CREATING A MEDICAL RECORD DATABASE

PROJECT MANAGEMENT PLAN

Version <*5.0*>
<02/24/2021>
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VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	*Robert Peterson, Michael Ngugi, Luther Nicholaus*	*01/23/21*	*Luther Nicholaus*	*01/23/21*	*Purpose, Executive Summary, Stakeholder Management, Constraints and Assumptions*
2.0	*Robert Peterson, Michael Ngugi, Luther Nicholaus*	*01/28/21*	*Luther Nicholaus*	*01/28/21*	*Purpose, Executive Summary, Stakeholder Management, Constraints and Assumptions, Scope Management, Communication Management*
3.0	*Robert Peterson, Michael Ngugi, Luther Nicholaus*	*02/09/21*	*Luther Nicholaus*	*02/09/21*	*Work Breakdown Structure, Procurement Management, Human Resource Management*
4.0	*Robert Peterson, Michael Ngugi, Luther Nicholaus*	*02/17/21*	*Luther Nicholaus*	*02/17/21*	*Work Breakdown Structure, Procurement Management, Human Resource Management, Quality Plan, Project Management Budget*
5.0	*Robert Peterson, Michael Ngugi, Luther Nicholaus*	*02/24/21*	*Luther Nicholaus*	*02/24/21*	*Work Breakdown Structure, Procurement Management, Human Resource Management, Quality Plan, Project Management Budget, Risk Management*

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1 INTRODUCTION

1.1 PURPOSE OF PROJECT MANAGEMENT PLAN

Plan purpose

The purpose of this project management plan is to guide all involved parties through the agreed upon steps and phases of the project. These phases will describe the needed actions to be taken and the responsible parties involved. The end goal will be to create an automated medical record database. The database will include but not limited to patient charts, personal contact information, patient medical history, and patient prescribed medication.

The intended audience of the *Creating a Medical Record Database* PMP is all project stakeholders including the project sponsor, senior leadership and the project team. The project management model for this project is Waterfall. Waterfall offers complete control at each phase of the project and follows a straightforward linear sequential project plan as preferred by the project team

- Guide for all parties for steps and phases of project.
- Describes actions and responsible parties.
- Goal is to create an automated database for patent medical records.
- Includes charts, medical history, contact information, and a list of medications.
- Stakeholders include project sponsor, senior leadership, and the project team.
- Waterfall method is being used for this project.
- Waterfall offers control and linear sequential project planning as preferred by the project team.

2 EXECUTIVE SUMMARY OF PROJECT CHARTER

Executive summary for project

This seven-month project aims to create a medical record database so that physicians and other providers within the hospital can access patient medical records in a more efficient way. In addition, this will also create a more secure environment for patient data as well as better coordination between departments of the hospital. Furthermore, it will create the opportunity for data analysis for better decision making in the future. This project will require a budget for $250,000.

- Creating a medical database for the hospital for patient records.
- Project should take seven months from inception to completion.
- Will allow future data analysis.
- The project has a $250,000 budget.

2.1 ASSUMPTIONS

For this project there are several assumptions. The first assumption is that the hardware required for this project will already have been obtained. Another assumption is that software required for the project will be selected, purchased, and integrated into the overall database. Project team members have the respective technical, procurement, and training skills for this project therefore minimal or no recruitment and training will have to be done at the initial stages of the project. The physical files and records will be readily available to scan and transcribe into the new database, and there will be staff available to complete this task.

- Hardware required for the project is already obtained.
- Software will be purchased and integrated into the database.

- Team members will have the skills necessary to complete tasks, including technical, procurement and training skills.
- No recruiting or training will be required in initial stages.
- Physical files will be readily available and easy to scan into the database.
- There will be staff available to transfer files into the database.
- The project has a $250,000 budget.

2.2 CONSTRAINTS

The project will be focusing only on creating a database for patient medical records and the transfer of those records to the database. "Identifying and understanding the constraints you may face is a key part of the project planning process, and ultimately informs how you proceed" (Miller, 2020). Therefore, we will only purchase software and licenses that are related to the creation of a medical record database. The project is limited to patient medical records only and will not include any other records such as billing, scheduling, or patient insurance. Furthermore, all staff training will be focused only on the implementation and use of the database and will not be expanded to include any other issues.

- Focused on the creation of a database for patient medical records.
- Includes transfer of records to database.
- Only licenses and software related to the medical record database will be purchased.
- Project scope does not include billing, scheduling or insurance data.
- Training will be limited to the implementation and use of the database.

3 SCOPE MANAGEMENT

The project's scope management documents in detail how the project scope will be defined, executed, and controlled. The scope also details how the project will be monitored

and controlled to par with timely and quality materialization of the project's goals. The stakeholders for each task are listed in section 3.1 in the WBS, which also lists the tasks and their start and end dates. The processes by which the plan will be executed are in 3.2, and the requirements for changes to the plan are listed in section 3.3.

- Scope management details how the project scope will be defined, executed, and controlled.
- The Work Breakdown Structure divides the project work and deliverables into compact, yet manageable sections.
- Controls and monitors project goals.
- Ensures quality and timely delivery.
- Stakeholders, tasks, and relevant dates in section 3.1.
- Steps for execution are in 3.2.
- Requirements for changes are in section 3.3.

3.1 WORK BREAKDOWN STRUCTURE

The work breakdown structure provides an in-depth description of each task. Each decomposed task is defined by specific dependent tasks, resources, start and end dates, and anything of interest for a given event. The decomposition techniques divide the project scope and deliverables into compact, yet manageable sections (Khan, 2006).

Task	Dependencies	Resources	Start Date	End Date	Notes
1.0 Create project plan			01/01/2021	01/31/2021	2 buffer days at the end of this step.

1.1 Appoint and notify project team		Luther Nicholaus- Project Manager	01/01/2021	01/02/2021	
1.2 Define project goals	1.1	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	01/03/2021	01/04/2021	
1.3 Project targets and timeline	1.2	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement	01/05/2021	01/10/2021	
1.4 Define team roles and responsibilities	1.1	Luther Nicholas- Project Manager, Snow Man- CIS Manager	01/11/2021	01/12/2021	
1.5 Create a project charter and define scope	1.2	Luther Nicholas- Project Manager, Snow Man- CIS Manager	01/13/2021	01/14/2021	
1.6 Create requirements documentation	1.5	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get	01/15/2021	01/31/2021	Includes 2 buffer days at the end of this step.

