Editorial Note:

Addressing diabetes in rural communities through integrated social care and innovation

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Abstract

This editorial note highlights the persistent barriers to effective diabetes management in rural communities globally. It emphasizes the significant impact of social determinants of health (SDoH) such as food insecurity, transportation, and social isolation on diabetes outcomes, noting that emotional and social needs remain largely unaddressed by current healthcare systems. The Social Care Logic Model is presented as a comprehensive framework to bridge this gap, offering a multi-pathway approach encompassing social risk screening, emotional support, community service connections, and tailored clinical care. The editorial advocates for integrating Artificial Intelligence (AI) with Community Health Workers (CHWs) to deliver scalable, culturally tailored interventions that improve access to services, reduce social risk, enhance emotional well-being, and support chronic disease self-management in these vulnerable populations. It concludes by urging a continued focus on innovative, compassionate models that integrate clinical and social care to better serve those most impacted by healthcare disparities.

Editorial

Individuals living with diabetes in rural areas across the world-including underserved regions in Iran, the United States, and beyond-face persistent barriers to effective management of their condition. These include limited access to healthcare services, high rates of diabetes-related complications, and social conditions that make daily self-care extraordinarily difficult. Social determinants of health (SDoH)-such as food insecurity, transportation barriers, housing instability, poverty, and social isolation-further contribute to poor outcomes across age groups.

Despite increasing recognition of the role of SDoH, emotional and social needs remain insufficiently addressed in diabetes care. While many healthcare systems continue to rely primarily on clinical interventions, they often overlook the broader social and emotional contexts that shape how people experience and manage their condition. This gap in care exists in rural communities across Iran, Appalachia, and similar settings around the world.

The Social Care Logic Model offers a comprehensive and practical framework for addressing these gaps. It provides a multi-pathway approach to care that includes social risk screening, emotional support, connections to community services, and tailored clinical care. By connecting individuals to needed resources and offering personalized, human-centered support, the model aims to reduce social risk, strengthen access to services, improve emotional well-being, and enhance chronic disease self-management. It is particularly relevant for underserved populations, where social needs often outweigh clinical access.

There is an urgent need for scalable, evidence-based interventions that integrate both human and technological resources to support individuals with diabetes in rural areas. One promising approach involves combining the strength of Community Health Workers (CHWs)-trusted individuals embedded in the community-with artificial intelligence (AI) tools such as HIPAA-compliant, SMS-based chatbots. The use of AI-based chatbots is particularly valuable in rural settings where access to healthcare providers and broadband internet is limited. Unlike traditional interventions that rely on in-person visits or smartphone apps, SMS-based chatbots can deliver tailored messages, reminders, and support through basic mobile phones. This increases accessibility and engagement among individuals who may otherwise be disconnected from health systems. When designed with cultural sensitivity and grounded in community context, AI-driven tools can also build trust and reinforce key health behaviors-creating a consistent presence in people's lives when support is most needed.

By leveraging the scalability and responsiveness of AI alongside the trusted presence of CHWs, this approach creates a bridge between innovation and community. It offers real-time, culturally tailored interventions that are responsive to the needs of those who often feel isolated from traditional healthcare systems. This dual strategy enhances the scalability and sustainability of community-based efforts, allowing interventions to adapt to local realities while maintaining consistent, high-quality support.

Whether in rural areas in Iran, distressed counties in Appalachia, or remote communities elsewhere in the world, the integration of the Social Care Logic Model with AI tools and local human networks offers a pathway forward. It reflects a shift toward holistic, person-centered care-one that recognizes that managing diabetes requires more than prescriptions and lab tests. It requires attention to lived experience, emotional well-being, and the conditions in which people try to stay healthy every day.

As we move toward the future, research and practice must continue to prioritize models that bridge the clinical and social worlds-offering innovative, compassionate, and practical care for those most often left behind.