ELECTRONIC HEALTH RECORDS

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ESCAPE. *Preparing healthcare professionals for cyberattacks*
Project No.2023-1-ES01-KA220-VET-000151536

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FACTSHEET – ELECTRONIC HEALTH RECORDS

1. Definition

Electronic health records are digital versions of a patient's paper chart, containing medical history, diagnoses, medications, treatment plans, and other health information. They are highly targeted assets in cyberattacks1.

2. General importance

The use of electronic health records increases care coordination and safety. They make information instantly available to authorised users, promoting safer prescribing, lowering errors, increasing efficiency, and reducing paper-based administrative burdens2.

Complete patient histories contribute to safer treatments and diagnoses. They also reduce paperwork, automate referrals, and provide reminders for follow-up care3.

Nevertheless, excessive documentation demands can lead to frustration and reduce time spent with patients, causing burnout among older physicians. Furthermore, insufficient staff training limits the effectiveness of EHR systems4.

3. Importance in health and care, and impact in quality of care

EHRs are instrumental in guaranteeing patient engagement, accuracy, and continuity throughout the entire patient journey. For instance, the ability of medical professionals to swiftly retrieve comprehensive medical histories makes it particularly helpful in emergency situations5. Also, they empower patients because they are able to view medical information, schedule appointments, and actively manage their care.

However, providers may feel overwhelmed by EHR-related tasks, distracting them from patient interaction. It might also lead to mislabelled tests or medical errors if there is poor interoperability.

4. What can I do as a healthcare professional?

- Engage with documentation tools to support safer and better patient engagement.
- Provide feedback on barriers like confusing interfaces or broken data flows to inform system improvements.
- Use patient portals effectively and encourage them to access their health records.
- Balance digital and clinical care.

5. More information

5.1 Learning Materials

- Sequential videos for general topics about cybersecurity (JGT-2)
- Cibersecurity guide for healthcare sector (EU scope) (JGT-7)
- An article exploring the current state of cybersecurity in healthcare. (IST-36)
- An infographic on security and cybersecurity devices used in different healthcare settings. (IST-38)
- An overview of cybersecurity in healthcare, focusing on the role of AI and its regulatory framework. (IST-39)
- Systematically Applying Gamification to Cyber Security Awareness Trainings: A framework and case study approach (PRAMMER-35)

5.2 Relevant Videos

This video provides an overview of the electronic health record (EHR) system, including what an EHR is and the essential EHR features that collectively contribute to more effective, efficient, and safe patient care.

Electronic Health Record (EHR) Overview
https://youtu.be/W0w31NPCu0g?si=XDfKdUnEAUh0Lh1L

The video identifies obstacles such as clinician burnout, usability problems, and implementation risks while highlighting the ways in which electronic health records (EHRs) can improve patient care through better coordination, safety, and information access.

Can Electronic Health Records Improve Patient CAre? | Exploring Impact
https://youtu.be/lR_LJ9vilTE?si=WcOZ-nue7epb79AC

5. 3 Relevant Links

According to a large study, EHR demands, such as clerical burden and poor usability, are closely associated with clinician burnout. EHRs reduce patient time due to workflow disruptions, which many doctors find inefficient. https://pmc.ncbi.nlm.nih.gov/articles/PMC10134123/

Due to an error in the EHR's dosing logic, a patient at UCSF was given 38 times as much medication. It demonstrated how intricate digital systems can unintentionally present significant risks if they are not configured correctly. https://www.wired.com/2015/03/how-technology-led-a-hospital-to-give-a-patient-38-times-his-dosage/

Europe's national digital health systems demonstrate successful adoption: by 2010, more than 85% of Danish patients were using pooled patient portals, and Estonia had integrated all health-related data through its X-Road platform, which improved access and interoperability. https://www.jmir.org/2024/1/e58933

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