		Stuff- Head of Procurement			
1.6.1 Determine specifications of the database	1.5	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement	01/15/2021	01/17/2021	
1.6.2 Perform requirements gathering from users	1.1	Snow Man- CIS manager, Jakey Wakey- Database administrator	01/18/2021	01/20/2021	
1.6.3 Compile Documentation.	1.6.2	Snow Man- CIS manager, Jakey Wakey- Database administrator	01/21/2021	01/21/2021	
1.6.4 Define requirements for database design (relationships and dependencies between resource)	1.6.1	Snow Man- CIS manager, Jakey Wakey- Database administrator	01/22/2021	01/24/2021	
1.6.5 Consider Cloud provider alternatives and software		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement	01/25/2021	01/26/2021	
1.6.5.1 Contact cloud-based service to lock in rates for 90days		Get Stuff- Head of Procurement	01/26/2021	01/26/2021	

1.6.5.2 Contact vendor to rent and install a temporary CO2 system in the file storage room to mitigate fire risk		Get Stuff- Head of Procurement	01/26/2021	01/26/2021	
1.6.5.3 Establish fire protocols in case of fire emergency		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement	01/27/2021	01/27/2021	
1.6.6 Perform legal assessment		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement, No Body Compliance Manager and Legal Counsel	01/28/2021	01/29/2021	
2.0 Create systems design	1.0	Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	02/01/2021	02/17/2021	Includes 2 buffer days at the end of this step.
2.1 Define the conceptual design		Jakey Wakey- Database administrator	02/01/2021	02/03/2021	

2.2 Define the logical design	2.1	Jakey Wakey- Database administrator	02/04/2021	02/06/2021	
2.3 Create source code	2.2	Jakey Wakey- Database administrator	02/07/2021	02/09/2021	
2.4 Create physical design	2.3	Jakey Wakey- Database administrator	02/10/2021	02/13/2021	
2.5 Design graphic UI (forms)	2.4	Snow Man- CIS manager	02/13/2021	02/15/2021	
2.6 Design SQL documentation and reports.	2.4	Jakey Wakey- Database administrator	02/13/2021	02/15/2021	
2.7 Design access and security protocols as per documentation.	2.4	Jakey Wakey- Database administrator, Snow Man- CIS manager	02/13/2021	02/15/2021	
3.0 Perform design implementation (Implement the Physical Design)	2.0	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement	02/18/2021	03/15/2021	Includes 2 buffer days at the end of this step.
3.1 Prepare hardware		Snow Man- CIS manager	02/18/2021	02/19/2021	
3.2 Purchase software		Get Stuff- Head of Procurement	02/20/2021	02/22/2021	
3.3 Install software	3.2	Snow Man- CIS manager	02/23/2021	02/24/2021	
3.4 Create Tables, Columns, Foreign Keys, and Primary Keys	3.3	Jakey Wakey- Database administrator	02/25/2021	02/26/2021	
3.5 Create relationships between tables in software	3.4	Jakey Wakey- Database administrator	02/27/2021	02/27/2021	

3.6 Create forms (user interface)	3.5	Jakey Wakey- Database administrator	02/28/2021	03/03/2021	
3.7 Create standard reports (user interface)	3.6	Jakey Wakey- Database administrator	03/04/2021	03/08/2021	
3.8 Assign forms and reports to users.	3.7	Jakey Wakey- Database administrator	03/09/2021	03/13/2021	Set up accounts and passwords for access as per the protocol. Notify and follow-up.
4.0 Perform verification of system requirements	3.0	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	03/16/2021	03/31/2021	2 buffer days at the end of this step.
4.1 Verify Stakeholder requirements		Jakey Wakey- Database administrator, Snow Man- CIS manager	03/16/2021	03/18/2021	
4.2 Verify System requirements	4.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	03/19/2021	03/21/2021	
4.3 Verify Design	4.2	Jakey Wakey- Database administrator, Snow Man- CIS manager	03/22/2021	03/29/2021	
4.4 Verify system	4.3	Jakey Wakey- Database administrator,	03/22/2021	03/29/2021	

		Snow Man- CIS manager			
4.5 Verify Aggregate	4.4	Jakey Wakey- Database administrator, Snow Man- CIS manager	03/22/2021	03/29/2021	
4.6 Verify Verification procedure		Jakey Wakey- Database administrator, Snow Man- CIS manager	03/22/2021	03/29/2021	
5.0 Input data	4.0	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	04/01/2021	05/31/2021	
5.1 Assemble Data entry team		Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	04/01/2021	04/01/2021	
5.1.1 Create a check out process that creates a holder record for each patient file to mitigate the risk of data loss during the transfer process.		Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	04/02/2021	04/02/2021	
5.2 Compile physical documents.	5.1	Jane Kozi- Medical Records Director	04/03/2021	04/05/2021	
5.3 Sort individual files.	5.2	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	04/06/2021	04/08/2021	
5.4 Group the files by patient names.	5.3	Jane Kozi- Medical Records Director, Jane	04/09/2021	04/11/2021	

		Doe- Front desk manager			
5.5 Contact patient for updated information.	5.4	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	04/12/2021	04/15/2021	
5.6 Scan physical documents	5.5	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	04/16/2021	04/30/2021	
5.7 Upload documents	5.6	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	05/01/2021	05/15/2021	
5.8 Compile Updates	5.7	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	05/01/2021	05/15/2021	
5.9 Update data in database.	5.8	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	05/01/2021	05/15/2021	
5.10 Confirm all records uploaded	5.9	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	05/16/2021	05/19/2021	
5.11 Confirm all record updates.	5.10	Jane Kozi- Medical Records Director, Jane Doe- Front desk manager	05/16/2021	05/19/2021	
5.12 Store physical documents	5.11	Jane Kozi- Medical Records Director	05/20/2021	05/29/2021	

