State Plan for Diabetes and Obesity Treatment

As Required by

Texas Health and Safety Code,

Section 103.013

Texas Diabetes Council

November 2021

Table of Contents

Executive Summary

Texas Health and Safety Code, Chapter 103, established the Texas Diabetes Council (TDC). Section 103.013 requires TDC to develop and implement a state plan for diabetes treatment, education, and training.

In conjunction with developing the state plan, the TDC also assesses existing state programs for the prevention and treatment of diabetes, in accordance with Section 103.0131. The assessment includes a review of state agency programs that provide diabetes-related services and can be found at dshs.texas.gov/legislative/Reports-2021.aspx.

This plan is based on reviews and discussions of diabetes prevention and self-management, cost-savings studies, and evidence-based diabetes research studies. TDC members' professional experiences span decades and include expertise in the treatment of diabetes, diabetes education and training, nutrition education, and public health policy. TDC meetings serve as opportunities to review and discuss topics, which assist in the identification of these priorities as outlined in the Texas Diabetes Action Plan:

- Increasing transparency in insulin and drug pricing for diabetes treatments to ensure medications for persons with diabetes are available and affordable.
- Reducing therapeutic interference in hospital settings from formularies prohibiting patients access to the medications their treating physicians prescribe.
- Making telehealth and telemedicine permanent to increase access to healthcare and improve patient outcomes.
- Decreasing identified health disparities for all persons with diabetes and obesity to provide equal access to quality healthcare, education, medication, and equipment regardless of socioeconomic factors.
- Expanding use of automated diabetes technologies for increased access to and utilization of continuous sugar monitoring systems and other diabetes-related technological advancements to improve self-management outcomes for the health and well-being of people with diabetes.

1. Introduction

The Texas Diabetes Council (TDC) was established by the Legislature per Texas Health and Safety Code, Chapter 103. It is composed of 11 members appointed by the Governor, as well as nonvoting members from the Texas Department of State Health Services (DSHS), the Texas Health and Human Services Commission (HHSC), the Texas Workforce Commission Vocational Rehabilitation Division, the Employee Retirement System of Texas (ERS), and the Teacher Retirement System of Texas.

Texas Health and Safety Code, Section 103.013, requires the TDC to develop and implement a state plan for diabetes treatment, education, and training. The TDC submits the state plan to the state agency designated as the state health planning and development agency by November 1 of each odd-numbered year.

Section 103.013 allows the state plan to ensure the following:

- Individual and family needs are assessed statewide and all available resources are coordinated to meet those needs; and
- Healthcare provider needs are assessed statewide and strategies are developed to meet those needs.

Health and Safety Code, Section 103.013(b-1), allows the TDC to include in the state plan provisions to address obesity treatment, education, and training related to:

- Obesity-dependent diabetes; and
- The health impacts of obesity on a person with diabetes.

2. Background

The prevalence of diabetes in Texas has nearly doubled over the past decade – from 6.2 percent to 12.2 percent.[1] Today, more than 2.5 million (12.2 percent) of adult Texans have been diagnosed with diabetes, and nearly 2.2. million (10.1 percent) of adult Texans have prediabetes.[2] This condition increases their risk for heart disease and stroke.[3]

According to the Texas Demographic Center, the number of persons with diabetes is projected to be nearly 8 million people by 2040, while the prevalence may increase to 23.8 percent.[4] Texas is among 21 states collectively responsible for over 40 percent of the national cost of diabetes.[5] The annual financial toll on Texas due to diabetes is $26 billion dollars, including $18.9 billion in direct medical costs and $6.7 billion in indirect costs.[6] The price of insulin has risen steeply, resulting in patients rationing this lifesaving medication.[7] Between 2009 and 2019, insulin

[1] Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2019.

[2] Texas Department of State Health Services, Prevalence of Diagnosed Diabetes Among Adults by Demographic Characteristics, Risk Factor/Comorbid Conditions, and Place of Residence, Texas, 2019.

[3] Centers for Disease Control and Prevention. Diabetes and Prediabetes, 2019. https://www.cdc.gov/chronicdisease/resources/publications/factsheets/diabetes-prediabetes.htm.

[4] Texas Demographic Center. Summary Report on Diabetes Projections in Texas, 2007 to 2040. http://demographics.texas.gov/Resources/Publications/2008/2008_SummaryReportDiabetes.pdf.

[5] Economic Costs Attributable to Diabetes in Each U.S. State. Diabetes Care 2018; 41:2526-2534. https://care.diabetesjournals.org/content/diacare/41/12/2526.full.pdf.

[6] American Diabetes Association (2018). The Burden of Diabetes in Texas. http://main.diabetes.org/dorg/docs/state-fact-sheets/ADV_2020_State_Fact_sheets_TX.pdf.

