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Developing a Community-Based Screening and Referral Mechanism for Atrial Fibrillation in Low Resource Settings: "Smartphone Monitoring for Atrial Fibrillation in Real-Time – India (SMART-India)"

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Presenter Information

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Keywords

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DEVELOPING A COMMUNITY-BASED SCREENING AND REFERRAL MECHANISM FOR ATRIAL FIBRILLATION IN LOW RESOURCE SETTINGS: "SMARTPHONE MONITORING FOR ATRIAL FIBRILLATION IN REAL-TIME – INDIA (SMART-INDIA)

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BACKGROUND: Atrial fibrillation (AF), the world's most common arrhythmia, often goes undetected and untreated in low-resource communities, including India. Moreover, AF is an important risk factor for stroke, which plagues an estimated 1.6 million Indians annually. As such, early detection of AF and management of high-risk patients is critically important to decrease stroke burden in individuals with AF.

OBJECTIVE: The objectives of this study are to evaluate the age- and sex-stratified epidemiology of AF in Anand District, Gujarat India; characterize the profile of individuals who are diagnosed with AF; and determine the performance of two mobile technologies for community-based AF screening.

METHODS: We built on findings from our feasibility study and leveraged two novel technologies as well as an existing community health program to screen 2,500 people from 60 villages of Anand District. A single-lead EKG and a pulse-based app was used to screen each individual for AF 3 times over a period of 5 days. Participants with suspected arrhythmias were referred at a local tertiary-care hospital for further evaluation and follow up with a cardiologist. Participants diagnosed with AF were initiated on treatment as deemed appropriate by the cardiologist.

ANALYTICAL PLAN: Age- and sex-stratified AF prevalence for AF will be calculated using survey weights to estimate population prevalence. Sociodemographic and clinical factors associated with AF will be evaluated using multivariable regression methods. Performance of each mobile technology in detecting AF will be evaluated by measuring sensitivity, specificity, and discriminative ability while considering a 12-lead EKG interpretation as gold-standard.

CONCLUSIONS: Effective approaches for leveraging state-of-the-art technology to develop a screening and referral mechanism for AF in low-resource settings requires active participation with community partners and health workers.

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