6.0 Perform testing and analysis	5.0	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	06/01/2021	06/15/2021	Includes 2 buffer days at the end of this step.
6.1 Testing of database functionality		Jakey Wakey- Database administrator, Snow Man- CIS manager	06/01/2021	06/03/2021	
6.2 Code review	6.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/04/2021	06/05/2021	
6.3 Static code analysis	6.2	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/06/2021	06/08/2021	
6.4 Unit testing	6.3	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/09/2021	06/10/2021	
6.5 Single user deployment testing	6.4	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/11/2021	06/13/2021	
6.6 Debugging	6.4	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/11/2021	06/13/2021	
6.6.1 Identify, locate, and analyze errors	6.5	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/11/2021	06/12/2021	
6.6.2 Fix and validate errors	6.5	Jakey Wakey- Database administrator,	06/12/2021	06/12/2021	

		Snow Man- CIS manager			
7.0 System deployment	6.0	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	06/16/2021	06/30/2021	Includes 2 buffer days at the end of this step.
7.1 Create training environment		Jakey Wakey- Database administrator, Snow Man- CIS manager	06/16/2021	06/20/2021	
7.2 Create quality assurance environment	7.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/21/2021	06/28/2021	
7.2.1 Perform system walkthrough	7.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/21/2021	06/22/2021	
7.2.2 Perform Quality audit	7.2.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/22/2021	06/23/2021	
7.2.3 Perform testing	7.2.2	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/23/2021	06/24/2021	
7.2.4 Define process	7.2.3	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/24/2021	06/25/2021	
7.2.5 Perform Inspection	7.2.4	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/25/2021	06/26/2021	

7.2.6 Perform tool identification and selection	7.2.5	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/26/2021	06/27/2021	
7.2.7 Perform Checkpoint review	7.2.6	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/27/2021	06/28/2021	
7.2.8 Training of Quality Standards and Processes	7.2.7	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/28/2021	06/29/2021	
7.3 Distribute login credentials	7.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/29/2021	06/30/2021	
7.4 Train Staff	7.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	06/30/2021	07/1/2021	
7.5 Implement support plan	7.1	Jakey Wakey- Database administrator, Snow Man- CIS manager	07/1/2021	07/02/2021	
8.0 Create System Maintenance Plan	7.0	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/02/2021	07/15/2021	Includes 2 buffer days at the end of this step.
8.1 Create monitoring plan		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow	07/02/2021	07/03/2021	

		Man- CIS manager			
8.2 Create and approve plan for updates		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/03/2021	07/04/2021	
8.3 Create plan for ongoing system maintenance	8.2	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/04/2021	07/05/2021	
8.4 Create ongoing data security plan	8.3	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/05/2021	07/06/2021	
8.5 Create plan for usage review		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/06/2021	07/07/2021	
8.6 Schedule periodic reviews	8.4	Admin team: Jakey Wakey- Database administrator, Luther Nicholaus-	07/07/2021	07/08/2021	

		Project manager, Snow Man- CIS manager			
8.7 Create plan for use of remote management tools		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/08/2021	07/09/2021	
8.8 Establish a system checklist		Admin team: Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager	07/09/2021	07/31/2021	
8.9 Pay completion bonuses and incentives		CFO - Michael Ngugi	07/31/2021	07/31/2021	

- Task is defined by specific dependent tasks, resources, start and end dates.
- Each task section includes 2 buffer days.
- Using the decomposition technique, each project scope and deliverables is divided into compact, yet manageable sections

3.2 DEPLOYMENT PLAN

The deployment plan will outline the approach, scope and execution plan for the hospital's transition from their traditional methods to the automated approach. This plan will consider system support, issue tracking and escalation processes. This plan considers all phases including before, during and after. Deployment planning is part of the design phase

and will continue throughout the life cycle of the project (Execution-Deployment Plan, n.d). This project will use the waterfall method for deployment and will be limited to the creation of a database for medical records. First, we will determine the requirements and specifications of the system we are designing. Next, we will create a database system design and implement it. After that the system will undergo verification and testing, database deployment, and maintenance.

- Outline scope approach and execution plan.
- Considers system support, issue tracking and escalation processes.
- All phases of transition involved; before, during and after
- Project will use waterfall method.
- Project is limited to creation of a medical record database.
- Analyze system requirements and specifications.
- Create and implement database design.
- System will undergo verification and testing.
- Database deployment and maintenance.

3.3 CHANGE CONTROL MANAGEMENT

The project manager, Luther Nicholaus will be responsible for managing any changes to this plan. Any team member who wishes to make a request for a change must submit a change form (*fig 1*) to the project manager who will make the final decision whether a change will be approved. Any team member, stakeholder, or project sponsor(s) may request a change to the plan if necessary. The project manager will then update the appropriate documents to implement the required changes.

- Project manager is responsible for managing changes.
- Team members who wish to request changes must submit a change form to project

manager.

- Any team member, stakeholder, or project sponsor(s) may request a change.
- Project manager will make all decisions on changes.
- Project manager will update documents and implement changes.

4 STAKEHOLDER MANAGEMENT

Stakeholders

The stakeholders of this project will play different important roles towards the materialization of the project. These roles include leadership, training, analytics, IT skills, information management, data security, software development, procurement, and law. These roles and skills are to be coordinated by the project manager who plans, organizes, controls, and directs the project in its entirety (Anantatmula, 2010).

Stakeholder Name	Stakeholder Title	Role on Project	Notes
Dr. Schmoe Bark	Chief of Medicine	Represent physicians' and other medical providers input towards the project. Oversee the training of physicians on how to interact with the database.	
Brian Sole	Chief of Nursing	Represent nurses' input and medical provider' input towards the project. Oversee the training of nurses on how to interact with the database.	
Jane Kozi	Medical Records Director	Coordinated the retrieval of data from the traditional file system. Oversee the inputting of data into the system.	
No Body	Compliance Manager and Legal Counsel	Ensure that the project meets the compliance specifications.	

		Work with procurement to assess compliance of selected products.	
Jane Doe	Front Desk Manager	Represent the front desk staff's input towards the project. Oversee the training of front desk staff on how to interact with the database.	
Jakey Wakey	Database Administrator	Work with the other respective parties (Head of Procurement, Compliance Manager, etc.) to select the software for the project. Examine and maintain the performance of the database.	Other roles will include data migration, and security assessment.
Snow Man	Computer and Information Systems Manager	Assess data security for the database. Integrate the database with and to existing or potential related information systems.	
Get Stuff	Head of Procurement	Procure needed software for the project.	
Luther Nicholaus	Project Manager	Plan, organize, control, and lead the project (time, skills, budget, etc.). Coordinate the stakeholders and activities with the project.	
Michael Ngugi	Chief Financial Officer	Sponsor the project Approve and manager/oversee the project's budget.	

