



Health care cyber security: Albania case study

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Keywords

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Abstract

Nowadays real time communication is defining and at the same time conditioning our daily life. Increasing the volume of communications constitutes an added value to the economic and social development of a country, but at the same time exposes it to cyber risks. Health care is a favorite area to attack. Violation of healthcare data is a growing threat to the healthcare industry, causing not only data loss and monetary theft, but also attacks on medical equipment and infrastructure. An important aspect is the context of the place where the phenomenon is being studied. Albania is a developing country with a high middle income. it is important to note that Albania has experienced rapid development in terms of information and communication technology (ICT) in the last decade. During this time the number of internet users has increased spectacularly. The purpose of this paper is to analyze information security practices in Albanian public and private hospitals, in order to determine the level of Information Security in this sector, and to provide suggestions for improvements.

Introduction

The purpose of this paper is to analyze the state of information security in Albanian public institutions by providing a clearer picture of the level of development of information security and the steps that need to be taken to further advance.

The entire public and private health system through the systems they use and the services they provide are the users and in a sense also the owners of personal data of the entire population of a country. They contain very important information in electronic version that should be protected from serious threats which may be abuse as well as illegal actions with the data, but also their destruction [1-2]. The rapid development of information-threatening techniques poses a serious risk to information [3-4]. Developing and managing ongoing protection is necessary to keep information as secure as possible.

For users of information systems it is important to ensure the security of their data whether personal or not. It is therefore essential that users have a good knowledge and awareness of information security practices based on regulations, policies and practices. This study will reflect the state of this documentation in the health system and provide suggestions on how improvements can be made.

This study helps healthcare leaders reduce hospital sensitivity by detailing the results that come from strategic online safety development decisions. It also helps cyber security professionals to understand the complexities of developing internet security capability in hospitals. In this rapidly changing and evolving environment, information as a valuable asset is always under threat.

Material and Method

- Identify, define and discuss information security management practices and what are the factors that can influence the implementation and development of information security management in Albanian public institutions;
- Understand the importance of the components identified and how they interact with each other;

c. Determine the level of information security awareness in public institutions and determine whether improvements can be made in information security management;

This are the objectives of this paper.

In order to achieve the objectives of this study, we have considered the following research questions

1. What are the security management practices of information in the health system?
2. What are the factors that influence the effectiveness of information security management practices?
3. How can information security be improved in the Albanian health system?

This question seeks to lay out concrete steps that need to be taken to improve information security in the Albanian health system based not only on the literature, but also on the common characteristics that these institutions have.

Other factors that give importance to this study are:

- 1 Lack of studies on information security in Albania;
- 2 Relatively new developments in terms of information security in the health care system in our country.

As limitations of this study we can mention the lack of academic studies in the field of safety in the health system in Albania. The questionnaire design phase took longer than anticipated as there were difficulties in completing the questionnaire in its initial version in the pilot phase. The data collection phase of the study also took longer than anticipated due to the difficulty in obtaining the response of the respondents. Reasons may include lack of familiarity with the questionnaires, low culture of collaboration in such studies, lack of information and misunderstanding of the purpose of this study.

Results

In this study responded 71 people, students in the faculty of medicine in the field of pharmacy. Interesting is the fact that they understood the importance of information security and had doubts whether this information was being used by others. Most of them were pursuing higher education or had completed them. However most of these respondents were mostly around 19-25 years old.

Most of the respondents indicated that there are still problems and uncertainties in the health system about information security. However, regarding the management of information security in the country by hospitals, 71.8% answered that they do not trust the information system in the country, it is also noted that respondents do not have information about digitalization of health. 38% answered that I am not sure if digitalization would bring information insecurity and make it even more easily accessible by illegal organizations or structured groups of hackers dealing with information theft

Also, 46.5% of respondents do not read private matters at all when they become part of the health system in the country.

Discussion

The literature on information security management emphasizes the need to address technical and non-technical issues related to information security. Especially in developing countries there is a lack of attention in the literature to address these issues as well as the level of awareness on information security. Appropriate measures must therefore be taken to protect the critical assets of the health organization.

This question seeks to identify and understand the factors associated with information security management by doing a literature review in general and for the health system in particular focusing on developing countries

Conclusion

From the analysis of the questionnaires for the analysis of trust in the health system as well as the security of information in Albania, we identified that:

- i. The largest percentage of respondents are women with 81.4%, this large percentage of women as the field where we are focused to do this study is mostly chosen by women, the respondents are medical students in the field of pharmacy;
- ii. The 19-25 age group is 90% of the respondents, this was known in advance as the respondents are students. This age group was chosen to be surveyed as they are more inclined in the field of information technology and have more knowledge about digital medicine;

iii. Respondents were also asked about their education and almost 70% of them had a bachelor's degree, most of them were still studying. A very small part of them were employed;

iv. A considerable part of them did not understand the term cybernetics even though they are the age group of technology, they had problems in filling out the forms and little known for this category even though they are students in the field of pharmacy. This further complicates healthcare digitalization as pharmacists should be the first to use this system to see prescriptions issued by doctors in a future where healthcare will be digitized. This brings many obstacles on the way to a total digitalization of it;

v. Only a small number of them knew how polyclinics worked, and a large number of them had no idea how to book a place for a polyclinic analysis.

from polyclinics in the country. A large proportion of about 62% of respondents have never had a check-up at a polyclinic. 21% who had had this type of control had a pronounced lack of confidence that their analysis would be safe in health systems;

vi. Nearly 83% of them were not aware of where the card analysis data or medical prescriptions were stored, they are not fully informed. Polyclinics in the country have never asked permission to use the data of their clients, this is noted in the survey we conducted where 83% of them say that this type of request has never been made, except in cases where polyclinics have asked to do any specific statistics. But there are also many cases where the data is used without the consent of the person who owns this data;

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