ADVERTISEMENT

Circulation

ABSTRACT | Originally Published 2 November 2026 |

Check for updates

Meeting Abstract: Abstracts From the American Heart Association's 2026 Scientific Sessions and the American Heart Association's 2026 Resuscitation Science Symposium

Abstract 14646: Strengthening Community Health Representative Capacity for AI-Assisted Screening Echocardiography in a Rural American Indian Community

Alan Riley, Mrinal Yadava, Rose Thoroughman, David B Adams, Nancy Krupowies, and Sarah De Loizaga | AUTHOR INFO & AFFILIATIONS

Circulation • Volume 154, Number Suppl_1 • https://doi.org/10.1161/circ.154.suppl_1.14646

Abstract

Background: Heart disease is a leading cause of death for American Indians, who face barriers to diagnosis and cardiac care particularly in rural areas. In one Arizona tribe, we describe task-shifting of Community Health Representatives (CHRs) to obtain point-of-care screening echocardiography with artificial intelligence-assisted interpretation (POCSE-AI) and the implementation of a Training-of-Trainers (TOT) model to promote mentorship and program sustainability.

Methods: POCSE-AI curriculum included online didactics, hands-on workshop, and six-month deliberate practice (DP) phase with in person expert mentorship. Certification required completion of professional skills exam via simulated patient encounter and submission of independently obtained qualifying studies which met AI-confirmed diagnostic image quality standards. Certified CHRs scanned on tribal lands at organized screening events with case manager-led cardiology referral process, including 1) confirmatory echocardiography referral for abnormal POCSE-AI and 2) remote cardiologist image review for pre-defined borderline POCSE-AI findings. TOT was designed to promote certified CHRs to lead CHR trainers (CHR-LT), capable of bedside mentorship for non-certified Learner CHRs in DP phase. TOT sessions included physician-educator-led didactics on adult education theories, followed by day of structured scanning with volunteer patients. Post-training, CHR-LT completed questionnaires self-assessing their capability to mentor at bedside, reduce learner cognitive load, and create an adult learning environment.

Results: Ten CHRs (female 80%) began curriculum with median age 52 years (IQR 50-60). No CHRs had prior ultrasound training and two achieved certification. A total of 485 POCSE-AI studies were completed over 14 months at 6 community locations; 59% (285) at CHR office echo lab. Mean patient age was 45 years [IQR: 36 - 60], 60% female. Of patients screened, 111 (23%) were referred for confirmatory echocardiography for abnormal POCSE-AI. Of borderline POCSE-AI (n=65), 53 (78%) were re-classified as normal and 12 (18%) referred for confirmatory echocardiography. Learner CHRs (n=3), CHRs-LT (n=2), physician (n=1) and cardiac sonographer instructor (n=1) participated in TOT. CHR-LTs

(2/2) rated TOT sessions well with strongly agree for self-perceived improvement in all three competencies. In next 3 months, 2 CHR-LTs conducted 14 mentored POCSE-AI with 2 learner CHRs; 1 learner left the CHR program. To date, no new CHRs have been certified to scan independently.

Conclusions: Competency-based model can train novice learners and deploy POCSE-AI in underserved rural communities. TOT was feasible and supported community mentorship, but interventions are needed for more CHR certifications. On-going work includes referral pathway optimization and image quality feedback for continuing medical education.

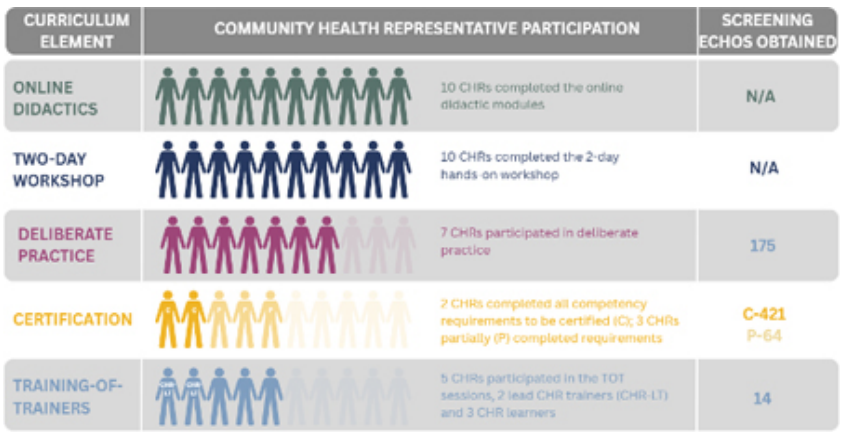


Figure 1: CHR Training Map