Proceedings International
Platinum Open Access Journal (ISSN 2668-6384)

Proceedings, Abstract
Volume 3, Issue 5, 2021, 42
https://doi.org/10.33263/Proceedings35.042

Cybersecurity Vulnerabilities in Medical Devices †

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† International Conference on Advanced Materials for Next Generation Applications, 29th – 30th September, 2021 (AMNGA-2021)

Received: 10.09.2021; Revised: 20.09.2021; Accepted: 21.09.2021; Published: 29.09.2021

Abstract: Nowadays, all healthcare systems are connected to one or more cyber-network and are vulnerable to cyber-attack due to multiple cybersecurity lacuna in the existing computer-based networks. It will be most critical to understand the complexity of the operational environment as well as catalog the technical-based vulnerabilities in order to avert cybersecurity incidents. Cybersecurity protection is a more complex process, and well-nuanced challenge to handle or tackle than merely a technological-based issue. Understanding why these vulnerabilities persist and what the solution space should look like requires a consideration of the variables that will lead to such a potentially unsafe environment and the identification of the vulnerabilities. If needed, appropriate protection is to be put in place, and patient safety concerns should be addressed; this multidimensional challenge must be considered from a systemic viewpoint. Technical controls, governance, resilience measures, unified reporting, context knowledge, legislation, and standards are all required to achieve this. It is clear that addressing this complicated problem requires a coordinated, proactive strategy without jeopardizing patient safety.

Keywords: security; wireless; risk; medical devices; cybersecurity; safety, cyberattacks.

Funding

This research received no external funding.

Acknowledgments

This research has no acknowledgment.

Conflicts of Interest

The authors declare no conflict of interest.