

ADDRESSING DIABETES-RELATED AMPUTATION IN TEXAS: RESPONSE TO SB 1677

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EXECUTIVE SUMMARY

Senate Bill 1677 called for strategies to reduce diabetes-related lower-extremity amputation. This report responds using two complementary approaches: a compilation and analysis of statewide surveillance and hospitalization data, and a qualitative interview study with stakeholders spanning clinical, payer, pharmacy, and lived-experience perspectives.

The data show a real and worsening burden, concentrated in the same regions. Diabetes-associated amputation hospitalizations rose from 16,506 in 2022 to 18,536 in 2024, with both diabetes prevalence and amputation rates highest in South and West Texas border regions. Uninsured patients are disproportionately represented among amputation hospitalizations (15.6%) relative to diabetes hospitalizations overall (9.1%), pointing to access and coverage, not just clinical severity, as drivers of who loses a limb. Limb salvage procedures succeed in avoiding same-admission amputation roughly 87% of the time.

The interviews suggested that barriers were rarely about a lack of clinical knowledge and almost always about how care is paid for, coordinated, and communicated. Prevention efforts, including foot exams, PAD (peripheral arterial disease) screening, and pre-diabetes screening, are the highest-leverage opportunity for improving outcomes. However, their implementation is hindered by limited mechanisms for incentivizing providers, aligning with quality measures (e.g., HEDIS), and securing reimbursement. Co-located, multidisciplinary clinics were proposed independently by interviewees across nearly every role as an excellent solution, reducing referral issues, speeding up care, and allowing for less burden on patients with respect to time off work and travel. Coverage lags behind for newer, evidence-supported technologies and medications (e.g., GLP-1/GIP therapies, continuous glucose monitors, remote ulcer-monitoring "smart mats," and topical oxygen therapy), and diabetes self-management education and support have been shrinking in some areas due to funding cuts. Public awareness is

widely regarded as important, yet no organization currently takes responsibility for it at scale.

Recommendations resulting from the interviews are organized around SB 1677's four statutory categories: prevention and screening; increasing public awareness; best practices for reducing amputations; and access to treatment, such that findings map to a specific legislative requirement. Taken together, the data and interviews indicate that Texas does not lack the clinical knowledge needed to reduce diabetes-related amputation; what is missing is consistent alignment between what the evidence supports and how care is funded, coordinated, and communicated statewide.

DISCLAIMER

This report draws upon multiple data sources to provide the most comprehensive and current information available. Because data originates from different systems, reporting periods, and collection methodologies, some statistics may vary slightly across sections of the report. In addition, while all data presented reflect the most current information available at the time of publication, the years represented may differ depending on source-specific release schedules. Minor differences may also result from variations in analytic approaches, such as the treatment of missing data, weighting procedures, or other standard statistical methods. These variations do not affect the overall interpretation of the findings.

INTRODUCTION

The number of diabetes mellitus diagnoses is on the rise over each consecutive year in the United States. In 2023, an estimated 40.1 million people in the United States (12.0% of the population) were living with diabetes, including 29.1 million individuals with a diagnosed condition ([CDC, 2026](#)). The burden of diabetes has increased substantially over the past two decades; among U.S. adults, the age-adjusted prevalence of total diabetes rose from 11.2% in 2001-2004 to 13.5% in 2021-2023 ([CDC, 2026](#)). The increasing diabetes burden is accompanied by an increased risk of chronic complications, including cardiovascular disease (heart attack and stroke), chronic kidney failure, and vision loss or blindness ([CDC, 2024](#)). Additionally, one of the biggest concerns for those diagnosed with diabetes is non-traumatic lower-extremity amputations (NLEAs) ([Barnes et al., 2020](#)). Diabetes-related lower-extremity amputations are often preceded by peripheral artery disease (PAD), and diabetic foot ulcers; 50-60% of ulcers become infected, and approximately 20% of moderate to severe infections result in lower-extremity amputation ([American Diabetes Association, 2026](#); [Armstrong et al., 2023](#)).

The incidence and prevalence of diabetes-related lower-extremity amputations are not equally distributed across populations ([Déruaz-Luyet et al., 2020](#)). Barnes et al. ([2020](#)) reported that individuals with diabetes and PAD who were from rural area or identified as Black or Native American faced higher amputation risk. Similarly, Hispanic patients had lower rates of lower-extremity revascularization and were more likely to present with limb-threatening ischemia than non-Hispanic White patients, consistent with broader evidence of healthcare access barriers among Hispanic adults with diabetes and PAD ([Morrissey et al., 2007](#); [Bazikian et al., 2023](#)). Older age is associated with a greater risk of lower-extremity amputation among individuals with diabetes, with incidence rates increasing across age groups and reaching highest levels among the oldest adults ([Gandhi et al., 2020](#)). Sex differences have also been reported, with men with diabetes experiencing a higher risk of lower-extremity amputation, although women may

experience higher mortality following amputation ([Fan & Wu., 2021](#); [Peek, 2011](#)). Lower socioeconomic status is also associated with increased amputation risk, as individuals with lower incomes and those insured through Medicaid or lacking insurance are more likely to undergo major amputation rather than limb-salvage revascularization procedures ([Henry et al., 2011](#); [Hughes et al., 2019](#)).

Diabetes and diabetes-related amputations place substantial financial and emotional strain on individuals, families, and the health care system. Diabetes is estimated to cost the United States \$413 billion annually ([Khavjou et al., 2025](#)), making it the country's most expensive chronic condition ([American Diabetes Association, 2018](#); [Dieleman et al., 2016](#)). In 2022, people with diabetes spent 2.6 times more on medical care than those without diabetes ([Parker et al., 2024](#)).

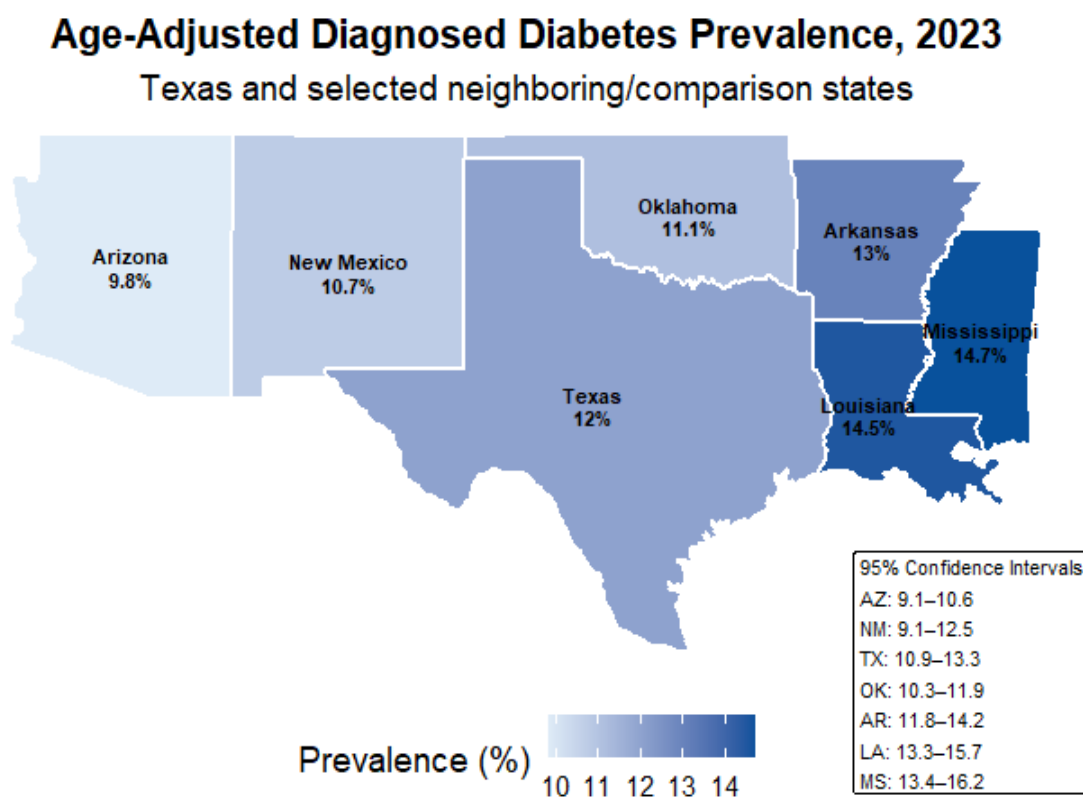
METHODS PART 1: QUANTITATIVE DATA AVAILABLE

The infographics were developed using secondary data from publicly available sources, including government agencies, professional organizations, and peer-reviewed literature. Data sources included the Centers for Disease Control and Prevention (CDC), Texas Behavioral Risk Factor Surveillance System (BRFSS), the American Diabetes Association (ADA), the National Institutes of Health/National Institute of Diabetes and Digestive and Kidney Diseases (NIH/NIDDK), Texas Demographic Center, and published studies on the economic burden. The data included estimates of diabetes prevalence and incidence, amputation rates, economic costs, complications, projections, and diabetes-related research and prevention funding. The information was synthesized and presented visually to highlight the burden of diabetes in Texas. The maps present comparisons across selected states in the surrounding area, and within Texas, across public health regions and counties.

This report also incorporates original analysis of Texas Health Care Information Collection (THCIC) Public Use Data Files (PUDF), quarterly inpatient base files for 2022–2024. THCIC PUDF are de-identified, facility-level discharge records covering all licensed Texas hospitals. Diabetes-associated lower extremity amputations were identified using ICD-10-CM diagnosis codes E10–E13 (Type 1, Type 2, and other specified diabetes mellitus) in any diagnosis position, combined with ICD-10-PCS procedure codes with prefixes oY6 and oX6 (lower extremity detachment) in any procedure position. The unit of analysis is the inpatient hospitalization; one patient may contribute multiple records across the study period. County-level rates were computed using Texas Demographic Center July 1 vintage population estimates and pooled across three years (2022–2024) to stabilize small-area estimates; counties with a pooled population below 15,000 were suppressed. All procedure identification relies on ICD-10-PCS. THCIC PUDF are a subset of all hospital discharge data; facilities with late or incomplete submissions may not be fully represented, and counts may differ modestly from figures reported directly by Department of State Health Services (DSHS), which

has access to the complete, non-public dataset. Data sources across sections of this report reflect different years and collection methodologies; minor variation in statistics across sections does not affect overall interpretation.

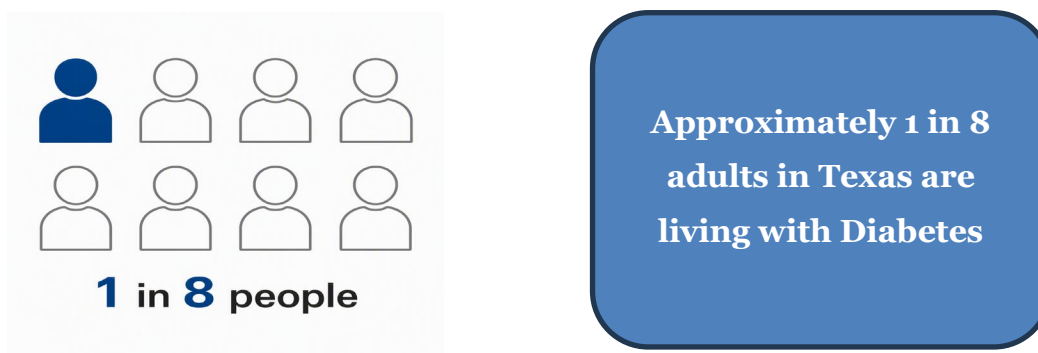
FIGURE 1. BURDEN OF DISEASE IN TEXAS AS COMPARED TO OTHER STATES



Data Source: Centers for Disease Control and Prevention. (2026). National Diabetes Statistics Report. U.S. Department of Health and Human Services.

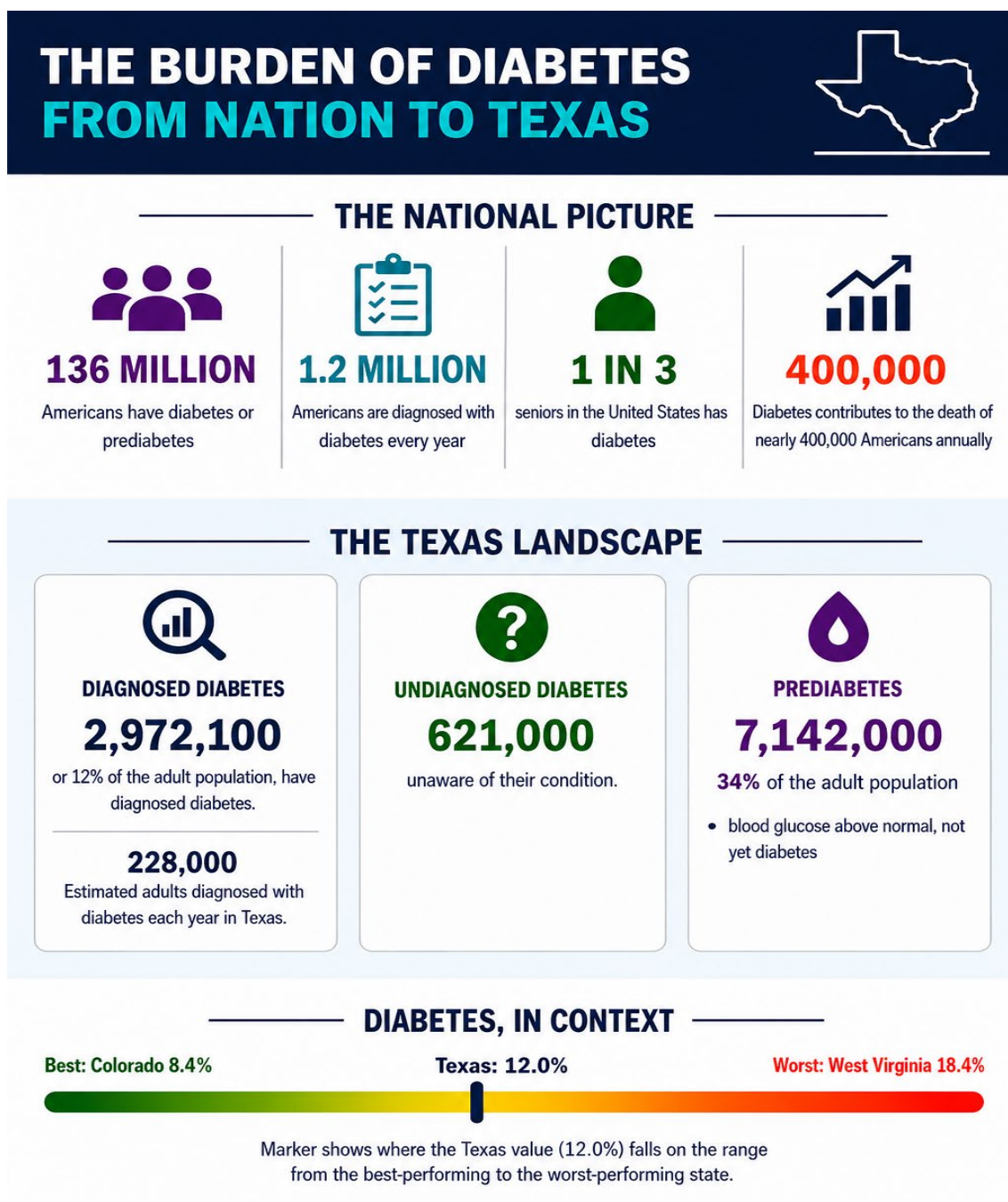
KEY FINDINGS / HOW TO READ THE MAP

- The map shows an age-adjusted diagnosed diabetes prevalence rates for Texas and selected neighboring states in 2023.
- Darker blue indicates a higher percentage of adults diagnosed with diabetes; lighter blue indicates a lower percentage.
- **Texas:** About **12%** of adults had diagnosed diabetes in 2023, higher than Arizona (9.8%), New Mexico (10.7%), and Oklahoma (11.1%).
- **Neighboring states:** Rates were higher in Arkansas (13%), Louisiana (14.5%), and Mississippi (14.7%).

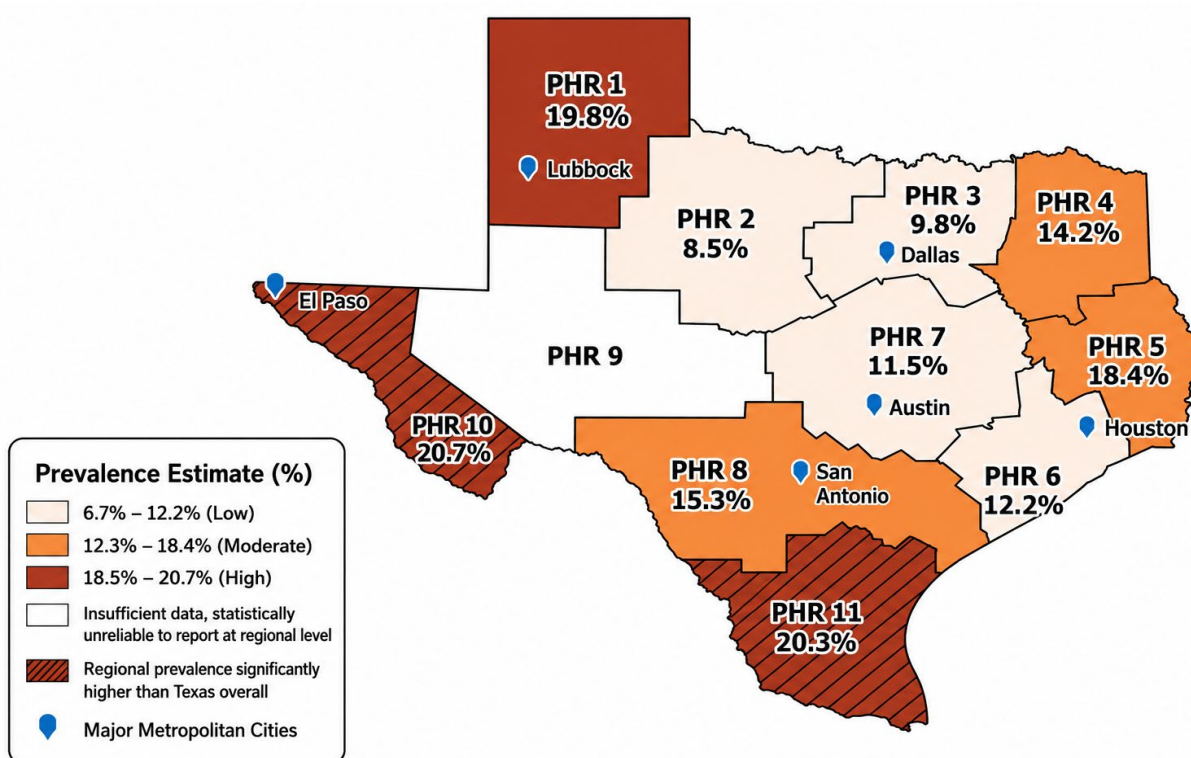
FIGURE 2. BURDEN OF DISEASE WITHIN TEXAS

Source: Texas Behavioral Risk Factor Surveillance System Public Use Data File, 2011-2023, Texas Department of State Health Services, Center for Health Statistics, Austin, TX.

