INNOVATING ACCESS: MOBILE VASCULAR SCREENING AS A STRATEGY FOR EARLY PERIPHERAL ARTERY DISEASE DETECTION

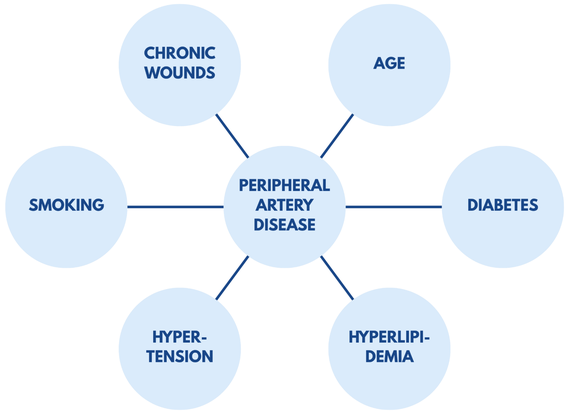
Maha Khan MS4[1], Sarah Shepler DNP, AGNP-C[1], and Thomas Serena MD[2]

INTRODUCTION

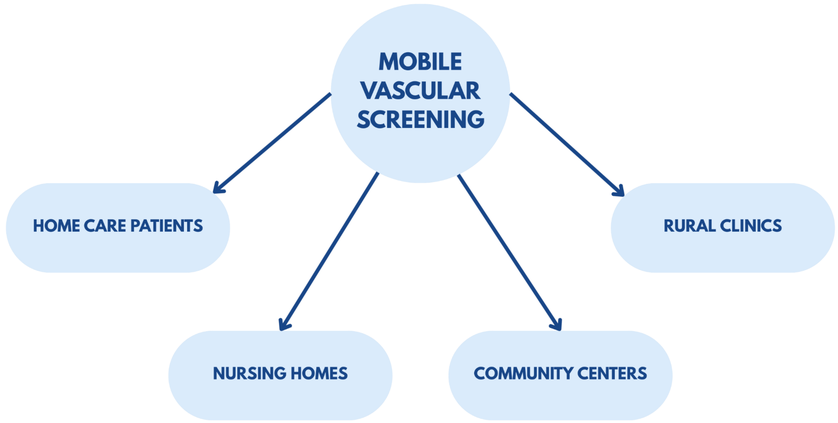
- Peripheral artery disease (PAD) affects nearly 200 million people worldwide and is primarily caused by progressive atherosclerosis.
- Approximately 11% of patients progress to chronic limb-threatening ischemia (CLTI), which is associated with high amputation and mortality rates.
- PAD often coexists with diabetes, hypertension, and hyperlipidemia, increasing systemic disease burden.
- These disparities highlight the need for earlier detection and novel care delivery approaches that reach high-risk individuals outside traditional healthcare settings.
- Diagnosis is frequently delayed in rural and underserved populations due to barriers in access to specialty care.

PAD RISK FACTORS

- Peripheral artery disease is strongly associated with several cardiovascular and metabolic risk factors that contribute to the development and progression of atherosclerosis. Patients most commonly screened in mobile wound care settings present with multiple PAD risk factors, including:
  - Diabetes mellitus, Hypertension, Hyperlipidemia, Tobacco use, Advanced age, Chronic kidney disease, Nonhealing lower-extremity wounds.
- These comorbid conditions are frequently encountered among patients receiving care in mobile clinics and significantly increase the likelihood of developing PAD.
- Because many individuals with these risk factors remain undiagnosed, targeted vascular screening in high-risk populations is critical for early identification of disease.



COMMUNITY-BASED VASCULAR SCREENING MODEL



- Community-based mobile screening programs aim to reduce disparities in vascular care by delivering diagnostic services directly to populations often disconnected from traditional healthcare systems. Mobile clinics can provide vascular assessments in settings such as:
  - rural communities, nursing facilities, community centers, and home-based care environments.
- By integrating screening into these settings, mobile programs reduce barriers including geographic isolation, transportation limitations, and limited access to vascular specialists. Previous mobile health initiatives have identified a high prevalence of previously undiagnosed cardiovascular disease in underserved populations.
- In some programs, over 40% of participants had newly diagnosed or uncontrolled hypertension or hyperlipidemia, highlighting the need to expand screening access. Early detection of vascular disease through community-based screening enables timely referral and management before the development of advanced ischemic complications.

CONCLUSIONS

Early identification of peripheral artery disease is critical to preventing progression to chronic limb-threatening ischemia and reducing the risk of major amputation. Mobile and community-based vascular screening programs represent an innovative approach to improving access to care for underserved populations. By integrating portable diagnostic technologies, standardized screening protocols, and clinician training, mobile clinics can provide reliable vascular assessments outside traditional healthcare environments. Through earlier detection, timely referral, and appropriate vascular intervention, community-based screening initiatives have the potential to improve patient outcomes, reduce amputation rates, and address disparities in vascular healthcare access.

1 The Anne Marie Burnett School of Medicine, Texas Christian University, Fort Worth, TX
2 SerenaGroup Inc., Cambridge, MA

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