IT Final Assignments

Name:

Institution:

IT Final Assignments

Assignment 1

Goals for Cure4Kids and how they have evolved

The Cure4Kids is an educational program which was started by St. Jude's Children's Research Hospital. One of the primary objectives of the initiative was to provide education to the children, the parents, and the teachers to understand the meaning of cancer and how to treat it. To promote the primary objective of the Cure4Kids program, the initiative revolves around other three goals. One of the goals was to address the common notion or misconception which people used to have concerning childhood cancer. The second goal was to promote healthy living to children to prevent the cases of cancer manifesting itself to the kids at an adult stage. The third goal was to encourage children on the importance of learning science and taking careers relating to science. To facilitate the goals, St. Jude being the founder of the initiative developed a working relationship with teachers at school administrators to provide the service free of charge. Nowadays, the Cure4Kids has evolved to an extent of using the experts at a national level to provide the educational material for children.

Use of Information Technology (IT) to meet the goals

To achieve their targets, the Cure4Kids has decided to embrace IT in the delivery of services. They provide online education program and collaboration equipment to the members who have been registered free of charge. Example online services provided by the initiative include the written articles of specific seminars about the disease and how they can be prevented. The program uses IT to transform the online content into various languages which can be understood by different healthcare providers around the globe. Additionally, the Cure4Kids has

leveraged the Information Technology (IT) by the formation of online virtual meetings to enhance the sharing of knowledge and promote collaboration among the pediatric oncology-hematology working groups around the world. Members who have been registered have the chance to form new meetings or join the existing meetings to share knowledge and experiences.

Use of the tools and techniques to solve another healthcare business challenge

The healthcare business challenge I will promote using the tools and techniques being used by the Cure4Kids is the cigarette smoking. The effects that come as a result of smoking include high chances of getting infected with lung cancer. "Smoking causes about 90% (or 9 out of 10) of all lung cancer deaths in men and women" (Centers for Disease Control and Prevention, 2016). Moreover, the research conducted by Centers for Disease Control and Prevention states that "Cigarette smoking causes more than 480,000 deaths each year in the United States." (Centers for Disease Control and Prevention, 2016). The effects of smoking tobacco or cigarette affect both the children and the adults. During the teenage stage, children are likely to engage in smoking and abusing drugs if early guidance on the effects of smoking is not given. If we want to have a generation free from cancer, then we should start fighting it from an early stage.

One of the techniques I will use to ensure that children get knowledge about the dangers of smoking is through the inclusion of the aspect of smoking to the curriculum of the children. I will provide the learning materials free of charge to the learning institutions and establish a close working relationship with school teachers. To ensure full understanding of the concept, I will stress much on close reading. This will enable the learners to gather ideas and form arguments about the subject. "Strategies for teaching close reading, therefore, should emphasize the process

of gathering textual data through observation, synthesizing the information presented in the data, and analyzing that information to extract meaning from the text." (Ayers, 2015). I will also adopt the use of information technology in the campaign towards creating a cancer-free world. Since most of my target populations have a very close relationship with the internet, I will ensure that I form a website. Here, all information will be available in different languages. Members will have full access to the content for free, and registration to the website will also be open. The website will also have an interactive segment where the learners will have a virtual meeting to discuss issues relating to the concept. Using models as the learning tool will also be useful since they will be creating more understanding about the dangers of smoking tobacco or cigarette.

To develop an IT solution to support the opportunity, first, I will consider the cost of developing the website. I will invest in a cost-effective which will be easy to manage with no or less operating costs. The second factor I will consider is the ability of the IT to have a global reach so that I can be able to reach many people around the world. The third element I will focus on is the reliability of the IT which will be developed. Some of the possible risks which I am likely to encounter during IT include the following;

- Risk of whether the target population will not be willing to cooperate fully
- Chances of school management not including the concept into the schools due to lack of enough teachers
- The risk of resentment from the target population.

