
**Report on Direct and Indirect Costs of
Diabetes in Texas**

As Required By

S.B. 796

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Health and Human Services Commission

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Executive Summary

- The population of all Texans with diabetes was estimated at 1,796,161 individuals in Calendar Year (CY) 2011.
- Diabetes in Texas was responsible for an estimated \$18.5 billion in costs during CY2011: \$12.3 billion in direct medical costs and \$6.2 billion in indirect costs.
- The estimated proportions of direct medical costs falling to the private versus public sector included,
 - \$7.4 billion to the public sector, including Medicaid (2%), Medicare (46%) and combined Medicaid-Medicare costs for persons with dual eligibility (12%), and
 - \$4.9 billion to the private sector & other, including private insurance (30%) and costs not covered by insurance (10%).
- According to the CY2010 Texas Behavioral Risk Factor Surveillance System (BRFSS) data, about 1 million Texas adults were diagnosed with prediabetes; a condition in which individuals' blood glucose levels are higher than normal but not high enough to be classified as diabetes (100-125 mg/dl). The estimated costs of prevention programs for people with prediabetes were estimated at \$21 million.
- The CY2011 direct and indirect costs were projected from the CY2006 cost estimates generated by the American Diabetes Association (ADA) in "*The Estimated Prevalence and Cost of Diabetes in Texas.*"⁴ The projection considered changes in the population of Texas, prevalence of diabetes and prediabetes, medical inflation and economic wage growth. Updated national and state estimates will be published by the ADA in early 2013.

I - Background

The 82nd Texas Legislature, Regular Session, 2011, passed Senate Bill 796, relating to reporting on and assessing programs for the prevention and treatment of diabetes in the state.

This bill required the Texas Health and Human Service Commission (HHSC) to estimate the annual direct and indirect costs to both the public and private sectors of preventing diabetes and treating individuals with diabetes in this state.

S.B. 796

Not later than December 1, 2012, the commission and the council shall prepare and post on the commission's Internet website a report for elected officials and other policy makers that contains an estimate of the annual direct and indirect costs to both the public and private sectors of preventing diabetes and treating individuals with diabetes in this state.

II – Estimate of the Annual Direct and Indirect Costs

Estimated cost of diabetes in Texas in calendar year (CY) 2011

\$18.5 billion

Diabetes is responsible for an estimated

- \$ 12.3 billion in direct medical costs
 - \$ 7.4 billion to Medicaid and Medicare
 - \$ 4.9 billion to the Private Sector & Other
- \$ 6.2 billion in indirect costs
- \$ 21 million in diabetes prevention programs

The steps taken to calculate the above estimates are provided in Section III – *Analytical Notes*. A detailed description of the data sources, assumptions, and methods used to develop these estimates has been provided in the Appendix. The appendix also provides a thorough description of the costs of diabetes to the Texas Medicaid program.

III - Analytical Notes

There are four key components used to estimate the cost of diabetes:

- (1) Population of Texans with Diabetes,
- (2) Per Capita Medical Costs,
- (3) Per Capita Indirect Costs, and
- (4) Cost of Diabetes Prevention Programs

Estimated cost of diabetes in Texas, CY 2011=

$$\begin{aligned} & (1) \text{ Population of Texans with Diabetes} * (2) \text{ Per Capita Medical Cost} \\ & \quad + \\ & (1) \text{ Population of Texans with Diabetes} * (3) \text{ Per Capita Indirect Cost} \\ & \quad + \\ & (4) \text{ Cost of Diabetes Prevention Programs} \end{aligned}$$

1. Population of Texans with Diabetes

The population of Texans with diabetes, 1,796,161, was calculated using the summed prevalence of diabetes for children and adults and the CY 2011 population estimates for Texas.

The prevalence of diabetes among adults (people age 20 years and older) is an estimate provided by the Texas Behavioral Risk Factor Surveillance System (BRFSS).¹ In CY 2011, the prevalence for adults was 9.7%.

The prevalence of diabetes among children (people younger than age 20 years) is an estimate obtained from the CY 2011 National Diabetes Fact Sheet.² The CY 2010 estimate (0.26%) was applied to the total Texas child population in CY 2011.

The CY 2011 population estimates for Texans were provided by the Texas State Data Center.³

Population of Texans with Diabetes	CY 2006	CY 2011
	1,486,758	1,796,161

2. Per Capita Medical Costs

$$\begin{aligned} & (1) \text{ Population of Texans with diabetes (1,796,161)} \\ & \quad * \\ & (2) \text{ Per capita medical costs (\$ 6,869)} \\ & \quad = \\ & (1) * (2) = \$ 12,337,829,909 \end{aligned}$$

The baseline costs for diabetes in Texas were estimated by the American Diabetes Association (ADA) diabetes cost calculator: The Estimated Prevalence and Cost of Diabetes,⁴ at \$12 billion in 2006. HHSC calculated the 2006 per capita costs for the population of Texans with diabetes and projected the estimated per capita costs forward using National Health Expenditures estimates from the Centers for Medicare and Medicaid Services (CMS) Office of the Actuary.⁵

