04]															
102																		
103	EXECUTION	5 days	[Gantt bar from 4/04 to 9/04]															
104	Build Deliverables	3 days	[Gantt bar from 9/04 to 12/04]															
109	Monitoring and Control	4 days	[Gantt bar from 12/04 to 16/04]															
122	Perform Stage-Gate	1 day	[Gantt bar at 16/04]															
123																		
124	CLOSURE	7 days	[Gantt bar from 16/04 to 23/04]															
125	Perform Project Closure	6 days	[Gantt bar from 23/04 to 29/04]															
132	Review Project Completion	1 day	[Gantt bar at 29/04]															

Note: Refer to the Appendix for a detailed project schedule.



2.2 Dependencies

'Dependencies' are logical relationships between phases, activities or tasks which influence the way that the project must be undertaken. Dependencies may be either internal to the project (e.g. between project activities) or external to the project (e.g. a dependency between a project activity and a business activity). An example of a dependency for this project is: Staff training on the new EHR can't occur until the responsible person for carrying out the training (project trainer) has been trained on the new EHR.

There are four types of dependencies:

1. Finish-to-start (*the item this activity depends on must finish before this activity can start*)
2. Finish-to-finish (*the item this activity depends on must finish before this activity can finish*)
3. Start-to-start (*the item this activity depends on must start before this activity can start*)
4. Start-to-finish (*the item this activity depends on must start before this activity can finish*).

List any key project dependencies identified by completing the following table:

Activity	Depends on	Dependency Type
Setup WBS, Gantt Chart, Budget, and communication plan	Appoint Project Team	Finish-to-start
Set-up Project Office	Appoint Project Team	Finish-to-start
EMR Build and Design	Workflow Analysis	Finish to Start
EMR Approval	Meetings between SME, Analytics and informaticist	Finish to Finish
Staff and HCP Training	EMR Interface testing and approval	Finish to Start
Go Live	Staff and HCP Training	Finish to Start
Post Go Live Support	Go Live Launch	Start to Start

In the example given above, the activity "Appoint Project Team" must finish before activity "Set-up Project Office" can start.

2.3 Assumptions

1. Paper charts have a common layout. This will simplify the conversion to the EHR.
2. All workstations, hardware and software needed to access Practice Fusion are already set up, installed, and functioning properly and meet the minimal technical and electronic requirements provided to WFHS by Practice Fusion.
3. A high-speed T1 line and office Wi-Fi network is already setup, installed, and functioning properly.
4. Mrs. Jones, the clinic director, will be the primary day-to-day point of contact for the duration of the project. She will communicate with the rest of the WFHS staff and provide timely communications with the project manager(s).
5. Having previous EMR installation experience, Mrs. Wright, APRN, will be among our superusers and subject matter experts when it comes to the clinical interface design and build of our EMR plus training and support of staff.
6. Having previous experience in IT, Mr. Lawrence (clinic accounts and billing), will be among our superusers, subject matter experts, and the IT team helping with the design and build of our EMR, especially with the billing and coding aspect.

7. Change orders are required for any changes made after sign-off on the final project specifications. Be aware the change orders may incur additional cost. Cost estimates will be provided in advance.
8. We will train by role with assistance from our subject matter experts (SME) and superusers to achieve maximal potentiation of our human resources while avoiding overtime, outsourcing, and additional expenses.

2.4 Constraints

- The project must operate within the funding and resource allocations approved
- The project team must deliver the EHR implementation and “Go Live” on the agreed upon date with no requirement for additional hardware
- Staff must complete the project within normal working hours to avoid unbudgeted overtime expenses.
- As with any project, unexpected additional costs, limitations may develop related mostly to possible outsourcing, sick leave, overtime, and delays. We will conduct a gap and workflow analysis. The budget, timeline, success measures, and communication plan will be reviewed and presented in advance with a 25% margin of error.
- To reduce resistance to change due to the transition, we will include human factor change management and adequate training through live classes, simulation labs, and 1:1 training.

3 Quality and Test Plan

Module# 4, 5 and 6

See Appendix A: Hardware Test Plan

Quality Test Plan

Under this heading you will provide a brief summary of your test plan. You can reference the test plan document in your appendix section where you can place the template document,

Quality Plan

Under this heading provide a brief summary of your quality plan. Include what metrics you will utilize. You can reference your quality plan (created from your template) in the appendix section)

4 Project Closure Report

Module #7

A project closure report is a document which formalizes the closure of the project. It provides confirmation that the criteria for the end user or customer has been met. This also provides “What’s next” for handing of the project. Utilizing the supplied project closure report template, provide a summary of the project closure report and place under this heading. Please refer to the complete document in Appendix C.