FIGURE 3. OVERVIEW OF DIABETES BURDEN IN THE UNITED STATES AND TEXAS



Sources: See References, Figure 3.

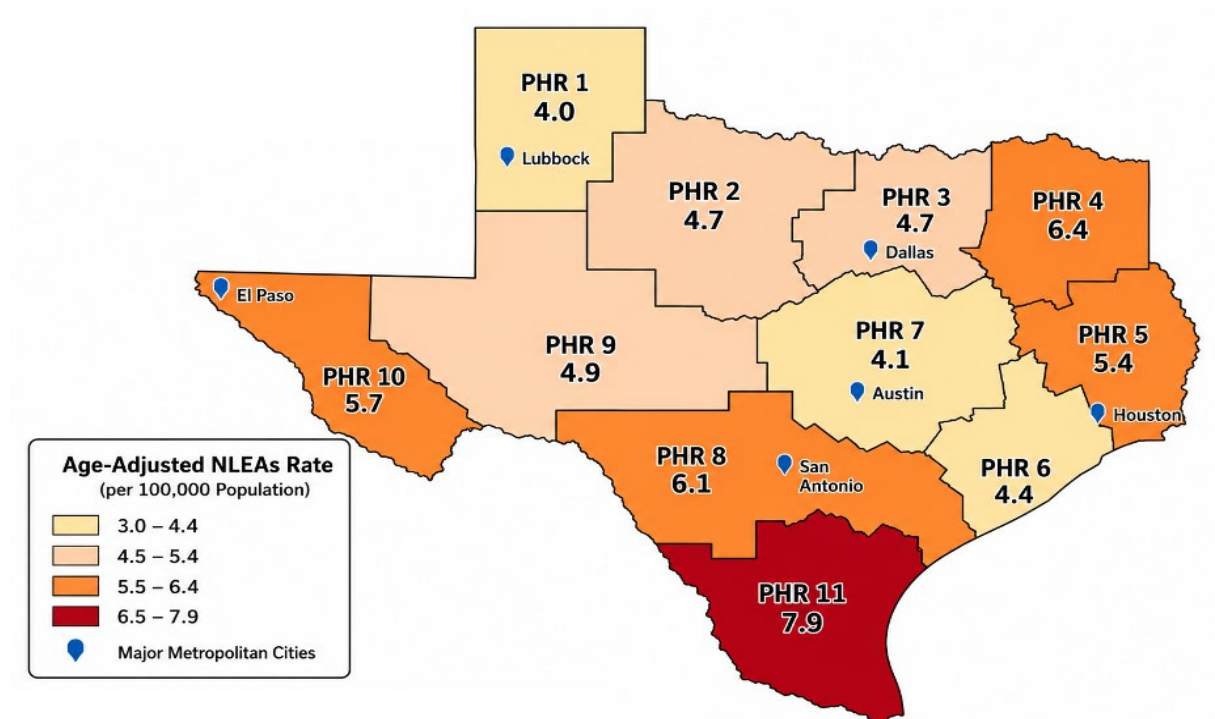
FIGURE 4. BURDEN OF DISEASE BY PUBLIC HEALTH REGIONS

Data Source: 2023 Texas Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.

KEY FINDINGS / HOW TO READ THE MAP

- Diabetes prevalence estimates vary across Texas, ranging from 8.5% in PHR 2 to 20.7% in PHR 10.
- The highest prevalence is observed in PHR 10 (20.7%), followed by PHR 11 (20.3%) and PHR 1 (19.8%).
- PHRs 5 (18.4%) and 8 (15.3%) also report moderate-to-high prevalence.
- The lowest prevalence is found in PHR 2 (8.5%) and PHR 3 (9.8%).
- PHR 9 does not have a reliable estimate available at the regional level.
- Regions in far West Texas (PHRs 10 and 1) and South Texas (PHR 11) show the highest burden.
- Four regions (PHRs 10, 11, 1, and 5) have prevalence higher than the overall Texas estimate.

FIGURE 5. AGE-ADJUSTED RATE OF NON-TRAUMATIC LOWER EXTREMITY AMPUTATIONS (NLEA) BY PUBLIC HEALTH REGIONS



Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Health Data File, 2023.

KEY FINDINGS

- Age-adjusted NLEA rates varied considerably across Texas, from 4.0 per 100,000 in PHR 1 to 7.9 per 100,000 in PHR 11.
- The highest rates were concentrated in South and West Texas, with PHR 11 standing out as the highest. PHRs 4, 8, and 10 also had relatively high rates (5.7-6.4 per 100,000).
- The lowest rates were in PHRs 1, 7, and 6 (4.0-4.4 per 100,000).
- Overall, the map shows geographic variation, with higher rates generally concentrated in the southern and western parts of the state.

TABLE 1. ANNUAL DIABETES-ASSOCIATED AMPUTATION HOSPITALIZATIONS, TEXAS, 2022–2024

YEAR	HOSPITALIZATIONS	RATE PER 100,000 POPULATION
2022	16,506	54.8
2023	18,244	59.4
2024	18,536	59.2

Source: THCIC PUDF, 2022–2024.

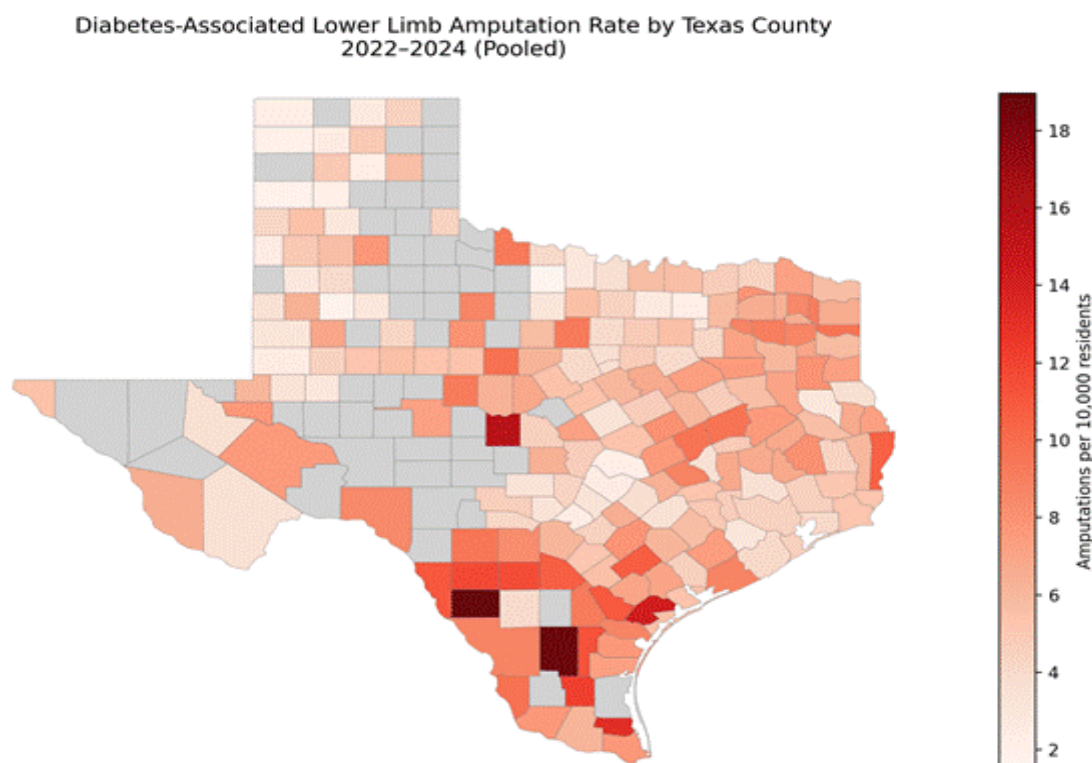
Case definition: ICD-10-CM E10–E13 (any diagnosis position) with ICD-10-PCS oY6/oX6 (any procedure position). Counts reflect inpatient hospitalizations, not unique patients; one patient may contribute multiple records.

Rate denominator: Texas Demographic Center July 1 vintage population estimates.

KEY FINDINGS

- Texas recorded **18,536 diabetes-associated amputation hospitalizations** in 2024 at a rate of **59.2 per 100,000 population**, the highest recorded in the 2022–2024 study period.
- Hospitalizations increased **12.3% from 2022 to 2024** (16,506 to 18,536), suggesting a growing burden of diabetes-associated amputation across Texas.
- These counts reflect inpatient hospitalizations, not unique patients; a single patient may contribute multiple records in a year.

FIGURE 6. DIABETES-ASSOCIATED LOWER LIMB AMPUTATION RATE BY TEXAS COUNTY, 2022–2024 (POOLED)*



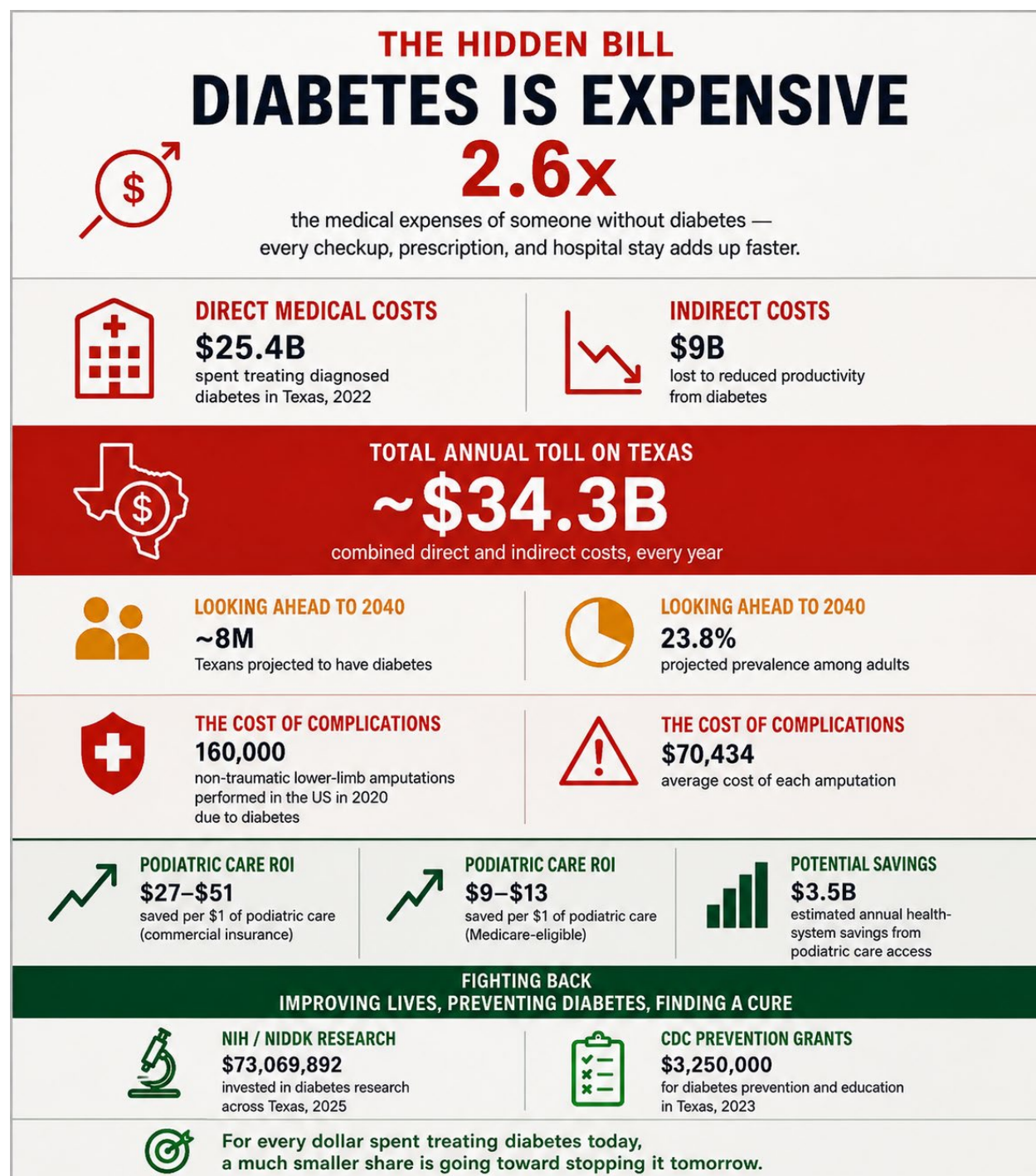
Note: Gray counties suppressed (population <15,000 over pooled 3-year period). Rate = amputations per 10,000 residents. Same data can be found in a table format in Appendix E.

Source: THCIC PUDF 2022–2024; Texas Demographic Center 2024.

KEY FINDINGS

- The map shows diabetes-associated lower limb amputation rate for 2022–2024 in Texas counties.
- Lighter colors indicate lower rates, while darker red indicates higher rates.
- Rates range from approximately 2 to 19 amputations per 10,000 residents.
- Higher rates are more noticeable in parts of South and Central Texas, while many counties in North and West Texas have lower rates
- Overall, the map highlights substantial differences in amputation rates across Texas counties.

FIGURE 7. THE COST OF DIABETES IN TEXAS



Sources: See References, Figure 7

**TABLE 2. PAYER DISTRIBUTION: ALL DIABETES VS. AMPUTATION
HOSPITALIZATIONS, TEXAS, 2022–2024 (POOLED)**

PAYER GROUP	ALL DIABETES HOSP. %	AMPUTATION HOSP. %	DIFFERENCE (PP)
Medicare	56.4%	46.7%	-9.7
Private Insurance	24.4%	26.8%	+2.4
Uninsured/Unknown	9.1%	15.6%	+6.5
Medicaid	6.6%	7.6%	+1.0
Other	3.5%	3.3%	-0.2

Note: Medicare combines Medicare Part A, HMO Medicare Risk, and Medicare Part B. Uninsured/Unknown = Charity/Indigent/Unknown payer code. Percentage point (pp) difference = Amputation % minus All Diabetes %; positive values indicate overrepresentation among amputees. Pooled across 2022–2024.

Source: THCIC PUDF, 2022–2024.

KEY FINDINGS

- Medicare has the largest payer group, accounting for 46.7% of amputation hospitalizations, compared with 56.4% of all diabetes hospitalizations (9.7 percentage points lower).
- Uninsured/unknown patients were more common among amputation hospitalizations (15.6%) than all diabetes hospitalizations (9.1%), a difference of +6.5 percentage points.
- Private insurance and Medicaid also accounted for slightly higher shares of amputation hospitalizations, while the “Other” category was nearly changed.

TABLE 3. INPATIENT LIMB SALVAGE PROCEDURES AMONG DIABETIC PATIENTS, TEXAS, 2022–2024

YEAR	SALVAGE ONLY [†]	AMPUTATION ONLY	SALVAGE + AMPUTATION*	SALVAGE SUCCESS RATE
2022	9,664	15,112	1,394	87.4%
2023	10,674	16,746	1,498	87.7%
2024	10,888	16,885	1,651	86.8%
2022–2024 Total	31,226	48,743	4,543	87.3%

Note: Salvage procedures include inpatient lower extremity revascularization, bypass, endarterectomy, and surgical debridement (ICD-10-PCS prefixes 047, 041, 04B, 0HB, 0Y9, 0YB). [†]Salvage Only = diabetic hospitalization with salvage procedure and no amputation code in same admission. *Salvage + Amputation = salvage attempted but amputation still performed in same admission. Salvage Success Rate = Salvage Only / (Salvage Only + Salvage + Amputation). **IMPORTANT LIMITATION:** This analysis is admission-level only; patients may have subsequent amputations in later admissions not captured here.

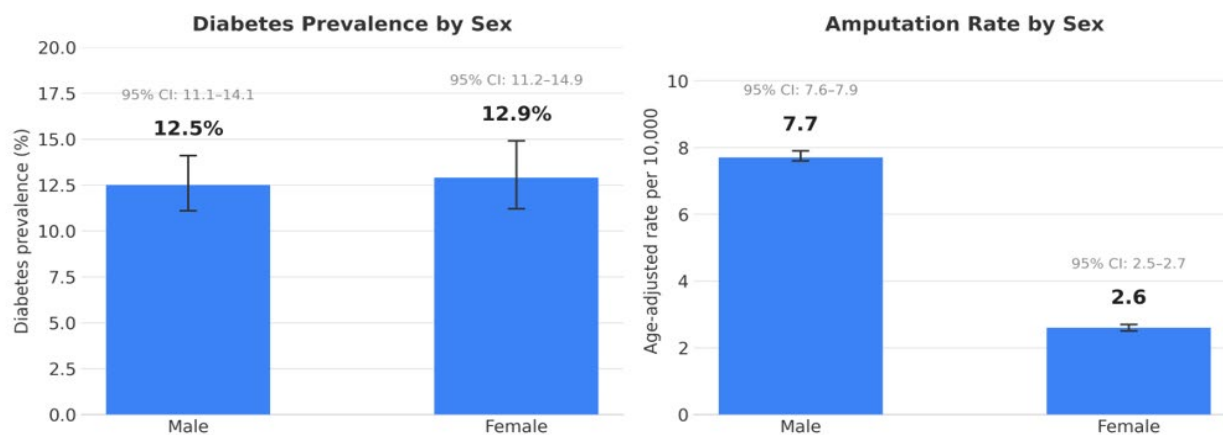
Source: THCIC PUDF, 2022–2024.

