

Example 2

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.

Privacy is an issue in the online diabetes monitoring system. With health information being uploaded on the internet it is available to hackers. There is also the privacy issue of who has to view the information. By sending information over a website this gives other people the opportunity to see the information, and for the information to be hacked and spread to sources where the patient would not want them to be.

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

A primary stakeholder in this situation would be the patients. It is their personal information that will be on the internet and that is at stake. If the site they are uploading it to is not secure, it is their information that will be compromised. The patients use the technology to put information about their blood into a databank, which is only supposed to be seen by certain doctors or nurses, but other people could potentially gain access to this information.

Criterion B—The IT concepts and processes

[6 marks]

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

After the patient receives the equipment, a nurse explains to them how to use it. First, the patient takes some of their blood and it is read by the meter. These results are then uploaded onto the patient's computer through a cable via a USB port, and the time of upload can be recorded by the computer's internal clock. Then the results are sent to LivingWithDiabetes, stored in a database, and then they are read by a medical staff member. This way the staff can see if the blood sugar levels of the patient are in the healthy boundary. The patients can also log into the Better Diabetes site through an Internet browser using a username and secret password to review their results.

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

The privacy issue comes into play when the patient sends the information to the LivingWithDiabetes website and when the results are being viewed by the medical staff. The LivingWithDiabetes website could be hacked and this information be leaked. The information is also kept on this website, which is not safe because websites are not always very secure. Also, once the information is ready to be viewed and analyzed, who gets to view it? The article states that the medical staff has to have permission to view the information, but other doctors or patients could be standing around and see the information. Diabetes, as well as any other disease, is a sensitive issue and patients would want to be absolutely certain that no one except the required doctors or nurses could view the information.

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 new technology could have great results for the patients involved. This new method provides a fast, easy way for patients to get their blood levels to doctors to be diagnosed. With diabetes a blood sugar level that is too high could cause the patient to go into a coma. So with being able to assess one's levels right from home, this disaster could be avoided. Analyses positives for patients. This method is also a lot more efficient than using a paper notebook, and far more accessible to both the patient and the doctors involved. Poor record keeping makes diagnosing a patient very difficult for doctors, and this technology should improve this. Doctors and nurses are also stakeholders here, and this new system would relieve pressure on them because patients would have access to all their own information.

However when transferring sensitive information over the internet there is always the privacy issue that will be an issue. Medical information is especially sensitive. If someone were to hack the site IT concept and find damaging information they could blackmail the individual. Also if someone were to oversee when a doctor was checking on a patient's information they could find out information too. If that person happened to know the individual, their relationship could be compromised. This could affect them socially, or in their place of employment. Analyses negatives for patients. If this were to happen LivingWithDiabetes or the doctor who was handling the patient could face legal consequences.

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**.

There is not a perfect solution to this problem, but there are measures that can be taken to make this new system as safe and effective as possible. First, the LivingWithDiabetes website would need to make sure that extensive protection and security is in effect for their website. This would include such measures as a firewall and password protection. The website should also have a system in place so they could tell if anyone has hacked into the database and make an effort to change passwords and close the backdoor that had been left open. Any bugs or loopholes in the security need to be thoroughly checked. Of course, no matter how thoroughly one checks, a really determined hacker may still find a way to access the system. However, extensive security measures will greatly reduce the chance of this happening and once it is caught, stop it as soon as possible.

Furthermore, to protect privacy, the people who have access to the files need to be clearly outlined. There needs to be no chance that anyone else besides the specifically outlined people will have a chance to view the records. The doctors or nurses need to view the information in a solitary space so that no one could be looking over their shoulder. Doctors and nurses should also have a series of security steps to go through to be able to view the information, and make sure they seek permission before they access the records. If doctors are very careful, patients' information should be kept confidential and safe.