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IT SECURITY IN BIOMEDICAL IMAGING INFORMATICS: *THE HIDDEN VULNERABILITY*

By: Adam Chee W.S

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The convergence of biomedical instruments and computing platforms has resulted in medical imaging equipment being subjected to the threats of malicious software (Malware) that has traditionally plague the computing industry.

Vulnerabilities increase several-folds with implementations of Clinical Information Systems like the Picture Archival & Communication Systems (PACS) where PC-based biomedical equipment work hand-in-glove with computer servers.

With the increasing complexity of modern Malware, pro-actively monitoring and reviews of known vulnerabilities are no longer sufficient. An institute faced with an IT security attack on their medical networks will still result in extended downtime, performance degradation and increased service costs even if equipped with an adequate security system and recovery plans.

Biomedical equipment vendors usually needs more time than computing vendors to validate the security updates required for vulnerabilities before they can recommend changes for installation to their systems. This includes all system changes, patches, updates, and enhancements. However, the meantime between the launch of a new Malware attack and the availability of a solution from the vendor can result in the medical network being compromised and rendered totally crippled.

In view of such new challenges, it is crucial to redesign your medical network and operating procedures to ensure continuous operation with minimum performance degradation even under a Malware attack until the biomedical equipment vendor can provide the software updates to resolve security vulnerabilities.

Such strategic implementation is not only necessary to ensure integrity and confidentiality of patient's data but also to protect the healthcare institute's reputation and business continuity.

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Media and all other Queries: media@binaryhealthcare.com

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