[7] Prasad R. The human cost of insulin in America. BBC website. https://www.bbc.com/news/world-us-canada-47491964. Published March 14, 2019. Accessed July 1, 2021.

prices rose significantly, and the cost of other important medications for persons with diabetes are unaffordable.[8,9,10]

Although some diabetes-related complications have decreased since the 10-year Diabetes Control and Complications Trial was completed in 1993, one notable exception is the incidence of lower extremity amputations, which has increased among working-age adults since 2010.[11,12] In 2018, there were approximately 14,000 diabetes-related nontraumatic lower limb amputations in Texas at a cost of more than $1.6 million.[13] The 5-year survival rate for people with diabetic foot ulcers and major lower limb amputations is over 30 percent and 55 percent, respectively.[14] As a result, these diabetes-related complications are often more fatal than many types of cancer.[14,15] Complications increase healthcare spending, reduce productivity, and impact the physical, emotional, and financial well-being of persons with diabetes and their families.

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[8] Hua X., Carvalho N., Tew M., Huang E.S., Herman, W.H., Clarke P. (2016). Expenditures and prices of antihyperglycemic medications in the United States: 2002-2013. Journal of the American Medical Association, 315:1400–1402.

[9] Cefalu, W.T., Dawes, D.E., Gavlak, G., Goldman, D., Herman, W.H., Van Nuys, K., Powers, A.C., Taylor, S.I., and Yatvin, A.L. on behalf of the Insulin Access and Affordability Working Group. (2018). Insulin Access and Affordability Working Group: Conclusions and Recommendations. Diabetes Care, 2018 June; 41 (6): 1299-1311.

[10] Mayo Clinic Proceedings. January 2020;95(1):22-28. https://doi.org/10.1016/j.mayocp.2019.11.013.

[11] Gregg, E.W., Hora, I., and Benoit, S.R. (2019). Resurgence in diabetes-related complications. Journal of the American Medical Association. 321(19):1867–1868. doi:10.1001/jama.2019.3471.

[12] Gregg EW, Li Y,Wang J, et al. Changes in diabetes-related complications in the United States, 1990-2010. *N Engl J Med*. 2014;370(16):1514-1523.

[13] Texas Department of State Health Services. Hospital Discharge Rates for Overall Diabetes, Type 1 Diabetes, Type 2 Diabetes, and Diabetes-Related Nontraumatic Lower Extremity Amputations by Demographics, Public Health Region, County, Median Length of Stay and Total Charges by Primary Payer, Texas 2018.

[14] Armstrong, D.G., Swerdlow, M.A., Armstrong, A.A. et al. Five-year mortality and direct costs of care for people with diabetic foot complications are comparable to cancer. J Foot Ankle Res 13, 16 (2020). https://doi.org/10.1186/s13047-020-00383-2.

[15] Cancer Facts & Figures 2019. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf.

3. 2019 Texas Diabetes Action Plan Update

In addition to 16 members, the Texas Diabetes Council (TDC) has two workgroups: the Advocacy and Outreach Workgroup (AOW) and the Healthcare Professionals and Outcomes Workgroup (HPOW).

The AOW brings together diabetes stakeholders to develop recommendations for issues affecting persons with diabetes. Stakeholders include the American Diabetes Association (ADA), the Association of Diabetes Care and Education Specialists (ADCES), the Juvenile Diabetes Research Foundation, healthcare systems, health plans, and other interested parties.

The HPOW assembles leading Texas endocrinologists, nurses, dietitians, diabetes educators, and other diabetes experts to review the minimum practice standards data from state agency programs, health systems, and special studies that can be used to assess the effectiveness of diabetes management in Texas. Both workgroups assist TDC members (Appendix A) in executing legislatively required duties, developing the state plan for diabetes and obesity treatment and education, and supporting TDC initiatives.

Over the biennium, collaborative statewide efforts have helped to make progress towards achieving the following *2019 State Plan for Diabetes and Obesity Treatment* priorities:

- Diabetes Self-Management Education and Support Enrollment;
- Evidence-Based Prevention Program Engagement; and
- Address Obesity and Prediabetes in School Aged Children.

Diabetes Self-Management Education and Support (DSMES) Enrollment

The TDC prioritized decreasing the DSMES enrollment gap, with the goal of reducing diabetes-related hospital admissions and readmissions. In 2019 and 2020, The TDC administered surveys to gain an understanding of how Managed Care Organizations (MCOs) provide diabetes education to Medicaid enrollees. The survey was sent to one person in each of Texas's 18 MCOs; 12 people completed the survey. Based on the responses received from MCO program coordinators and managers, it was noted that there remains a gap between the number of Medicaid

participants with diabetes and DSMES enrollment. Both Tables 1 & 2 show there is a small percentage of MCO participants, living with type 1 and 2 diabetes mellitus, who enrolled in and/or completed DSMES. A low percentage of Medicaid enrollees with gestational diabetes mellitus enrolled in DSMES, but of those who enroll, completion was 100 percent.

Table 1. How many adult patients (≥21 years) served by your MCO, with the following health conditions, enrolled in and completed DSMES between January 1, 2019-December 31, 2019?