Our project was intended to plan and monitor the successful implementation of “Practice Fusion,” an outpatient electronic health record for the Waverly Family Health (WFHS) Services. As the clinic had no prior experience implementing EMR, our main goal was to plan, execute, and monitor the transition from paper charts to digital content using the skills of staff and providers and the allocated resources.

We set up and installed the Practice Fusion electronic health record (EHR) for WFHS to replace their current paper-based system. Practice Fusion is hosted in the cloud. Limited customization was provided.

The practice leaders at WFHS selected Practice Fusion to replace their current paper-based system prior to engaging our consulting firm. WFHS intends for Practice Fusion to improve practice efficiency and to comply with the Centers for Medicare and Medicaid Services (CMS) requirements for electronic health record interoperability, required to receive payments

4.1 General Satisfaction with the System

The users' experience with the implemented system is limited. Comments include:

- The level of user satisfaction – WFHS was very impressed with the demonstration and has been pleased with the test system.
- The strengths of the system, including specific areas of success – WFHS Practice Fusion implementation included all the basic modules of Practice Fusion. These have been implemented successfully in the development environment.
- Any problems – We have encountered two brief scheduling delays due to one or more of the practice leaders not being available to meet or to review installed elements per the original project schedule.
- Frequently used features – Documenting office visits (encounters) and e-prescribing
- Infrequently used features – Referencing built-in best practice recommendations
- Features not used at all – In the development environment, WFHS is using all the planned features.
- Suggested improvements – We have not received any change requests. The next project is a security review which will be conducted by another consulting firm.

4.2 Current Cost-Benefit Justification

The system is expected to pay for itself in 24 months. We just had go-live so we don't have enough data to evaluate the benefits yet. WFHS has not yet provided us with their licensing cost for Practice Fusion.

5 Appendices

5.1 Appendix A: Hardware Test Plan

- Project Charter document from your template
- Project Work Break Down structure created from your template
- Project Test plan created for your template
- Project Quality plan created from your template
- Project closure document
- Any additional information you will need to reference during your project implementation

5.1.1 Hardware Test Plan

Test	Components	Date	Responsibility	Accepted
Unit & Functional Testing	Each major function performs as specified in user manual (system unit, monitor, printers).	04/30/23	Ms. Jones	x
	Design changes/customizations are present & work as requested. Document all changes for reference.	04/30/23	PM	x
System Testing	Workflows send and/or receive data properly between systems (e.g., between EHR and pharmacy or billing, PMS messages and EHR). Use scripts to test various scenarios. Include alternatives in backup plan.	04/30/23	Ms. Jones	x
	Interfaces between applications move data correctly and completely. Test both sending and receiving when interfaces are bi-directional.	04/30/23	Ms. Jones	x
Integrated Testing (simulates live environment)	Ensure all system components work properly.	04/30/23	Ms. Jones	x
	Ensure that help desk, support personnel, and other aids function properly.	04/30/23	Ms. Jones	x
	Ensure that EHR works with exam room computers.	04/30/23v	Ms. Jones	
	Attempt to break the system by testing mission critical and high-risk functions, such as situations requiring exception logic.	04/30/23	Ms. Jones	x
Performance & Stress Testing	Measure response times for key transactions or interactions with the system, and assure they are within acceptable limits, which may be defined in the contract.	04/30/23	Ms. Jones	x

Test	Components	Date	Responsibility	Accepted
	Simulate an extremely high volume of activity on the system such as would exceed anticipated peak loads of system usage (all exam rooms in use plus front and back office computers).	04/30/23	Ms. Jones	x
	Backup system testing (per new policies and procedures for off-line data collection).	04/30/23	Ms. Jones	x

5.2 Appendix B: FMEA Tool

Directions:

In each step carryout the activity describes and create a brief summary for each step in narrative writing format. Your paper for submission will need to show all your work including any diagrams.

Step #1

Select the process to analyse.

For this project, we will analyse the process of conducting a new patient intake interview and health history gathering in an exam room. A medical assistant, nurse, or physician may conduct this interview.

