

Design and Development of a Web-Based HIV Patient Monitoring System at Benculuk Public Health Center. Bakhtiyar Hadi Prakoso S.Kom., M.Kom.
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ABSTRACT

Human Immunodeficiency Virus (HIV) remains a significant public health challenge that requires continuous monitoring, while the patient monitoring process at Benculuk Public Health Center is still conducted manually, creating risks of data loss, reporting delays, and an increased number of lost to follow-up (LTFU) cases. This study aimed to design and develop a web-based HIV patient monitoring system to improve the effectiveness of patient monitoring services. The study employed the Evolutionary prototyping method, with data collected through observation, interviews, and documentation, while sistem functionality was evaluated using Black Box Testing. The results produced a web-based HIV patient monitoring system with three user roles: healthcare staff, patients, and caregivers. The sistem provides digital patient control cards, medication adherence monitoring, appointment reminders, ARV medication notifications, viral load monitoring, and statistical reporting features. Testing results demonstrated that all sistem functions operated as expected and met user requirements. Therefore, the developed sistem can support a more effective, integrated, and sustainable HIV patient monitoring process at Benculuk Public Health Center.

Keywords: *Black Box Testing; Evolutionary prototyping; HIV; Patient Monitoring; Web-Based Sistem.*