Assignment 2

To promote the safety of health records of the patients, the Health Insurance Portability and Accountability Act (HIPAA) established in 1996 has adopted the use of de-identification to

enhance the safety of patients' data. Through de-identification, identifiers which can be used to leak the identity of the patient are removed from the information making the patient be anonymous. The Privacy Rule which relates to HIPAA only allows two methods to be used to de-identify the data. One of the methods is the use of experts to perform the function and the second method is the removal of specific identifiers. If used effectively, the two methods can reduce the risk of exposing the identity of the client. However, the method is not 100% safe. "Although the risk is very small, it is not zero, and there is a possibility that de-identified data could be linked back to the identity of the patient to which it corresponds." (Office of Civil Rights, 2012).

To ensure the right balance between "patient safety" and "public good," there should be a conference involving the public and private sector which will discuss the privacy of patient information and the importance of using the information concerning the safety of the general public. Additionally, there is a need to sensitize the public on the uses of secondary data and circumstances when the data can be used for public interest. This will be crucial as it will help to build public confidence in the security of both the patients and the general public.

Data transparency, technical matters about identity management and patient authentication, and patient awareness and understanding are among the three aspects which move in line with HITECH Act established to work in conjunction with American Recovery and Reinvestment Act of 2009 (ARRA). The main aim of HITECH was to give guidance on how to effectively implement the de-identification.

To improve the safety of electronic Public Health Information, the following IT solutions will become handy;

Increase public awareness and increase the transparency of information use. This can
be achieved through the open meetings and conferences with the public to discuss the details
about the privacy and importance of using the customer records for the sake of the safety of the
public. This will help to reduce the risk of mistrust from the public.

Major discussions should be directed towards data access, control, and use. The
consultative meetings which are usually held should focus on the data control policies and the
individuals who will be allowed to access a given type of data. The major focus should be on the
control strategies which need to be put in place to ensure that the data privacy of the client is
under control, and no unauthorized persons can tamper with it. Using this technique will enable
the organization to avoid cases of patient information getting lost or stolen.

Discussing the privacy policies and security measures regarding secondary use of data.
To instill public confidence and trust, it is important for the administration to have discussions
with the public to sensitize them on the importance of the secondary use of information and how
secure their information is in the hands of the hospitals. Part of the meeting should involve
discussing the rules and policies about the confidentiality of the information and situations where
the hospital may be forced to surrender the information without necessarily giving out the
identity of the patient.

*Holding an extensive discussion on critical matters about secondary use of health
information.* Some of the matters which need to be discussed include the sale of patient
information, challenges which employees face during authentication and identification of the
client, creating public awareness, and enhancing data integrity and transparency. Addressing

these issues will increase the accountability among the employees and reduce the risks of selling

customer information without concealing his or her identity.

    Forming a taxonomy on the secondary use of patient data. There should be a clear

guideline showing societal, technical, public, and legal circumstances which may require the

secondary use of information without revealing the identity of the client.

Assignment 3

Top Ten Tech Trends: The MIPS Waiting Game

    The Medicare Access and CHIP Reauthorization Act 2015 (MACRA) has created a

perfect opportunity to review the payment mode for the physicians. Finding a suitable method of

payment for physicians has been a problem for a long time. One of the opportunities which come

with the implementation of Merit-based Incentive Program (MIP) is that the healthcare provider

will be evaluated to ascertain his or her performance. This will be made possible through the

integration of Physician Quality Reporting System (PQRS) and Value-Based Payment Modifier

(VBM) into the MIP. The evaluation process will be focusing on four categories of performance.

The categories include the quality of the services which are provided by the physician, how well

the doctor uses the resources which are at his or her disposal, the efficiency about the use of

electronic health records, and improvement in clinical practices. Additionally, the system will

focus on other components such as care coordination, clinical care, the experience of the

caregiver and prevention measure taken by the physician. This will help to improve the service

delivery in hospitals.

    However, there are still some challenges which need to be addressed under this bill

before it becomes effective. "Still, nearly a year after the bill was signed into law, physician

leaders find themselves in quite the precarious position" (Leventhal, 2016). One of the

challenges is inadequate awareness concerning the IT provisions of MACRA. A significant

number of members have no knowledge of the possible implications of the Act once it will

become operational. The other challenge of this initiative is that it tends to sideline the patients

by focusing more on the providers. To provide quality outcomes, mechanisms should be geared

towards monitoring the patients.

