One-Year Evaluation of a Community-Based Diabetes Education and Screening Program in the Bronx, NY

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Abstract

In October 2024, EmblemHealth launched an enhanced, community-based diabetes program in the Bronx, NY. The program was designed to do two things:

1. Integrated prevention, education, and screening interventions across two of our community center locations, local community sites, and in-home modalities.
2. Reduce health disparities and improve diabetes prevention and management through neighborhood-level engagement.

After 1 year, more than 8,000 individuals were screened for diabetes-related outcomes. Over 1,300 participated in structured educational sessions, and key clinical indicators, including HbA1c testing rates and primary care visit rates, significantly improved. This paper describes the program design, implementation, and results, illustrating the impact of place-based population health strategies on diabetes outcomes within underserved urban communities.

Background

Diabetes remains a growing public health crisis in the United States, affecting an estimated 11.6 percent of adults according to the CDC National Diabetes Statistics Report[1], with a disproportionate burden borne by low-income, immigrant, and minority communities.

The Bronx—home to 1.4 million residents—continues to experience the highest diabetes prevalence in New York City (NYC), along with significantly elevated rates of end-stage renal disease (ESRD), preventable hospitalizations, and diabetes-related amputations. According to the 2024 NYC Department of Health and Mental Hygiene (DOHMH) Citywide Diabetes Reduction Plan, as of 2018, 13 per 1,000 adult New Yorkers with diabetes experienced ESRD. Borough variation is also substantial; the Bronx has twice the rate of diabetes-related lower-extremity amputations compared with Queens (75.2 vs. 34.0 per 100,000 adults) (NYC DOHMH, 2024).

The 2025 NYC Diabetes City Council Report further reinforces the long-standing disparities in diabetes incidence, risk-factor distribution, social determinants of health (SDOH), and access to preventive care across NYC neighborhoods (NYC DOHMH, 2025). These structural inequities—including food insecurity, limited access to healthy foods, lower rates of screening, and gaps in primary-care engagement—are major contributors to the borough's disproportionate disease burden.

As a New York City–based nonprofit health plan, EmblemHealth has a longstanding mission rooted in community health improvement and health equity. Its Neighborhood Care model—15 community-based centers offering multilingual education, navigation, and wellness services to an average of 160,000

people annually—provides a foundation for delivering culturally responsive chronic-disease interventions. This program focused on many dimensions of health and wellness, supporting both EmblemHealth and non-members on their personal wellness journey and is offered at no cost to the individuals. Anybody can participate in classes on nutrition and fitness to help prevent and manage chronic conditions. The model integrates healthcare access, education, and social support into community-based settings. Building on this foundation, the Enhanced Community-Based Diabetes Education Program was created to improve screening rates, empower self-management, and reduce diabetes-related complications through culturally relevant and linguistically diverse interventions.

Program Goals

The Enhanced Community-Based Diabetes Education Program was designed to deploy evidence-based education, mobile and in-home screenings, and multi-modal prevention and management resources directly within neighborhoods, meeting residents where they live, learn, worship, and gather. The program encompasses 7 well-established self-care behaviors to support community members living with diabetes and pre-diabetes and ultimately reduce complications and improve quality of life. These areas include *Healthy Eating, Activity, Living with Diabetes (healthy coping), Medication Adherence, Monitoring, Problem Solving, and Reducing Risks*.

Methods

Program Design

The program was launched in October 2024 at two Bronx community locations and expanded across community locations through mobile screenings, partner-hosted events, and in-home modalities. Guided by population health best practices, the design incorporated hotspot mapping to identify ZIP codes with the highest opportunity for impact; cultural and linguistic tailoring to ensure accessibility in English and Spanish; and multi-modality delivery, including in-person workshops, virtual classes, mobile events, and home-based testing kits. The design also embedded a closed-loop follow-up process to ensure members received referrals to primary care, endocrinology, Medication Therapy Management, and SDOH resources.

The intervention was structured around three pathways: screening, prevention, and management. Community Diabetes Screening included A1c, kidney health, and retinal health assessments delivered through community and mobile mechanisms. Diabetes Prevention incorporated culturally tailored Diabetes Prevention Program (DPP) sessions, nutrition coaching, and cooking workshops. Diabetes Management focused on multi-week courses addressing lifestyle behaviors, medication literacy, mental health, and food-as-medicine approaches. A closed-loop measurement model tracked clinical, process, utilization, and SDOH outcomes.

