Example 3

(17/26)

*Read the article and write a response in the spaces provided. Your response should be **approximately 750 words in total**. Write under the criteria headings A, B, C and D. Use clear and precise language. Use appropriate ITGS terminology. Develop answers that demonstrate understanding beyond what is explicitly stated in the article.*

Topic: Health

Criterion A—The issue and stakeholder(s)   *[4 marks]*

Describe **one** social/ethical concern related to the IT system.

> As with any program that stores the personal information of others, there is an issue of privacy at hand with this diabetes monitoring system. The records of the diabetes patients are stored in a special internet site. Patients and doctors can access these records with permission. However, it is difficult to ensure that this information is kept private in that they system could be accessed by unauthorized persons by means of hacking, or if passwords are not properly withheld. This puts patients at risk, as their medical records and personal information, including address and phone numbers, could be revealed if the security of the system is not advanced enough.

Concern identified

Concern described

Describe the relationship of **one** primary stakeholder to the IT system.

> The primary stakeholder in this situation would be the patient. Any diabetes patient could benefit greatly with the use of this system in that it allows them to store and organize a continual record of medical data. The patient would measure their blood as usual, and then use some sort of adapter to connect their meter to the computer in order to digitally keep track of their glucose and insulin levels. At any time the patient could review their past blood levels by accessing their individual records on the internet site. It would relieve patients of manually writing and keeping loose papers.

Stakeholder identified

Relationship of the stakeholder to the IT system described

(4)

Criterion B—The IT concepts and processes   *[6 marks]*

Describe, step by step, how the IT system works.

> First the patient uses a meter to record their blood sugar levels. Then, the patient connects the meter to the computer using an adapter, and the results of the blood test are transferred into the patient's computer. Then, the patient uploads their results to the LivingWithDiabetes web site using their internet

browser. The internet site saves past readings, and then allows the patient or doctors to view charts and tables representing the changing results over time. Health workers and patients would be given their own username and password to access the results.

> Described process using IT terms and some knowledge beyond the article.

Explain the relationship between the IT system and the social/ethical concern described in **Criterion A**.

This is very beneficial to the patient and doctor, who no longer have to keep track of paper records and may view the information in the forms of graphs, charts, and tables. In managing diabetes it is very important to have well-kept records in order for you and your doctor to understand your individual body's reaction to the condition.

If logons and passwords are not used on the LivingWithDiabetes server unauthorised access could threaten privacy of patients.

> These are impacts and would be better in criterion C.

> Relationship between IT system and concern is identified using IT terminology.

④

Criterion C—The impact of the social/ethical issue(s) on stakeholders   *[8 marks]*

Evaluate the impact of the social/ethical issues on the relevant stakeholders.

This online and digital diabetes monitoring system is beneficial to both the patients and medical staff. It allows the patients to manage their personal records in an organized fashion, and relinquishes the task of holding on to paper materials with the information. It is true that this system makes personal information of the patient vulnerable and patients should be concerned about who has access to their medical records. This becomes less of a concern if levels of passwords are used. This system is highly advantageous to doctors and nurses, who can easily study a patient's results with this system. The system allows the readings to be presented in the form of charts and graphs, and makes it easy to view trends and thus manage the disease. Also, since this system was created in the form of an internet site, it makes it easy for doctors from different institutions to view the same patient's records. Often times hospitals and clinics use Intranets to store information, making it difficult to transfer an individual's information in a timely manner. But with the use of an internet site, the patients records can be viewed virtually anywhere This concept of portability of information is also helpful to the patient, who can view their levels form any area that has an internet connection as well.

> Advantages for patients

> Evaluation

> Analysis

> Advantages for medical staff

> IT concepts

> Analysis

> Further advantages for patients

> IT concepts

⑥

Criterion D—A solution to a problem arising from the article   *[8 marks]*

Evaluate **one** solution that addresses at least **one** problem identified in **Criterion C**.

The issue of privacy can be avoided in the diabetes monitoring system by means of security. First, it is important that the institutions using the site to view patients' records have a firewall. This will prevent tampering with the internet site's information. Second, it is important that each patient's account have a password for protection. The patient should only divulge the password to trusted medical professionals. It is likely that institutions will be able to access patient records, and in this case separate levels of access should be built into the system so only authorized persons that work with diabetes patients can view the records. Additionally, it would be beneficial if the site uses a secure socket portal to ensure hackers cannot access the patients records or personal information

First solution identified

Second solution described, not explained

Third solution identified

③