KEY FINDINGS

- Limb salvage procedures increased over time, from 9,664 salvage only cases in 2022 to 10,888 in 2024.
- The overall salvage success rate remained fairly stable, at about 87% across 2022-2024, ranging from 86.8% to 87.7%.
- Most salvage attempts did not result in an amputation during the same hospitalization: 31,226 cases were salvaged only compared with 4,543 cases where salvage was followed by amputation.

DEMOGRAPHIC DIFFERENCES IN PREVALENCE OF DIABETES AND AMPUTATION RATES

FIGURE 8. DIFFERENCES IN PREVALENCE AND AMPUTATION RATE BY SEX



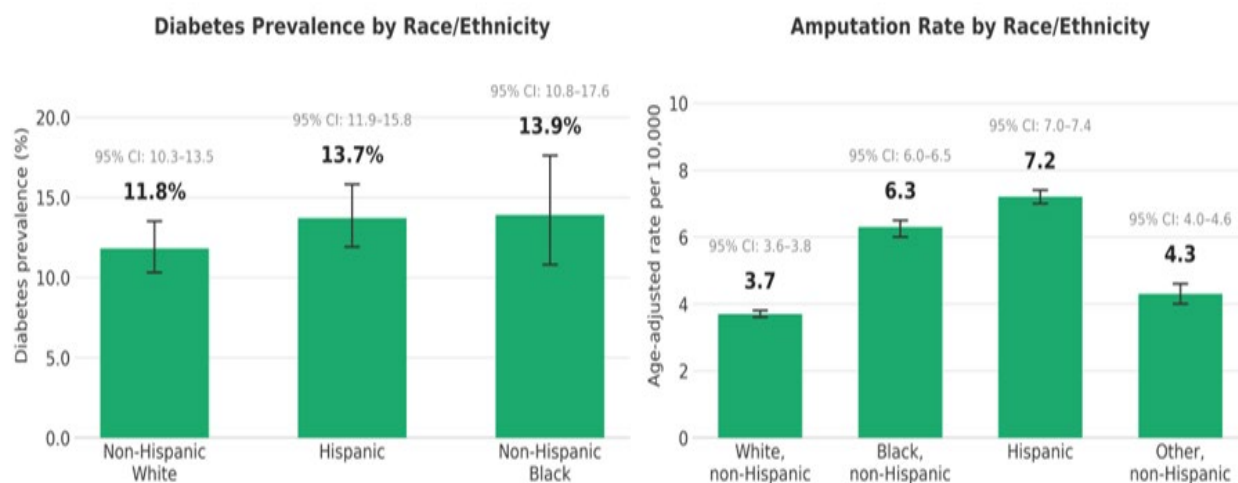
Data Source: Texas Department of State Health Services, Behavioral Risk Factor Surveillance System (BRFSS), 2023.

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2023.

KEY FINDINGS

- Males and females have the same prevalence of diabetes.
- Males have nearly 3 times the age-adjusted amputation rate compared to females.
- There is a clear disparity in diabetes outcomes by sex in Texas.

FIGURE 9. DIFFERENCES IN PREVALENCE AND AMPUTATION RATE BY RACE/ETHNICITY



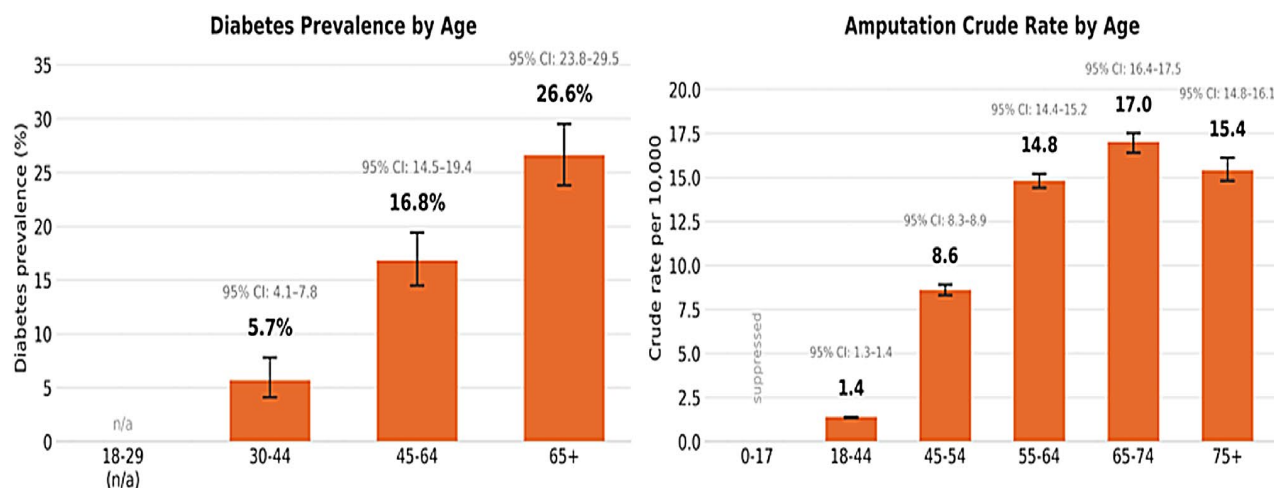
Data Source: Texas Department of State Health Services, Behavioral Risk Factor Surveillance System (BRFSS), 2023.

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2023.

KEY FINDINGS

- Diabetes prevalence by race/ethnicity has little to no differences.
- Amputation rate is highest for Hispanic individuals, greater than both non-Hispanic Black and non-Hispanic White.
- Amputation rate for non-Hispanic Black is greater than non-Hispanic White individuals.
- There is a disparity by race/ethnicity for diabetes-related amputations compared to prevalence.

Note: When confidence intervals do not overlap, we can conclude the differences are significant, as seen in the amputation rates. However, when confidence intervals do overlap (prevalence), we cannot make statements about significance. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4877414/>

FIGURE 10. DIFFERENCES IN PREVALENCE AND AMPUTATION RATE BY AGE

Data Source: Texas Department of State Health Services, Behavioral Risk Factor Surveillance System (BRFSS), 2023.

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2023.

KEY FINDINGS

- Diabetes prevalence becomes more common as people get older, with the highest burden among older adults.
- Older adults also have much higher amputation rates compared with younger adults.
- There is a clear age-related disparity in diabetes and amputation outcomes in Texas.

METHODS PART 2: QUALITATIVE PRIMARY DATA COLLECTION

The second portion of this report draws on a qualitative, multi-stakeholder interview study conducted in response to Senate Bill 1677's directive to gather information on strategies to reduce diabetes-related lower-extremity amputation, among experts throughout the state, including those living with and caring for persons with diabetes.

SAMPLING AND RECRUITMENT

An initial set of participants were purposively sampled as representatives of stakeholder categories named in the Senate Bill, including podiatry, endocrinology, etc. From there, a snowball sampling approach was used to not only recommend immediate colleagues, but also other persons who may be knowledgeable about diabetes-related amputation. Participants were also asked to identify eligible colleagues from other regions of the state, so the report was not confined to only a small region. This referral strategy was chosen to reach stakeholders who might not be accessible through more formal recruitment channels, and to build a sample reflecting the differences in roles and regions relevant to diabetes-related amputation statewide. Snowball sampling also increases participation because a peer referral builds trust; many participants were excited that the work was being conducted and were eager to share with colleagues. Not only did the final sample include all roles listed in the Senate Bill, but relevant experts and stakeholders representing pharmacists, pharmacy-benefits leadership, clinicians employed directly by health plans, and health plan representatives, were also included. Recruitment continued iteratively, with attention paid to gaps in professional roles, care settings, and geographic representation, until the sample reflected a broad cross-section of relevant perspectives.

DATA COLLECTION

Primary data were collected using a semi-structured interview guide organized around the bill's four required topics: (1) diabetic foot ulcers and peripheral artery disease (PAD) prevention, treatment, and the role in amputation; (2) methods for increasing public awareness; (3) best practices to reduce amputation; and (4) policy solutions regarding access to treatments. Question order and depth were adapted in real time based on each participant's role and area of expertise, and participants were explicitly told they could decline or defer any question outside their scope of practice.

DATA ANALYSIS

Transcribed interviews were reviewed using qualitative data analysis to identify emerging themes. Transcripts were read iteratively, with initial codes developed inductively from the data itself rather than imposed from a predetermined framework. Codes were grouped and refined into broader categories, allowing patterns to emerge across interviews. The themes identified through this process form the basis of the findings presented in the accompanying summary, and the recommendations drawn from them appear in the recommendations section. Supporting quotes are provided in Appendix A.

SUMMARY OF STAKEHOLDER INTERVIEW FINDINGS

THEME: PREVENTION IS THE BIGGEST OPPORTUNITY, BUT IS UNDERFUNDED

Across clinical roles, prevention was repeatedly named as the area with the largest potential impact and the area most neglected in current practice. Foot exams (annual or every visit), sensation/neuropathy testing, patient self-exam, and wearing appropriate footwear were described as simple, well-established, and inexpensive intervention points. Interviewees, both clinicians and those with lived experiences, suggested that diabetic foot exams should occur at every clinical visit, not only annually, with patients prompted to remove shoes and socks routinely. The recurring explanation for why this does not happen consistently was payment: clinicians report that there is no reliable way to bill for the additional time a foot exam or patient education requires, so it is either skipped, folded unpaid into a visit, or delegated informally to whichever staff member has time. Several interviewees pointed to the Veterans Health Administration's practice of mandating both an annual foot exam and annual A1C testing as evidence that such requirements are possible. One clinician proposed a HEDIS-style quality measure for diabetic foot care, tying payment to this kind of screening; this has not been adopted by payers. Interviewees suggested that mandating or incentivizing consistent foot-exam screening, whether through a measure like this or another mechanism, would drive more consistent screening. Similarly, a smaller number of respondents mentioned newer technology such as a pressure- and temperature-sensing “smart mat” technology that can detect a developing ulcer up to five weeks before it appears, but insurance coverage for it remains inconsistent, with few having access.

Note: An example of a smart mat can be found here: <https://podimetrics.com/> but does not represent endorsement or recommendation by the authors.

THEME: THE REAL DRIVERS OF AMPUTATION ARE NEUROPATHY AND PERIPHERAL ARTERY DISEASE (PAD)

Multiple specialists emphasized that diabetes itself is not the direct risk factor for ulceration, infection, or amputation; sensory neuropathy (with PAD layered on top) is the primary driver. This distinction shaped recommendations about prevention activities and screening intensity: rather than universal annual PAD screening for everyone with diabetes, several interviewees, recommended a short risk-based questionnaire (accounting for neuropathy, age, smoking history, cardiovascular disease, and family history) to identify who should receive ankle-brachial index (ABI), toe-brachial index (TBI), manual pulse palpation, or other vascular testing. There was some disagreement in the technical details; while one participant described ABI as having only moderate diagnostic accuracy compared with TBI, other clinicians treat ABI as the standard and are working to get the equipment into their clinics. Manual pulse palpation was deemed unreliable by most. Providers discussed this (ABI and TBI) as something a medical assistant could do on check-in, but typically lacked reimbursement. Identifying PAD early was highly recommended (see example of a program based in El Paso, Appendix D). Once an ulcer is present, proceeding directly to angiography, rather than relying on non-invasive testing, was recommended to avoid diagnostic delay.

Evaluating vasculature extended to amputation treatment as well. Multiple clinicians with specific expertise in this area similarly described an emerging best practice: a policy requiring vascular imaging and vascularization evaluation before an amputation is performed, rather than amputation, which may be used incrementally without ever addressing the root problem. There were efforts in different health systems across the state to implement such a policy within their organization. One clinician noted that as little as 24 hours can determine whether a wound heals or an amputation becomes necessary. This is supported in the literature (Barshes et al, 2016).

THEME: CARE COORDINATION IS FRAGMENTED – REFERRALS BREAK DOWN, AND MULTIDISCIPLINARY CARE CLINICS REMAIN RARE

Nearly every interviewee, regardless of role, independently described breakdowns in the referral process: referrals sent electronically or by fax with no confirmation the patient was seen; specialists' offices that do not call patients back; and HMO plans that require patients to route back through primary care before a specialist referral is approved, potentially adding weeks of delay. Multiple interviewees proposed the same solution: whichever provider first identifies a wound or vascular concern should be able to initiate urgent care immediately, rather than being required to route the patient back through a gatekeeping visit first. It is important to note that not all specialties are equipped to address a wound (e.g., most are surprised to find that Endocrinology does not address a foot ulcer), and there are no options other than referral, but they expressed concern over the delays that followed, not the referral itself.

A related workflow concern, distinct from the payer coverage barriers, was described for therapeutic footwear and custom orthotics: clinicians and persons with lived experience described long delays to obtain recommended orthotics. The overall footwear process was described as fragmented, and one clinician who works in this field responded that they were not clear where to send patients to get the prescribed footwear even in their own organization. These issues reflect referral and logistics gaps, not necessarily insurance denials.

A single-location, multidisciplinary diabetes or limb-salvage clinic, bringing together endocrinology, podiatry, vascular surgery, wound care, and nutrition, was the structural fix most interviewees proposed unprompted, allowing patients to be seen across specialties in one visit rather than navigating separately scheduled, separately billed appointments across a fragmented network. Existing examples referenced in the interviews included a hospital system's diabetes institute, a dedicated limb-salvage clinic, a critical limb ischemia program, and a cardiometabolic clinic model. More than

one interviewee noted this is a decades-old idea awaiting funded, statewide implementation, rather than a new concept. Reported barriers to scaling these models included billing structures that do not accommodate multiple provider types in a single visit, siloed electronic health records between health systems and payers, and the absence of dedicated, funded staff time to coordinate across organizations.

In summary, dedicated, co-located, multidisciplinary clinics were consistently cited as the most effective structural fix for the fragmentation described above, but there were few identified throughout the state.

THEME: PAYMENT AND INCENTIVES HAVE STRUCTURAL WEAKNESSES

Although some issues were only mentioned by a few respondents, theme generation revealed patterns that tied issues around payment and incentives together. For example, one clinician described an incentive structure that rewarded not repeating certain quality measures (e.g., A1c) as once it reached a payable threshold, there was a desire to only assess annually over concern that more frequent testing might result in going over the threshold (thus reducing payments). Similarly, respondents described value-based incentive arrangements that they perceived as one-sided. Although providers could receive incentive payments for meeting specific performance targets, they often did not share directly in any downstream cost savings and were generally not compensated for the additional care-coordination work required to achieve those outcomes. Some participants suggested that this limited providers' willingness to invest in labor-intensive activities that support high-quality care. As a result, some participants felt there was little financial incentive to invest in labor-intensive care management efforts.

Related to treatment, some noted potential for unnecessary treatment, also likely related to reimbursements. For example, treating asymptomatic PAD, which was described as contraindicated by guidelines, although some clinics are being investigated for fraud for doing so. Taken together, these examples point to structural weaknesses in payment and incentive systems that may inadvertently reward some low-value practices while discouraging activities that support quality care.

THEME: INSURANCE COVERAGE AND SPECIFIC THERAPIES LAG BEHIND NEW TECHNOLOGY AND MEDICATIONS

A consistent pattern recurred across several otherwise unrelated technologies and medications: clinical and patient-reported value that outpaces how insurance coverage and reimbursement are structured. For instance, continuous glucose monitor (CGM) coverage is improving but has been complicated by confusion between pharmacy and medical/DME benefit channels in Texas Medicaid and employer-paid insurance. GLP-1 and GLP-1/GIP medications were strongly endorsed for their outcomes but remain costly and inconsistently and rarely covered. When effective, continued GLP-1 coverage was not extended into a maintenance phase, although clinically recommended. "Smart mats" that include remote monitoring and temperature-sensing insoles were described as effective at identifying pre-ulcer changes but are often not covered or available to patients. "Topical oxygen therapy," as named in the Bill, was unfamiliar to many clinicians interviewed; most equated it with hyperbaric oxygen therapy, which is costly and time-consuming, and the current evidence in most diabetic foot ulcers is limited and typically used only after a wound has already progressed. Topical oxygen therapy shows some evidence of effectiveness and likely does no harm; however, many clinicians are unaware of this option. Generally, this was only discussed with respect to podiatry.

Additional gaps were identified related to nutrition counseling, the benefits of pharmacy-based medication management, and point-of-care ultrasound options in primary care settings. Each of these were described as underused and uncovered despite relatively low cost, particularly in comparison to higher downstream costs.

Note: [Washington State](#) (page 13) and [Arizona State](#) (policy recommendation #3, page 11) include pharmacy-based initiatives in their state diabetes reports and action plans. A program in Texas that used pharmacists for a quality improvement initiative and their pilot study demonstrated positive outcomes, concluding, "An integrated pharmacist-driven stewardship model was associated with substantial improvements in glycemic monitoring, glycemic control, and closure of HEDIS diabetes care gaps. By converting claims analytics into targeted clinical action, this model demonstrates a scalable, high-impact population health strategy for managed care organizations seeking to improve diabetes outcomes and value-based performance." See Appendix C.

THEME: DISTINCT DIFFERENCES BY GEOGRAPHY, RACE, AND SOCIOECONOMIC STATUS

Multiple respondents described amputation risk as concentrated by zip code, race, rurality, and insurance status. Supportive figures (Figures 8-10 in Part 1) and information from multiple state-level data sources are included and illustrative of these differences. Border-region interviews (South Texas and El Paso) described a notably younger patient population reaching advanced complications, a patient base that is overwhelmingly Medicaid or Medicare, and cultural patterns, including delayed care-seeking, self-treatment, and a sense of fatalism about inherited diabetes risk, that compound access barriers such as provider shortages, long travel distances for specialists, and low rates of insurance coverage.