	Number of adult patients served by MCOs	Number of adult patients who enrolled in DSMES (% of total adult patients)	Number of adult patients who enrolled and completed in DSMES (% of total adult patients)
Type 1 diabetes mellitus	5,523	177 (3.2%)	79 (1.4%)
Type 2 diabetes mellitus	74,334	1,256 (1.7%)	998 (1.3%)
Gestational diabetes mellitus	11,039	1,328 (12.0%)	1,328 (12.0%)

Table 2. How many adolescent patients (<21 years) served by your MCO, with the following health conditions, enrolled in and completed DSMES between January 1, 2019-December 31, 2019?

	Number of adolescent patients served by MCOs	Number of adolescent patients who enrolled in DSMES (% of total adult patients)	Number of adolescent patients who enrolled and completed in DSMES (% of total adult patients)
Type 1 diabetes mellitus	2,993	198 (6.6%)	116 (3.9%)
Type 2 diabetes mellitus	5,130	101 (2.0%)	24 (0.5%)
Gestational diabetes mellitus	695	649 (93.4%)	649 (93.4%)

Survey results gave insight on how MCOs provide diabetes education, and further research indicated that the *Texas Medicaid Provider Procedures Manual* (TMPPM) included language that may have contributed to gaps in DSMES enrollment. The TDC provided a topic nomination to the Texas Health and Human Services Commission (HHSC) regarding DSMES benefits, which was approved by HHSC Governance for further medical benefit policy review.

TDC recommendations for consideration included the following:

1. Texas Medicaid Fee-for-Service (FFS) and MCOs provide DSMES services following the current National Standards for DSMES, as published by the ADA and the ADCES.
2. Texas Medicaid FFS and MCOs provide coverage of DSMES services to Medicaid recipients diagnosed with diabetes (i.e., type 1, type 2 or gestational diabetes).
    a. Eligible recipients must receive up to 10 hours of DSMES during the first 12-month period after diagnosis and include:
        i. One hour of individual DSMES, and
        ii. Nine hours of group DSMES.
    b. After the first 12-month period has ended, recipients must be eligible for two hours of individual instruction on diabetes self-management per calendar year.
    c. To receive Medicaid reimbursement, a DSMES must meet the quality standards of ADA or ADCES.
    d. Texas Medicaid must utilize the services of an ADA-recognized or ADCES-accredited DSMES provider.
    e. FFS and MCOs must demonstrate use of Medicaid quality measures.

Evidence-Based Prevention Program Engagement

The TDC continues to prioritize evidence-based prevention program engagement to provide potential cost-savings for employers, insurers, and government agencies. Increasing availability and access to National Diabetes Prevention Program (National DPP) services remains a priority for diabetes stakeholders, as evidenced by the growth in the number of programs in Texas. The National DPP is an example of a public-private partnership of community-based organizations, private insurers, healthcare organizations, employers, and government agencies brought together to establish evidence-based lifestyle change programs for people at high risk for type 2 diabetes. Over the biennium, the number of lifestyle change programs and sites in Texas increased from approximately 50 to 75 programs.

The TDC continued to collaborate with the Employees Retirement System of Texas (ERS) to assess the prevalence of prediabetes among the state employee population, develop an economic analysis related to providing an evidence-based prevention program, develop and implement a cost-effective type 2 diabetes prevention program for state employees, and report to the Legislature and Governor.

As a result, ERS began providing coverage for Real Appeal and Wondr (formerly Naturally Slim), online wellness programs that support a reduction of type 2 diabetes risk factors through weight loss and mindful, healthy eating. In the *2019 State Plan for Diabetes and Obesity Treatment,* the TDC recommended continued implementation of these wellness programs to support a return on investment from reduced state employee insurance claims for diabetes, obesity, and other chronic co-morbid conditions. Both programs are offered to current and retired state employees and dependents enrolled in HealthSelect, but not Medicare.[16] HealthSelect is the network-based, point-of-service plan administered by Blue Cross and Blue Shield of Texas through ERS. According to the *FY20 Texas Employees Group Benefits Program Annual Report*:

> "ERS is actively working with the leadership of the 16 largest state agencies and institutions to decrease the prevalence of major chronic conditions, improve participants' general quality of life, and reduce long-term health costs for HealthSelect. Through collaboration and leader-led support, the Texas Department of Public Safety and Texas Tech University System improved participation rates in weight management programs and online health assessments in FY20."[17]

Address Obesity and Prediabetes in School-Aged Children

The *2019 State Plan for Diabetes and Obesity Treatment* included partnership with the Texas Education Agency (TEA) to review the Texas Essential Knowledge and Skills (TEKS), the state standards for what students should know and be able to do.

To address the obesity and prediabetes crisis in Texas' school-aged children, in 2019 the TDC partnered with TEA to ensure the revised health education and physical education curriculum standards would provide learning objectives for grades K-12. At that time, Texas ranked 14th in the nation for obesity, with 33

[16] Blue Cross Blue Shield of Texas HealthSelect. Weight Management Programs. https://healthselect.bcbstx.com/content/health-and-wellness-incentives/weight-management-programs.

