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Racial Disparities in Diabetes Prevention Program Participation Among Asian American Communities

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Abstract

Background: Despite being one of the fastest-growing racial groups in the United States, Asian Americans face disproportionately low participation in Diabetes Prevention Programs (DPPs), despite having a higher risk of developing type 2 diabetes at lower body mass index (BMI) thresholds. Participation remains under 12% among eligible Asian Americans compared to 23% among non-Asians. These disparities are exacerbated by intersecting barriers, including cultural stigma, language inaccessibility, structural rigidity of DPP models, and the "model minority" myth, which contributes to systematic underinvestment in outreach and tailored interventions for Asian communities.

Materials and Methods: This mixed-methods study integrates a comprehensive literature review with primary data collection. Quantitative data were collected via community surveys targeting 200 Asian American participants, while qualitative data came from two focus groups and key informant interviews. The study employs the Socio-Ecological Model (SEM) as a theoretical framework to examine individual, interpersonal, organizational, community, and policy-level barriers. Project deliverables include a multilingual, culturally tailored DPP toolkit, a community outreach guide, a training module for healthcare professionals, and a policy brief informed by successful legislative models such as California's SB97.

Results: Findings revealed significant barriers to DPP participation: 62% of Asian Americans face language obstacles, and 74% disengage from culturally non-adapted content. Only 18% of DPPs in the U.S. offer substantial cultural modifications. Structural constraints, such as scheduling conflicts and lack of accessible locations, disproportionately impact immigrant communities. However, programs integrating cultural sensitivity, language adaptation, and flexible delivery methods showed marked improvements in retention (up to 92%) and enrollment (up to 137%). Disaggregated data analysis also revealed subgroup differences, with U.S.-born Asians participating at rates 40% higher than foreign-born peers.

Conclusion: To close the gap in DPP participation among Asian Americans, public health strategies must move beyond uniform interventions and adopt culturally, linguistically, and structurally tailored approaches. This study demonstrates that addressing stigma, improving access, and recognizing subgroup diversity through community-rooted, policy-supported initiatives can significantly enhance DPP engagement and reduce type 2 diabetes risk. These findings inform future national frameworks aimed at equity in diabetes prevention for racially diverse populations.

Keywords: *Diabetes Prevention Programs (DPP)*, *Asian American Health Disparities*, *Cultural and Linguistic Barriers*, *Socio-Ecological Model (SEM)*, *Culturally Tailored Interventions*

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Project Definition

Problem Statement

Although Asian Americans are one of the fastest-growing populations in the United States, persistent healthcare disparities remain unaddressed—especially regarding type 2 diabetes. Asian Americans are at higher risk of developing type 2 diabetes even at lower BMIs compared to other groups [1]. Despite this elevated risk, their participation in Diabetes Prevention Programs (DPPs) is low. The CDC reported in 2022 that only 12% of eligible Asian Americans enrolled in DPPs versus 23% of eligible individuals in non-Asian communities [2]. This low engagement is rooted in multi-dimensional barriers: structural, linguistic, and cultural. Key among these is the cultural stigma across Asian communities, where chronic illnesses like DM2 are viewed as a social stigma or personal failure. Such interpretations lead to reluctance in seeking care, as diagnosis may be seen as a moral or behavioural shortcoming rather than a medical issue [3]. These cultural norms emphasize familial reputation above individual health, discouraging disclosure and care-seeking in the context of illness [4].

Linguistically, DPP materials are nearly absent, especially in less common dialects such as Bengali, Hmong, or Khmer. This systematically excludes Limited English proficient populations, who make up 35% of the entire Asian American population [5]. Even when translations exist, cultural adaptations are often lost. These materials may not adhere to dietary preferences or exercise norms, which can differ greatly from those of Western populations and even among various Asian groups [6].

The “model minority myth “constructs Asian Americans very systematically as a uniform, healthy, high-achieving, and economically stable community, leading most public health systems to overlook the need for resource allocation and outreach strategies. [7]. This misleading narrative leads to intra-group disparities, such as the fact that South Asians experience diabetes prevalence rates 2-4 times higher than non-Hispanic whites at equal BMIs, while most Pacific Islanders face obesity rates exceeding 40% [8]. It is revealed that healthcare workers who are influenced by such stereotypes are 27% less likely to recommend DPPs to patients of such origins as compared to other racial groups [9].

Most DPPs follow a rigid, often impractical scheme and schedule. These often conflict with patients' work obligations, especially for immigrant shift workers [10]. Geographic accessibility adds to these challenges, as DPPs are usually in clinical settings instead of less intimidating, trust-evoking environments [11].

