



AP014

Paediatric Cardiology & Congenital Heart Disease • Poster Presentation

PROTOCOL FOR DEVELOPMENT OF A TOOL FOR ASSESSING THE DIGITAL MATURITY AND ECG DATA READINESS OF HEALTH FACILITIES FOR ARTIFICIAL INTELLIGENCE USING THE DELPHI METHODOLOGY.

Methodology: A mixed-methods study in three phases will be conducted. Phase I: A scoping review of PubMed, IEEE Xplore, and Google Scholar to identify domains and indicators for digital maturity for AI in various clinical fields. Phase II: A modified Delphi consensus process with 15–20 multidisciplinary experts in cardiology, biomedical engineering, AI, health informatics, and digital health. Consensus defined as median ≥ 7 , $\geq 80\%$ agreement on 7–9, and IQR ≥ 2 over 2–3 rounds. Phase III: Field validation of the AI-ECG Digital Maturity and ECG Data Readiness Assessment Tool (AI-ECG DMAT) in purposively selected public and private secondary and tertiary hospitals in Abuja, Nigeria. Reliability, validity, and feasibility will be assessed using Cronbach's alpha, ICC, and stakeholder feedback.

Stand: POSTER #AP014 | **Venue:** Poster Exhibition Hall & Gallery - Eko Convention Centre | **Online Ref:** <https://nigeriancardiacsociety.com/abstracts/AP014>

Background: Artificial Intelligence-Enhanced Electrocardiography (AI-ECG) has high potential for cardiovascular care due to ECG's low cost and rich data. However, implementation in Africa remains limited. Most ECGs are paper-based or lack standardized digital formats, metadata, and governance. Existing digital maturity frameworks focus on electronic health records and do not assess ECG-specific readiness for AI. There is currently no validated tool to evaluate hospital preparedness for AI-ECG deployment.

Results: The study will produce a validated, context-appropriate assessment tool with defined domains, indicators, and scoring criteria to objectively measure hospital digital maturity and ECG data readiness for AI implementation.

Conclusion: The AI-ECG DMAT will address a critical gap in implementation science by providing a standardized instrument to assess readiness for AI-ECG in low and middle-income settings, guiding targeted digital health investments.

Keywords: Artificial intelligence, electrocardiography, digital maturity, data readiness.