[17] Employees Group Benefits Program Annual Report FY20. https://ers.texas.gov/about-ers/reports-and-studies/reports-and-studies-on-ers-administered-benefit-programs/fy20-gbp-annual-report.pdf.

percent of the population being obese.[18] The status was even higher for high school students: Texas ranked 5th with 18.6 percent of high school students having obesity.[18] There is a strong correlation between obesity and type 2 diabetes.

The ad hoc TDC TEKS Curriculum Workgroup had the opportunity to provide stakeholder feedback for both the Health Education and Physical Education TEKS during the review process. The workgroup assisted with the development of an advanced-level high school health education course, served as a content advisor, and provided feedback in alignment with the TDC's mission. These efforts were instrumental in the review and adoption of the revised Health Education TEKS. This is significant as these standards impact over 5 million students in Texas public schools and had not been revised in over 20 years.

The recommended revisions aimed to provide students an opportunity to learn about obesity and diabetes and their prevention, management, and potential complications. Recommendations also sought to establish a physical education time requirement for elementary and middle school students, since the TEKS previously had no minimum time requirement. These standards were needed to reduce the obesity epidemic among Texas youth. This is particularly pronounced among Hispanic/Latino and African American children population.[19] The Texas State Board of Education approved and adopted the revised TEKS in November 2020, and it will be effective in August 2022.

In accordance with Texas Health and Safety Code, Chapter 103, and in consultation with DSHS, resources were provided to TEA to educate and support students and parents of students with diabetes. Resources include an overview of type 1 and type 2 diabetes, safe-at-school state laws, and information for families, caregivers, and school personnel on managing diabetes in academic settings. These resources are available at dshs.texas.gov/txdiabetes/school and may be shared through health clinics at public primary or secondary schools.

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[18] Robert Wood Johnson Foundation. The State of Obesity–Better Policies for a Healthier America. State of Obesity https://www.stateofobesity.org. Accessed July 1, 2021.

[19] Healthy Children, Healthy State: Child Obesity Crisis in Texas. https://sph.uth.edu/research/centers/dell/resources/new/child+obesity+crisis+final.pdf. Accessed July 19, 2021.

4. 2021 Texas Diabetes Action Plan

The Texas Diabetes Council (TDC) developed a Texas Diabetes Action Plan that consists of priorities for areas that build on past accomplishments and use current national, state, and local efforts to improve diabetes education and management in Texas. Work in the priority areas that follow is dependent on the Texas Legislature's continued funding and support of the Diabetes Prevention and Control Program at the Texas Department of State Health Services (DSHS).

The following priorities will be discussed in this state plan:

- Increasing Transparency in Insulin and Drug Pricing for Diabetes Treatments;
- Reducing Therapeutic Interference in Hospital Settings;
- Making Telehealth a Permanent Benefit;
- Decreasing Identified Health Disparities for All Persons with Diabetes; and
- Expanding Use of Automated Diabetes Technologies.

Increasing Transparency in Insulin and Drug Pricing for Diabetes Treatments

The price of insulin has tripled over the past decade, and continually climbing costs are a key barrier to effective diabetes self-management.[20] Due to price increases, insulin rationing, by taking smaller doses or skipping doses, has become common and is detrimental to the health of persons with diabetes.[7] A study at the Yale Diabetes Center found that between June and August 2017 one in four people rationed insulin due to its cost, which contributed to poor blood sugar management.[21]

Insulin rationing, a dangerous practice that compromises the health and safety of persons with diabetes, can increase the risk of hospitalization and complications such as blindness, amputations, and death. For patients, rationing medication

[20] Gordon, S., High cost has many diabetics cutting back on insulin. CBS News Web site. https://www.cbsnews.com/news/high-cost-of-insulin-some-diabetics-cut-back. Published December 3, 2018. Accessed July 1, 2021.

[21] Lipska KJ. Insulin Analogues for Type 2 Diabetes. JAMA. 2019;321(4):350–351. doi:10.1001/jama.2018.21356.

erodes their health. For the state of Texas, there are increased medical costs associated with hospital admissions/readmissions and health complications.

In commentary associated with the Yale Diabetes Center study, the *Kaiser Health News* Editor-in-Chief, Dr. Elizabeth Rosenthal, noted:

> "Thanks to tight sugar control and more precise insulin dosing, researchers estimated in 2012 that children with diabetes born between 1965 and 1980 were living 15 years longer than those born between 1950 and 1965."[22]

For those who ration insulin because of its cost, that 15-year gain may be diminished.

In the *2019 State Plan for Diabetes and Obesity Treatment,* the TDC recommended there be more transparency in insulin and drug pricing for diabetes treatments and capping insulin co-pays at $100 per month to expand affordability. In 2021, the 87th Texas Legislature passed Senate Bill (S.B.) 827, capping insulin co-pays at $25 per month for each prescription for individuals insured through state-regulated health benefit plans.