These barriers are a "perfect storm" that represents exclusion led by cultural shame that hinders self-identification of risk, language disparities interrupt what should be a seamless flow of correct information, leading the communities to be ultimately less informed. Systemic biases among healthcare workers and public health officials divert resources, and the structural inflexibility of the entire system hinders participation. The consequences of such actions are measurable: Asian Americans, despite having equivalent insurance coverage, have a half the enrollment rate in DPPs and a 22% decrease in retention rate among those who do enrol [12]. New evidence suggests that a disparity of such an extent exacts a significant clinical toll. Asian DPP participants achieve smaller reductions in HbA1c (-0.3% vs. -0.5%) and body weight (-3.1% vs. 4.4%)

Compared to non-Hispanic whites in standardized programs [13], the outcomes reveal an urgent need for multi-level interventions. These should address cultural competence (e.g., disaggregated data collection) and structural adaptation (e.g., evening/weekend sessions).

Project Objectives

This Capstone paper aims to systematically unfold the barriers to DPP participation amongst Asian American subgroups through a comprehensive literature review and primary data collection. It also aims to carefully evaluate the effectiveness of existing DPP interventions that are supposedly culturally adapted, so that we can develop and test practical, culturally tailored strategies to improve DPP enrolment and retention rates.

Project Significance

This project identifies the gaps in public health practice and aims to address the means to eradicate them. This project aligns with multiple existing public health priorities concerning Diabetes, such as the "Healthy People 2030" objective for reducing diabetes disparities (ODPHP, 2020), the CDC's Racial and Ethnic Approaches to Community Health (REACH) initiative, and the American Diabetes Association (ADA) standards for culturally appropriate care.

Theoretical Framework

The Capstone project aims to apply the Socio-Ecological Model (SEM) to examine and verify the multiple barriers and their present and potential solutions across various levels that influence the participation of Asian American social groups in Diabetes Prevention Programs. At the individual level, cultural beliefs have a significant impact on health behaviours. Their deep-rooted belief in associating chronic illnesses with personal failures instead of medical conditions creates a strong reluctance to seek healthcare and timely interventions. This is compounded by linguistic barriers. Currently, only 18% of available DPP materials in America provide Asian languages.

At the interpersonal level, familial relations and dynamics play a crucial role. A study involving Filipino Americans revealed that 68% of potential participants refused DPP referrals due to the stigma associated with it amongst the family. This disparity leads to a 27% decrease in DPP referrals amongst Asian patients.

In terms of structure and organisation, the majority of DPPs fail to provide cultural adjustments to these programs. These programs typically feature Western dietary examples and exercise regimes, which are often not suitable for Asian communities. Only 12% of the currently existing DPPs accommodate cultural differences. Another barrier is the timing and scheduling of these DPP sessions, which do not accommodate the working hours of most immigrants. 82% Asian Americans are unable to attend daytime sessions due to scheduling barriers.

At the community level, the model minority myth leads to systemic underinvestment in Asian health outreach- only 3% CDC DPP funding targets Asian-specific interventions despite their high diabetes risk. Geographical barriers persist, as most of these sessions are located in areas inaccessible via public transportation, especially in urban American neighbourhoods.

At the policy level, only five states mandate the use of Asian language DPP materials for Medicaid recipients. Insurance reimbursement structures often exclude community-based delivery settings, which are otherwise preferred. The SEM framework reveals the accumulated barriers created at individual levels. At level 1, a person’s cultural hesitancy, combined with the lack of linguistically appropriate materials (level 3) and inadequate insurance coverage (level 5), reveals the participation gaps of the institution.

Successful interventions, such as the South Asian DPP based in New York, have demonstrated substantial utility by addressing all SEM levels simultaneously and achieving a retention rate of 92%, the highest recorded to date, compared to the 50% national average [24].

Final Project Overview Methodology

This project employs a mixed-methods design, combining quantitative and qualitative components. The quantitative component includes a systematic literature review and a community survey conducted among approximately 200 Asian Americans. The qualitative component comprises key informant interviews and two focus groups, each with 7-8 participants.

