**MSA 6600 – Project Management – Project Milestone 1**

**Case Study: Catskill Family Practice**

Located in the foothills of the idyllic Catskill mountain ranges in southeastern New York State, Catskill Family Practice (CFP) has been providing medical care to families in the region since 1990. Their services include routine and preventive health care, fever and infections, respiratory problems, injuries, women’s health, birth control and pregnancy, pediatric care for babies and children, immunizations and well-child care, sports medicine including physicals, heart, skin, intestinal, urinary, muscle and bone problems, alcohol and drug dependency, and nutrition counseling. Established by Dr. Rip Van Winkle, CFP currently employs five physicians specializing in family / internal medicine, ten registered nurses, and six administrative staff. Dr. Winkle currently does not treat patients but oversees the administrative side of the practice.

With a patient base of over 15000, CFP was one of the leading family practitioners in the area; however, in recent years, new patient enrolment had dropped and existing patients were moving to newer healthcare facilities in the region. These newer facilities utilized state-of-the-art technologies, including electronic health records (EHRs) to manage patient care[[1]](#footnote-1). Dr. Winkle had eschewed technology his entire career and had been reluctant to utilize technology for patient care at CFP. They still relied on paper-based charts and records and the most they would use technology was in the form of electronic spreadsheets. However, declining patient numbers and the Patient Protection and Affordable Care Act[[2]](#footnote-2) had put a lot of pressure on Dr. Winkle to rethink his stand on technology. In addition, the physicians and nurses at CFP had indicated their frustration at being so behind the technology curve in comparison to their competitors and felt they were missing valuable tools that had become essential for their professional careers. Their dwindling practice had affected their incomes and they conveyed to Dr. Winkle that CFP had to change with the times, and that they needed to invest in technology, specifically an EHR software. They impressed on him the advantages of an EHR[[3]](#footnote-3). In addition, a new community college had opened in the region, and was projected to bring in close to 20,000 new students to the area over the next few years. This would be a lucrative opportunity to expand their patient base, however to enroll this younger technology-savvy population, they would need to invest in new technologies. Given these circumstances, Dr. Winkle decided to consider an EHR implementation at CFP.

Dr. Winkle consulted with his colleagues as to the best way forward. Their competitors had gone in for off-the-shelf, packaged, vendor-provided EHR products[[4]](#footnote-4)[[5]](#footnote-5); however, there had been recent news reports that indicated usability issues with such products[[6]](#footnote-6)[[7]](#footnote-7). They were also concerned that an off-the-shelf software would disrupt established workflow processes and impose new work routines that might have a steep learning curve, which could negatively affect personnel morale, productivity and performance. Hence, Dr. Winkle took the decision to go in for a custom-built EHR software that would digitize existing workflow processes and thereby facilitate a seamless transition to the digital world with minimal usability issues. The proposed EHR should involve the implementation of a web portal with a back-end database that can be accessed by CFP personnel and patients. Dr. Winkle has approached Black Swamp Technology Consultants (BSTC) as their technology implementation partner for this project.

You are a project manager (PM) at BSTC and have been assigned to prepare a business case for the CFP project. BSTC has accorded maximum priority for this project as it is their first foray into the booming Health Information Technology (HIT) sector. Successfully implementation of this project could translate into other lucrative opportunities for BSTC. Hence, BSTC has given you a free hand in implementing the project. The core business model of BSTC consists of executing IT projects for client organizations (such as CFP) by deploying skilled human resources at the client site or at internal development centers. Projects may need personnel possessing a range of technical skills, and in some cases, capable of performing managerial roles. Technical skills may include expertise, experience and/or certification across programming languages, operating systems, software packages and hardware platforms, and managerial roles can include team leadership, systems administration, and project management.

As project manager, you first conduct preliminary interviews to solicit user requirements and translate them to product specifications. You quickly realize that while CFP was interested in having an EHR, none there had actually worked with an EHR and their knowledge was mainly based on conversations with colleagues working at other healthcare facilities that already had implemented EHRs and like technologies. However, most of them wanted what was considered “standard” for EHRs plus additions and modifications relevant to workflows that would be unique to CFP. Based on the Health Level Seven (HL7) International standards[[8]](#footnote-8) [[9]](#footnote-9) as enunciated by the American Academy of Family Physicians[[10]](#footnote-10) and in consultation with CFP personnel, you have shortlisted the following functionalities for the EHR[[11]](#footnote-11):

* Identify and maintain a patient record
* Manage patient demographics
* Manage problem lists
* Manage medication lists
* Manage patient history
* Manage clinical documents and notes
* Capture external clinical documents
* Present care plans, guidelines, and protocols
* Manage guidelines, protocols and patient-specific care plans
* Generate and record patient-specific instructions

Your preliminary analysis indicates the following gains (or benefits) from the project in the first year following implementation (Year 1) through improved patient retention, attracting new patients, and improved operational efficiencies would amount to $1,450,000.00.

The EHR is expected to have a useful life of 5 years with the gains/benefits from Year 1 projected to increase by 10% every year over the next 4 years. Initial investment (in Year 0) is estimated to be $500,000 for hardware installation and related infrastructure, $500,000 for employee training, and $2,000,000 for software development labor costs. Contingency reserves are pegged at $500,000 (these is money budgeted for meeting unexpected circumstances).