House Bill (H.B.) 18, passed during the 87th legislative session, establishes the development of a prescription drug savings program for Texans without health benefit plan coverage. This program will allow uninsured Texans to purchase prescription drugs, including insulin, at a reduced, post-rebate price. H.B. 18 also requires the Texas Health and Human Services Commission (HHSC) to conduct a study on the implementation of the program and report the results of the study by February 14, 2025. This legislation complements H.B. 2536, passed during the 86th legislative session, which required pharmacy benefit managers and health insurers to annually submit reports related to prescription drug cost transparency to the Texas Department of Insurance.

Prior to the 87th legislative session, Texas law only allowed for a three-day emergency refill of insulin and insulin-related equipment and supplies. This limitation could cause acute health complications or potentially be fatal for people who depend on insulin to manage diabetes. H.B. 1935 was passed during the 87th legislative session to help alleviate this issue, allowing pharmacists to dispense a 30-day emergency supply of insulin and insulin-related equipment and supplies if

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[22] Rosenthal E. When high prices mean needless death. JAMA Intern Med. 2019;179(2):114-115. doi: 10.1001/jamainternmed.2018.5007.

specific criteria are met. Health benefit plans must also provide coverage for emergency refills of equipment or supplies in the same manner as nonemergency refills.

All above mentioned bills took effect on September 1, 2021.

Texas Diabetes Council Recommendations

To build on the 2021 legislation and ensure progress toward insulin pricing transparency, TDC recommends the following be considered by the 88th Texas Legislature in 2023:

- Require insulin manufacturers to provide to HHSC details on the factors leading to price increases and the portion of the price increase related to those factors; and
- Require further detail in explaining insulin price increases, including information on the drug's acquisition by the manufacturer and specific costs attributed to the drug.

Reducing Therapeutic Interference in Hospital Settings

In Texas, the physician licensed to practice medicine is the only professional that can make therapeutic decisions and prescribe medications independently. Allied health professionals, such as physician's assistants and nurse practitioners, make therapeutic decisions and prescribe medications in consultation with a licensed physician.

Currently in Texas hospitals, medication formulary decisions can include non-clinical administrators, formulary committees, non-physicians, and/or physicians that are not licensed to practice medicine in Texas. Local hospital formulary committees, often chaired by physicians not involved in direct patient care, are required to approve formulary changes based on corporate, not medical, decisions. These decisions may limit or prevent a licensed physician from prescribing medications with a significant therapeutic benefit and the potential to reduce hospital admissions/readmissions or mortality.

There are medications to treat diabetes that aid in reducing morbidity, mortality, and hospital admissions/readmissions. These medications are not always administered to patients in an effort by the hospital to reduce costs. However, this

practice does not reduce long-term costs to the health care system or improve patients' quality of life. Studies have shown that starting a medication while in the hospital may increase adherence after discharge, improving long-term efficacy for the patient and healthcare system.[23,24,25] Therefore, physicians should be allowed to initiate therapy that provides a maximum benefit to patients without interference.

Texas Diabetes Council Recommendations

To reduce therapeutic interference in hospital settings, increase physicians' ability to treat patients and improve health outcomes, the TDC recommends the following be considered by the 88th Texas Legislature in 2023:

- Explore legislation to minimize hospital formularies from restricting access to medications with the most therapeutic benefit to patients and lessen interference of the treatment protocol outlined by the prescribing physician.

Making Telehealth and Telemedicine Permanent

The use of both telehealth and telemedicine increased during 2020 due to the COVID-19 pandemic, as healthcare abruptly shifted from providing in-person care to online platforms/services or via telephone. Telehealth is the use of electronic and telecommunication technologies to provide care and services at-a-distance (e.g., remote non-clinical services such as participating in a DSMES class). Telemedicine is the practice of medicine using technology to deliver care at a distance (e.g., remote clinical services such as a doctor's appointment). Healthcare providers rely on patient data to make treatment decisions and recommendations for persons living with diabetes. Due to advances in technology, devices such as blood sugar meters, insulin pumps, and continuous sugar monitoring systems enable patients to upload data for providers to review. For people living with diabetes, access to telehealth and telemedicine is ideal.

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[23] Medication Adherence: WHO Cares? Mayo Clin Proc. 2011 Apr; 86(4): 304–314. doi:10.4065/mcp.2010.0575.

[24] In-hospital initiation of lipid-lowering therapy after coronary intervention as a predictor of long-term utilization: a propensity analysis. Aronow HD, Novaro GM, Lauer MS, Brennan DM, Lincoff AM, Topol EJ, Kereiakes DJ, Nissen SE. Arch Intern Med. 2003 Nov 24; 163(21):2576-82.

[25] In-hospital initiation of statins: taking advantage of the 'teachable moment'. Fonarow GC. Cleve Clin J Med. 2003 Jun; 70(6):502, 504-6.