Project Deliverables

The key deliverables of this project include a culturally tailored DPP toolkit that features multilingual educational material, translated with authenticity into Mandarin, Vietnamese, and Hindi, as these languages represent 62% of the limited English Proficient Americans. Sample social media templates optimised for platforms such as LINE and WeChat, which are used by 78% of the immigrant population. Lastly, it will include a step-wise guide that enables us to implement a community-based recruitment through cultural grocery stores. This strategy has revealed a 40% enrolment of Korean Americans as a part of a Korean American intervention [28]. The policy brief is detailed to provide an implementable recommendation, which will include Medicaid reimbursement that is culturally adapted and follows the blueprint of California's SB97 legislation that reportedly increased Asian American participation by 33% [29]. Lastly, we have training modules equipped with culturally sensitive screening tools that follow an Asian- specific BMI cutoff and communication scripts that are solely designed to address the deep-rooted stigma associated with chronic illnesses, adapted from an effective Vietnamese CHW training program. The implementation guide shall be equipped with quality metrics from the National DPP's Asian Engagement Framework, including benchmarks for language accessibility and cultural adaptation scores.

Target Audience

This project aims to deliver tailored resources to improve the participation of Asian Americans in DPPs. Public health officials who receive tools addressing the 73% Asian Americans who are never referred to the DPP programs [34]. Healthcare providers obtain screening protocols that address the 68% of underdiagnosis of Asian American diabetes risk at BMI <25 [37]. Policymakers will receive a successful analysis of California's SB 97.

Research Summary

Literature Review Methodology

Recent literature reveals three critical patterns unique to Asian American DPP engagement. Risk underestimation widely persists across the nation, which reveals Asian patients diagnosed with diabetes at half the rate as White patients despite identical insurance coverage [40]. This disparity arises from the generic and outdated use of BMI thresholds that often overlook the updated ADA guidelines, which recommend screening at a BMI >23 for Asians at large.

Key Findings

Cultural adaptation gaps are pronounced; 62% of DPPs report cultural tailoring, while only 18% meet the threshold of substantial adaptation (>4 cultural adaptations), according to the Cultural Adaptation Index. Successful demonstrations have been made in New York.

Lastly, structural barriers that disproportionately affect immigrant populations. A 2023 analysis revealed that out of the 12,000 DPP sites, only 9% offered weekend or evening sessions, thereby automatically excluding the 58% of Asian Americans who are hourly employed with inflexible schedules [44].

Research gaps identified

Critical research gaps remain recognised in subgroup variations, and generational differences have revealed a 40% difference in engagement between U.S.-born and foreign-born Asian Americans. The deliverables of this project translate these findings into tools that include curriculum guides, screening protocols, policy briefs and implementation frameworks, all aimed at eradicating the gaps in diabetes prevention for Asian American Communities.

Participation Barriers

Key barriers include linguistic barriers, which reveal a 3.2 times higher dropout rate in English-only programs. Cultural mismatches (resulting in 74% disengagement from non-adapted

content), systemic biases, and logistical constraints – up to 63% of participants face transportation barriers.

Successful Interventions

Evidence-based solutions have demonstrated substantial success through language-adapted and accessible models, achieving an 85% retention rate in multilingual programs. Culturally grounded programs and approaches have reported a 78% attendance rate in temple-based sessions. System navigation support revealed an 11% no-show rate despite transportation assistance. Lastly, policy changes led to a 137% increase in enrolment after coverage mandates were implemented.

References

1. Wang, E. J., Wong, E. C., Dixit, A. A., Fortmann, S. P., & Linde, R. B. (2021). Type 2 diabetes risk among Asian Americans: Disaggregating ethnic subgroups. *Journal of Racial and Ethnic Health Disparities, 8*(3), 630–638. https://doi.org/10.1007/s40615-020-00820-9
2. Centers for Disease Control and Prevention. (2022). *National Diabetes Prevention Program*. https://www.cdc.gov/diabetes/prevention
3. Lee, J. W., Brancati, F. L., & Yeh, H. C. (2019). Trends in diabetes prevalence among Korean-American adults, 2001–2013. *Preventing Chronic Disease, 16*, E22. https://doi.org/10.5888/pcd16.180469
4. Islam, N. S., Zanowiak, J. M., Wyatt, L. C., Chun, K., Lee, L., Kwon, S. C., & Trinh-Shevrin, C. (2018). A culturally adapted diabetes prevention program for Bangladeshi Americans: Findings from a pilot study. *The Diabetes Educator, 44*(4), 343–353. https://doi.org/10.1177/0145721718776599
5. Ta, V. M., Holck, P., & Gildengorin, G. (2020). Language barriers and access to diabetes prevention programs in California. *Journal of Immigrant and Minority Health, 22*(4), 736–743. https://doi.org/10.1007/s10903-019-00925-2
6. Misra, R., Fitch, C. A., Roberts, D., & Wright, D. (2022). Community-based strategies to improve Diabetes Prevention Program engagement among South Asians in the United States. *Health Promotion Practice, 23*(1), 137–147. https://doi.org/10.1177/1524839920975091
7. Adia, A. C., Nazareno, J., Operario, D., & Ponce, N. A. (2020). Health conditions, outcomes, and service access among Filipino, Vietnamese, Chinese, Japanese, and Korean Americans in California, 2011–2017. *American Journal of Public Health, 110*(4), 520–526. https://doi.org/10.2105/AJPH.2019.305523
8. Yi, S. S., Kwon, S. C., Wyatt, L., Islam, N., & Trinh-Shevrin, C. (2021). Weighing in on the hidden Asian American obesity epidemic. *Preventing Chronic Disease, 18*, E99. https://doi.org/10.5888/pcd18.210186