THEME: PUBLIC AWARENESS IS KEY, BUT NO ENTITY IS RESPONSIBLE FOR IT

Nearly every interviewee suggested public education or awareness campaigns, and expressed surprise that there is not already a statewide one, but the recommendations split along two lines. One group favored *broad, multichannel messaging* such as multilingual social media, TV/radio PSAs modeled on stroke or heart-attack campaigns, and better use of existing professional-association channels that several clinicians mentioned were not used for this purpose at this time. A second group favored *targeted outreach to specific high-risk groups* instead, incorporating community health workers and promotoras who share patients' lived experience, workplace-based screening for labor-intensive jobs where workers are less likely to take time off, and tailored programs for historically hard-to-reach groups (e.g., the diabetes garage example in Appendix B). Across both groups, it was noted that no entity is currently funded or responsible for doing this work at scale: existing amputation-specific advocacy organizations were described as under-resourced for marketing, and one clinician was skeptical that awareness was the issue, noting that insurance's refusal to pay for preventive visits before a qualifying diagnosis is a bigger barrier than messaging gaps.

RECOMMENDATIONS

Recommendations resulting from the qualitative primary data collection are organized according to the language of SB 1677. While a few recommendations may appear more than once due to their alignment with different sections of the Bill, it should be noted that many of these recommendations could align with more than one section.

A. PREVENTION & SCREENING POLICY

RECOMMENDATION	RATIONALE
Establish a mandated or strongly incentivized annual (or risk-based, more frequent) diabetic foot exam, explicitly allowing trained medical assistants or nurses (not only physicians) to perform and document the screening.	Multiple clinicians described foot exams as clinically simple but inconsistently performed because of time and staffing constraints, not lack of knowledge.
Adopt a standardized, low-cost PAD risk questionnaire (neuropathy status, age, smoking history, cardiovascular disease, family history) to target ABI or toe-pressure testing, rather than requiring universal screening of all patients with diabetes.	Multiple specialists indicated diabetes alone is not the driver of risk and that universal screening is considered low-yield by vascular specialists.

Expand access to and reimbursement for remote foot-monitoring technology (temperature-sensing mats or insoles) for patients with a prior ulcer history.	Existing pilot use (including within the VA system and select payers) has reportedly detected pre-ulcer changes weeks in advance.
Expand and fund workplace-based clinical screening — bringing blood pressure, glucose, and basic foot checks directly to job sites, not just awareness materials — particularly in labor-intensive industries.	Some groups, particularly men with diabetes, work long, physically demanding hours and won't take time off for a clinic visit. Clinicians proposed going directly to worksites and construction sites, modeled on the barbershop-outreach concept, rather than waiting for patients to come in.
Require or incentivize routine pre-diabetes screening (e.g., A1C or fasting glucose) as a standard part of primary care to identify and begin risk-reduction counseling for pre-diabetic patients before they progress to a full diabetes diagnosis, rather than waiting until diabetes (or its complications) are already present.	Current prevention and awareness efforts are concentrated at the amputation and complication stage, which is late stage for this disease. Meaningful prevention starts at the pre-diabetes and early-diabetes stage, not the complication stage.

B. PUBLIC AWARENESS & EDUCATION

SB 1677(B): methods for increasing public awareness of diabetes-related amputation.

RECOMMENDATION	RATIONALE
Support a statewide, multilingual public awareness campaign on diabetes-related amputation risk, modeled on existing stroke and heart-attack public service announcement campaigns.	Multiple interviewees noted no equivalent national or state campaign currently exists for amputation risk specifically.
Partner with professional associations (podiatry, diabetes care and education specialists) and social media platforms to expand outreach.	Several clinicians noted their own professional associations are not currently leveraging these channels. Note: The <u>California State Report</u> uses social media campaigns (pg 13) and provides examples in Appendix C.
Standardize distribution of printed and digital patient education materials on foot care as part of routine diabetes care documentation, not solely verbal counseling.	Several clinicians noted they routinely counsel patients verbally but do not provide printed take-home materials.

Develop targeted messaging addressing disparities such as racial and cultural differences, as well as gender.	Many discussed the differences they see by demographic characteristics, e.g., young Hispanic men more at risk of amputation.
Include diabetes self-management education and support (DSMES) access and awareness, ensuring patients and providers know DSMES is an option and are directed to it consistently.	Access to a diabetes educator is inconsistent across clinics and needs to be standard rather than optional. A person with lived experience indicated her access to structured self-management support was piecemeal and largely coincidental, dependent on which insurance-run program she happened to be enrolled in, rather than something she was proactively told about as a standard, expected resource.
Require or incentivize health plans and health systems to generate targeted patient messaging from EHR/claims data, flagging patients overdue for A1C testing, foot exams, or medication refills, and deliver tailored reminders through a dedicated channel (patient portal, pharmacist, or CHW), rather than relying on generic, population-wide campaigns alone.	Multiple clinicians described this model as already working, in which their organization identified lists of members with diabetes care gaps and reached out for various options, e.g., referral to a pharmacy team or other service areas. Targeted, data-driven messaging reaches the patients who need it most, rather than relying solely on broad awareness campaigns to prompt action.

C. BEST PRACTICES TO REDUCE AMPUTATIONS

SB 1677(C): best practices for reducing the number of amputations performed.

RECOMMENDATION	RATIONALE
Adopt a policy requiring vascular imaging or revascularization evaluation prior to any diabetes-related amputation.	Emerging consensus among vascular specialists interviewed, who cited high overall amputation mortality as their rationale for this policy. (The specific published literature reviewed shows amputation carries very high mortality generally, but does not on its own establish that pre-amputation vascular evaluation improves survival.)
Require limb-salvage consideration and a vascular/infection workup before any non-emergency amputation referral, including by non-specialist providers.	Some clinicians identified a specific, recurring gap: non-specialty providers often refer straight to amputation without considering limb salvage. Notably, clinicians argued outcomes for treating infected foot ulcers are "much better now than 10 years ago," but that this isn't widely known among the providers making the initial referral decision.

Embed automated, EHR-based clinical alerts ("best practice alerts") that flag high-risk patients and prompt a specific action at the point of care in real time. (Note: this is distinct from the recommendation in B to also use EHR databases to do patient outreach)	A participant specifically distinguished this from retrospective outreach, describing systematic EHR triggers that remind a clinician in the moment to take a specific action, rather than relying on "each physician needing to know and remember" independently.
Establish a surveillance system (county- and regional-level) tracking diabetic foot ulcer and osteomyelitis hospital admissions as leading indicators, rather than waiting for amputation counts (a lagging indicator) to identify high-risk areas.	Missed or delayed osteomyelitis diagnosis is a recurring, underappreciated knowledge gap. Tracking admissions for foot ulcers and osteomyelitis at the county level would identify the geographic risk pattern earlier, before it shows up as an amputation statistic, allowing resources to be directed proactively.
Fund community health worker (CHW) and promotora-based outreach and in-home foot/wound monitoring programs with sustainable, dedicated payment.	Widely viewed as an effective, trusted, and comparatively low-cost model that is currently under-resourced.

D. ACCESS TO TREATMENT

SB 1677(D): policy solutions for ensuring access to treatments to assist with preventing amputation.

RECOMMENDATION	RATIONALE
Cover low-cost generic diabetes medications on formulary regardless of rebate structure, and expand and protect coverage of GLP-1/GIP medications for both diabetes management and, where clinically indicated, weight management and diabetes prevention.	A payer representative noted formularies are rebate-driven, disadvantaging inexpensive generics. Multiple clinicians and people with lived experience described GLP-1/GIP medications as transformative for glycemic control, insulin avoidance, and adherence, while also noting the weight-loss indication is frequently excluded from coverage despite its prevention potential.
Prohibit discontinuation of GLP-1/GIP prior authorizations solely because a patient's BMI or A1C has improved into the target range, and instead treat these as maintenance medications once effective, consistent with how blood pressure and cholesterol medications are handled.	A Medicaid managed care representative described this as a current, self-defeating practice: coverage lapses specifically once the medication succeeds, functioning as a disincentive to sustained improvement.

Extend Medicaid reimbursement for pharmacist-delivered medication therapy management (MTM) for diabetes, consistent with existing Medicare requirements.	Diabetes was repeatedly described as especially well-suited to MTM given complex titration schedules and adherence challenges.
Create a distinct billing mechanism or time allowance for diabetic foot examination and patient education, separate from the primary visit. Add a HEDIS quality measure for foot exams.	Clinicians across multiple specialties cited the inability to bill separately for this time as the single largest barrier to consistent screening.
Invest in health information exchange infrastructure to reduce data silos between health systems, specialists, and payers.	Described as a persistent barrier to coordinated care, particularly by payer-side interviewees.
Support reimbursement and training for point-of-care ultrasound in primary care settings for initial vascular assessment.	A primary care physician noted this could reduce three-to-four-week delays currently common for formal vascular imaging referrals.
Resolve the inconsistent classification of continuous glucose monitors	This ambiguity was described as causing real-world billing disputes and access delays

between pharmacy and durable medical equipment benefit categories under Texas Medicaid.	by both a payer representative and a caregiver.
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D1. COVERAGE FOR DFU THERAPIES (E.G., TOPICAL OXYGEN)

SB 1677(D)(i): insurance coverage for therapies designed to treat diabetic foot ulcers, including topical oxygen therapy

RECOMMENDATION	RATIONALE
Clarify and expand coverage for topical oxygen therapy (where supported by evidence), explicitly distinguishing it in policy language from hyperbaric oxygen therapy.	The two therapies were frequently confused among clinicians and were described as having meaningfully different evidence bases and delivery models. There was a gap in provider knowledge of this relatively low-cost and potentially effective treatment.
Require Texas Medicaid to cover an annual diabetic foot exam as a standard, no-referral-needed preventive benefit, with structured follow-up requirements once an ulcer is identified (e.g., a mandatory re-	Referral follow-through was described as inconsistent, and many interviewees noted a referral can stall (or not ever happen) if a patient doesn't show up, or a PCP doesn't push it forward. A Medicaid-specific annual-exam mandate paired with a required follow-up checkpoint could close

check within a defined window, not just an initial referral).	that gap rather than relying on a single referral event.
Develop a Medicaid-specific diabetes prevention strategy that explicitly bundles annual foot exams, PAD risk screening, and DSMES (diabetes self-management education and support) access as linked, jointly tracked benefits rather than separate, independently authorized services.	Multiple Medicaid-knowledgeable interviewees described their populations as disproportionately vulnerable and under-resourced; bundling these services reduces the number of separate authorization points at which a patient can fall through.

D2. EQUITABLE ACCESS TO TOOLS & TECHNOLOGY

SB 1677(D)(ii): timely and equitable access to evidence-supported medical tools, technologies, and services to assist with the prevention of avoidable amputations.

RECOMMENDATION	RATIONALE
Direct additional prevention and outreach resources to zip codes and regions with documented higher amputation rates.	Multiple sources described amputation risk mapping onto socioeconomic, racial, and rural disparities.

Prioritize community health worker and culturally tailored education funding in border and rural under-resourced regions.	Border-region interviews described a younger, higher-burden, predominantly Medicaid/Medicare patient population.
Increase support for transportation assistance and community/charity clinic capacity in high-burden rural and border regions.	Distance to specialists and transportation were cited as concrete access barriers in multiple regions.
Fund rural podiatry access through incentive payments, loan repayment programs, and/or telehealth-supported satellite clinics in counties without a practicing podiatrist.	There are geographic and zip-code-level disparities in amputation rates.
Expand telehealth-based endocrinology access for rural and under-resourced patients, following the model of embedding a part-time telehealth endocrinologist directly into a referral network.	One interviewee described hiring a part-time endocrinologist specifically to deliver telehealth visits after finding that only about 50% of referred patients completed an in-person specialist visit, due to appointment availability and specialty copays — a solution directly transferable to rural geographic gaps.

Support regional "hub-and-spoke" multidisciplinary clinic models, where a central limb-salvage/diabetes clinic in a larger city coordinates telehealth-linked satellite access for rural patients rather than requiring rural patients to travel for every visit.	Vascular surgeons are reportedly training regional physicians in critical-limb-ischemia techniques specifically because many practices are within a 200–300 mile radius of the patients they serve. A hub-and-spoke model extends the multidisciplinary-clinic solution into geographies where a full in-person team isn't feasible.
Establish a standing state-level review process to fast-track coverage policy for emerging diabetes technologies and medications with demonstrated benefit (e.g., GLP-1/GIP medications, remote temperature-sensing smart mats), rather than addressing each one individually as it separately runs into coverage barriers.	A few clinicians mentioned that smart mats/temperature-sensing insoles may reduce ulcer recurrence but are not always paid very well. Similarly, GLP-1/GIP medications were described as transformative but hampered by exclusions and prior-authorization design by multiple clinicians. Each issue demonstrates coverage lagging evidence, suggesting a standing process would be most efficient.

D3. QUALITY CARE INCENTIVES

SB 1677(D)(iii): methods to improve and incentivize quality care to avoid amputations when possible.

Note: Several recommendations under Section D (above) already directly address this requirement.

RECOMMENDATION	RATIONALE
Fund community health worker (CHW) and promotora-based outreach and in-home foot/wound monitoring programs with sustainable, dedicated payment.	Widely viewed as an effective, trusted, and comparatively low-cost model that is currently under-resourced.
Expand funding for community health worker-led "diabetes navigation" programs specifically targeting high-risk populations, with CHWs helping patients navigate referrals, insurance authorization, and follow-up appointments.	Interviewees reported "not knowing how to navigate the health system" as a top barrier to timely care, and separately described CHWs/promotoras, who share the same barriers and likely life experience as the community, as probably the most effective and affordable outreach model available.
Add value-based quality incentive payments tied to documented preventive foot care delivery and to	Transportation and travel distance were independently cited as substantial access barriers in multiple regions; explicitly counting transportation assistance and

transportation-assistance utilization, not only to outcome metrics like A1C.	preventive foot care delivery toward a quality incentive would reward plans and providers for solving the access problem itself, not only for the resulting clinical outcome.
Add dietitian and nutrition counseling as a standard, reimbursable diabetes-prevention benefit under Medicaid.	Currently not covered in many plans despite being described as foundational to prevention.

D4. CARE COORDINATION & COLLABORATION

SB 1677(D)(iv): methods to promote collaboration and cooperation among interested persons.

RECOMMENDATION	RATIONALE
Fund or incentivize multidisciplinary, co-located diabetes/limb-salvage clinic models that bring together podiatry, vascular surgery, endocrinology, wound care, and nutrition.	This was the one solution proposed independently and without prompting by interviewees across podiatry, nursing, nurse diabetes educators, pharmacy, and people with lived experience as the single most impactful structural change.

Require or incentivize payers to reimburse multi-specialty/ multidisciplinary clinic visits as a single bundled encounter, rather than requiring separate billing and authorization for each provider type seen in one visit.	Interviewees identified the inability to bill for multiple provider types in a single visit as a significant barrier to implementing the multidisciplinary clinic model that was otherwise universally endorsed.
Require closed-loop referral tracking — confirmation that a referred patient was seen and that results were returned to the referring clinician — as a condition of provider network participation.	Referral follow-through failures were described across nearly every interview, with estimated follow-through rates as low as 50 percent.
Invest in health information exchange infrastructure to reduce data silos between health systems, specialists, and payers.	Described as a persistent barrier to coordinated care, particularly by payer-side interviewees.
Support reimbursement and training for point-of-care ultrasound in primary care settings for initial vascular assessment.	A primary care physician noted this could reduce three-to-four-week delays currently common for formal vascular imaging referrals.

CONCLUSION

Across conversations spanning clinical specialties, payer and pharmacy perspectives, and lived experience, the barriers to reducing diabetes-related amputation were remarkably consistent, and none of them were a lack of clinical knowledge. What limits progress is structural and financial: how preventive care is paid for, how referrals are tracked and closed out, how risk is identified and prioritized, how coverage decisions are made, and who is responsible for reaching patients and communities in the first place.

Access to care recurred as an issue throughout this project, but not as a single problem. It showed up in at least three distinct forms, breakdowns in referral and care-coordination workflow; payer coverage and reimbursement that lag behind newer technologies and medications; and geographic and socioeconomic barriers such as travel distance, rurality, and disparities by race and income. Public awareness is the mechanism by which patients and communities learn that these barriers exist and that help is available, yet interviewees repeatedly observed that no single entity currently owns it.

Two additional, more specific gaps deserve particular attention because they represent leverage points earlier in the disease course than most of this project's other findings. First, diabetes self-management education and support (DSMES) is not just underfunded, access to it has been actively shrinking in some areas as hospital-based programs close. In places where DSMES exists, patients and referring providers are not consistently made aware that it exists or directed to it at the moments that matter most, such as diagnosis or when new health complications arise. Second, several interviewees pointed specifically to pre-diabetes as the stage where prevention and screening should be concentrated, arguing that efforts focused on amputation risk arrive too late to change outcomes.

The recommendations that accompany this report translate these findings into specific, actionable items, organized around the four categories named in Senate Bill 1677 - prevention, public awareness, best practices for reducing amputations, and access to treatment - so that each finding maps directly onto a corresponding legislative requirement. Where a recommendation appears in more than one section, that repetition is intentional as it reflects a finding that speaks to more than one part of the Bill's mandate, not an oversight. A companion appendix provides illustrative quotations and additional technical detail supporting each theme.

This report suggests that Texas does not lack the clinical knowledge required to reduce diabetes-related amputation. What is missing is consistent alignment between what the evidence supports and how care is funded, coordinated, and communicated, and that alignment is achievable through implementation of the recommendations.

FUTURE CONSIDERATION

To replicate the biomedical and economic success of CPRIT and the newly formed DPRIT, Texas should establish a dedicated state institute for diabetes research and prevention. Type 2 diabetes poses an unparalleled fiscal challenge to the state budget, with related medical management costing Texas Medicaid up to \$8.1 billion annually—representing nearly 23% to 30% of total adult program expenditures. (See [Episcopal Health Foundation](#) Report.) A localized, state-funded institute would address this substantial public liability directly, leveraging Texas's medical infrastructure to pioneer research that reduces long-term systemic dependency on public funds.

Additionally, healthcare professionals from across a wide spectrum were enthusiastic about discussing the state of diabetes in Texas, reducing amputations, and offering suggestions for solutions. People living with diabetes and those who care for them were also interested in contributing, offering perspectives that were not always evident in clinicians' responses. A larger-scale, funded study could be conducted that is generalizable to the entire state of Texas. Survey questions can be developed from the themes and recommendations in this report to obtain such data. Funding should also be provided to monitor and evaluate the implementation of any recommendations resulting from this report.

