BACKGROUND
In resource-limited settings, clinical care delivery is often hampered by financial constraints and incomplete technological infrastructure, leading to functional solutions with restricted capabilities such as paper charting. While paper charting offers energy-independent reliability, it poses significant challenges in maintaining comprehensive, longitudinal care across multiple healthcare sites. This project outlines the implementation of *openMRS*, an open-source electronic medical record system (EMR) tailored for resource-limited settings such as the Center for Human Development (CHD) in southwest Guatemala, a primary care clinic with several health outposts serving approximately 25,000 people comprised mostly of agricultural workers and their families.

METHODS
The project was executed in phases, enabled by gradual acquisition of necessary technological infrastructure with support from university and private resources. A remote based software engineer led the development of an *openMRS* platform using servers provided by Amazon Web Services (AWS). Clinical staff from various roles piloted the EMR workflow, starting with simulated encounters and gradually progressing to real patient cases in the main clinic. After optimization by the testing group, the rest of the staff were trained. To maintain the system, a staff member was trained as an on-site administrator for ongoing support and future updates.

FINDINGS
After weeks of refinement, the EHR was fully implemented in the primary clinic and continues to be in use with over 450 registered patients and 585 encounters documented to date. While utilizing open-source software offers tremendous benefit, the variability in module architecture led to several challenges, most notably the inability to launch an operational laboratory module during initial implementation. Despite these delays, the subsequent batch-like implementation still enabled the phased elimination of paper charting, leading to enhanced patient management through integrated and easily accessible records, overall contributing to a more efficient use of the clinic's limited resources.

INTERPRETATION
The EHR system significantly enhanced patient care by optimizing the use of clinic resources, facilitating seamless data linkage between various clinical sites, enabling evidence-based quality improvement projects, and improving disease surveillance capabilities. This model demonstrates the potential for scalable, cost-effective solutions in other similarly resource-constrained settings.

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