- Project manager will be responsible for the project (including leading and coordinating other stakeholders).
- The stakeholders will each have an important role in the project.
- The roles span includes leadership, training, analytics, IT skills, information management, data security, software development, procurement, and law.

5 COST/BUDGET MANAGEMENT

The project budget is a tool which is used by the project manager to create an estimate of the total cost of the project. This is a dynamic document that changes accordingly throughout the course of the project (What is a project budget, 2020). This project budget is one of the criteria that can be used to determine if the project is a success or not. This is because an organization is concerned about proper allocation of funds (Lucco, 2020). Cost management plans are a strategic way to plan and execute the budget of a project (Blackburn, 2020). This allows for data driven decision making and allows for resources to be used in an efficient way (Eby, 2017). To manage the budget effectively, the project manager tends to track the actual costs against the allocated budget in each line item to ensure they are remaining within the parameters or if the contingency funds are needed.

The total overhead cost for the project is $7000 per month. The monthly overhead costs per employee is $1000 and the project has seven members. These are Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement, Jane Doe-Front Desk Manager, No Body-Compliance and Legal Counsel. This will include all the costs associated with their office space, electricity, water consumption, etc. The direct labor costs per month total $21,000. $3,000 per month for each of the seven project members who will be working on this task. A $1000 bonus to project to seven key team members at the completion of the project to mitigate risks of staff turnover during the project. There will be no contractors used on this project, so there will be no labor costs associated with contractors in the budget. Software costs will be $300 per month starting in February, as this is when the software will be obtained. There will also be a onetime cloud licensing fee of $500 that will be paid in February. The cost of the 6 scanners that will be used for scanning the documents into the database will be $660, $110 for each scanner, and this will be paid in February as well. $1000 will be

budgeted in February for hardware replacement. We will add a temporary CO2 system for fire prevention, which should cost $2000. Some of the hardware is expected to be outdated and incompatible with the new software, and so will need to be replaced. $1390 will be budgeted for training and meals for the staff, allocated over the seven months. The cost to migrate the data will be $3000, allocated in January and April. The data will be prepared for entry in January, and the actual data entry will take place in April. $1000 will be needed for the preparation of the data and $2000 will be needed for the costs associated with scanning the data into the system. The contingency will be 15% of the total budget of each month to allow for variability of cost. The reason a flat rate for the contingency was chosen was because we expect any overages to be similar month to month, as the main expense for this project will be direct labor, and overtime will probably occur at a similar rate in each month for this project.

Project Budget - Creating a Medical Record Database							
	Jan - 2021	**Feb - 2021**	**Mar - 2021**	**Apr - 2021**	**May - 2021**	**Jun - 2021**	**July - 2021**
Direct Costs:							
Direct Material:							
Software Costs	$ -	$ 300.00	$ 300.00	$ 300.00	$ 300.00	$ 300.00	$ 300.00
CO2 system	$2000	$ -	$ -	$ -	$ -	$ -	$ -
Cloud License	$ -	$ 500.00	$ -	$ -	$ -	$ -	$ -
6 Scanners		$ 660.00	$ -	$ -	$ -	$ -	$ -
Hardware Replacement		$ 1,000.00					
Meals/Training	$ 500.00	$ 120.00	$ 100.00	$ 200.00	$ 120.00	$ 100.00	$ 250.00
Migration of Data Expense	$ 1,000.00			$ 2,000.00			
Direct Labor/ Internal	$ 21,000.00	$ 21,000.00	$ 21,000.00	$ 21,000.00	$ 21,000.00	$ 21,000.00	$ 28,000.00
Indirect Costs:							
Overhead cost	$ 7,000.00	$ 7,000.00	$ 7,000.00	$ 7,000.00	$ 7,000.00	$ 7,000.00	$ 7,000.00

($1,000 per Employee)							
Contingency (15% of Total Baseline)	$ 5,205.88	$ 5,396.47	$ 5,011.76	$ 5,382.35	$ 5,015.29	$ 5,011.76	$ 5,038.24
Total	**$ 36,705.88**	**$ 35,976.47**	**$ 33,411.76**	**$ 35,882.35**	**$ 33,435.29**	**$ 33,411.76**	**$ 40,588.24**
Total Budget Cost	**$ 249,411.76**						

- The total overhead cost for the project is $7000 per month. The monthly overhead costs per employee is $1000 and the project has seven members.
- Team members are Jakey Wakey- Database administrator, Luther Nicholaus- Project manager, Snow Man- CIS manager, Get Stuff- Head of Procurement, Jane Doe-Front Desk Manager, No Body-Compliance and Legal Counsel.
- The direct labor costs per month total $21,000. $3,000 per month for each of the seven project members.
- $1000 bonus to project to seven key team members
- Temporary CO2 system for fire prevention, $2000
- There are no contractors.
- All direct costs are tied to internal labor costs (internal human Resources).
- Overhead costs are composed of rent, utilities, insurance, tax, and depreciation.
- Software costs will be $300 per month starting in February, as this is when the software will be obtained
- One time cloud licensing fee of $500 paid in February

- The cost of the 6 scanners that will be used for scanning the documents into the database will be $660, $110 for each scanner purchased in February
- $1000 for hardware replacement
- Some of the hardware is expected to be outdated and incompatible
- $1390 will be budgeted for training and meals
- Cost to migrate the data will be $3000, allocated in January and April
- $1000 will be needed for the preparation of the data in January
- $2000 will be needed for the costs associated with scanning the data into the system in April
- Contingency will be 15% of the total budget of each month
- Flat rate for contingency chosen because of similar expected overages each month
- Overages likely due to direct labor, and overtime will probably occur at a similar rate in each month for this project

6 QUALITY MANAGEMENT

At the end of the input data activity listed in the WBS, data quality was tested for consistency, accuracy, uniqueness, and completeness between data in the traditional file system and the automated database. The expected result was that data between the two systems was not duplicated, and that the database was consistent, accurate, and complete. Product quality will be approved once the latter expected results are observed. Failure to observe any of the expected results will initiate a review of the input data activities listed in WBS. For example, the project team tested to see if the number of patients recorded in the traditional file system matched that of

patients recorded in the database. The expected result is that number of patients between the two systems match.