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APPENDICES

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APPENDIX A:
THEMES WITH SUPPORTING QUOTATIONS

Quotations drawn from stakeholder interviews, organized by theme. Names have been removed and quotations are lightly cleaned of verbal filler for readability but otherwise presented as spoken.

THEME: PREVENTION IS THE BIGGEST OPPORTUNITY, BUT IS UNDERFUNDED

“Prevention is the biggest shortcoming, including here, which is why we need to get more active in prevention clinics... the problem is payment, payment for the time.”

“By treating an ulcer early and aggressively with advanced therapies, you're avoiding infections, hospitalization, operations, and amputations, which will occur over the ensuing twelve months if that ulcer doesn't heal. So the costs of advanced therapies are loaded up front.”

“It's one thing to know and another one is to do. For the provider's perspective, yes, at every visit, just check [feet] and ask.”

“If I was a healthcare provider in an office and if I could bill separately for that foot exam... then I think a provider might be more able and willing to do it.”

“Costs up front are actually less than long-term costs when you're talking prevention measures or advanced treatment measures, advanced therapies.”

“Should we solve that ulcer and heal it? Yes. Because the cost might be a lot less than actually having somebody amputate a limb and all that stuff that comes with it.”

THEME: THE REAL DRIVERS OF AMPUTATION ARE NEUROPATHY AND PERIPHERAL ARTERY DISEASE (PAD)

“Diabetes itself is not a risk factor for an ulcer. It's not a risk factor for an infection or an amputation. It's neuropathy that's the big driver for those problems.”

“The answer is no, not everybody should be [screened for PAD], but we just need to identify those people that should be.”

“General population screening for PAD is low yield, low impact, not recommended. Targeted screening: diabetes, hypertension, cardiovascular disease, smokers, family history.”

“No amputation without revascularization... 75% of those who get amputation never had an angiogram.”

“No amputation without angiogram’ policy — fully supported.”

THEME: CARE COORDINATION IS FRAGMENTED – REFERRALS BREAK DOWN, AND MULTIDISCIPLINARY CARE CLINICS REMAIN RARE

“The specialists don't always follow up with the patient. So that's a barrier, right? ... If you call the office, they put you on hold forever.”

“Some of them can no longer refer straight to wound care. They have to refer them back to primary care. And then primary care has to refer them out for their wound. I'm like, this is absurd.”

“Having sometimes an HMO... we don't get that quick, fast response to get the patient in right away. It has to go back to primary care.”

“For her, everything has to get routed back to the PCP. And if the PCP doesn't feel that it's warranted... then it just dies. The referral doesn't move forward.”

“It's very fragmented because we have to send these people to our orthotics department. That'll take them a month or so to get in, and then they just scan them and send them out. They don't even make them [the shoes] there.”

“If you need to go to a place where they do orthotics to get the proper shoes for you... that's another thing that I don't even know where to send patients to buy.”

“The best would be multidisciplinary clinic where you have the internists, where you have the surgeons, the vascular specialist, the podiatrist, the teaching nurses, all together.”

“I saw an advertisement... they're calling it a cardio metabolic clinic... we're all here in one office. I was like, oh, that's smart. Finally.”

“I guess I feel like there's not great infrastructure around helping all of those people coordinate with each other, especially if they're not under the same umbrella.”

“Collaboration doesn't just happen... it takes somebody to herd the cats.”

THEME: PAYMENT AND INCENTIVES HAVE STRUCTURAL WEAKNESSES

“[The plan] won't cover some of the lower-cost generics... that seems like an easy win, but they won't do it. Their formulary is strictly rebate-driven, and there are no rebates offered for generic drugs. So the payer has to pay for the expensive brand-name drugs.”

“Providers get incentivized for an A1C under nine, and only need to check it once a year — so they only screen once a year to keep the incentive.”

“There's probably some maneuvering around some of these programs, right? People are going to try to play the game a little bit. I won't deny that that probably doesn't happen to some extent.”

“Some of the problems with the incentives is they're often, these value-based programs are often sort of one-sided, they're not shared savings.”

“Asymptomatic PAD should not be treated — guidelines recommend against it; some clinics have faced fraud charges for doing so.”

“If they would cover the way Medicare does — if they would cover medication therapy management services done by a pharmacist and actually pay for that, that would be great.”

“People [health care workers] don't believe me. They just absolutely don't believe that I'm trying my hardest... ‘show me the scientific number that's going to tell me that it confirms what you're doing.’”

“If there's anything the state could do... you see all these bills around capping insulin prices, like I think that would be great... but the misunderstanding around insulin is already frustrating enough.”

THEME: INSURANCE COVERAGE AND SPECIFIC THERAPIES LAG BEHIND NEW TECHNOLOGY AND MEDICATIONS

“For a long time we were waiting for [the state] to cover continuous glucose monitors as a pharmacy benefit... they were still saying that these codes were covered medical benefits through DME. But then

you go to the DME pharmacies and they would say, no, we can only bill them to the pharmacy benefit. So there was a huge disconnect there.”

“I think that the GLP-1s being covered and affordable is very important because we can absolutely improve patient outcomes... it has transformed our care, our diabetes care, in ways where we don't have to put patients on insulin anymore.”

“Now with the once weekly injection [GLP-1], the compliance has improved... some of these patients who work eight hours a day, they cannot store their insulin at work.”

“And then if they would cover weight loss medications too [GLP-1], they might prevent a lot of diabetes, but that's not a covered benefit either.”

“Their prior auth runs out after a year and now their BMI is in the right level, their A1C is in the right level. And then they won't renew the prior auth [for GLP-1] because they don't meet the criteria. But you've used that to get you down to where you're supposed to be. It's a maintenance medication at that point.” [similar to medications for high blood pressure and cholesterol – don't stop when reach in-range numbers]

“GLP-1s (e.g., Ozempic) available early and without access issues.”

“There's so much great, you know, studies coming out about the GLP-1s... but they're very expensive and we don't really know, people have to be on them forever... who's gonna pay that upfront cost?”

“The insulin itself has changed with the introduction of GLP-1s... my medication regimen has changed quite a bit and it's actually become a lot more free.”

“I've stopped taking [a prescribed medication] because the insurance company said it would be a thousand dollars... I've been without it all through 2026.”

“We are also working on remote patient monitoring... there are smart mats, there are insoles, there's insole pressure systems, and we're starting to get involved with those systems as well. So there's technology there. The problem is payment, payment for the time.”

“For secondary prevention [prior ulcer history]: temperature-sensing mats/socks show evidence of reducing recurrence rates; recurrence risk is high enough to justify cost.”

“People can get covered for hyperbaric [oxygen], but not for topical. And topical has far better data for the majority of diabetic foot ulcers than hyperbaric.”

“I have never heard of topical oxygen therapy... I think that if this is referring to hyperbaric oxygen therapy, then I think that is amazing and I wish that patients had access.”

“I don't think that dietitian or nutrition counseling is a covered benefit... I really think that's a huge missed opportunity.”

“If they would cover the way Medicare does, if they would cover medication therapy management services done by a pharmacist and actually pay for that, that would be great.”

Additional detail: *One healthcare provider separately noted that point-of-care ultrasound could be performed in a primary care setting and is commonly used in emergency rooms, but is not currently used this way in primary care, where formal vascular imaging or angiogram referrals can take three to four weeks.*

THEME: DISTINCT DIFFERENCES BY GEOGRAPHY, RACE, AND SOCIOECONOMIC STATUS

“There's also disparities, racial disparities, zip code disparities... you can just see maps of socioeconomic levels and amputation levels, and you superimpose them, one on the other. Higher amputation rate in lower socioeconomic zip codes.”

“Hispanic patients often don't go early, they seek care from non-doctors; PVD [PAD] is a condition of underprivileged people, lower socioeconomic status, decreased access to physicians in early stages.”

“We live in an area where we see a lot of amputations of toes and lower amputations... sometimes I feel like twenty-four hours of initiating treatment can make the difference between the road to recovery or getting worse.”

THEME: PUBLIC AWARENESS IS KEY, BUT NO ENTITY IS RESPONSIBLE FOR IT

"Why didn't we think of social media? We haven't leveraged social media for education and awareness."

"We tell them, but do we give it to them in print?"

"Community health workers and promotoras who are already out in the community... know the people and often share many of the same barriers and life experiences. I think are really probably the best approach at this point."

"Men don't want to go to a cooking class. They don't want to go to Zumba... so we likened it to fixing a car." (Reference to diabetes garage program – found in Appendix B)

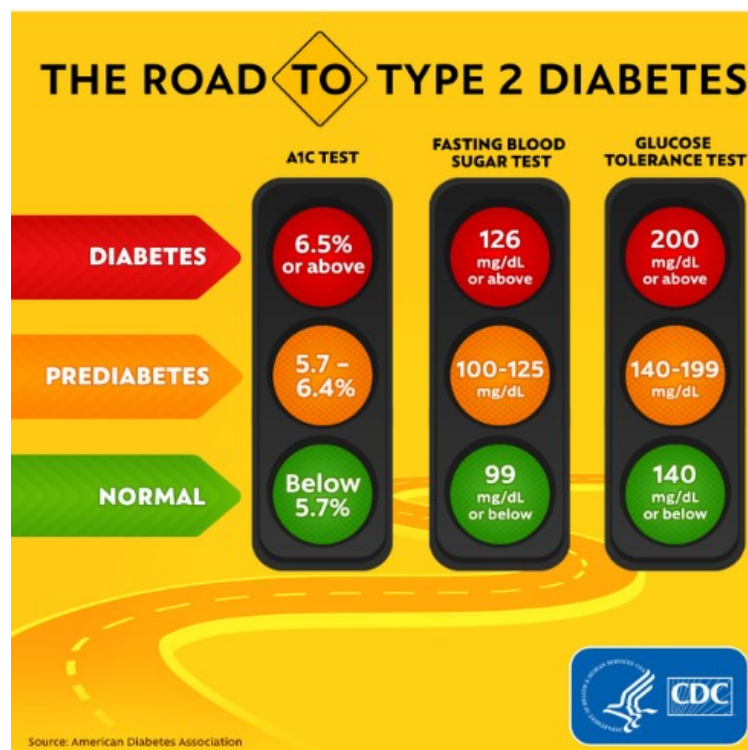
"Targeted outreach to high-risk individuals, not broad campaigns."

"It's more marketing... but it costs money to market."

APPENDIX B:

EXAMPLE COMMUNITY-BASED PREVENTION PROGRAM:

DIABETES GARAGE



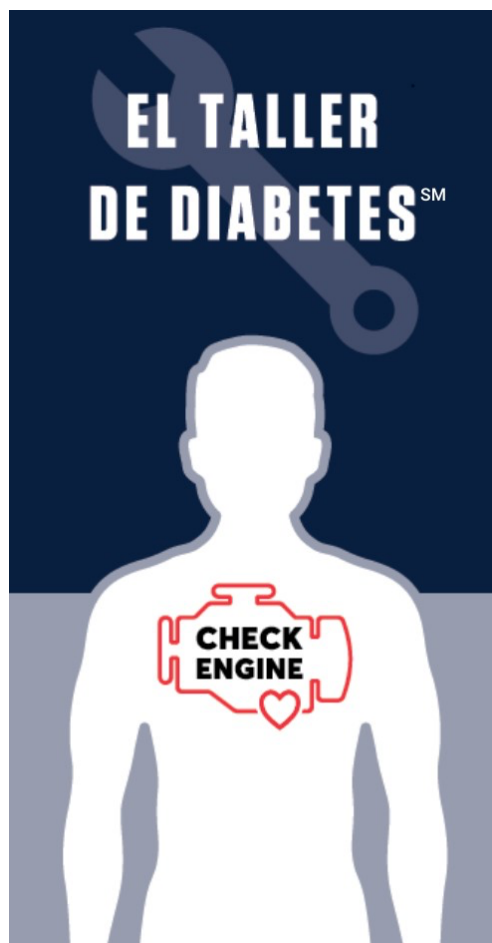
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FOR MEN WITH TYPE 2 DIABETES
AGE 18 YEARS OR OLDER





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EL TALLER DE DIABETES

GRATIS Talleres de educación para hombres sobre diabetes que usa comparaciones del mantenimiento de automóviles para explicar mejor el manejo de la diabetes.

PARA HOMBRES CON DIABETES TIPO 2
18 AÑOS O MAS





Diabetes & Eye Disease

**Is Your Vision
Shattering Like a
Windshield?**

Diabetes & Eye Disease



- Your eyes are an incredible thing
- Like windshields, wipers, or headlights, your eyes help you to see to drive safely
- Would you ignore a cracked windshield?



Eye Parts Affected by Diabetes

- Retina is the inner lining at the back of the eye and senses light
- Lenses- clear structure that help provide sharp vision
- Optic nerve- a nerve at the back of the eye that transfers visual information to the brain

WARNING! SIGNS OF VISION PROBLEMS
■ Blurry or wavy vision ■ Frequently changing vision, sometimes from day to day ■ Seeing dark areas or vision loss ■ Poor color vision ■ Spots or dark strings (also called floaters) ■ Flashes of lights

Source: National Eye Institute & Centers for Disease Control & Prevention

Types of Eye Problems

- Diabetic retinopathy: When blood vessels in the retina become damaged
 - In later stages, blood vessels bleed which can cause you to see dark, floating spots or streaks that look like cobwebs
- Glaucoma: A group of eye disease that can damage the optic nerve
 - In later stages, you may start losing your side vision
- Diabetic macular edema: When blood vessels in the retina leak fluid and causes vision to become blurry
- Cataracts: When the lenses in the eye become cloudy
- Retinal detachment: When scars cause the retina to pull away from the back of the eye

Ways to Keep Eyes Healthy

- Like you have annual inspections for your car, it is important to have annual inspections for your eyes to make sure no damage is occurring to your retina
- Damage to blood vessels can lead to vision problems. Avoid damage by not smoking and keeping blood sugar levels in your target range
- Wear sunglasses to protect eyes from sunray damage
- Wear protective eyewear when doing construction work, home repairs, or playing sports to avoid injuries to the eye

**Make a Pit Stop at
The Diabetes Garage®
to learn more**

Register online at
diabetesgarage.org
or call us at
El Paso (915) 747-8377
Harlingen (956) 230-5144
San Antonio (210) 562-5584
or email us at
diabetesgarage@utep.edu

Is This Research?

The Diabetes Garage® is a diabetes self-management intervention research study designed to increase men's participation in diabetes education programs, men's diabetes knowledge, improve self care behaviors and health outcomes. An evaluation is being conducted to understand how to better engage men in diabetes self-care.

Connect with us

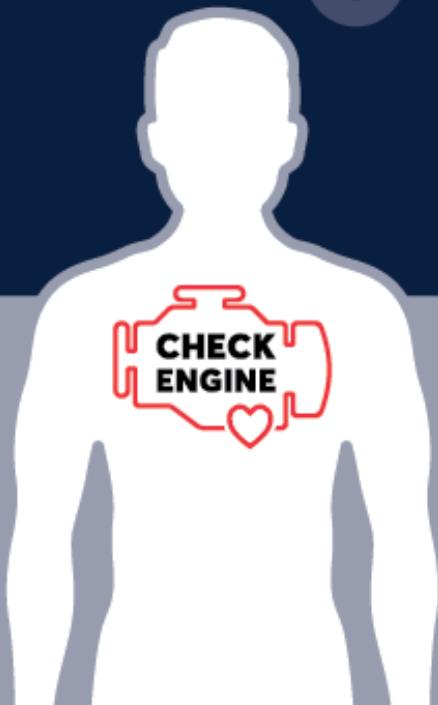
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Presented by
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THE DIABETES GARAGE®



Diabetes & Sex

Does Your Hood Stay Up?

Diabetes & Sex

Can you keep your Hood up?



- A healthy sexual life for people with diabetes and their partners is important.
- For men, this can mean maintaining an erect penis.
- If blood sugar levels are not well managed this can lead to problems with your "hood" and sexual life.

WARNING! SIGNS OF SEXUAL PROBLEMS
▪ When your partner communicates that they are noticing changes in the sexual relationship. ▪ Getting an erection sometimes, but not every time. ▪ Getting an erection but not having it last long enough for sex. ▪ Being unable to get an erection at any time.

Source: National Institute of Diabetes and Digestive and Kidney Diseases

Types of Sexual Problems

- **Erectile Dysfunction:** Unable to keep an erection firm enough for satisfactory sexual intercourse.
- **Retrograde Ejaculation:** When the semen goes into the bladder instead of out of the penis during ejaculation.
- **Low Testosterone:** Can cause men to feel tired or have a low sex drive.
- **Fertility Problems:** Diabetes can create problems in sperm and can make it harder to conceive.



Ways to Keep the Hood Up

- Don't feel uncomfortable, talk to your health professional about any sexual problems.
- Damage to blood vessels and nerves can lead to Erectile Dysfunction. Avoid damage by not smoking and keeping blood sugar levels in your target range.
- Be physically active and maintain a healthy weight.
- Be aware of your emotions, motivation, and psychological health, speak to your health care provider about any changes.

Learn more by visiting National Institute of Diabetes and Digestive and Kidney Diseases

Make a Pit Stop at The Diabetes Garage® to Learn More

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Is This Research?

The Diabetes Garage® is a diabetes self-management intervention research study designed to increase men's participation in diabetes education programs, men's diabetes knowledge, improve self care behaviors and health outcomes. An evaluation is being conducted to understand how to better engage men in diabetes self-care.

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The Diabetes Garage: The use of car culture to engage Hispanic Mexican-American men in diabetes self-management.