The operational costs for the useful life of the project (i.e. 5 years) is estimated at $150,000/year for hardware maintenance, $100,000 /year for software updates, and $150,000 / year for operational labor.

As PM, you anticipate considerable technical challenges for the implementation. While the hardware installation is expected to proceed smoothly, the relative inexperience of BSTC software developers in the HIT segment had the potential to slow down the software development. Hence, you plan to include the best software developers from BSTC into the project team. In addition, if deemed necessary, you plan to utilize external consultants to support the BSTC team in software development activities (contingency reserves may be used for this purpose). The project team is expected to have 10-15 personnel composed mainly of software programmers. Extensive involvement of CFP personnel would be required for successful completion of the project, however there is concern regarding the actual amount of time physicians and nurses might be able to devote to the implementation given their workload.

***Prepare a business case (see Slide 24 in Chapter 3, use the same sections) for Dr. Winkle that will attempt to convince him of the viability of going in for a custom-built EHR for CFP. The Budget Estimate and Financial Analysis section must incorporate NPV, ROI, and Payback Analysis, using an 8% discount rate (the Excel file used for computations must be shown as an exhibit) (1200 words - 100 points)***

After reviewing the financial calculations in the business case, Dr. Winkle has informed you that he had also asked Toledo Technical Consultancy (TTC) to prepare a feasibility study for the project. The following are the high-level cost / benefit numbers prepared by TTC and provided by to you by Dr. Winkle.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** >>> | **0** | **1** | **2** | **3** | **4** | **5** |
| **Costs** | 4,000,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 |
| **Benefits** | 0 | 1,200,000 | 1,400,000 | 1,500,000 | 2,200,000 | 3,100,000 |

***Based on the information provided above, prepare a report comparing the BSTC project with the TTC project (obviously, you have to convince Dr. Winkle that the BSTC project is the better option as you are a project manager with BSTC). Use an 8% discount rate for any financial analysis you might conduct. (200 words - 25 points)***

The personnel at CFP include five practicing physicians: Drs. Ackerman, King, Koehler, Jones, and Moore. Dr. Winkle does not practice but takes care of the overall administration of CFP – he is very supportive of the project. Dr. Ackerman is the senior most practicing physician at CFP and widely viewed as the best physician from among the five – however you sense that he is not a staunch supporter of the EHR project. His opinions carry great weight with Dr. Winkle, and you feel that if he opposes the project, the implementation may not proceed smoothly. Drs. King and Koehler are close friends and viewed as moving in sync with one another, and they appear neutral towards the project – you feel that by interacting with them, you could convince them into actively supporting the project. Also, they appear very popular and influential with the nursing staff and you feel their views on the project could strongly influence the nursing staff. Drs. Jones and Moore are the junior most doctors and appear very supportive of the project, however they do not appear to wield much influence within CFP. The nursing staff of ten and administrative staff of six seem to have considerable apprehension regarding the project. They feel that the implementation will impose a steep learning curve on them given the predicted changes to operational workflows. While the physician’s compensation was tied to CFP profits, other employees were paid a fixed annual salary. Hence, they feared that they would end up shouldering the burden of the implementation without any related benefits.

***Prepare a stakeholder analysis grid for CFP (see Slide 32 of Chapter 3) that will help you better manage the stakeholders. You can include 8 stakeholders in your grid: Dr. Winkle, the five practicing physicians (each to be considered separately), the nursing staff (can be considered as a single group), and the administrative staff (can be considered as a single group). (25 points)***

* **Please review the Project Milestone Assignment Grading Rubric from the syllabus.**
* **This is an individual activity – being a case-based analysis, submissions of students are expected to be different. The Turnitin software will be used to review the submissions – so please make sure you submit your individual work.**
* **Please upload you answers to Canvas on or before 06/07/2020.**

1. <https://www.healthit.gov/topic/health-it-and-health-information-exchange-basics/what-are-electronic-health-records-ehrs> [↑](#footnote-ref-1)
2. <https://www.congress.gov/bill/111th-congress/house-bill/3590> [↑](#footnote-ref-2)
3. <https://www.healthit.gov/providers-professionals/faqs/what-are-advantages-electronic-health-records> [↑](#footnote-ref-3)
4. <http://www.curemd.com/top-ehr-vendors/#top_nine> [↑](#footnote-ref-4)
5. <https://www.softwareadvice.com/medical/electronic-medical-record-software-comparison/> [↑](#footnote-ref-5)
6. <https://www.aafp.org/news/practice-professional-issues/20170221directinteroperability.html> [↑](#footnote-ref-6)
7. <https://healthcarethinktank.org/health-it-usability-impacts-patient-safety-outcomes/> [↑](#footnote-ref-7)
8. <http://www.hl7.org/> [↑](#footnote-ref-8)
9. <http://www.hl7.org/implement/standards/> [↑](#footnote-ref-9)
10. <http://www.aafp.org/home.html> [↑](#footnote-ref-10)
11. <http://www.aafp.org/practice-management/health-it/product/features-functions.html> [↑](#footnote-ref-11)