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Current Status of e-Health in Burkina Faso

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Abstract. The term e-health refers to all areas where information and communication technologies (ICT) are used for health. E-health appears more and more as a relevant solution to meet the challenges health systems are facing. However, despite its interest, e-health has long remained underexploited in Burkina Faso even if many softwares have been the subject of investments in hospitals as part of a modernization of administrative operations, which does not directly contribute to the quality of care. Hospital information systems (HIS) are the foundation on which e-health is based. They organize, at the IT level, the exchange of information between departments within the same hospital. It is on those systems that the shared medical record (SMR) is based. In this paper, we present an inventory of the implementation of e-health in Burkina Faso. We collected data on hospital information systems deployed in major hospitals in Burkina Faso. Then we analyzed the level of interoperability of those hospital information systems and we finally proposed an interoperability approach adapted to Burkina Faso.

Keywords. interoperability, Hospital information system, web service

1. Introduction

According to the World Health Organization (WHO), e-health is defined as "digital services for the well-being of the person". Three technological bases are essential to develop e-health: information and communication technologies, e-health supports and e-health products and services [1]. The first base is a prerequisite for the establishment of the second one which is an essential prerequisite for the establishment of the third one. None of the three pillars is strong enough today in Burkina Faso. This technological obstacle gives a virtual character to e-Health in Burkina Faso. Significant efforts must therefore be made to ensure that Burkina Faso's health system benefits of the enormous potential offered by ICTs. To this end, Burkina Faso implemented an e-health strategy for the improvement of the health system. The national e-health strategy supports the implementation of the orientations of the national health development plan 2011-2020. In our study, we first present the situation of HIS deployment in the main hospitals and health structures in Burkina Faso, then an inventory of the national interconnection networks. We then propose an approach for deploying these infrastructures for a better implementation of e-health in Burkina Faso. The rest of the paper is organized as follows: in the second section, we present the method used for our study; in the third section, we present the situation of e-health in Burkina Faso and we propose an approach its success; we end with a conclusion and perspectives in the fourth section.

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2. Methods

To meet the health needs of its populations, Burkina Faso has a health system based on both the public and private sub-sectors as well as traditional medicine. The health sector in term of care is provided a 3-level pyramid: - the first level made up of health and social promotion centers (CSPS), medical centers (CM) and medical centers with a surgical branch (CMA), - the second level made up of regional hospital centers (RHC), - the third level made up of university hospital centers (UHC). To conduct this study, we collected data in all UHRs and RHCs from Burkina Faso, in the department in charge of ICT of the Ministry of Health of Burkina Faso, and in Non-governmental organizations (NGOs) involved in health in Burkina Faso during the period from 6 to 24 October 2020.

3. Results and discussion

As results, we note that in the large part of the HIS deployed, the software offer is plethora and diversified. This situation is obviously an obstacle to the use of these software solutions and therefore implies the absence of interoperability. In addition, despite the implementation of telemedicine solutions in certain health structures, very few health professionals have experimented with teleconsultation or telesurveillance. Finally, despite the existence of national interconnection networks, the health structures are not interconnected and the Internet connection in these health structures is not reliable and efficient. We can then say that despite the political will and the adoption of ICTs in health structures, hopes for an advance in e-health in Burkina Faso are still struggling to materialize. In order to successfully implement e-health in Burkina Faso, it is necessary to develop a rigorous HIS architecture, which will allow information to be shared correctly. The availability of reliable and efficient interconnection networks and an Internet network throughout the country is a necessity for the success of e-health. Finally, interoperability is the solution that can make all these technologies cooperate for quality care. In [2] we propose an approach for the interoperability of HIS in Burkina Faso based on the composition of web services.

4. Conclusion

In this paper, we have presented e-health practices and challenges in Burkina Faso. We conclude that despite an interest of political stakeholders and adoption of ICTs by health structures, there is not yet a real materialization of e-health in Burkina Faso. Then proposed we proposed a solution based on semantic interoperability for a successful implementation of e-health in Burkina Faso.

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