Cost	ADA Texas per capita costs estimate (CY 2006)	HHSC per capita costs estimate (CY 2011)
Direct (Medical Costs)	\$ 5,460	\$ 6,869

The health resources attributed to diabetes include:

- \$ 7.4 billion to the public sector (60% of total)
- \$ 4.9 billion to the private sector (40% of total)

The determination of annual health care spending on diabetes or prediabetes by sector used projections described by Voljta et. al. for CY 2011.⁶ In CY 2011, the estimated proportion of costs for the public sector included Medicare only (46%), Medicaid only (2%) and costs for individuals with dual eligibility for Medicaid and Medicare (12%). The proportion of costs for the private sector is 40% and includes private insurance (30%) and individuals with no insurance (10%).

Confirmation of these proportions was performed using Medicaid claims data. For calendar year CY 2011, the costs for diabetes-related services for Medicaid (not including costs for dual eligibles) totaled \$ 285.6 million (or approximately 2% of the estimated medical costs).

3. Per Capita Indirect Costs

$$\begin{aligned} & (1) \text{ Population of Texans with diabetes (1,796,161)} \\ & \quad * \\ & (3) \text{ Per capita indirect costs (\$3,456)} \\ & \quad = \\ & (1) * (3) = \$ 6,207,532,416 \end{aligned}$$

Indirect Costs include work absenteeism, reduced productivity, inability to work, and premature mortality. The estimated amount of indirect costs was projected from the 2006 ADA estimate for Texas using average annual wage growth data from the US Department of Labor Bureau of Labor Statistics.⁷

Cost	ADA Texas per capita costs estimate (CY 2006)	HHSC per capita costs estimate (CY 2011)
Indirect	\$ 2,922	\$3,456

4. Costs of Diabetes Prevention Programs

Prediabetes is a condition in which individuals have blood glucose levels higher than normal but not high enough to be classified as diabetes.⁸ Diabetes prevention programs for the prediabetes population include Lifestyle Intervention Programs designed to delay or prevent the development of type 2 diabetes. According to the CY 2010 Texas Behavioral Risk Factor Surveillance System (BRFSS) data, about 1 million Texas adults have been diagnosed with prediabetes.⁹ The cost estimate assumes that this population will have a 10.8% prevention program participation rate and a 40% retention rate resulting in 43,891 participants. At a rate of \$300 per participant for group lifestyle intervention and \$1,050 for individual lifestyle intervention, the resulting cost is estimated at \$21 million.^{10,11,12,13,14}

IV - References

- ¹ Texas Diabetes Prevention and Control Program/Texas Diabetes Council. *Diabetes Status in Texas, 2012*.
- ² Centers for Disease Control and Prevention. National Diabetes Fact Sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011.
- ³ Texas State Data Center (TxSDC), Population Estimates and Projections accessed through the Texas Department of State Health Services (DSHS), Center for Health Statistics.
- ⁴ American Diabetes Association. "The Estimated Prevalence and Cost of Diabetes in Texas." Available online at <http://www.diabetesarchive.net/advocacy-and-legalresources/cost-of-diabetes.jsp>.
- ⁵ CMS Office of the Actuary. National Health Expenditures Aggregate (Table 3 - National Health Expenditures and Average Annual Growth from Previous Year Shown by Source of Funds, Selected Calendar Years 1960-2010 in Billions of dollars.) Available online at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf>. Retrieved on 8/28/12.
- ⁶ Vojta D, De Sa J, Prospect T, Stevens S. Effective Interventions For Stemming The Growing Crisis of Diabetes and Prediabetes: A National Payer's Perspective. *Health Affairs* 2012; 31:20 - 26.
- ⁷ Texas Wage Growth from BLS State Occupational Employment and Wage Estimates
- ⁸ Centers for Disease Control and Prevention. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011.
- ⁹ Texas Diabetes Prevention and Control Program/Texas Diabetes Council. *Prediabetes Status in Texas, 2012*.
- ¹⁰ Diabetes Prevention Program Research Group NEJM 2002, Ackerman et al. *Diabetes Ed* 2007 and *Diabetes Care* 2003.
- ¹¹ Urbanski et al., Cost Effectiveness Issues of Diabetes Prevention and Treatment, *Journal of the American Dietetic Association* Volume 108, Issue 4, Supplement , Pages S6-S11, April 2008.
- ¹² Balamurugan, Appathurai, Diabetes Self-management Education Program for Medicaid Recipients, *The Diabetes Educator*, Volume 32, Number 6, November/December 2006.
- ¹³ Gebel, Erica, Diabetes Prevention Works Out at the YMCA, *Diabetes Forecast*, ADA, February 2012.
- ¹⁴ Ackermann, Ronald T., Adapting the Diabetes Prevention Program Lifestyle Intervention for Delivery in the, Community-the YMCA Model, *The Diabetes Educator* 2007; 33; 69.