Quality will be approved once the expected result is observed. We found that the number of patients matched, meaning the data was complete and consistent. We also tested for accuracy which was the ratio of errors to data to ensure that the data in the system reflected reality. We found a low ratio of errors to data, meaning the system passed in terms of accuracy. Errors will be defined as incomplete or redundant entries, and the data was considered of high enough quality if 95% of the data was error free. We will run a test query to ensure that there is data in every field. Our test is to verify that all the data is filled in. We will run a script to determine how many fields are missing. The expectation is that 95% of the data is filled in. 5% of fields do not have data and this is expected.

We will also test for data validity by verifying that the data in data fields matches the data type that is expected for the fields. We will do this by verifying that there are only characters in character fields, dates in the date fields, and numbers in number fields, as these are the types of data we will be using in our database.

Finally, we tested database consistency, which is a measure of the number of contradictions in the database. The way this was tested was by looking for contradictions in the data, and we found none, meaning that the database passed in terms of consistency as well. For this criterion to be a success, there should be no contradictions in the data, meaning that the data in the database matches the data in the patient's records. If a patient visited the clinic twice this month, the system would show that they visited twice. The manager of the clinic will pull 5 records from the system to check them against the data in their files and will accept the results if all five match the patient files on patient name, date of birth, and patient appointments.

Database functionality was also tested. First, a code review was performed, followed by a static code analysis. After this, the system underwent unit testing and single user testing to find any remaining issues and the system was debugged. The system was expected to be able to return patient records quickly and accurately. There were no issues found in code review or the static code analysis, meaning the code had no major bugs that impaired functionality, and this was confirmed when we tested the individual units of source code and there were no problems with the usage procedures or operating procedures. The results of the test queries were also quickly and accurately returned during single user testing, and no bugs appeared at this stage. The database's functionality therefore passed every quality assurance test.

The purpose of the system was to automate the patient record system. The system was supposed to return patient records quickly and accurately for the clinic staff. Manager of the clinic is going to enter three patients from the previous day and verify that the information that populates includes the patient's name, prescription list, and address pulled up correctly. To accept the product, the stakeholders need to make sure that the system is quarriable and that it returns records on demand. The customers will accept the product if it returns accurate reports.

Test	**How to Test**	**Expected Result**
Verify that name, date of birth, schedule dates match in traditional file system and new database.	Confirm 5 patient (John, Peter, Musa, Bakari, & Jamal) records had no inconsistencies in name, date of birth, number of scheduled visits.	Confirm John (DOB: 08/02/1991) three scheduled visits in the traditional file system are recorded and tally correctly in the database - PASS. Confirm Peter (DOB: 02/21/1988) nine scheduled visits in the traditional file system are recorded and tally correctly in the database - PASS. Confirm Mussa (DOB: 10/09/1980) ten scheduled

		visits in the traditional file system are recorded and tally correctly in the database - PASS. Confirm Bakari (DOB: 12/07/2003) one scheduled visit in the traditional file system is recorded and tally correctly in the database - PASS. Confirm Jamal (DOB: 05/14/1998) four scheduled visits in the traditional file system are recorded and tally correctly in the database - PASS. ELSE: FAIL.
Run a test query to ensure data validity.	Run a script below to verify that there are only characters in character fields, dates in the date fields, and only numbers in number fields. Run code on python: **dtype([‘table_name’])**	Results of query show only characters in character fields, dates in the date fields, and only numbers in number fields. ELSE: FAIL
The number of duplicates.	A record with specific information appears only once in the database.	Patient George Holt, record appears only once on patients record table in the database - PASS. George Holt record appears more than one in the patient table in the database - FAIL.
Check for any absent/missing patient record.	Run a script below to determine how many fields are missing. The expectation is that 95% of the data (for a total of 950 patients) is filled in. 5% of fields do not have data and this is expected. We will also check data validity by verifying that there are only characters character	95% (for a total of 950 patients) of all the data fields filled in the Patients table in the database. ELSE: FAIL Check data validity by verifying that only numbers are in number fields and only characters are in character fields for all data. ELSE:

	field and numbers in number field. Run code: **SELECT DISTINCT First_Name, Last_Name, DOB** **FROM Patients**	FAIL

- Data quality was tested for consistency, accuracy, uniqueness, and completeness.
- Expected result was that data between the two systems was not duplicated, and that the database was consistent, accurate, and complete.
- Product quality will be approved once the latter expected results are observed.
- Failure to observe any of the expected results will initiate a review of the input data activities.
- Team tested if the number of records in the database matched the actual number of patient records.
- Expected result is that the number of patients between the two systems match.
- The number of patient records matched; system passed.
- Tested for accuracy, the ratio of errors to data.
- Found a low ratio of errors to data, system passed.
- Errors will be defined as incomplete or redundant entries, and the data will be considered of high enough quality if 95% of the data is error free.
- We will also test for data validity by verifying that the data in data fields matches the data type that is expected for the fields.

- We will do this by verifying that there are only characters in character fields, dates in the date fields, and numbers in number fields, as these are the types of data we will be using in our database.
- Tested database consistency by looking for contradictions.
- Found no contradictions in data, system passed.
- The manager of the clinic will pull 5 records from the system to check them against the data in their files and will accept the results if all 5 match.
- Database functionality tested via code review, static code analysis, unit testing and single user testing.
- No issues found in code review or the static code analysis, meaning the code had no major bugs that impaired functionality, system passed.
- Tested the individual units of source code and there were no problems with the usage procedures or operating procedures, system passed.
- Test queries were quickly and accurately returned during single user testing, system passed.
- Purpose of the system was to automate the patient record system.
- System expected to return patient records quickly and accurately for the clinic staff.
- The system will be accepted if is query able and returns records on demand with accurate reports.

7 COMMUNICATIONS MANAGEMENT

The outlined communication plan will serve to describe the communication needs of the project together with its different structures, parties, contexts and approaches. Our communication plan is designed to foster effective communication, which will help us organize our project and help us achieve our goals ("*Section 1. Developing a Plan for*

Communication", n.d.). This will also establish systematic coordination between steps and personnel to improve cooperation and will help to prevent and resolve problems. Additionally, it will provide clarity and direction and promote team building.