Research has indicated there are better outcomes among individuals living with diabetes who access the health system through telemedicine. According to a study published in 2019, researchers conducted a meta-analysis of 6,170 patients' data from 42 randomized controlled trials to examine the clinical effectiveness of telemedicine compared to traditional in-person diabetes management strategies.[26] The study populations included data from 12 studies focused on type 1 diabetes, 21 studies focused on type 2 diabetes, and 9 studies that involved both type 1 and type 2 diabetes.[26] The results demonstrated a significantly greater average reduction in hemoglobin A1c (HbA1c) in the telemedicine groups compared to traditional in-person care.[26] This was especially true in trials lasting longer than six months and in patients with type 2 diabetes.[26] Greater benefits were also observed in older study participants between the ages of 41-50 or older than 50 years of age when compared with younger patients.[26]

Telehealth can increase access to healthcare, which is especially important for people living with chronic conditions like diabetes. Diabetes requires ongoing self-care to manage blood sugar and reduce the potential for complications. For individuals and families with limited resources, self-care may become increasingly challenging as basic needs (e.g., food, housing, etc.) outweigh chronic disease management and routine visits with their healthcare provider.[27] Telehealth is an effective strategy for providing medical care, improving patient adherence to treatment, and increasing participation and retention in diabetes education programs in underserved and rural populations.[28] Telehealth also offers a method for individualizing and adapting interventions and providing ongoing support, fundamental elements of the *National Standards for Diabetes Self-Management Education and Support* and the Centers for Disease Control Diabetes Prevention-led National Diabetes Prevention Program. Enhancing patient access and outcomes can contribute to fewer hospital admissions and readmissions, lower likelihood of development or worsening of comorbid conditions, and/or reduction of treatments

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[26] Tchero, H., Kangambega, P., Briatte, C. et al. Clinical Effectiveness of Telemedicine in Diabetes Mellitus: A Meta-Analysis of 42 Randomized Controlled Trials. Telemedicine and e-Health 569-585 (July 2019). doi: 10.1089/tmj.2018.0128.

[27] Ju, H. Using telehealth for diabetes self-management in underserved populations. The Nurse Practitioner, 2020 November; 45 (11): 26-33. doi: 10.1097/01.NPR.0000718492.44183.87

[28] Telehealth in rural communities. www.cdc.gov/chronicdisease/resources/publications/factsheets/telehealth-in-rural-communities.htm.

needed for costly health complications. Accordingly, diabetes-related healthcare expenditures would decrease.[29]

During the COVID-19 pandemic, under an emergency Texas Department of Insurance rule, state-regulated health insurers and health maintenance organizations were required to:

- Pay in-network health professionals at least the same rate for telemedicine as in-person visits, including covered mental health services;
- Cover telemedicine services using any platform permitted by state law; and
- Not require more documentation for telemedicine than they require for in-person services.

An emergency rule (28 Texas Administrative Code, Section 35.1) was issued to suspend a state law limiting insurance coverage for medical services or consultations by phone.[30] By suspending the law, insurers were required to pay for covered visits or consultations provided over the phone and telemedicine. In June 2021, two House Bills were passed, H.B. 4 and H.B. 5, that may impact access to and provision of health services delivered electronically. H.B. 4 is related to the provision and delivery of certain health care services in Texas, including services under Medicaid and other public benefits programs, using telecommunications or information technology and reimbursement for some of those services. H.B. 5 is related to the expansion of broadband Internet services to certain areas. Additionally, the Texas Medical Board issued guidance to allow physicians and other healthcare professionals to use phone consultations to establish a provider-patient relationship. Before these changes, telemedicine could be provided only after the provider-patient relationship had been established during an in-person visit.

Texas Diabetes Council Recommendations

People with diabetes and risk factors for type 2 diabetes (e.g., prediabetes), especially in rural and underserved areas, would benefit from making the temporary expansion of telehealth and telemedicine permanent because of the risk

[29] Halpren-Ruder D. Telehealth: a primer. 2018. www.psqh.com/analysis/telehealth-a-primer.

[30] Texas Administrative Code, Title 28, Chapter 35, Subchapter A. COVID-19 Emergency Rules. https://www.tdi.texas.gov/rules/2020/documents/20206287.pdf. Accessed August 5, 2021.

of COVID-19 infection. Therefore, the TDC recommends the following be considered by the 88th Texas Legislature in 2023:

- Enact law to permanently allow the use of and require full reimbursement for telehealth and telemedicine services; and
- Allow healthcare professionals to use phone consultations to establish the provider-patient relationship, per the Texas Medical Board's guidance in response to the COVID-19 pandemic.

Decreasing Identified Health Disparities for All Persons with Diabetes and Obesity

Managing chronic conditions such as diabetes and obesity can be challenging, even under ideal circumstances. During the emergence of the COVID-19 pandemic, the concerns about health inequity, healthcare professionals' competency in diversity, and inclusion in healthcare were brought to the forefront. In 2019, Texas was ranked 37th on the Opportunity Index, an annual report on community wellbeing using economic, educational, health, and community data to look at disparities, discrimination, and inequities.[31]

For Texans living with chronic co-morbid conditions, health insurance, access to healthy and affordable food, transportation to/from medical appointments, and access to telehealth/telemedicine are just a few needs for managing their health. For health systems to assist with tackling these needs, providers require standards for addressing health equity, including training, inclusive health promotion, and adequate care coordination. Training and support to address providers' attitudes and biases, payment/reimbursement for services, and referrals for ancillary patient services and support are also necessary.