Step #2

For the purpose of this exercise put together a fictitious team based upon your project team participants. The participants of your team are based upon the process analysis you are conducting so be thoughtful on your team selection.

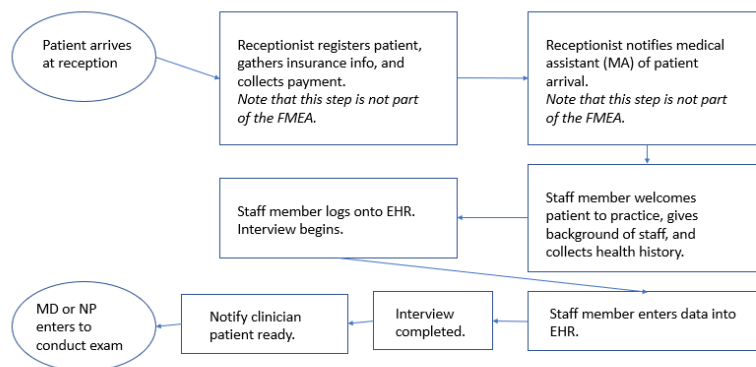
For this FMEA, we will need input from a front office worker, who is impacted by the information gathered, and a nurse, the staff member most likely to conduct the new patient interview. The information gathered needs to be entered into the EHR as it is gathered. A physician is not likely to conduct the interview, but will need to use the information, so one of the practice physicians will review the FMEA.

Step #3

Flow map the process:

Using flow mapping you have learned in previous modules; diagram how the clinician would utilize the EHR to conduct an initial interview of a patient.

New Patient Intake Interview Workflow Process, Qori & Elkhazen



Step #4

Describe what could go wrong with the process or how the system could fail. This could include hardware breakdown, power outage, Wi-Fi down, end user failure.

Step #5

During your analysis you may identify steps in a process that may not add value to the process. This is an opportunity for you to redesign the process or eliminate the steps. Take each step in your process and use the following questions to determine potential for failure.

In section #5 use these questions to drive your analysis:

- What could happen should this failure occur? (outcome) ^[L]_[SEP]
- How serious would the outcome be? (severity) ^[L]_[SEP]
- How often is this failure likely to occur? (probability) ^[L]_[SEP]

Determine the outcomes of failure. Describe what could go wrong and map that flow. The next step is then to determine how serious the outcome is. Use the following rating scale to indicate the level of severity:

Rating	Outcome Category	Description
5	Catastrophic	
4	Major	
3	Moderate	
2	Minor	
1	Near Miss	

After you have created your ranking of outcomes and descriptions we need to determine the probability these events will occur. Use the following scale to conduct your rating scale.

Failure Probability rating scale

Rating	Outcome Category	Definition (the following are examples you need to define your own)
5	Very High probability: failure is most inevitable	1 failure in 5 attempts
4	High: repeated failures	1 failure in 50 attempts
3	Moderate: occasional failures	1 failure in 500 attempts
2	Low: relatively few failures	1 failure in 5000 attempts
1	Remote: failure is unlikely	< 1 failure in 500,00 attempts

Step #6

Your final step is to design and implement changes to reduce or prevent problems. Identify the processes that have high ratings and a high probability of failure and create a brief plan for each one you identify.

For your quality plan you will want to create tracking metrics for each of the process change. This will help you determine if the process is corrected and how it is functioning with the given system.

To complete your activity utilize the following template and fill in the areas as indicated. This final document is what you will turn in at the end of this module and become part of your quality plan in your project plan.

5.2.1 FMEA

Process analysed: conducting a new patient intake interview and health history gathering in an exam room

Team leaders: C. Qori & H. Elkhazen

Team members:

Name	Position	Name	Position
Dr. Waverly	clinic owner and medical director, review, and limited testing	Mrs. Wright	Nurse Practitioner (NP), testing
Dr. Jones	physician and clinic partner, review	Ms. Felps	front office clerk, limited testing and data entry
Mrs. Johnson	Physician assistant (PA), limited testing	Ms. Smith	medical assistant (MA), testing
Mrs. Jones	clinic director, primary contact for project and authorized to sign contracts and change orders, review front office processes	Mr. Lawrence	clinic accounts and billing, testing

Describe your process steps (flowchart): As per the suggested guidance, you might use sticky notes on separate papers.