- Describes communication needs.
- Includes structures, parties, contexts, and approaches.
- Establish systematic coordination between steps and personnel.
- Prevent and resolve problems.
- Provide clarity and direction.
- Promote team building.

7.1 COMMUNICATION MATRIX

The communication matrix defines specific communication situations assigned to specific types of information and their audiences. The plan documents the frequency and timeline of each communication situation in addition to communication medium, mode of communication and feedback mechanism. It also details the scope, needs, and structure of information. Together with the waterfall method, a well-formulated plan brings about: enhanced decision-making and coordination, improved productivity, and timely execution and delivery (Muszynska, Dermol, Trunk, Đakovic, & Smrkolj, 2015).

Responsible Party/ Situation	Audience	Vehicles of communication	Frequency	Medium	Feedback Mechanisms/ Notes
Project Manager/ Kickoff Meeting	Jakey Wakey-Database Manager Snow Man-CIS Manager Luther Nicholaus-Project manager, Get Stuff-Head of	Kickoff Meeting	1/1/21 8AM	In-person meeting or via zoom	Weekly check-in

	Procurement, Jane Kozi-Medical Records Director, Schmoe Bark-Medical Director, Brian Sole-Chief of Nursing, No Body-Compliance Manager and Legal Counsel, Jane Doe-Front Desk Manager				
Project Manager/ Project Team Meetings	Project Team Members: Jakey Wakey-Database Manager Snow Man-CIS Manager Luther Nicholaus-Project manager, Get Stuff-Head of Procurement, No Body-Compliance Manager and Legal Counsel	Team meetings	Weekly (@ Monday 9AM)	In person or via zoom	One-on-one email phone
Database Administrator/ Database Systems Design Meetings	Jakey Wakey - Database Administrator Luther Nicholaus - Project Manager Jane Kozi - Medical Records Director Snow Man - Computer and Information Systems Manager	One-on-one meetings Team Meetings	As needed	Verbal Collaboration Platform Email Presentations Telephone	Email One-on -one
Project Manager/ Monthly Project Status Meetings	Jane Kozi-Medical Records Director Dr. Schmoe Bark-Chief of Medicine	Team meetings	Last Friday of every month	In person or via zoom	Email Verbal
Project Manager/ Project Status Reports	Jakey Wakey-Database Administrator, Luther Nicholaus-Project Manager, Snow Man- CIS Manager,	Team meetings	Thursday 4PM Bi-weekly	In person Zoom Email Dashboards	Email One-on-one

	Get Stuff- Head of Procurement, No Body- Compliance Manager and Legal Counsel				
Project Manager/ Work updates and inter-team communication	Project Team Members: Jakey Wakey- Database Manager Snow Man- CIS Manager Luther Nicholaus- Project manager, Get Stuff- Head of Procurement, No Body- Compliance Manager and Legal Counsel	Person to person, Team	As needed	Email Dashboards	Verbal Email
Procurement Manager/ Procurement Meeting	Snow Man - Computer and Information Systems Manager Jakey Wakey- Database Manager	Team Meeting	Daily As needed	Presentation Email	Email Verbal

- Defines specific communication situations assigned to specific types of information and their audiences.
- Documents the frequency and timeline of each communication.
- Lays out communication medium, mode of communication, and feedback mechanism.
- Details the scope, needs, and structure of information.
- Brings about enhanced decision-making and coordination, improved productivity, and timely execution and delivery.

8 RISK MANAGEMENT

The risk management plan guarantees project completion within the specified schedule and budget through the mitigation, transference, avoidance, and acceptance of risk.

Carbone and Tippett (2004) warn in their research that the "failure to perform effective risk management can cause projects to exceed budget, fall behind schedule, miss critical performance targets, or exhibit any combination of these troubles" (p. 28). Some of the risk mitigation strategies are risk acceptance, risk avoidance, risk transfer, risk monitoring, and system risk reduction (Botos & Nistor, 2011, pp. 36-37).

Our first risk is that the cloud based service we chose raises prices above the quoted rate. Although this is unlikely to happen, its impact on the project would be high. We are choosing to mitigate this risk by contacting the cloud based service to lock in our rates. The contingency for if this does not work is to create our own server to store the data.

Our second risk is that key employees will leave employment before completion of the project. This is also unlikely to happen but would have a large impact on the project if it were to occur. We are choosing to mitigate this risk by paying bonuses of $1000 to each of the key project members upon completion of the project. The contingency is to hire replacement workers to complete the project if any key staff leave before the project is completed.

Our third risk is the loss of patient records during the data transfer process. This risk has a medium likelihood of occurring and would have a medium sized impact on the project if it were to occur. We are choosing to mitigate this risk by adding a check out process to the project that creates a holder record for each patient file reducing risk of data loss during the transfer process. Our contingency plan is to keep paper files until completion of audit and create new records for patients that do not attend for a year if their records are lost.

Our fourth risk is the loss of records due to fire. This has a low likelihood of occurring but would have a high impact if it were to occur. We are choosing to mitigate this risk by having fire extinguishers on hand and establishing fire protocols. We will also install

a temporary CO2 system to operate when workers are not in the building in case a fire breaks out to reduce damage to records in the event of a fire. Our contingency plan is to put non-destroyed records in the system and create new records for patients whose records would be destroyed in a fire.

Our fifth risk is the occurrence of another Covid-19 shutdown. There is a medium likelihood of this occurring, and this would have a low impact on the project. We are choosing to accept this risk, as there is little we can do to prevent shutdowns of this sort. Our contingency plan is to adjust the project timetable to meet the new circumstances if another shutdown occurs.

Risk	Likelihood	Impact	Mitigation Strategy	Contingency
Cloud based services raise prices above quoted rate.	Low	High	Mitigate: Contact cloud based service to lock in rates.	Create our own server to store the data.
Key employees leave employment before completion of the project.	Low	High	Mitigate: Pay bonuses of $1000 to each of the key project members upon completion of project.	Hire replacement workers to complete the project.
Loss of patient records during data transfer process.	Medium	Medium	Mitigate: Add a check out process to the project that creates a holder record for each patient file reducing risk of data loss during transfer process.	Keep paper files until completion of audit and create new records for patients that do not attend for a year.
Fire destroys records.	Low	High	Mitigate: Have fire extinguishers on hand and establish fire protocols. Install a temporary CO2 system to operate when workers are not in the building.	Put non-destroyed records in the system and create new records for patients whose records were destroyed.
Covid-19 shutdown.	Medium	Low	Accept: None, business interruptions cannot be predicted.	Adjust project timetable to meet new circumstances.

