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The Solution for Consent Form in EMR System

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Abstract and objective

The EMR(electronic medical records) system is a motive to stir up the various issues which exist already in medical areas, such as the protection of the privacy, sharing of medical information, the law of the signature etc.

Among those issues, the management of various consent forms in EMR system is one of the problem awaiting solution. Consent form for operation and various procedures etc should kept several numbers of written signatures because it is basic document for problem solving with insurance company or legal problem. In Korea, the originality of consent form is kept by written signature or seal, so it is strictly required for all the consent forms legally. However, there has been no specific solution of this issue for the EMR system, because there is no same strategic solution as same as paper based consent form (PBCF). This research is for suggestion of safe strategic solution of consent form and its signature for EMR system.

Keywords:

consent form, EMR, digital pen

Introduction

The number of Medical Consent Form (MCD) has been increased continuously due to legal problem and unique Korean medical system, which is characterized by fee for services. So, many consent forms are required not only operation and procedures, even for the payment of medicine. So, consent form directly affect the financial management of hospital in Korea. Many hospitals and private clinics are implementing new EMR system to adapt new environment of medical system, however, there is no proper legal policy for managing consent forms' signature and digital consent file, yet. Therefore every hospital use paper based consent form for direct hand written signature and keeping original document, and then uploads consent form to EMR system by individual scanning. This makes job duplication and difficulties on managing consent forms of two different characteristics.

This study was postulated to suggest strategic stream of electronic signature based on the Electronic Medical Consent Form (EMCF), and verify its technical possibility based on the concept of originality, confidentiality, reproducibility of EMCF.

Methods

Severance Hospital's EMR system has been developed on the Environment of C#.NET and Windows XP with Microsoft Framework v. 1.1. And as materials for Client, on the basis of Windows XP environment, we selected digital pen as s signature image tool and make consent form by MS WORD.

The postulated steps are as followed:

1. Separation of Signature from Consent Form
2. Endowment of authorization of signature via image file
3. Combination of authorized signature and consent form
4. Creation of one XML documentation with signature image & Public certification key
5. Storage of XML file & Deletion of image file of signature

Result

The strategy is postulated on the same basis of paper consent form. The consent form was composed written part and signature part, which should kept image of signature or seal. The one time signature can makes one original consent form securely through above steps. This process can keep the current concept of consent form, so called originality and confidentiality. The digital pen can create hand written image for EMCF same as for the paper. The originality can be kept by separation, combination, and deletion of signature image, which was done by individuals. The confidentiality can be kept by creation of one XML document with Public certification and deletion of all the other files. For these procedures, there has been a development of new interface modules and UI, master tables for management consent form.

Conclusion

Our suggestion of new strategy and technical solution would give breakthrough to solve the issue of digital consent form with same approach of paper based consent form, especially in Korea. This process can keep the originality, confidentiality, and reproducibility of ECMF.

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