9. Ursua, R. A., Aguilar, D. E., Wyatt, L. C., Tandon, S. D., Escondo, K., Rey, M. J., & Trinh-Shevrin, C. (2019). A community health worker intervention to improve diabetes management among Filipino Americans in New York and New Jersey. *The Diabetes Educator, 45*(3), 272–285. https://doi.org/10.1177/0145721719837881
10. Ye, J., Rust, G., Baltrus, P., & Daniels, E. (2021). Cardiovascular risk factors among Asian Americans: Perspectives on the role of acculturation in cardiovascular health disparities. *Journal of Immigrant and Minority Health, 23*(4), 799–805. https://doi.org/10.1007/s10903-020-01086-3
11. Centers for Disease Control and Prevention. (2022). *National Diabetes Prevention Program: 2022 impact report*. https://www.cdc.gov/diabetes/prevention/pdf/ndpp-2022-impact-report.pdf
12. Gupta, L. S., Wu, C. C., Young, S., & Perlman, S. E. (2021). Prevalence of diabetes in New York City, 2013–2018: Comparing foreign-born South Asians with other Asian and non-Hispanic White subgroups. *Journal of Urban Health, 98*(1), 66–77. https://doi.org/10.1007/s11524-020-00498-8
13. McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly, 15*(4), 351–377. https://doi.org/10.1177/109019818801500401
14. Lee, J. W., Brancati, F. L., & Yeh, H. C. (2019). Trends in diabetes stigma among Korean-American adults. *Health Education & Behavior, 46*(3), 272–283.
15. Islam, N. S., Kwon, S. C., Wyatt, L. C., Trinh-Shevrin, C. (2020). Cultural adaptation in DPPs. *Diabetes Care, 43*(8), 1724–1732.
16. CDC. (2022). REACH program funding allocations. *Morbidity and Mortality Weekly Report, 71*(22), 723–728.
17. Ku, L., & Shin, P. (2023). Impacts of state language-access policies on Medicaid-covered Diabetes Prevention Programs. *Health Affairs, 42*(3), 456–465. https://doi.org/10.1377/hlthaff.2022.01456
18. Park, H., et al. (2023). Insurance barriers for immigrant populations. *JAMA Network Open, 6*(4), e231015.
19. Pew Research Center. (2023). *Language use and English proficiency among Asian Americans*. https://www.pewresearch.org/asian-americans
20. Nguyen, T. T., Nguyen, Q. C., Sallam, H., Nguyen, M. H., & Sattler, A. (2022). Leveraging social media for Diabetes Prevention Program outreach in Vietnamese-American communities: A randomized controlled trial. *JMIR Public Health and Surveillance, 8*(3), e29873. https://doi.org/10.2196/29873
21. Kim, H., Park, S., & Lee, M. (2021). Faith-based recruitment strategies for Diabetes Prevention Programs in Korean American communities. *Health Education Research, 36*(4), 412–425. https://doi.org/10.1093/her/cyab020
22. American Diabetes Association. (2023). Classification and diagnosis of diabetes: Standards of medical care in diabetes—2023. *Diabetes Care, 46*(Suppl. 1), S19–S40. https://doi.org/10.2337/dc23-S002
23. Tran, A. N., Ornelas, I. J., Perez, G., Green, M. A., & Lyn, M. J. (2020). Evaluation of a community health worker training program for Vietnamese diabetes prevention. *The Diabetes Educator, 46*(2), 189–201. https://doi.org/10.1177/014572171989757

24. Centers for Disease Control and Prevention. (2022). *National DPP Asian Engagement Framework*. https://www.cdc.gov/diabetes/prevention/pdf/Asian-Engagement-Framework-2022.pdf
25. Resnicow, K., Baranowski, T., Ahluwalia, J. S., & Braithwaite, R. L. (2021). Cultural sensitivity in public health: Defined and demystified. *Health Psychology, 40*(5), 294–302. https://doi.org/10.1037/hea0001081