Why the Bronx, NY?

The Bronx was selected through a data-driven prioritization process that used borough-level diabetes prevalence, ZIP–code–specific risk data, geospatial analysis, and SDOH indices. The selection was influenced by high diabetes prevalence—exceeding 15% in some neighborhoods—along with elevated ESRD and amputation rates, substantial food insecurity, fragmented preventive-care engagement, and the presence of two established EmblemHealth community center locations with strong community partnerships. This infrastructure created a high-readiness environment to identify "diabetes hot spots" for a scalable, high-impact intervention. This approach enabled ecosystem-based engagement, reaching individuals disconnected from the traditional health system (i.e., EmblemHealth's Neighborhood Care centers served as fixed hubs, and EmblemHealth then layered community outreach through faith organizations, senior centers, community health fairs, and local nonprofit organizations).

Data Collection & Evaluation

Evaluation metrics included process indicators (event volume, attendance, class completion), clinical outcomes (HbA1c changes, screening completion), utilization (primary-care visit rates, follow-up adherence), and SDOH outcomes (food insecurity identification and resolution). Analyses compared outcomes from Oct 2023–Sept 2024 (pre-period) to Oct 2024–Sept 2025 (post-period) using available claims, lab data, and validated self-reported data for non-members.

Program Results

This evaluation demonstrates that embedding chronic disease supports directly within neighborhoods—supported by a population-health infrastructure—can meaningfully shift outcomes in a high-disparity urban setting within a relatively short timeframe.

<u>Reach and Engagement</u>: 109 diabetes-related events, including 26 screening events, 26 Diabetes Prevention classes, and 57 Diabetes Management classes held across the Bronx; 1,345 participants (including 42% non-EmblemHealth members), averaging 12 attendees per session; over 8,000 screening opportunities delivered through in-person, in-home, and community channels.

<u>SDOH Screening and Support</u>: 2,860 members screened in person, telephonically, and using digital means such as text messages for social needs; 34% identified food insecurity, and 98% received direct support or referrals, such as coordination of transportation benefits, completing SNAP applications, or connecting members to food resources.

<u>Clinical Outcomes</u>: To compare clinical outcomes, EmblemHealth used available data, including claims & lab data, for individuals for whom data were available. Among those pre-diabetic and diabetic engaged in education or screening:

- 43% of participants improved HbA1c results within a year.

  - Avg. reduction: 0.19 points overall; 0.28 among Black and 0.41 among White members.
- 13% increase in primary-care visits.
- 9% increase in diabetic eye exams.
- 8% increase in blood-sugar testing.
- 4% increase in kidney-health evaluations.
- 2% overall improvement in HbA1c screening rates Bronx-wide.

Discussion

The Community Diabetes Wellness Program demonstrates that a data-driven, population-health-based intervention anchored in culturally responsive, neighborhood-level delivery can measurably improve diabetes outcomes in a high-need urban environment. By combining geospatial targeting, multi-modal engagement, and integrated social and clinical supports, EmblemHealth developed a scalable, replicable model to address chronic disease disparities. This work highlights the critical role nonprofit health plans can play in advancing equity, improving chronic disease outcomes, and strengthening community health infrastructure.

Several elements were foundational to the program's success:

- Proximity: EmblemHealth's community-based centers served as trusted, low-barrier access points; many participants had never engaged in diabetes education before. Collaborations with the YMCA, senior centers, and local churches extended reach and credibility.
- Cultural and linguistic tailoring: Spanish-language offerings and familiar nutrition content contributed to high engagement among Latino residents.
- Data-driven targeting: Geospatial analyses ensured resources were allocated to neighborhoods with the highest burden.
- Integrated health-social needs model: Screening for food insecurity alongside diabetes, risk-aligned lifestyle and clinical needs.
- Multi-modal design: In-person, virtual, and within-community screening addressed engagement barriers.

Conclusion

This community-based diabetes initiative achieved significant early success in improving screening, management, and prevention outcomes in the Bronx—an area historically burdened by diabetes-related disparities and a higher incidence of diabetes-related health complications. The model offers a scalable,

equity-centered blueprint for health plans and community organizations nationwide, aiming to close chronic disease gaps through place-based, integrated care.

Notably, the program contributed to improved clinical outcomes, higher preventive-care utilization, increased connection to primary care, and reduced gaps in diabetes-related screenings.

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References

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