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Bridging the Digital Divide in Public Health: Practical Models for Inclusive Health IT and AI Access

This presentation examines how public health systems can prevent digital health and artificial intelligence (AI) innovation from widening existing access inequities. The central research question is: how can inclusive Health IT models reach populations excluded by broadband dependent, app only, and AI enabled public health systems? Digital health is now central to surveillance, prevention messaging, service navigation, health education, emergency response, and access to care; however, technology penetration has not translated into equitable participation. In 2025, approximately 6 billion people, or nearly 3/4 of the global population, were online, while 2.2 billion remained offline. Internet use reached about 94% in high income countries compared with 23% in low income countries. Microsoft's 2026 AI diffusion data estimated global generative AI use at 17.8%, with adoption at 27.5% in the Global North compared with 15.4% in the Global South. This gap also exists in developed countries, where rural communities often face slower broadband speeds, fewer provider options, weaker mobile coverage, and higher connectivity costs. Using comparative public health informatics and implementation analysis, this study assesses global connectivity data, rural broadband disparities, and AI adoption patterns to identify design requirements for inclusive digital health. The proposed Inclusive Digital Public Health Access Model includes four layers: USSD/SMS access; low bandwidth mobile applications for prevention, referrals, reminders, and reporting; community health worker-assisted digital access; and interoperable dashboards with AI supported analytics for public health decision making. The presentation concludes that digital health equity in the AI era should be measured not by app downloads or AI adoption alone, but by whether all populations can access timely, trusted, affordable, multilingual, and actionable health information regardless of geography, income, device type, bandwidth, language, age, disability, or digital literacy.

Keywords: Digital health equity; Health IT; AI access; USSD/SMS; Inclusive Tech; Public health informatics

Biography

James Otaru a Public Health, / HealthcareIT specialist with more than 13 years of experience in data management, monitoring and evaluation, digital health systems, and health information workflows. His work bridges public health programming, EHR/EMR implementation, data quality improvement, dashboards, surveillance reporting, and technology enabled service delivery. He has supported USAID/CDC funded health initiatives, digital health implementation, and healthcare IT environments, with practical experience translating frontline service workflows into usable data systems for decision making, accountability, and population health improvement.

ISBN: 978-1-917892-54-4