Refer to diagram 1, Workflow Process. Prior to testing, Ms. Felps will enter 45 patients' test data and process testing. The last 5 test patients will be used for input testing, like the new patient interview process.

Identify what could go wrong during each step of the process. You might use sticky-notes indicating what could go wrong for each step. Line these up beneath each process step.

New Patient Intake Interview Workflow Process

Process step	Possible problem	Impact	Probability of failure
Patient arrives at reception	Patient misses appointment or arrives more than 10 minutes late. Schedule must be adjusted accordingly.	3	4
Receptionist registers patient, gathers insurance	If the receptionist is busy or on the phone, the patient's arrival may not be noted immediately. This causes	2	3

info, and collects payment. <i>Note that this step is not part of the FMEA.</i>	minor delays and, occasionally, patient frustration.		
Receptionist notifies medical assistant (MA) of patient arrival.	Currently, this is done by moving the patient's physical record to a specific folder in the back. If there's a delay, the MA may query the front desk about patient's arrival.	2	2
Staff member welcomes patient to practice, gives background of staff, and collects health history.	Patient questions may cause this process to run longer than expected.	1	1
Staff member logs onto EHR. Interview begins.	This is the area where hardware failures will have the most impact, specifically, these problems may occur: hardware breakdown, power outage, Wi-Fi down, end user failure.	3	1
Staff member enters data into EHR.	If Practice Fusion is not available due to one of failures listed in the step above.	3	1
Interview completed.	n/a	n/a	n/a
Notify clinician patient ready.	Currently, the defined process for doing this involves putting a chart in a file outside the exam room door. This can be confusing because the order in which the clinicians should see each patient isn't clear.	1	1

For each item identified that could go wrong, rate each for the seriousness of this outcome (severity) and how often the mistake is likely to occur (probability) (per the suggested guidance and your rating scale preferences). Indicate these ratings on the sticky notes that identify what could go wrong.

Review your ratings and decide on your process failures identified as high priority for corrective actions. List the process failures you will focus on in the table below.

Describe your corrective actions for process failures identified as high priority: Before determining your corrective actions for process failures, consider whether you should conduct a systematic analysis to determine the root cause of each failure chosen for action. If necessary, use techniques such as the five whys, flowcharting, or the fishbone diagram to assist in identifying the root causes. Additional tools are available that guide the use of each of these techniques. It is helpful to keep any of these analyses with your PIP documentation for future reference. In the table below, describe each root cause for each process failure, and

then enter your specific actions to reduce or eliminate the failure, your completion timeframe, and the responsible individual or group.

Process Failure	Root Cause of Process Failure	Specific Actions to Reduce or Eliminate the Failure	Completion Time Frame	Responsible Individual/Group
hardware breakdown	Outdated equipment	Establish schedule for hardware maintenance and replenishment	5 days	Project manager (PM)
Hardware breakdown	Broken equipment (e.g., due to fall)	Secure equipment in place, train users on proper use	5 days	PM
power outage	Weather, didn't pay bill, power company failure	Establish off-line backup policies and procedures	5 days	PM
Wi-Fi down	Weather, didn't pay bill, cable company failure	Establish off-line backup policies and procedures	5 days	PM
end user failure	Lack of training, lack of experience	Provide initial training, new employee, and annual training, access to online training from Practice Fusion	8 days for initial training, ad hoc training and coaching as needed	PM – initial Office Manager – ongoing

Measures of Success

Corrective Action	Measure(s) of Success (How we will know if this action is successful) (Consider measures of how often the failure is still occurring after process changes and the incidence of adverse events related to the failure)	Reporting Schedule and Individual or Group Responsible for Reviewing Results
Prevent hardware failure	99.9% uptime, establish service contracts	Office manager
Plan off-line backups for power or WiFi outage	Backup plan effective, no data loss, test every 6 months	PM

End user failure	Provide initial training, new employee, and annual training, access to online training from Practice Fusion	PM – initial Office Manager – ad hoc and ongoing

Signature of FMEA leader/facilitator _____ Date 03/30/23

5.3 Appendix C: Introduction to Post-Implementation Evaluation

5.3.1 Project Identification

	Information
Document Id	Part 3, final draft
Document Owner	Cathy Qori and Houssein Elkhazen
Issue Date	03/05/23
Last Saved Date	03/30/23
File Name	CQori_HElkhazen_ProjectPlan V6

5.3.2 System Proponent

System Proponent: Dr. Waverly, Waverly Family Health

5.3.3 History of the System

Our project is intended to plan and monitor the successful implementation of “Practice Fusion”, an outpatient electronic health record for the Waverly Family Health (WFHS) Services. As the clinic has no prior experience implementing EMR, our main goal is to plan, execute and monitor the transition from paper charts to digital content using the skills of staff and provider and the allocated resources.