One of the possible risk that is likely to occur as a result of implementing this bill will be

incompatibility of the program into the health institutions due to lack of knowledge about the

law. If it is effected effectively, then we will have made a bigger step towards enhancing the

delivery of services in healthcare.

Assignment 4

My opinion on the performance of EHR use

In my opinion, EHR's still does not have the capacity to provide a good job in about the

documentation and protection of the providers. There are still some loopholes which can be

manipulated by the service providers to satisfy their selfish gains at the expense of the patient.

One of the loopholes which need to be addressed is the data integrity. According to cases

presented in Appendix B of the article, it is evident to say that the program is operating under

trial and error technique. There are cases where there has been an erroneous duplication of

patient's data. Most of these mistakes are done through copying and pasting the previous

information to the current situation. This makes it hard to trace the source of the information and

the author of the information. To ensure full data integrity, there is the need to promote the spirit

of professionalism and maintain accuracy during the data entry. "The provider must understand

the necessity of reviewing and editing all defaulted data to ensure that only patient-specific data

for that visit is recorded, while all other irrelevant data pulled in by the default template is

removed." (AHIMA Work Group, 2013).

The legal concerns of EHR Use

Template documentation challenges. There are chances not having a template for a

specific type of problem leading to poor delivery of services in situations where the patient has

many problems which detailed documentation.

Problems relating to copy-paste. The function among other functions such as "make me

the author" and "demo recall" require systematic conditions under which they can be used. This

is an effort to reduce risks such as copying same information from one patient to another.

Dictation mistakes without validation. Companies using voice recognition in capturing

information without the option of validating the data stand a chance of plunging into data

integrity issues. There should be mechanisms which allow for such data to be edited to promote

integrity.

Patient identification errors. Possible errors relating to identification include entering

data into the wrong patient's records. This might interfere with customer's safety and increase

the costs. Some of the possible measures to counter the problem include the use of biometrics

and use of fingerprints.

Audit Integrity. To reduces the risk of losing confidential data of the client, the organization need to establish an audit trail whereby only authorized people will be required to enter and edit data of the patients.

Summary recommendation to reduce the legal risk of EHR usage

To reduce the legal risk of using Electronic Health Records in an organization, the management needs to invest in systems which have the capacity to monitor the database of the organization and discourage activities relating to fraud. The second recommendation is to formulate the organization policies, systems, and procedures which are geared towards the prevention of fraud in the company. Creating a business environment where business will be carried out in an ethical manner will help to minimize cases of fraud. The other measure is to seek the services of the HIM personnel who will be mandated to design the IT and ensure that there is full implementation of EHR program. As part of the organizational policies, the management should state clearly its commitment towards the implementation of the ethical practices in the business.

The management should discourage the entry of incorrect information into the system records by outlining possible consequences an employee is likely to face if wrong data is fed into the organizational records. The administration should offer regular training to the staffs to ensure that they get more knowledge on the importance maintaining data integrity in the company. Additionally, the training should involve defining the responsibility of each towards the reduction of fraud in the firm. Establishing an educational program directed towards teaching the employees about the procedures and policies concerning the maintenance of the integrity of EHR. It should be the responsibility of every individual to protect the accessibility of system,

creating an accurate record of events, and notifying the administration of the possible breach of information. The education program should emphasize on the termination and disciplinary actions which will be taken if one is found to have contravened the regulations concerning data security and access.

Assignment 5

Description of the current situation

Under this case study, LMH is struggling to achieve more with limited resources. One of the major changes it wants to make is the construction of the state-of-the-art health facility at the Center campus and satellite clinics for communities operating from the outskirts of center campus. The issue that emerges as a result of this Facilities Master Plan (FMP) is the lack of adequate funds to start the project. The cash at hand they have is $496 million out of the required $1 billion. The possible sources which they anticipate getting the remaining amount from still are unreliable.

The second issue is how the EHR will be fully implemented in the organization. Implementing phase 2 of the program has been difficult due to challenges which are related to phase 1. The delayed implementation of the system has made it difficult for the organization to operate efficiently and achieve the ten IT goals which were established in 2010. From the information given, the organization knows there is a problem relating to the full implementation of IT. Unfortunately, the hospital is not making any step in correcting the mistakes which happened in the first phase. Every problem should be countered by a solution but from the look of things, this is not the case with LMH.