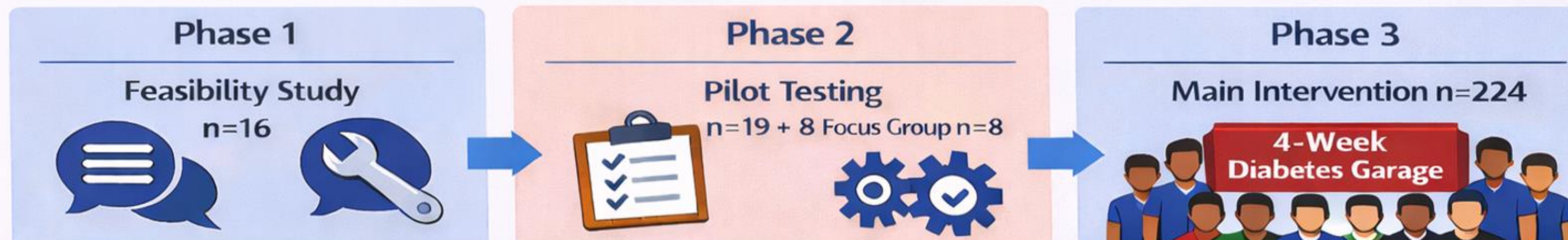
The **Diabetes Garage** Program for **Hispanic Mexican-American Men**

OBJECTIVE

Engage **Hispanic Mexican-American Men** in Diabetes Self-Management



METHODS



KEY RESULTS

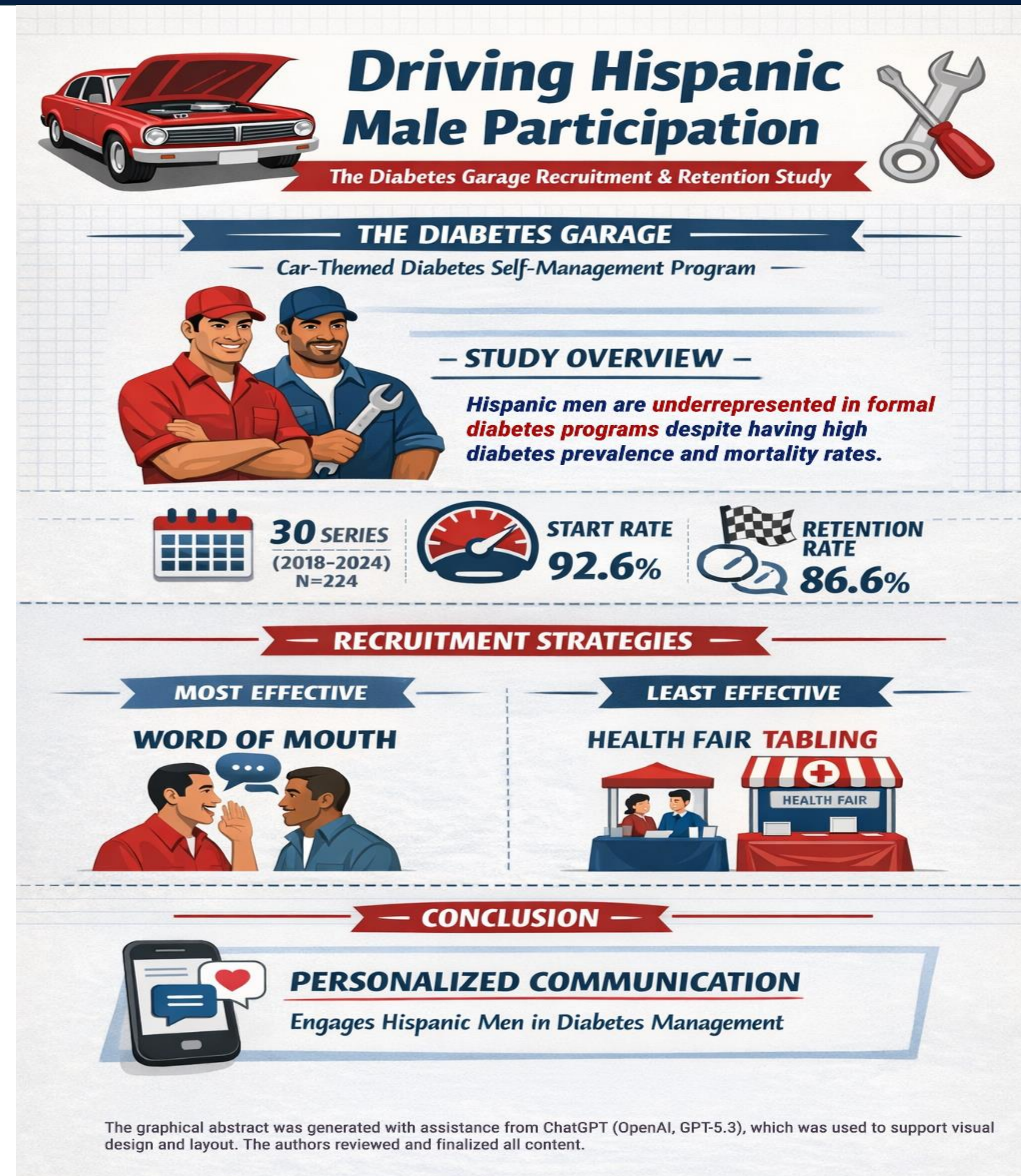
Phase 1 Findings

Hispanic male agreed that using automotive maintenance comparisons works for **Hispanic Mexican American** male population.



Tailoring programs to local culture engages **Hispanic Mexican-American Men** in Diabetes Self-Management.

Driving Hispanic Male Participation: The Diabetes Garage Recruitment and Retention Study.



APPENDIX C:

EXAMPLE PHARMACY-LED DIABETES MANAGEMENT PROGRAM

BACKGROUND

Type 2 diabetes (T2D) affects more than 38 million people in the United States and contributes over \$412.9 billion in annual costs. Suboptimal glycemic control increases the risk of hospitalization and long-term complications, yet many patients do not receive care aligned with the American Diabetes Association (ADA) recommendations.

Managed care organizations rely on Healthcare Effectiveness Data and Information Set® (HEDIS) quality measures, including Glycemic Status Assessment (GSD), Eye Exam (EED), Kidney Health Evaluation (KED), Blood Pressure Control (BPD), and Statin Therapy (SPD) to benchmark performance and drive value-based reimbursement. Despite strong evidence supporting pharmacist-led integration and interventions, a persistent gap exists between claims-identified care gaps and timely clinical action.

An integrated diabetes stewardship pharmacist model was implemented to bridge this gap by converting claims analytics into targeted pharmacist outreach across an ambulatory care network.

PURPOSE

To evaluate the impact of a pharmacist-driven diabetes quality improvement initiative centered on an integrated diabetes stewardship pharmacist model, closing diabetes-related HEDIS care gaps, with a primary focus on glycemic monitoring and glycemic control.

METHODS

Study Design and Setting: Retrospective paired pre-post analysis (August-December 2025) of Community First Health Plans, Inc. (Community First) Members attributed to University Medicine Associates (UMA)

Population

- **N = 579** Members with ≥ 1 HEDIS diabetes care gap
- Lines of business: Commercial, Marketplace, Medicaid, Medicare
- Exclusions: Deceased, not established with UMA, disenrolled before follow-up

Intervention Workflow:

- **Claims Analytics:** Identification of unresolved HEDIS diabetes care gaps, primarily GSD

- **Centralized Triage:** Cases reviewed by an integrated diabetes stewardship pharmacist

- **Delegation:** Members assigned to clinical pharmacists across ambulatory clinic settings, including specialty clinics

- **Targeted Outreach and Management by Pharmacists as part of routine clinical practice:**

- o Medication optimization
- o Lab ordering
- o Adherence counseling
- o Vaccinations
- o Care coordination and referrals

Outcomes:

Primary:

- o HbA1c test completion
- o HbA1c control (<8%)

Secondary:

- o Types and frequencies of pharmacist interventions
- o Closure of additional diabetes-related HEDIS measures

Analysis

Paired pre-post comparison using McNemar's.

Reported: Absolute improvement, relative improvement, number needed to treat (NNT), and 95% CIs

OUTCOMES

- **HbA1c completion:** Absolute increased by **60.6 percentage points** [relative 171.2%] (NNT = 2)
- **HbA1c control (<8%):** Absolute increased by **42.7 percentage points** [relative 252.7%] (NNT = 3)
- **217 Pharmacist interventions**, including
 - o 40 Urine-Albumin Creatinine Ratio (UACR) test ordered
 - o 39 Pharmacist (PharmD) visits initiated
 - o 34 Ophthalmology referrals

RESULTS

Among 579 Members (mean age 49.5 years; 91% Medicaid), baseline HbA1c averaged **8.57%**.

Primary Outcomes:

HbA1c Test Completion

- Pre-intervention: **35.4% (n=205)**
- Post-intervention: **96.0% (n=556)**
- Absolute improvement: **60.6 percentage points** (95% CI, 56.6–64.6; $p < 0.001$)
- **35.1** Members moved from non-completion to completion

HbA1c Control (<8%)

- Pre-intervention: **16.9% (n=98)**
- Post-intervention: **59.6% (n=345)**
- Absolute improvement: **42.7 percentage points** (95% CI, 38.6–46.8; $p < 0.001$)
- **24.7** Members improved to controlled status

Pharmacist Interventions

A total of **217** documented interventions, most commonly:

- Lab ordering
- Medication adjustments
- Ophthalmology referrals
- Care coordination

Additional results for the closure of diabetes-related care gaps

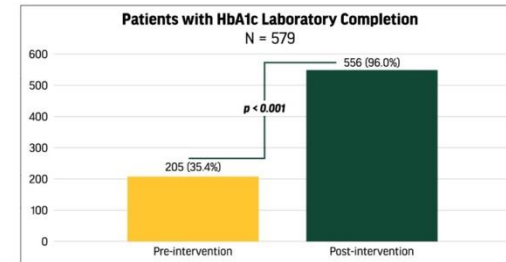


Figure 2: HbA1c Completion

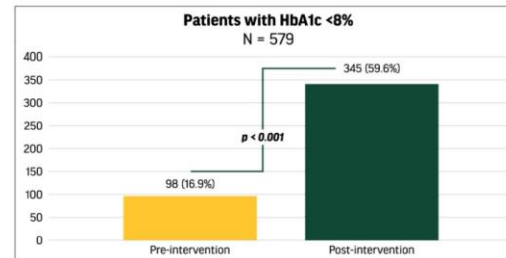


Figure 3: Diabetes Control Measure

SCAN
ME!



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POSTER ONLINE

CommunityFirstHealthPlans.com

Table 1: Baseline Demographics

Total Population		Members with Gaps in Diabetes Care
Age (Mean, SD)		49.50 (± 12.56)
Coverage Type (N, %)	Commercial	13 (2.25%)
	Marketplace	1 (0.17%)
	Medicaid	527 (91.02%)
	Medicare	10 (1.73%)
	University Health Plan	10 (1.73%)
Termed Medicaid		18 (3.11%)
Average Baseline HbA1c (Mean, SD)		8.57 (± 2.50)

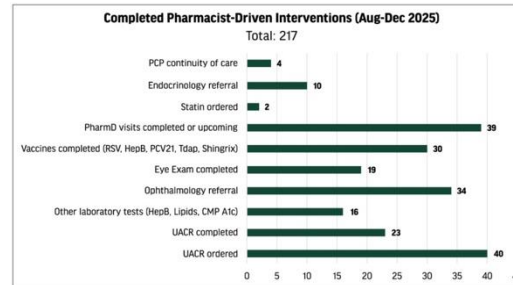


Figure 4: Pharmacist Interventions

CONCLUSION

An integrated pharmacist-driven stewardship model was associated with substantial improvements in glycemic monitoring, glycemic control, and closure of HEDIS diabetes care gaps. By converting claims analytics into targeted clinical action, this model demonstrates a scalable, high-impact population health strategy for managed care organizations seeking to improve diabetes outcomes and value-based performance.

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For more information or a reprint of this poster, please contact Norbert Rosario at nrosario@cfhp.com.



COMMUNITY FIRST
HEALTH PLANS

Thinking
beyond

Improving Glycemic Monitoring and Control Through a Pharmacist-Driven Diabetes QI Initiative

Presenters:

Norbert Rosario, PharmD, BCPS, BCACP^{1,2,3}

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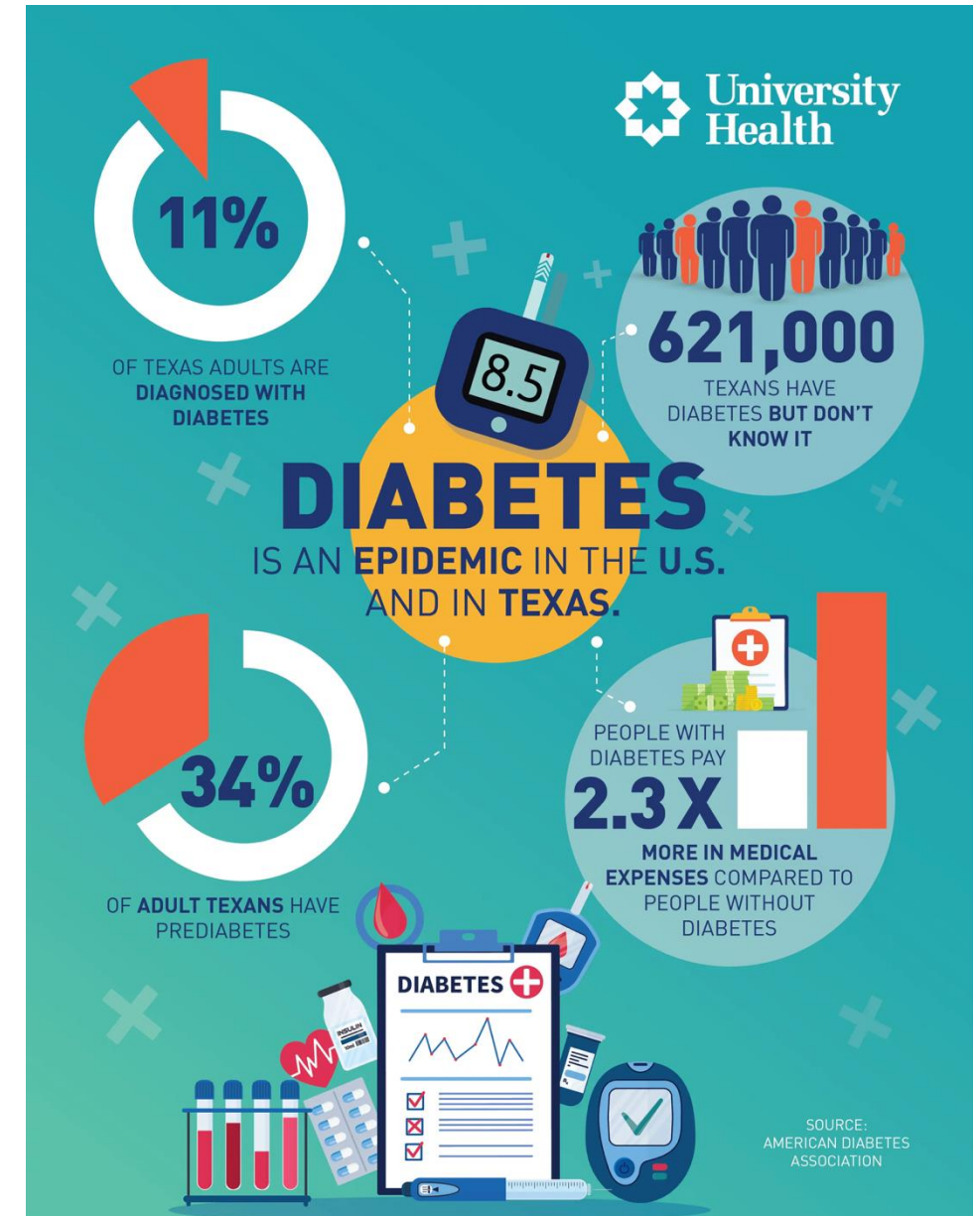
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³ University Health, Department of Pharmacotherapy & Pharmacy Services, San Antonio, TX

Background

- 38+ million Americans with diabetes
- \$412.9 billion annual cost
- 50.5% of community-dwelling adults achieve glycemic target of an A1c <7%
- Pharmacist-led interventions increase the likelihood of achieving HEDIS targets by 3.5–4.6× compared to standard care



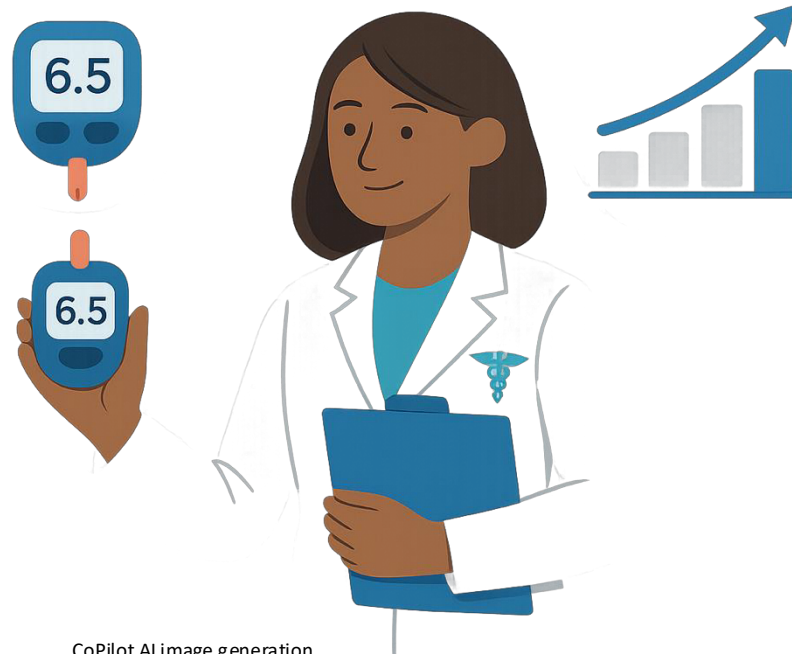
<https://www.universityhealth.com/public-health/-/media/Images/Pages/Public-Health/Topic-Pages/Diabetes/Texas-Diabetes-Infographic.aspx>

Problem Statement

- HEDIS metrics drive quality
- Persistent care gaps in persons living with diabetes:
 - Glycemic Control
 - GSD (glycemic status)
 - Diabetes Monitoring
 - EED (diabetic eye exam)
 - KED (kidney exam; eGFR and urine albumin creatinine ratio)
 - Other Diabetes Management
 - DBP (blood pressure control)
 - SPD (statin use)
- Claims data not translating into action