We will set up and install the Practice Fusion electronic health record (EHR) for WFHS to replace their current paper-based system. Practice Fusion is hosted in the cloud. Limited customization will be provided.

5.3.4 EVALUATION SUMMARY

The practice leaders at WFHS selected Practice Fusion to replace their current paper-based system prior to engaging our consulting firm. WFHS intends for Practice Fusion to improve practice efficiency and comply with the Centers for Medicare and Medicaid Services (CMS) requirements for electronic health record interoperability, required to receive payments

5.3.5 General Satisfaction with the System

The users’ experience with the implemented system is limited. Comments include:

- The level of user satisfaction – WFHS was very impressed with the demonstration and has been pleased with the test system.
- The strengths of the system, including specific areas of success – WFHS Practice Fusion implementation included all the basic modules of Practice Fusion. These have been implemented successfully in the development environment.
- Any problems – We have encountered two brief scheduling delays due to the one or more of the practice leaders not being available to meet or to review installed elements per the original project schedule.
- Frequently used features – Documenting office visits (encounters) and e-prescribing
- Infrequently used features – Referencing built-in best practice recommendations
- Features not used at all – In the development environment, WFHS is using all the planned features.
- Suggested improvements – We have not received any change requests. The next project is a security review which will be conducted by another consulting firm.

5.3.6 Current Cost-Benefit Justification

The system is expected to pay for itself in 24 months. We just had go-live so we don't have enough data to evaluate the benefits yet. WFHS has not yet provided us with their licensing cost for Practice Fusion.

5.3.7 Needed Changes or Enhancements

Gauge the magnitude of effort needed to change or improve the system. Describe the nature and priority of the suggested changes~ more detail will be provided in other sections. Comments should address the following:

- WFHS is considering the purchase of one additional module for Practice Fusion – the module that integrates lab results directly into the patient records.
- Based on our experience with this project, we anticipate that implementation of this module will go smoothly.
- The resources we have employed on this project, consultants and practice manager with practice partner review, has worked well and will be used again.

5.3.8 ANALYSIS AND IMPLEMENTATION

5.3.9 Purpose and Objectives

We have not completed our final evaluation yet but the beta test has been approved without issue.

- The project goals were met completely.
- Possible changes to the objectives include updates to the software provided by the vendor, especially if our consulting team will be needed again.

5.3.10 Scope

Our project plan

- There were no major change requests because the practice purchased on the license for a standard Practice Fusion site.
- The project stayed within scope.
- Any possible future changes to the scope, as mentioned above, may include implementation of the laboratory results reporting module.

5.3.11 Benefits

The beta implementation demonstrated that the project is on track to realize the anticipated return on investment (ROI).

- The benefit definitions were clear and did not require modifications
- WFHS will evaluate benefits realized, per established parameters, every 6 months. The system is expected to pay for itself within 24 months through improved efficiency and increased CMS payments.

5.3.12 Development Cost

The development cost estimate was accurate. Minor change requests slightly increased the cost (by 3%).

- The adequacy of the original and subsequent cost estimates was accurate (our firm gave a range of costs and the project should be completed within budget).
- The actual costs have not been finalized.

5.3.13 Operating Cost

To date, the cost of operating Practice Fusion, including T1 line for Internet access and data backups, have been within the estimated budget.

5.3.14 Training

Levels of user training were adequate and timely.

- WFHS was satisfied with the timeliness of the training provided.
- The training for staff went well. One nurse practitioner and one medical assistant have requested additional onsite training. We have issued a change request and it is pending approval.
- Practice Fusion publishes online, prerecorded training for current licensees. WFHS plans to use these online resources to train newly hired personnel in the future.

5.3.15 OUTPUTS

Outputs, such as the clinical records (data) generated by patient visits and any associate data such as billing , coding, quality reports/data have been adequate.

5.3.16 Usefulness

The staff feels the EHR system will meet their intended needs.