The third element which is becoming a problem to the hospital is whether to implement the purchasing of smart IV pumps which have the capacity to minimize patient harm by reducing the medical administration errors. The smart IV pumps are estimated to be costing $4.9 million dollars which are equivalent to half the fiscal budget. There is the lack of consensus between management on what to buy first and what to buy last. All the three issues being discussed are equally important now there is a financial constraint which is making the implementation almost impossible.

Pros and cons of Moore's proposal

Moore is advocating for the purchase of the smart IV pumps together with other elements such as robots, bar codes, and CPOE. To the organization, this will be advantageous to the hospital since it will have a state-of-the-art technology which will enable the administration to achieve organizational of promoting the patient safety strategic plan.

The second pro of embracing the initiative of buying all the mentioned cost saving and quality enhancement equipment is that the tools will help to promote medical safety in the organization. Medical safety in the hospital is enhanced with the use of current technology.

Nonetheless, implementing the proposal might be a dead-end for the hospital. First, the management faces financial challenges which have impeded the implementation of other plans such as the construction of the hospital. The smart IV pump will cost half the yearly budget meaning the remaining tools will not be able to financed by the remaining half. Moreover, if all the capital will be channeled towards the plan, the recurrent expenditures will not be able to be financed. If the hospital takes the plan, then they have to source the finances externally keeping in mind other major projects such as extending the building are still pending.

Pros and cons of using Robinson's proposal

One of the advantages of using Robinson's proposal is that the cost related to purchasing the smart IV pumps is low. The $4.9 million according to the revenues of the company is achievable if the operation will be carried out in stages without interfering with the operations of the company. The other advantage of using the plan is that the implementation will be easy since it will require few resources for training the nurses on how it operates.

On the other hand, after the implementation of smart IV pumps, the organization will be required to purchase other supporting equipment which ensures full functionality of the tool.

The best course of action

Based on the financial condition of the hospital, the hospital management should take Robinson's plan. The plan is cost-effective and can produce outcomes which are more for a certain period before the organization re-arranges itself to buy other tools.

Reaching the consensus with two parties

First of all, I will request both parties to give a rough estimate of their individual proposal. This is an effort towards getting clear information of the financial expense which the organization will incur during the purchase and implementation of either Moore's plan or Robinson's project. After that, I will require the two individuals to consider the financial position of the company which they are serving. The organization still has other pending projects such as the building of satellite clinics and construction of the main center. After carefully

analyzing the financial position of the company, the parties will have been at a place where they can make a reasonable decision whether to pursue their individual plans or forego them for the sake of the continuous survival of the firm.

Apart from creating a sense of preference between the two proposals, I will outline the pros and cons which are related to each plan and the long-term and short-term effects the initiatives will have to the organization. Taking Moore's proposal, for example, putting it into the action will mean that the organization will have to acquire extra investment capital from external sources such as commercial banks. If this money is obtained, the hospital will have exposed to liabilities which are likely to weaken the general performance of the company. On the other hand, if Robinson's strategy will be implemented, the company will not have to acquire the funds from an external source. At the same time, implementing the program will not consume a lot of capital compared to buying the bundle of equipment then engaging all the staffs in training. To ensure full support from each party, I will encourage them to incorporate all the plans into one single project. This will mean that Robinson's proposal will be implemented first while plans are made on how to execute efficiently Moore's plan.

Question 6

The impact of winding up the program

Through the winding up, the new program will simplify the operations of the physicians by reducing some complexities which were contained by the previous task. The upcoming models will be highly flexible with adaptation capabilities to various populations. The plan also will be focusing on the physician-patient relationship, unlike the older system which was

focusing on the government regulations. "Mr. Slavitt's comments suggest CMS' new approach will put physicians back in the center of the program and patient care, saying the agency has worked closely with physician organizations to be more in tune with their needs" (Jayanthi, 2016). The new program will also work with in conjunction with the MACRA to enhance the delivery of quality services to the patients.