Purpose

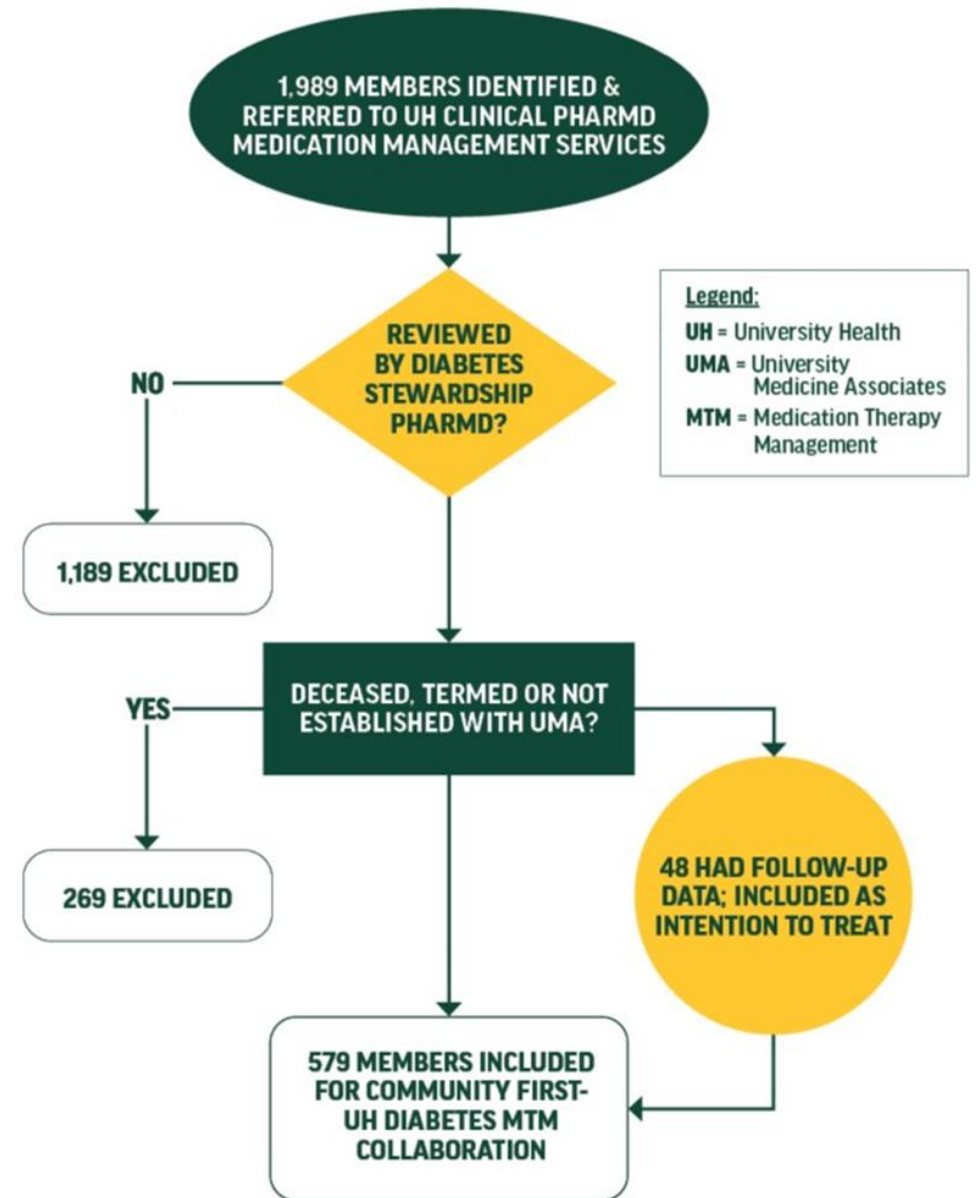
- Evaluate pharmacist-driven diabetes stewardship model
- Outcomes focus:
 - HbA1c monitoring
 - HbA1c control (<8%)



CoPilot AI image generation

Study Design

- Retrospective pre–post study
- Timeframe: Aug–Dec 2025
- Setting: Community First Health Plans (Community First) + University Health’s provider group of University Medicine Associates (UMA)



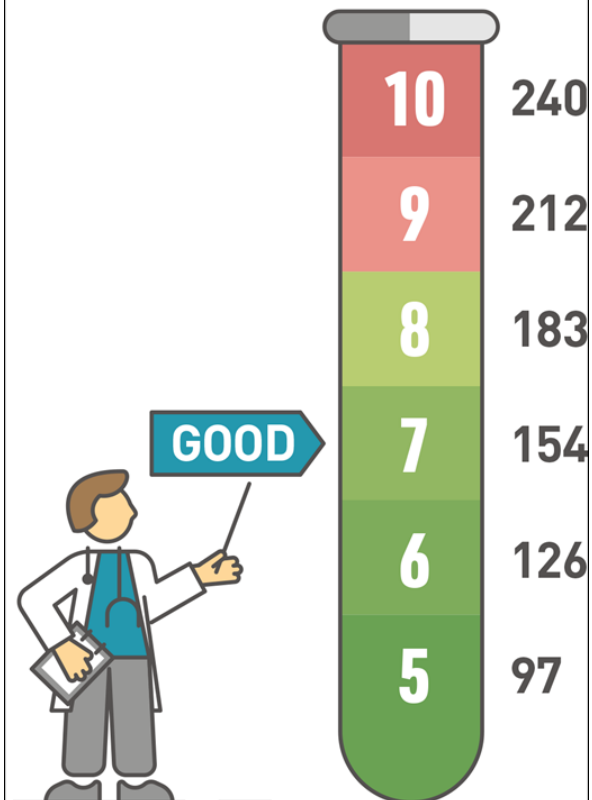
Population

- N = 579
- Mean age: 49.5
- 91% Medicaid
- Baseline HbA1c: 8.57%

		Members with Gaps in Diabetes Care
Total Population		579
Age (Mean, SD)		49.50 ($\pm$ 12.56)
Coverage Type (N, %)	Commercial	13 (2.25%)
	Marketplace	1 (0.17%)
	Medicaid	527 (91.02%)
	Medicare	10 (1.73%)
	University Health Plan	10 (1.73%)
	Termed Medicaid	18 (3.11%)
Average Baseline HbA1c (Mean, SD)		8.57 ($\pm$ 2.50)

Outcomes

Studies have shown that, for every 1-point decrease in A1C levels, you reduce your risk of long-term diabetes complications by up to 40%.



Primary outcomes:

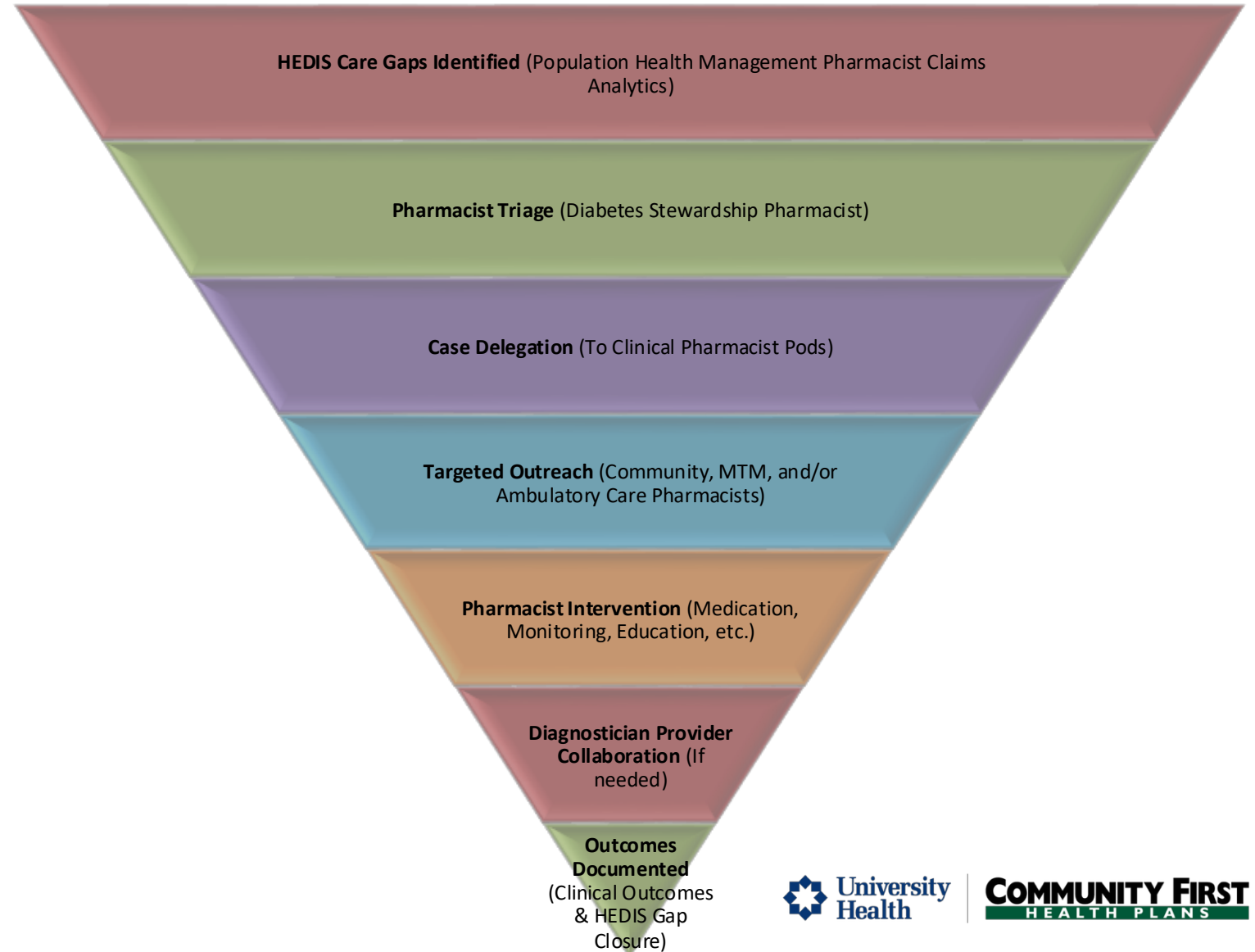
- HbA1c completion
- HbA1c control (<8%)

Secondary:

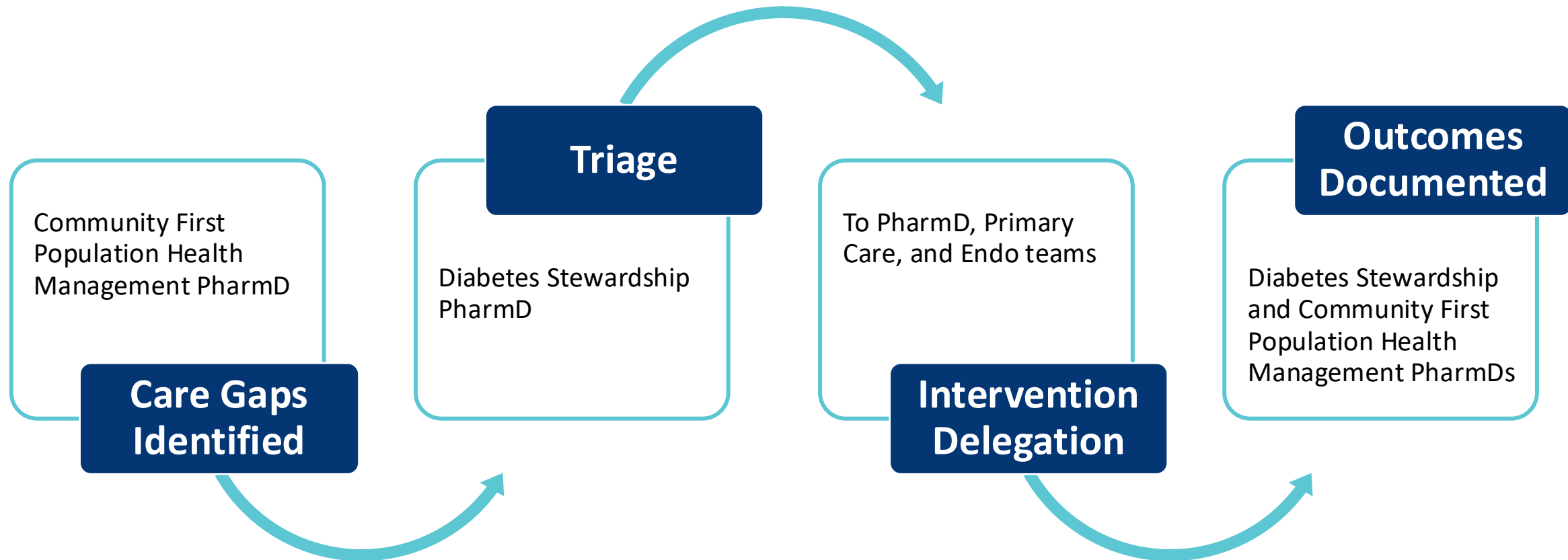
- Intervention types
- HEDIS gap closure

Intervention Model

- Claims analytics
- Pharmacist triage
- Case delegation
- Targeted outreach



Intervention Process



Triage Checklist

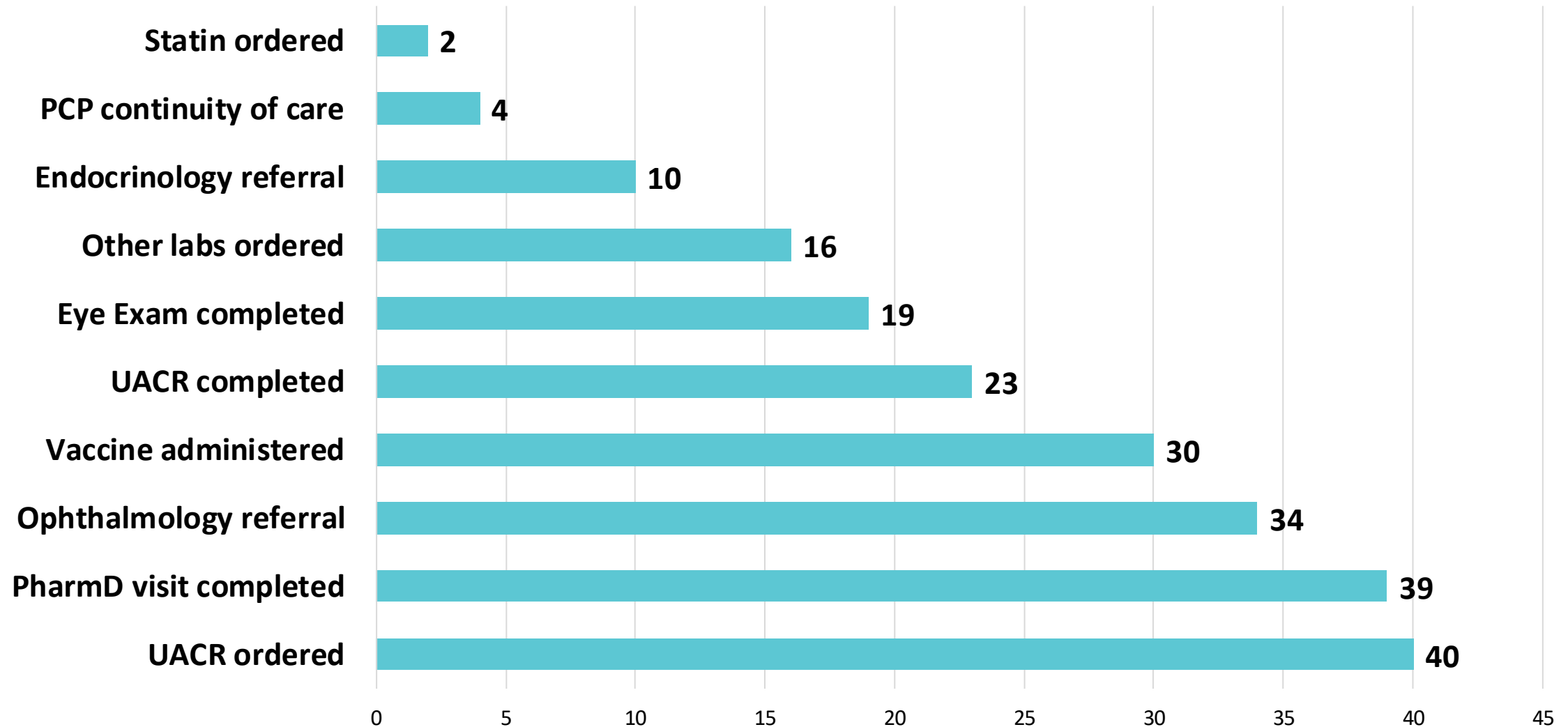
	Yes	No
Recent A1c		✓
Controlled diabetes (A1c <9%)		✓
Annual eGFR and UACR?		✓
Controlled blood pressure (<140/90)	✓	
Immunizations up-to-date		✓
Ophthalmology visit within last year	✓	
Fundus photos within last year	✓	
Ophthalmology referral within last year	✓	
Statin therapy	✓	
Established with clinical pharmacy services (previous referral ordered)	✓	
Past visit with Ambulatory Care Clinical Pharmacy Specialist		✓

Pharmacist-Driven Interventions

- Medication optimization
- Lab ordering
- Vaccinations
- Adherence counseling
- Referrals (ophthalmology, etc.)
- Care coordination (e.g. re-engagement with PCP or Endocrinology physicians)

