

OVERVIEW OF ELECTRONIC MEDICAL RECORD DATA SECURITY IN
SIMPUS APPLICATION BASED ON CONFIDENTIALITY, INTEGRITY,
AND AVAILABILITY (CIA) ASPECTS AT DANUREJAN II
PRIMARY HEALTH CENTER, YOGYAKARTA CITY IN 2026

Kezia Annisa Billa¹, Syarah Mazaya Fitriana², Ana Kurniati³.

^{1,2,3}Department of Midwifery, Poltekkes Kemenkes Yogyakarta

Jl. Mangkuyudan MJ III/304, Mantrijeron, Kota Yogyakarta,

Daerah Istimewa Yogyakarta 55143

Email: keziabilla05@gmail.com, syarah.fitriana@poltekkesjogja.ac.id

ABSTRACT

Background: *Electronic medical record management must prioritize data security and patient confidentiality. According to the Regulation of the Minister of Health Number 24 of 2022, the principles of electronic medical record security include Confidentiality, Integrity, and Availability. Danurejan II Primary Health Center has fully implemented electronic medical records since October 2023 using the SIMPUS application; however, data security has never been evaluated comprehensively.*

Objective: *This study aims to determine the description of electronic medical record data security in the SIMPUS application at Danurejan II Primary Health Center based on the aspects of confidentiality, integrity, and availability.*

Research Method: *This study used a qualitative descriptive research method with a case study design. Data collection was conducted through in-depth interviews with 7 informants, observation, and documentation studies.*

Research Results: *Based on the confidentiality aspect, the system has implemented user authentication and role-based access control; however, account sharing among nursing staff was still found, password complexity standards were not enforced, and no SOP for electronic medical record confidentiality was in place. Based on the integrity aspect, data editing is restricted to within 2×24 hours and an audit trail feature exists to track changes; however, the audit trail feature was not available in the pharmacy module and there was no clear separation between primary and secondary diagnoses. Based on the availability aspect, SIMPUS is accessible during service hours through the Pemkot Yogyakarta internal network with automatic daily data backup; however, outdated hardware, the absence of a structured disaster recovery plan, and limited integration with other health applications remain as constraints.*

Conclusion: *The confidentiality aspect has not been fully met, the integrity aspect is sufficiently implemented with some limitations, and the availability aspect is adequate but requires further development in infrastructure, feature completeness, and system integration.*

Keywords: *Electronic Medical Records, SIMPUS Data Security, Danurejan II Primary Health Center*

GAMBARAN KEAMANAN DATA REKAM MEDIS ELEKTRONIK PADA
APLIKASI SIMPUS BERDASARKAN ASPEK CONFIDENTIALITY,
INTEGRITY, DAN AVAILABILITY (CIA) DI PUSKESMAS
DANUREJAN II KOTA YOGYAKARTA TAHUN 2026

Kezia Annisa Billa¹, Syarah Mazaya Fitriana², Ana Kurniati³.

^{1,2,3}*Department of Midwifery*, Poltekkes Kemenkes Yogyakarta

Jl. Mangkuyudan MJ III/304, Mantrijeron, Kota Yogyakarta,

Daerah Istimewa Yogyakarta 55143

Email: keziabilla05@gmail.com, syarah.fitriana@poltekkesjogja.ac.id

ABSTRAK

Latar Belakang: Pengelolaan rekam medis elektronik harus mengutamakan prinsip keamanan dan kerahasiaan data pasien. Berdasarkan Peraturan Menteri Kesehatan Nomor 24 Tahun 2022 tentang Rekam Medis, prinsip keamanan data rekam medis elektronik meliputi *Confidentiality*, *Integrity*, dan *Availability*. Puskesmas Danurejan II telah menerapkan rekam medis elektronik secara penuh sejak Oktober 2023 menggunakan aplikasi SIMPUS, namun keamanan data belum pernah dievaluasi secara menyeluruh.

Tujuan: Penelitian ini bertujuan untuk mengetahui gambaran keamanan data rekam medis elektronik pada aplikasi SIMPUS di Puskesmas Danurejan II berdasarkan aspek *confidentiality*, *integrity*, dan *availability*.

Metode Penelitian: Penelitian ini menggunakan metode penelitian deskriptif kualitatif dengan desain studi kasus. Pengumpulan data dilakukan melalui wawancara mendalam dengan 7 informan, observasi, dan studi dokumentasi.

Hasil Penelitian: Berdasarkan aspek *confidentiality*, sistem telah menerapkan autentikasi pengguna dan pembatasan hak akses berdasarkan profesi, namun masih ditemukan praktik peminjaman akun antarpetugas di unit keperawatan, belum diterapkannya standar kompleksitas kata sandi, dan belum tersedianya SOP kerahasiaan data rekam medis elektronik. Berdasarkan aspek *integrity*, pengeditan data dibatasi dalam 2×24 jam dan terdapat fitur audit trail untuk menelusuri perubahan data, namun fitur *audit trail* belum tersedia pada menu farmasi dan belum terdapat pemisahan yang jelas antara diagnosis utama dan diagnosis sekunder. Berdasarkan aspek *availability*, SIMPUS dapat diakses selama jam pelayanan melalui jaringan internal Pemkot Yogyakarta dengan pencadangan data otomatis setiap hari, namun kondisi perangkat keras yang sudah tua, belum adanya *disaster recovery plan* yang terstruktur, serta keterbatasan integrasi dengan aplikasi kesehatan lainnya masih menjadi kendala.

Kesimpulan: Aspek *confidentiality* belum sepenuhnya terpenuhi, aspek *integrity* sudah cukup baik dengan beberapa keterbatasan, dan aspek *availability* sudah cukup baik namun masih memerlukan pengembangan dari sisi infrastruktur, kelengkapan fitur, dan integrasi sistem.

Kata Kunci: Rekam Medis Elektronik, Keamanan Data SIMPUS, Puskesmas Danurejan II.