Emerging element at its place

The government has introduced the Medicare Access and CHIP Reauthorization Act of 2015 to replace the EHR, which has been in operation for a long time. The new initiative will provide a legal framework for rewarding the health personnel. In 2016, the government has set a 30% increase in salaries for physicians who will provide better services during patient care. The rate will increase in the year 2018 to 50% for healthcare providers who would have attained the required standard of evaluation.

Challenges and opportunities which the future hold

This is a very challenging initiative since it will involve the shift from principles to reality. Full implementation of the program will not occur overnight meaning that this is a gradual process. The process requires support from all the parts of management t make sure that the required standard is attained. The ability to articulate issues in an open forum and promotion of priority is among the opportunities which the future in the course of implementing the bill.

Question 7

CPT. It means Current Procedural Terminology. This is a therapeutic coding system used by accreditation affiliation, associations, medicinal inclusions and specialists to report symptomatic, surgical and helpful procedures.

SQL (Structured Query Language). This is a programming dialect that is normally used to recover and redesign data kept in a database or ordinarily social database administration frameworks.

NCQA (National Committee for Quality Assurance). A charitable organization based in the United States which looks to enhance the procurement of value consideration by giving accreditation, projects, measures, and proof based norms for quality consideration.

DRG (Diagnosis-Related Group). An arrangement of grouping in light of measurements that permits the order of inpatient stays contingent upon installment purposes. Characterization is subject to assets required for the procurement of consideration and indicative criteria.

PPACA (Patient Protection Affordable Care Act). This refers to a healthcare reform which was initiated in 2010. The main purpose of the initiative was to transform the way hospitals used to provide the services in the United States. Part of the crucial reason for establishing the Act was to make the healthcare services cheaper to enable low-income earners accesses them.

NPI (National Provider Identifier). This is a ten digit tag which was introduced by HIPAA in the United States to reveal the identification of healthcare providers in the country.

CCD (Charge-Coupled Device). This is an integrated digital imaging device which is used to monitor the movement of the electrical charges within the device up to the areas where charges are required for manipulation.

CMIO (Chief Medical Information Officer). This is a highly qualified health informatics officer who acts an executive officer in the hospital. The officer works in and with other health

informatics officials such as nurses and doctors to ensure that there is full implementation of IT

in the organization.

WAN (Wide Area Network). It is a connection which connects different departments in

the hospital to facilitate data sharing.

RFP (Request For Proposal). This is a document which is sent to a supplier from a

company seeking the services or goods of the vendor.

References

AHIMA Work Group (2013). "Integrity of the Healthcare Record: Best Practices for EHR

Documentation (2013 update)" *Journal of AHIMA* 84, no. 8. Web. 26 April 2016.

http://bok.ahima.org/doc?oid=300257#.Vx7zz3q15dg par. 5

Ayers K. (2015). "Reading Like a Scientist" Web. 26 April 2016.

https://www.cure4kids.org/ums/sites/teachers/plugins/newsletter/show.php?id=30 par. 3

Centers for Disease Control and Prevention (2016). "Health Effects of Cigarette Smoking" Web.

26 April 2016.

http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smokin

g/

Centers for Disease Control and Prevention (2016). "Health Effects of Smoking" Web. 26 April

2016.

http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smokin

g/

Jayanthi A. (2016). "CMS' Andy Slavitt hints at MU's finale: 6 things to know" Web. 26 April

2016. http://www.beckershospitalreview.com/healthcare-information-technology/cms-

andy-slavitt-hints-at-mu-s-finale-6-things-to-know.html par. 5

Office of Civil Rights (2012). "Guidance Regarding Methods for De-identification of Protected

Health Information in Accordance with the Health Insurance Portability and

Accountability Act (HIPAA) Privacy Rule" Web. 26 April 2016.

http://www.hhs.gov/sites/default/files/ocr/privacy/hipaa/understanding/coveredentities/D

e-identification/hhs_deid_guidance.pdf p. 6

Leventhal R. (2016). "Despite much uncertainty, health IT leaders need prepare their physicians

for MIPS" Web. 26 April 2016. http://www.healthcare-informatics.com/article/top-ten-

tech-trends-mips-waiting-game par. 5