

Protection and security of medical data

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Information security is increasingly becoming an important matter in nowadays society. Regarding the medical and biomedical data, it is an especially critical aspect due to the implications that a security violation on them would cause (for example, the lost, modification or the non-authorized disclosure).

In this work some of the current main threats are analyzed:

Ransomware: a malware that ransoms the data (usually, by ciphering them) and that requests a ransom (usually, the payment by cryptocurrencies) to regain access to it. There are a vast number of reported cases in important hospital centers all around the world, whose information systems have been halted during hours or even days, with major economical and health consequences.

Medical data steal: organized groups of cybercriminals make use of several techniques to gain access to medical data, with the objective of selling them in the black market. Several studies indicate that the value of a medical record is greater than the credit card details.

Medical devices security: devices like MRI, PET or CT, have software components that make them vulnerable to attacks, in the same way that to any other IT system. The same occurs with implantable devices, like pacemakers. There are studies that demonstrate that images from a MRI can be altered by a malware, so that it is not noticeable by the medical expert.