- Risk management plan guarantees project completion within the specified schedule and budget.

- Involves the mitigation, transference, avoidance, and acceptance of risk.
- Our first risk is that the cloud based service we chose raises prices above the quoted rate.
- Unlikely to happen, high impact on the project.
- We are choosing to mitigate this risk by contacting the cloud based service to lock in our rates.
- The contingency is to create our own server to store the data.
- Our second risk is that key employees will leave employment before completion of the project.
- This is also unlikely to happen but would have a large impact on the project if it were to occur.
- We are choosing to mitigate this risk by paying bonuses of $1000 to each of the key project members upon completion of the project.
- The contingency is to hire replacement workers to complete the project if any key staff leave before the project is completed.
- Our third risk is the loss of patient records during the data transfer process.
- This risk has a medium likelihood of occurring and would have a medium sized impact on the project if it were to occur.
- We are choosing to mitigate this risk by adding a check out process to the project that creates a holder record for each patient file reducing risk of data loss during the transfer process.
- Our contingency plan is to keep paper files until completion of audit and create new

records for patients that do not attend for a year if their records are lost.

- Our fourth risk is the loss of records due to fire.
- This has a low likelihood of occurring but would have a high impact if it were to occur.
- We are choosing to mitigate this risk by having fire extinguishers on hand and establishing fire protocols.
- We will install a temporary CO2 system to operate when workers are not in the building in case a fire breaks out
- Our contingency plan is to put non-destroyed records in the system and create new records for patients whose records would be destroyed in a fire.
- Our fifth risk is the occurrence of another Covid-19 shutdown.
- There is a medium likelihood of this occurring, and this would have a low impact on the project.
- We are choosing to accept this risk, as there is little, we can do to prevent shutdowns of this sort.
- Our contingency plan is to adjust the project timetable to meet the new circumstances if another shutdown occurs.

9 PROCUREMENT MANAGEMENT/ HUMAN RESOURCE MANAGEMENT

Non-human Resources

Procurement involves sourcing and purchasing products for business projects (Ward, 2021). Each of the team members will use the computers they have at their desks to execute this

plan. The project will be using a cloud server, and the choice will be made based on the projected cost per month and individual recommendations of the team members. Options to be considered will include AWS and Azure, among others .The budget for these services should be limited to $300 per month and will be a firm fixed contract. The team members will use the desks that have already been assigned to them and which they are already currently using. The project will also be using only existing facilities, which further eliminates cost. $500 per month will also be budgeted for any contingencies that arise during the project so that they can be dealt with. $70 per user will also be budgeted for necessary database licenses, which will be a firm fixed contract. $110 per employee dealing with the scanning of documents will also be budgeted to obtain portable scanners. The scanners will be bought from Amazon, and their procurement will be based on a firm, fixed contract. No additional materials, supplies, tools, or equipment are necessary to facilitate this project. Training will take place in our existing conference room and scanning will take place at the front desk and in the medical records room.

- The project will use a cloud server which will have to be purchased.
- The software will be installed into existing hardware.
- The choice of the software will be made based on projected monthly costs and recommendations.
- The projected monthly costs of the software should be within the approved $300 per month budget.
- Alternatives include Amazon Web Service (AWS), Oracle, MongoDB, and Azure.
- $500 per month will also be budgeted for any contingencies, $70 per user for necessary database licenses (included in a fixed contract), and $110 per employee to obtain portable scanners for data entry.

- Training will take place in the conference room and scanning will take place at the front desk and in the medical records room.
- The scanners will be bought from Amazon, and their procurement will be based on a firm, fixed contract.

Human Resources

Get Stuff, the Head of Procurement, will work with Jakey Wakey-Database Administrator, and Snow Man-CIS Manager to determine which testing and development server is the most useful and cost effective. No Body, the Compliance Manager and Legal counsel, will then assess the compliance issues with each recommendation and report back to the team. No Body-Compliance Manager and Get Stuff-Head of Procurement will then oversee contracting for the selected product. Jakey Wakey, the Database Administrator, will then work with Snow Man, CIS Manager, to create and test the database within this environment. This will be done during normal business hours. No outside contractors will be used since the necessary staff to complete this project is already in place, meaning no additional contracting will be required. The Project Manager, Luther Nicholaus, will meet with the team as necessary to review their progress and will assist in the planning of tasks. Since all the team members are already on staff and all their tasks should be able to be completed during normal work time with no overtime required, no additional pay should be necessary for any of the team members. And since software procurement is the core of this project, all parties concerned must exercise full transparency and due diligence to ensure that deadlines within the schedule are not breached, and costs and compliance stay unimpaired (Rane, Yahya, & Bhandarkar, 2019, p. 258). The scanning will be done by staff designated by Jane Kozi, the Medical Records Director, and Jane Doe, Front Desk Manager, who oversee scanning the documents into the system. Training will be led by Jakey Wakey, Database Administrator, Jane Kozi, Medical Records Director, No Body, the Compliance Manager and Legal counsel, and Snow

Man, CIS Manager. Training will occur during regularly scheduled meetings led by the heads of each department, including Schmoe Bark-Medical Director, Brian Sole-Chief of Nursing, and Jane Doe-Front Desk Manager.

- The Head of Procurement, Database Administrator, and CIS Manager will work to determine which server alternative is the most useful and cost effective.
- The Compliance Manager and Legal counsel will assess compliance issues with each alternative and report back to the team.
- The Compliance Manager and Head of Procurement will then oversee contracting for the selected alternative.
- The Database Administrator and CIS Manager will then work together to create and test the database within the purchased software.
- All the assigned tasks should be completed during normal work time by the staff with no overtime required.
- The scanning will be done by staff designated by the Medical Records Director, and the Front Desk Manager.
- Training will be led by Jakey Wakey, Jane Kozi, No Body, and Snow Man.
- Training will occur during regularly scheduled meetings led by the heads of each department.