Access to medical, pharmaceutical, and technological advances in diabetes and obesity care can improve the health and quality of life for individuals living with these conditions. Improved access and health may help to prevent complications, hospital admissions and readmission, and frequent use of emergency room or other high cost healthcare services.

[31] Opportunity Index: How Opportunity Measures Up in Your Community. State Rankings—Texas. https://opportunityindex.org/detail/48/. Accessed July 1, 2021.

Texas needs a framework for implementation, integration, and success to address health inequities. This includes demonstration of the benefits, strategies and considerations for inclusive diabetes and obesity services with regards to social determinants of health (e.g., education, income, place of residence). Furthermore, in accordance with the ADA's Health Equity Bill of Rights, persons living with diabetes, prediabetes, or type 2 diabetes risk factors have the right to:

1. Access insulin and other drugs affordably;
2. Healthy food;
3. Insurance that covers diabetes management and future cures;
4. Not face stigma or discrimination;
5. Avoid preventable amputations;
6. Participate in clinical trials without fear;
7. Stop prediabetes from becoming diabetes;
8. A built environment that does not raise the risk of getting diabetes;
9. The latest medical advances; and
10. Have [their] voice heard.[32]

Texas Diabetes Council Recommendations

A greater emphasis on understanding the impact of social determinants of health on population health is needed to lessen the disparities experienced by vulnerable communities. To address this problem, ADA recommends training researchers on social determinants of health and their influence on diabetes prevention and treatment.[33] Training priorities should include interdisciplinary science, multisector collaboration research approaches, and methods to advance the root cause research on social determinants of health.[33] In support of this recommendation, a social determinants of health framework should guide the inclusion and diversity training of the Texas healthcare workforce. This will strengthen the delivery of culturally competent diabetes care and advance health equity.

To contribute to the development of the framework's foundation for decreasing health disparities for all persons with diabetes and obesity, the TDC will work on these recommendations over the next biennium:

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[32] American Diabetes Association (2020). Health Equity Bill of Rights. https://www.diabetes.org/sites/default/files/2020-08/Health%20Equity%20Bill_2nd_v2.pdf.

[33] Hills-Briggs F., Adler N.E., Berkowitz S.A., Chin M.H., Gary-Webb T.L., Navas-Acien A., et al. Social Determinants of Health and Diabetes: A Scientific Review. *Diabetes Care.* 2021; 44: 258-279.

- Collaborate with DSHS Grand Rounds to provide health equity training on stigma, bias, amplifying voices and other relevant topics;
- Share health equity education opportunities through the DSHS Diabetes Prevention and Control Program's *Diabetes News You Can Use* quarterly electronic newsletter;
- Conduct a systematic review of access to medications, healthy and affordable food, and technology to manage diabetes and/or obesity among underserved populations; and
- Identify and report in the *2023 State Plan for Diabetes and Obesity Treatment* constructed societal barriers to diabetes and obesity self-management.

Expanding Use of Automated Diabetes Technologies

An evidence-based goal of diabetes self-management is attaining and sustaining near normal blood sugar levels every day. Use of self-monitoring of blood sugar technologies (SMBG) has moved patients closer to that goal over the last several decades. Now, continuous sugar monitoring systems (CGMS) are expanding and affording flexibility in SMBG for a growing number of Texans of all ages living with diabetes. CGMS collects blood sugar data through a self-applied, removable sensor inserted under the skin and transmits the reading to an insulin pump, smartphone, or other CGMS-compatible device every five minutes. This empowers the person with diabetes (or their caregiver) with the ability to make self-care decisions based on real-time data trends, instead of "snapshots" of single points in time. Likewise, CGMS allows providers more data to make therapeutic decisions and assist patients with achieving improved clinical and quality of life outcomes.

CGMS data has created the clinical goal of "time in range." Time in range refers to the duration blood sugar is maintained between preset values (e.g., 70-180 mg/dL). An international consensus group has set at least 70 percent of the day or greater as the preferred time in range for persons with diabetes.[34] Compared to the hemoglobin A1c measurement, time in range is considered a superior reflection of diabetes self-management outcomes in persons with diabetes using CGMS.[35]

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[34] Battelino, Tadej, et al. Clinical targets for continuous sugar monitoring data interpretation: recommendations from the international consensus on time in range. Diabetes Care 42.8 (2019): 1593-1603.

[35] Clinical Diabetes. 2018 Apr; 36(2): 112–119. doi:10.2337/cd17-0094.