- The system has been easy to use in beta test and limited use to date.
- The system has effectively replaced the paper-based system.

5.3.17 Timeliness

The production system is meeting performance requirements. Patient clinical records and clinical data are still being added (based on recency of visits). Lab reports, imaging data, previous clinical visits, and billing data are also being added.

5.3.18 Data Quality

The data collected to date is accurate and there have been no issues with reliability at this early stage.

5.3.19 Security

Practice Fusion is a CMS/ONC approved vendor. The software provides adequate security of data and programs. A thorough reassessment of HIPPA compliance and security is planned to begin next month.

5.3.20 Data Protection

We believe the security, backup, recovery, and restart capabilities adequately safeguard data. Another consulting firm will be conducting an in-depth security review soon. That firm will also help WFHS draft revised policies and procedures to be compliant with current standards.

5.3.21 Disaster Recovery

In the early stage of the project, clinical files, programs, and procedures were established to enable recovery from a disaster (unintended down time of HER).

- Preliminary back-up and recovery procedures are established.
- Staff can demonstrate the ability to perform downtime procedures for all clinical activities. These may be revised after the security review and the staff will need additional training.
- We have not yet tested the planned access and backup-data for downtime procedures.

5.3.22 Audit Trails

Review the ability to trace clinical documentation and other online processes transactions through the system. This will be further assessed, revised and documented during the security review.

- Mrs. Jones manages the audit trails.
- Clinical data and patient records are contained in the audit trails.
- The frequency of audits will be determined during the security review.

5.3.23 System Access

Evaluating systems that manage access to HIPPA data is part of the planned security review.

- Policy governing access to the EHR systems is preliminary.
- Mrs. Jones is the designated security officer.
- Criteria for level of access to EHR systems has been established.
- Documenting any access breaches
- Breach notification plan will be finalized during the security review.

5.3.24 COMPUTER OPERATIONS

This section describes the current level of operational activities. Although the user point of view is primary to the Post-Implementation Review Report, the computer operations view is also important to investigate.

5.3.25 Control of Workflow

At the start of the project, we established the EHR user interface for collecting clinical data for given workflows.

- Some of the clinical workflow processes were modified during the planning phase, before being implemented in Practice Fusion.
- Suggested workflow changes were solicited from end users.
- Minimal effort or barriers are impediments to making changes to the EHR to remediate issues.

5.3.26 Scheduling

WFHS staff is able to schedule according to user needs and to complete scheduled tasks during non-busy hours.

5.3.27 EHR User Interface

Analyse the usability of the system. The transaction throughput and error rate are included in will be analysed in 3 months after more data is collected. The analysis will include:

- Number of patient visits processed (number of transactions)
- Number of errors made when carrying out clinical documentation
- Frequency of problems with the interface
- Suggested changes from users
- Effort required to make the changes

5.3.28 Computer systems

We are in the process of looking for and analysing computer issues and problems, such as:

- The correct or incorrect use of forms and off-line files
- The adequacy of instructions for end-users on use of EHR
- Downtimes via web access through practice
- Downtimes via the EHR company of your systems is web based
- Software bugs or glitches as described by end users
- Hardware issues

5.3.29 Peak Loads

To-date, the system has been able to handle patient volume at peak loads and to resolve backlogs when they occur. Any offloading that could be helpful will be investigated. One of the reasons for implementing Practice Fusion is to enable the practice to grow and accommodate more patient visits, so we anticipate that peak loads will increase. Mrs. Jone will periodically evaluate:

- The level of user satisfaction
- The adequacy of the response time (for online systems)
- The effect of delays on online and/or batch systems
- Suggested changes
- The effort required to make the changes

5.3.30 MAINTENANCE ACTIVITIES

Maintenance activity for the EHR system software should be minimal because most of it is handled by Practice Fusion for this cloud-hosted application. There is an established vendor who supports all hardware components. Their staff is available within 1 business day (or sooner for additional payment).

5.3.31 Activity Summary

No maintenance activity has occurred so far. As mentioned above, the software is maintained by Practice Fusion. The hardware and network are all under contract with another vendor. Our firm is available on a contractual basis if additional training is needed.

5.3.32 System Maintenance

No maintenance activity has occurred so far. As mentioned above, the software is maintained by Practice Fusion. The hardware and network are all under contract with another vendor. Our firm is available on a contractual basis if additional training is needed.