Contracting and Licensing

No Body, Compliance Manager, and Get Stuff, Head of Procurement will oversee contracting for the product that is selected. This will include overseeing the licensing of software for staff use. It will also include selecting a contract type with the cloud based service that is selected. This will include negotiating monthly fees and any additional usage fees that will be associated with the cloud based service that is chosen. Furthermore, No Body, the Compliance

Manager and Legal counsel, will advise on any compliance issues and ensure that the terms contracting, licensing, and the negotiated agreement with the cloud based service provider are clear and understood and that the organization follows all laws regarding the usage of these products. Again, the budget for the software and cloud based services will be $300 per month, and the licenses will have a budget of $70 per user. These contracts will be firm fixed contracts. Additionally, any other supplies such as scanners will be purchased using firm fixed contracts, and no additional staff contracts will be required.

- No Body-Compliance Manager and Get Stuff-Head of Procurement will oversee contracting.
- This will include overseeing the licensing of software.
- Includes selecting a contract type with the cloud based service.
- Monthly fees and any additional usage fees will be negotiated.
- No Body, the Compliance Manager and Legal counsel, will advise on any compliance issues and check the terms, contracting, licensing, and negotiated agreements.
- Budget for the software and cloud based services will be $300 per month using firm fixed contracts.
- The licenses will have a budget of $70 per user and will use firm fixed contracts.
- Any other supplies such as scanners will be purchased using firm fixed contracts.
- No additional staff contracts will be required.

Appendix A: Project Management Plan Approval

The undersigned acknowledge they have reviewed the *CREATING A MEDICAL RECORD DATABASE* **Project Management Plan** and agree with the approach it presents. Changes to this **Project Management Plan** will be coordinated with and approved by the undersigned or their designated representatives.

Signature:		Date:	01/28/2021
Print Name:	Luther Nicholaus		
Title:	Project Manager		
Role:	Team lead		

Signature:		Date:	01/28/2021
Print Name:	Jakey Wakey		
Title:	Database Manager		
Role:	Oversee database design and creation		

Signature:		Date:	01/28/2021
Print Name:	Snow Man		
Title:	Computer and Information Systems Manager		
Role:	Database security & integration with existing systems		

APPENDIX B: CHARACTERISTICS OF A GOOD PM AND TEAM

Good project managers tend to have similar characteristics that enable their success. One would be having leadership skills, for example setting the tone and providing a clear vision about the team's objectives. Enthusiasm and passion also play a role and makes it easier for the team to follow their project manager (Wells, 2014). A good project manager also needs to have great communication skills to be able to communicate the desired needs and tasks to the team. Task delegation is considered crucial in terms of knowing the team's strengths and weaknesses and playing to that with the goal of maximum output. "A grasp of team dynamics is essential if you want your team to work smoothly on your projects. When developing your team, keep this in mind: conflicts and disagreements are bound to happen" (Wells, 2014).) The team would also need to put their faith and support their project manager to support a positive work environment which helps everyone to thrive and do their best work. Good project managers also need to be well organized and have great problem solving skills. "Good organization is a key factor for creating a productive work environment as well as solving problems under pressure" (Gray, 2018).

- Good project managers have leadership skills.
- Project managers set the tone and provide a clear vision about the team's objectives.
- Project managers provide enthusiasm and passion to motivate team.
- A good project manager also needs to have great communication skills.
- Must be able to communicate the desired needs and tasks to the team.
- Task delegation is important.
- Has knowledge of the team's strengths and weaknesses.
- Has a grasp of team dynamics.
- Able to negotiate conflicts and disagreements.

- Creates a supportive and positive work environment which helps everyone to thrive and do their best work.
- Good project managers also need to be well organized.
- Need great problem solving skills.
- Good organization is important.
- Solving problems under pressure is necessary.

APPENDIX C: SUMMARY OF SPENDING

Budget Item	PY-1	PY	CY	BY	BY + 1	BY + 2	BY + 3	BY + 4	Total
Planning:									
Budgetary Resources					$ -	$ -	$ -	$ -	$0.00
Outlays					$ -	$ -	$ -	$ -	$0.00
Development & Implementation of Project:									
Budgetary Resources					$ -	$ -	$ -	$ -	$0.00
Outlays					$ -	$ -	$ -	$ -	$0.00
Total, sum of stages:									
Budgetary Resources					$ -	$ -	$ -	$ -	$0.00
Outlays					$ -	$ -	$ -	$ -	$0.00
Operations & Maintenance:									
Budgetary Resources					$ -	$ -	$ -	$ -	$0.00
Outlays					$ -	$ -	$ -	$ -	$0.00
Total, all stages:									
Budgetary Resources					$ -	$ -	$ -	$ -	$0.00
Outlays					$ -	$ -	$ -	$ -	$0.00
Government FTE cost					$ -	$ -	$ -	$ -	$0.00

PY: Previous Year; CY: Current Year; BY: Budget Year

APPENDIX D: PROJECT METHODOLOGY

For this project, the waterfall methodology will be implemented. The steps are requirements, specifications, database system design, design implementation, verification and testing, database deployment, and maintenance. This makes sense because a linear sequential method will be the easiest to implement for a project of this size. It also is a good fit because the project requirements are clear and well defined.

- Using waterfall method
- Steps include requirements, specifications, database system design, design implementation, verification and testing, database deployment, and maintenance.
- Linear sequential method is best for project size.
- Works for clear and well-defined project requirements

CHANGE REQUEST FORM

Creating a Medical Record Database Change Form

1.) Submitter - General Information				
CR Name				
Type of CR	❑ Enhancement		❑ Defect	
Project/Program/Initiative				
Submitter Name				
Brief Description of Request				
Date Submitted	[mm/dd/yyyy]			
Date Required	[mm/dd/yyyy]			
Priority	❑ Low	❑ Medium	❑ High	❑ Critical
Reason for Change				
Other Artifacts Impacted				
Assumptions and Notes				
Comments				
Attachments or References	❑ Yes		❑ No	
	Link:			
Approval Signature			Date Signed	[mm/dd/yyyy]

2.) Initial Analysis (For Internal Use Only)	
Hour Impact	
Duration Impact	
Schedule Impact	
Cost Impact	
Comments	
Recommendations	

3.) Final Conclusion				
Decision	❑ Approved	❑ Approved with Conditions	❑ Rejected	❑ More Info
Decision Date	[mm/dd/yyyy]			
Decision Explanation				
Conditions				
Approval Signature			Date Signed	[mm/dd/yyyy]

Fig 1: Change Request Form

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