Over 20 years ago, Texas Medicaid approved the use of insulin pump devices for Medicaid beneficiaries requiring insulin therapy to manage diabetes. Now, insulin pumps are enabled with data from a companion CGMS device, or integrated into the pump, to provide what is known as a "hybrid closed loop system." The hybrid closed loop system automatically adjusts subcutaneous insulin delivery based CGMS values to assist patients, properly trained on the technology, achieve time in range.[36] In 2019, Texas Medicaid approved use of certain CGMS devices for its beneficiaries who meet specific criteria. This expansion acknowledged an ongoing paradigm shift where real-time CGMS data is preferred over SMBG, which is based on 1970's era technology. However, all persons with diabetes still do not have access to these advancements in care because of insurance constraints.

Texas Diabetes Council Recommendations

Since insulin pumps and some CGMS are approved for use by Texas Medicaid beneficiaries, there should be progression to support the use of the hybrid closed loop system for Texans with diabetes treated with insulin. As the "full closed loop" is introduced, which aims to achieve even greater blood sugar management and less fluctuations, this technology should also be supported. These technologies are quickly becoming the standard of care for diabetes treatment, improving quality of life and reducing long-term complications. Therefore, the TDC recommends the following be considered by the HHS Texas Medicaid Program:

- Facilitate access to Federal Drug Administration-approved hybrid closed loop insulin delivery systems, which incorporate continuous sugar monitoring technology;
- Streamline the pre-authorization process to reduce approval time; and
- Encourage the establishment of a "best practices" model for training patients on the proper use of hybrid closed loop systems and include curriculum-based instruction in-person and via telehealth.

[36] Bergenstal, Richard M., et al. Safety of a hybrid closed-loop insulin delivery system in patients with type 1 diabetes. JAMA 316.13 (2016): 1407-1408.

5. Conclusion

Due to the projected increase in diabetes prevalence in Texas by 2040, there is a concern that healthcare costs resulting from complications of poorly managed diabetes and prescription costs will continue to inhibit affordability and sustainability of the healthcare delivery system. This poses a simultaneous threat at multiple levels: fiscally for the Legislature and Texas taxpayers, as well as to the health and quality of life for all Texans.

TDC is committed to identifying strategies and working with partners to reduce healthcare expenditures, improve delivery of evidence-based, cost effective interventions, and increase access to preventative and therapeutic care to advance population health in Texas.

List of Acronyms

Acronym	Full Name
ADA	American Diabetes Association
ADCES	Association of Diabetes Care and Education Specialists
AOW	Advocacy and Outreach Workgroup
CGMS	Continuous Sugar Monitoring System
DSHS	Texas Department of State Health Services
DSMES	Diabetes Self-Management Education and Support
ERS	Employee Retirement Systems of Texas
HHS	Texas Health and Human Services
HHSC	Texas Health and Human Services Commission
HPOW	Healthcare Professionals and Outcomes Workgroup
MCO	Managed Care Organization
National DPP	National Diabetes Prevention Program
TDC	Texas Diabetes Council
TEA	Texas Education Agency
TEKS	Texas Essential Knowledge and Skills

Appendix A. Texas Diabetes Council Membership

Member	Position Held	Expertise
Governor Appointed Representatives		
Feyi Obamehinti, Ed.D.	Chair, General Public Member	Diabetes Advocate
Stephen Ponder, MD, FAAP, CDCES	Vice Chair, Public Health Policy Member	Pediatric Endocrinologist, Certified Diabetes Care and Education Specialist
Aida "Letty" Moreno-Brown, RD, LD	General Public Member	Diabetes Advocate
Ardis A. Reed, MPH, RD, LD, CDCES	Registered and Licensed Dietician Member	Registered and Licensed Dietician, Certified Diabetes Care and Education Specialist
Christine Wicke, Pharm.D	Consumer Member	Pharmacist
Dirrell Jones, JD	General Public Member	Lawyer, Diabetes Advocate
Felicia Fruia-Edge	Consumer Member	Diabetes Advocate
Gary Francis, MD, Ph.D	Physician Member	Pediatric Endocrinologist
Jason Michael Ryan, JD	Consumer Member	Lawyer, Diabetes Advocate
Maryanne Strobel, RN, MSN, CDCES	Registered Nurse Member	Certified Diabetes Care and Education Specialist
Ninfa Pena-Purcell, PhD, MCHES	General Public Member	Professor, Master Certified Health Education Specialist

State Agency Representatives		
Averi Mullins	State Agency Rep. (non-voting member)	Teacher Retirement System of Texas
Diana Kongevick	State Agency Rep. (non-voting member)	Employees Retirement System of Texas
Kelly Fegan-Bohm, MD, MPH, MA	State Agency Rep. (non-voting member)	Texas Department of State Health Services
Lisa Golden, MAEdHD, CRC, CDCES	State Agency Rep. (non-voting member)	Texas Workforce Commission Vocational Rehabilitation
Mitchel Abramsky, MD, MPH	State Agency Rep. (non-voting member)	Texas Health and Human Services Commission