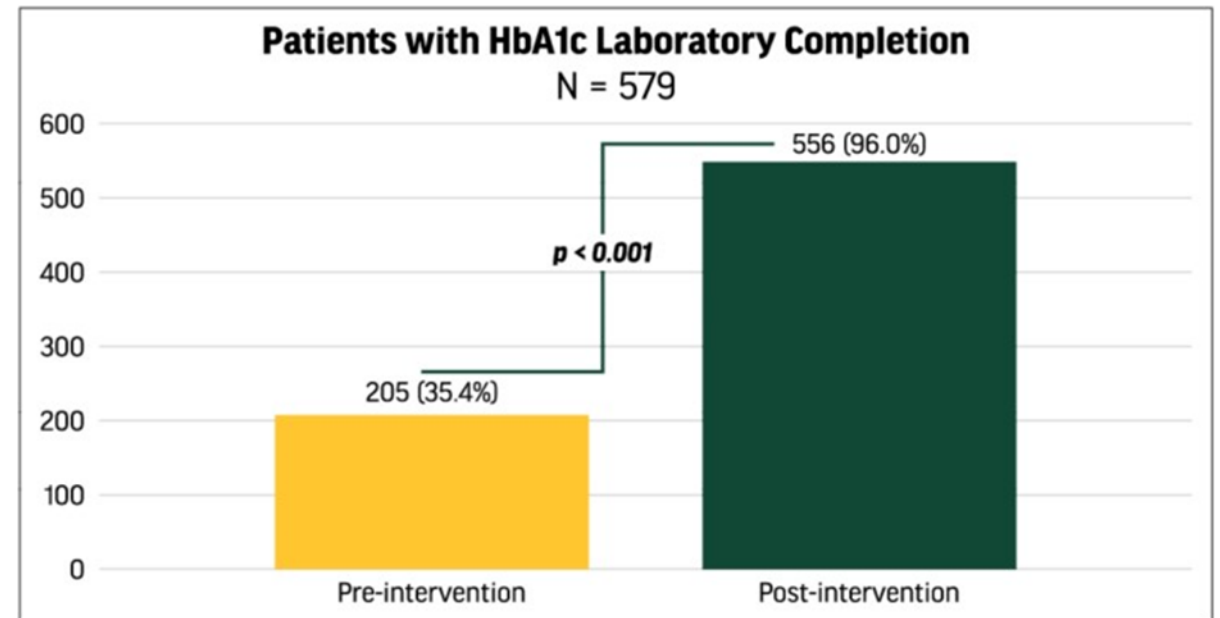
Completed Pharmacist-Driven Interventions (Aug-Dec 2025)

Total: 217



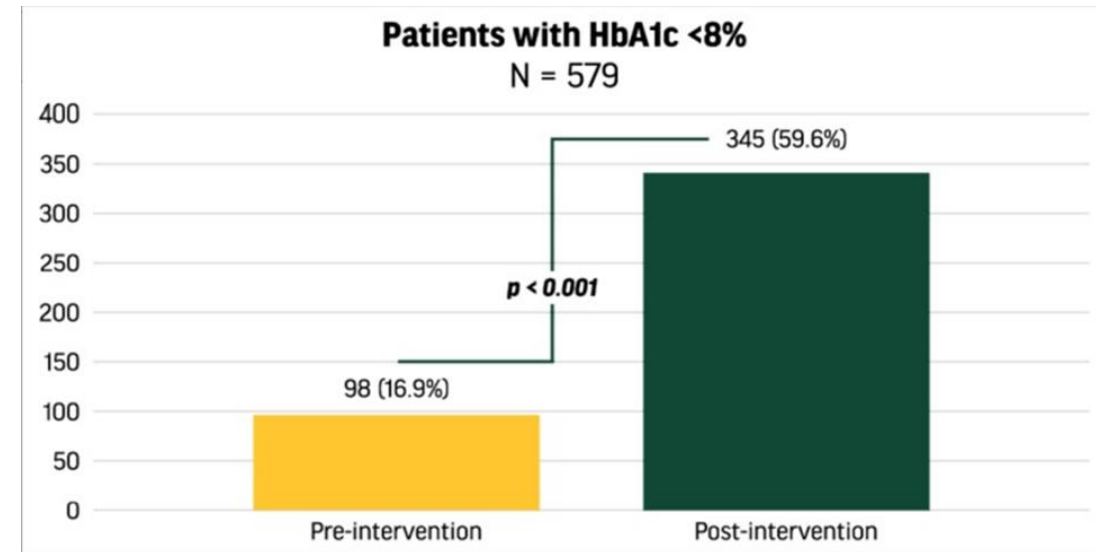
HbA1c Completion Results

- HbA1c Testing Rate Improvement
 - 35.4% → 96.0%
 - +60.6% percentage point absolute increase in completion (relative increase of 171.2%)
- NNT $\approx$ 2
- Effectively closed care gaps, improving HEDIS performance and value-based reimbursement



HbA1c Control Results

- Glycemic Control Improvement
 - 16.9% → 59.6%
 - +42.7% percentage point absolute increase in glycemic control (relative increase of 252.7%)
- NNT $\approx$ 3
- Reduction of therapeutic inertia
 - Improved medication optimization
 - Adherence counseling
- Patient Outcomes Benefits
- Effectively closed care gaps, improving HEDIS performance and value-based reimbursement



Key Takeaways

- Large improvements in:
 - Monitoring
 - Glycemic control
- Clinical Pharmacists assisted as an extension to Physician care teams to close care gaps effectively
- Pending results for the closure of diabetes-related care gaps



CoPilot AI image generation

Limitations

- No control group
- Short duration (5 months)
- Retrospective design with manual data collection
- Missing claims and/or laboratory data

Conclusion & Implications



CoPilot AI image generation

- Scalable, high-impact model
- Translates claims → clinical action
- Supports value-based care

APPENDIX D:

EXAMPLE EL PASO MAPS PROGRAM REGIONAL BEST PRACTICES

&

EL PASO NON-PROFIT *LIMB SAVERS SOCIETY*

Why MAPS Was Created

Addressing the Gap in Limb Preservation

- Many amputations are preventable
- Patients often receive late referrals to vascular specialists
- Lack of coordinated multidisciplinary care
- Need for education, early screening, and rapid intervention

Border communities like El Paso face higher diabetes rates and vascular disease-

In El Paso, diabetes rates significantly outpace both state and national averages. Approximately 15.3% of El Paso adults live with diabetes (roughly 94,000 residents), compared to 12.3% in Texas and 11.6% nationally.

Key Statistics & Health Impacts:

- **Mortality Rate:** Diabetes-related deaths in El Paso are nearly 50% higher than the rest of the U.S.
- **Comorbidities:** Roughly 80% of El Paso patients with type 2 diabetes also develop cardiovascular or circulatory diseases.
- **Contributing Factors:** The region's high prevalence is tied to a large Hispanic population (about 82.9% of the area) facing genetic predispositions, customary regional diets, and sedentary lifestyles

Goal:

Create a system that identifies PAD early and prevents amputations.

What is MAPS?

Multidisciplinary Amputation Prevention Services of El Paso under the direction of Dr. Raja, Laiq

MAPS is a collaborative program focused on:

- Early PAD detection and screening
- Coordinated vascular and wound care
- Rapid referral pathways
- Multidisciplinary collaboration
- Patient education and advocacy

Mission: Saving limbs, improving quality of life, and reducing preventable amputations.

The MAPS Team: A True “Circle of Care”

MAPS integrates multiple specialties:

- Cardiovascular Specialists
- Podiatrists
- Wound Care Specialists
- Nurse Practitioners
- Clinical Research Coordinators
- Patient Navigators
- Community Organizations

MAPS Clinical Approach: How We Prevent Amputations

- Early Screening
- ABI testing
- PAD risk identification
- Diagnostic Evaluation
- Arterial ultrasound
- Angiography
- Minimally Invasive Treatment
- Endovascular interventions

- Restoring blood flow
- Wound & Limb Care
- Multidisciplinary follow-up

Research & Innovation: Advancing Limb Salvage

MAPS participates in:

- Clinical trials for PAD and CLI therapies
- Research on advanced endovascular techniques
- Development of new treatment technologies

Our goal is to bring innovative therapies to our community first.

- Community Outreach
- Education & Awareness

Through partnerships like The Limb Saver Society, we:

- Host health fairs
- Provide PAD screenings
- Educate patients on amputation prevention
- Support patients with medical financial assistance

Student Opportunities: Future Healthcare Leaders

Students involved in MAPS can gain exposure to:

- Clinical shadowing
- Cardiovascular procedures
- Research participation
- Community outreach initiatives

Multidisciplinary patient care

Our Mission: Saving Limbs. Saving Lives.

Every limb preserved means:

- Better mobility
- Improved quality of life
- Reduced healthcare burden
- A second chance for patients
- Say No to Amputation

Program Overview:

The MAPS Program is a collaborative limb preservation initiative led by Dr. Raja Laiq at El Paso Cardiology Associates, designed to reduce preventable amputations in patients with Peripheral Arterial Disease (PAD) and Critical Limb Ischemia (CLI).

MAPS brings together a multidisciplinary team of cardiovascular specialists, podiatrists, wound care providers, nurse practitioners, researchers, and patient navigators to provide coordinated care for patients at risk of limb loss.

The program focuses on early detection, vascular evaluation, minimally invasive endovascular treatment, wound care management, and patient education to restore blood flow and preserve mobility. Through clinical research, community outreach, and partnerships with The Limb Saver Society, MAPS also promotes PAD awareness, early screening, and improved access to care within the El Paso community.

Mission:

To prevent unnecessary amputations by providing early intervention.



About The Limb Savers Society

The **Limb Savers Society** is a nonprofit organization dedicated to preventing unnecessary amputations through education, patient advocacy, community outreach, and support of research initiatives. We are committed to improving outcomes for individuals affected by Peripheral Arterial Disease (PAD), Critical Limb Ischemia (CLI), diabetes-related vascular disease, and non-healing wounds by promoting a multidisciplinary, team-based approach to care.

Our mission is to educate physicians, healthcare providers, patients, and the community about the treatment options available for limb preservation and amputation prevention. Through awareness programs, educational events, patient navigation, and collaborative healthcare partnerships, we strive to ensure that every patient has access to timely evaluations, innovative therapies, and comprehensive care.

The Limb Savers Society also serves as a strong advocate for patients and families by helping them connect with the resources, guidance, and support needed to navigate complex medical conditions. We believe that no patient should face the threat of limb loss without first understanding all available treatment options and having access to specialized limb preservation care.

In addition to patient advocacy, the Limb Savers Society actively engages in community outreach through health fairs, screening events, educational seminars, and public awareness campaigns focused on diabetes, Peripheral Arterial Disease (PAD), wound care, and amputation prevention. These initiatives allow us to bring vital health education directly to the community while promoting early detection and intervention for those at risk of limb-threatening diseases.

The organization is also proud to host the annual **Critical Limb Ischemia Fighters Conference (CLIFF Conference)**, a multidisciplinary educational conference that brings together physicians, nurses, advanced practice providers, wound care specialists, and healthcare professionals from across the region. The conference provides Continuing Medical Education (CME) opportunities and serves as a platform for sharing the latest advancements in limb preservation, vascular care, wound healing, diabetes management, and amputation prevention.



Furthermore, the Limb Savers Society collaborates with the **El Paso Center for Diabetes** to support comprehensive diabetes education and prevention efforts. Through this partnership, patients gain access to diabetes self-management classes, nutritional counseling, endocrinology evaluations, and resources designed to improve glycemic control and reduce the risk of diabetes-related complications, including limb loss. By addressing the root causes of vascular disease and promoting preventive care, we are helping patients achieve better health outcomes and preserve their quality of life.

We envision a future where unnecessary amputations are preventable, where multidisciplinary collaboration is the standard of care, and where every individual has the opportunity to preserve mobility, independence, and quality of life. Through education, advocacy, and research, we are working to build healthier communities and create a world where more limbs and lives are saved.

APPENDIX E:
RESOURCES & SUPPORTING DATA DOCUMENTATION

Three years combined diabetes-related NLEAs by county* (as shown in Figure 6)

Top 20 Texas Counties by Pooled Amputation Rate, 2022–2024

County	Cases (3yr)	Population (3yr)	Rate per 10,000
Dimmit	47	24,783	18.96
Duval	55	29,411	18.70
McCulloch	35	22,452	15.59
Refugio	29	20,434	14.19
Willacy	80	60,858	13.15
Brooks	25	20,562	12.16
Zavala	34	28,877	11.77
Frio	65	56,309	11.54
Jim Wells	132	116,512	11.33
Maverick	192	174,585	11.00
Bee	101	92,529	10.92
Dewitt	64	59,686	10.72
Atascosa	163	152,934	10.66
Newton	38	36,110	10.52
Callahan	42	43,067	9.75
Zapata	40	41,253	9.70
Robertson	50	51,757	9.66
Leon	48	49,792	9.64
Marion	28	29,052	9.64
Uvalde	70	74,142	9.44

*Note: *Counties with population <15,000 (pooled 3-year) suppressed to avoid unstable small-number estimates. Rates computed using Texas Demographic Center county population estimates (July 1 vintage). Source: THCIC PUDF 2022–2024; Texas Demographic Center 2024.*

The Burden of Diabetes in **Texas**

Diabetes is an epidemic in the United States. According to the Centers for Disease Control and Prevention (CDC), over 37 million Americans have diabetes and face its devastating consequences. What's true nationwide is also true in Texas.

Texas's diabetes epidemic:

- Approximately **2,758,942 people in Texas**, or 12.3% of the adult population, **have diagnosed diabetes**.
- An additional **621,000 people in Texas have diabetes but don't know it**, greatly increasing their health risk.
- There are **7,142,000 people in Texas**, 34% of the adult population, who have **prediabetes** with blood glucose levels that are higher than normal but not yet high enough to be diagnosed as diabetes.
- **Every year** an estimated **177,174 people in Texas** are diagnosed with diabetes.

Diagnosed diabetes costs an estimated \$25.6 billion in Texas each year.

The serious complications include heart disease, stroke, amputation, end-stage kidney disease, blindness—and death.

Diabetes is expensive:

People with diabetes have **medical expenses approximately 2.3 times higher** than those who do not have diabetes.

- Total **direct medical expenses** for diagnosed diabetes in Texas were estimated at **\$18.9 billion in 2017**.
- In addition, another **\$6.7 billion** was spent on **indirect costs** from lost productivity due to diabetes.

Improving lives, preventing diabetes and finding a cure:

In 2023, the **National Institute of Diabetes and Digestive and Kidney Diseases** at the National Institutes of Health invested **\$15,999,776** in diabetes-related research projects in Texas.

The **Division of Diabetes Translation** at the CDC provided **\$1,492,848** in diabetes prevention and educational grants in Texas in 2021.

Sources include:

- Diabetes Prevalence: 2020 state diagnosed diabetes prevalence, cdc.gov/diabetes/data; 2017 state undiagnosed diabetes prevalence, Dall et al., "The Economic Burden of Elevated Blood Glucose Levels in 2017", *Diabetes Care*, September 2019, vol. 42.
- Diabetes Incidence: National Diabetes Statistics Report—2022, cdc.gov/diabetes/data/statistics-report/index.html
- Cost: American Diabetes Association, "Economic Costs of Diabetes in the U.S. in 2017", *Diabetes Care*, May 2018.
- Research expenditures: 2023 NIDDK funding, report.nih.gov/award/index.cfm; 2021 CDC diabetes funding, fundingprofiles.cdc.gov/FundingProfiles/FundingQuery

The Burden of Diabetes in Texas

Diabetes is an epidemic in the United States. According to the Centers for Disease Control and Prevention (CDC), over 38 million Americans have diabetes and face its devastating consequences. What's true nationwide is also true in Texas.

Texas's diabetes epidemic:

- Approximately 2,972,100 adults in Texas, or 12% of the adult population, have diagnosed diabetes.
- Every year, an estimated 228,000 adults in Texas are diagnosed with diabetes.

The serious complications of diabetes include heart disease, stroke, amputation, end-stage kidney disease, blindness—and death.

Diabetes Is Expensive

Americans with diabetes have medical expenses approximately 2.6 times higher than those without. The total estimated cost of diagnosed diabetes in the U.S. was \$412.9 billion in 2022, including \$306.6 billion in direct medical costs and \$106.3 billion in reduced productivity attributable to diabetes.

In Texas, diagnosed diabetes costs an estimated \$34.3 billion each year. In 2022:

- Total direct medical expenses for diagnosed diabetes in Texas were estimated to be \$25.4 billion
- In addition, there were \$9 billion in estimated indirect costs from lost productivity due to diabetes

- **136 million Americans have diabetes or prediabetes**
- **1.2 million Americans are diagnosed with diabetes every year**
- **About 1 in 3 seniors in the United States has diabetes**
- **Diabetes contributes to the death of nearly 400,000 Americans annually**

In addition to the work of the American Diabetes Association® to improve lives, prevent diabetes, and find a cure:

In 2025, the National Institute of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health invested \$73,069,892 in diabetes-related research projects in Texas.

The Division of Diabetes Translation at the CDC provided \$3,250,000 in diabetes prevention and educational grants in Texas in 2023.

Sources can be found at diabetes.org/SFSSources.
Find more statistics at diabetes.org/Statistics.

The Burden of Diabetes in Texas

Diabetes is an epidemic in the United States. According to the Centers for Disease Control and Prevention (CDC), over 40 million Americans are living with diabetes and face its devastating consequences. What's true nationwide is also true in Texas.

Texas's diabetes epidemic:

- Approximately 3,208,000 adults in Texas, or 12.9% of the adult population, have diagnosed diabetes.
- Every year, an estimated 245,000 adults in Texas are diagnosed with diabetes.

The serious complications of diabetes include heart disease, stroke, amputation, end-stage kidney disease, blindness—and death.

Diabetes Is Expensive

Americans with diabetes have medical expenses approximately 2.6 times higher than those without. The total estimated cost of diagnosed diabetes in the U.S. was \$412.9 billion in 2022, including \$306.6 billion in direct medical costs and \$106.3 billion in reduced productivity attributable to diabetes.

In Texas, diagnosed diabetes costs an estimated \$34.3 billion each year. In 2022:

- Total direct medical expenses for diagnosed diabetes were estimated to be \$25.4 billion
- There were \$9.0 billion in estimated indirect costs from lost productivity due to diabetes

- **Over 155 million Americans have diabetes or prediabetes**
- **1.5 million Americans are diagnosed with diabetes every year**
- **11 million Americans have diabetes and are undiagnosed**
- **Diabetes contributes to the death of nearly 400,000 Americans annually**

In addition to the work of the American Diabetes Association® to improve lives, prevent diabetes, and find a cure:

In 2026, the National Institutes of Health's National Institute of Diabetes and Digestive and Kidney Diseases invested \$6,845,406 in diabetes-related research projects in Texas.

The CDC's Division of Diabetes Translation provided \$3,250,000 in diabetes prevention and educational grants in Texas in 2023.

Sources can be found at diabetes.org/SFSSources.
Find more statistics at diabetes.org/Statistics.