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## Improving Diabetes Self-Management Through a Bilingual, Community-Based Training Program: Findings from a Three-Phase Pilot Study

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OBJECTIVES/GOALS: Evaluate the feasibility, acceptability, and effectiveness of a community-based diabetes management program. Assess participant knowledge, confidence, and skills as initial outcomes, and iteratively refine the pilot program across three phases using participant, facilitator, and observer feedback. METHODS/STUDY POPULATION: The pilot program included cohorts of English and Spanish speaking adults diagnosed with or at high risk for type 2 diabetes. The 5-week training addressed diabetes education, self-management skills, health literacy, and SMART goal setting. Participants completed pre-training, weekly post-session, post-training, and 1-month follow-up surveys to assess knowledge, confidence, satisfaction, and application of skills. Training facilitators and observers from our community engagement team completed weekly post-session surveys to understand strengths, weaknesses, and points of improvement. Feedback from participants, facilitators, and observers were used to iteratively refine the training between phases. RESULTS/ANTICIPATED RESULTS: Findings indicated comparative increases in participant knowledge, confidence, and skill application related to diabetes self-management between English and Spanish cohorts. One-month follow-up data suggested knowledge retention, progress toward SMART goals, and health improvements through application of self-management strategies. Improvements in participant knowledge, confidence, skill application, engagement, and satisfaction were demonstrated across refinement phases. Feedback from participants, facilitators, and observers guided iterative refinements to the training, including materials, format, and delivery across refinement phases, thus ensuring the training was tailored to the community, clear, and accessible. DISCUSSION/SIGNIFICANCE OF IMPACT: The pilot demonstrates the feasibility, acceptability, and promising initial outcomes of a bilingual, community-based diabetes management program with potential public health significance. Iterative feedback informed refinements and improved implementation, supporting adaptation of this model for broader community health applications.

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## From registry to research: Building trust and partnerships to advance precision health in communities at risk for Alzheimer's disease

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OBJECTIVES/GOALS: Increase enrollment of populations reluctant to participate in precision health and Alzheimer's disease research by leveraging trusted partnerships, responsive engagement, and a registry-enabled referral pathway. METHODS/STUDY POPULATION: Using a four-way partnership (Institute of Clinical and Translational Sciences Precision Health, research lab partners, Balls-Berry Lab, and community organizations), we implemented a community tailored engagements for adults aged ≥65 at risk for Alzheimer's disease. Activities included Alzheimer's education sessions, a sleep-health dinner forum, and direct referrals to active studies. Participants were identified via the local research registry and community networks. Trusted messengers led discussions, facilitated warm hand-offs to coordinators, and supported structured follow-up to sustain engagement and retention. RESULTS/ANTICIPATED RESULTS: In 2025, community events reached >170 participants; >95% identified as Black/African American, and >65% were aged ≥65 years. Across events, about a fourth completed research inquiry cards, with on-site warm hand-offs increasing direct enrollment in active studies. Engagements strengthened trust, improved research literacy, and established a replicable, scalable model. Anticipated 2026 outcomes include expansion to additional precision-health domains, enhanced longitudinal tracking of referrals and enrollments, and broader implementation with urban and suburban partners. DISCUSSION/SIGNIFICANCE OF IMPACT: Culturally grounded, community engaged strategies coupled with registry-enabled referrals can measurably improve recruitment, retention, and trust in precision health research, addressing persistent disparities in Alzheimer's disease studies and accelerating equitable translation.

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## A supervised strength and outpatient exercise regimen in pediatric patients with acute lymphoblastic leukemia (STRONGER ALL)

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OBJECTIVES/GOALS: The objective of this pilot interventional study is to assess feasibility and preliminary efficacy of implementing a supervised, outpatient aerobic, and strength exercise regimen in newly diagnosed children and young adults with ALL. We hypothesize that early implementation of exercise is feasible and may prevent cardiometabolic late effects. METHODS/STUDY POPULATION: We aim to enroll 10–20 children with newly diagnosed ALL between 11 and 21 years old to participate in a 12-month supervised, structured outpatient exercise regimen (STRONGER ALL). This regimen consists of low- to moderate-intensity aerobic and strength exercises (either in person or coached virtually per patient preference) 3 times a week. This study includes 2 physical fitness assessments: 1) baseline and 2) end of study. Assessments include resting energy expenditure, peak oxygen uptake, bone density, upper and lower extremity strength, flexibility, and

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