V - Appendix: Detailed Description of Methods and Results

The determination of annual health care spending on diabetes used projections based on the American Diabetes Association (ADA) cost calculator which estimated the total cost of the disease among Texans in 2006 and became the foundation for the 2011 estimates.¹ The cost calculator relies on national prevalence rates for diabetes adjusted to the state level according to the diabetes risk factors of age, gender, and race/ethnicity, using U.S. Census data for the area. These estimates are also adjusted for variations in health care costs among states according to data from the Council for Community and Economic Research. The 2011 estimates of direct and indirect costs used baseline values from 2006 that were grown forward using population and inflation estimates.

	Direct (Medical) Cost (in millions)	Indirect Cost (in millions)	Total Cost (in millions)
2006	\$ 8,118	\$ 4,345	\$ 12,460
2011	\$ 12,338	\$ 6,207	\$ 18,551

Source: <http://www.diabetesarchive.net/advocacy-and-legalresources/cost-of-diabetes.jsp>.

Diabetes Prevalence in Texas: The prevalence of diabetes in Texas between 2006 through 2011 was obtained using estimates from the Behavioral Risk Factor Surveillance Survey (BRFSS)² for the adult population and the National Health and Nutrition Examination Survey (NHANES)³ for the child population. Prevalence estimates (the percent of Texans with diabetes) were applied to the Texas population using values provided by the Texas State Data Center, Population Estimates and Projections Program. The estimated number of Texans with diabetes in 2006 was 1,486,758 and in 2011 had grown to 1,796,161 (Table 1, Row 1).

¹ The American Diabetes Association's detailed reports on the Economic Costs of Diabetes in the United States are released on a five year schedule. New estimates of the costs of diabetes for the United States and Texas are expected to be released in 2013 and may differ from this projection.

² The BRFSS is a cross-sectional telephone survey conducted by state health departments with technical and methodological assistance provided by the Centers for Disease Control and Prevention (CDC). The random-digit dial survey collects data on lifestyle risk factors contributing to the leading causes of death and chronic diseases for Texas adults, age 18 years and older. As a primary source for comprehensive statewide data on preventive health practices and health risk behaviors, BRFSS is an important tool for decision-making throughout the Department of State Health Services (DSHS) and the public health community.

³ The National Health and Nutrition Examination Survey (NHANES) is a program of studies designed to assess the health and nutritional status of adults and children in the United States. The survey is unique in that it combines interviews and physical examinations to create a comprehensive health profile of Americans.

Medical Costs: The baseline for the calculation of medical costs was the 2006 estimate of direct costs from the ADA diabetes cost calculator. The ADA derived this estimate using state specific demographics, diabetes prevalence, and the health resource use attributed to diabetes that reflects additional expenditures incurred because of the disease. The health resource use attributed to diabetes equates to the total health care expenditures for people with diabetes minus the projected level of expenditures that would have occurred in the absence of diabetes. Costs include, but are not limited to, office visits, outpatient and inpatient hospital visits listing diabetes as the primary diagnosis code, costs associated with chronic complications of diabetes, and health resource use due to general medical conditions that are not chronic conditions of diabetes, but for which diabetes may have contributed to higher utilization of health care resources.

The ADA 2006 estimate of total medical costs served as the baseline for the annual costs projections (Table 1, Row 2). The projected estimates generated here reflect the same criteria for defining costs as reported in the ADA cost calculator.

The ADA Medical Estimate was grown by converting the baseline value to per capita medical costs (by dividing the total cost by the number of people in Texas with diabetes; Table 1, Row 3). The annual per capita costs between 2007 and 2011 were estimated using National Health Expenditure Data from the Centers for Medicare and Medicaid Services (CMS) Office of the Actuary (Table 1, Row 4). The estimated annual medical costs are the product of the population of Texans with diabetes and the per capita medical costs (Table 1, Row 5). By 2011, the estimated medical costs had grown to \$12.3 billion.

Indirect Costs: The baseline for the calculation of indirect costs (i.e., lost productivity) was the 2006 estimate of indirect costs from the ADA cost calculator. Indirect costs associated with diabetes include health-related days absent from work, reduced job performance due to health problems, reduced labor force participation and reduced earnings capacity from permanent disabilities, and premature mortality.

The ADA 2006 estimate of the total indirect costs served as the baseline for the annual costs projections (Table 1, Row 6). The baseline cost was converted to per capita indirect costs by dividing the total cost by the number of people in Texas with diabetes (Table 1, Row 7). The annual per capita costs between 2007 and 2011 were estimated using the average annual wage growth data from the US Department of Labor, Bureau of Labor Statistics (Table 1, Row 8). The estimated indirect costs each year are the product of the population of Texans with diabetes and the per capita indirect costs (Table 1, Row 9). In 2011, the estimated indirect costs were \$ 6.2 billion.

The estimated annual total costs are the sum of the medical and indirect costs. In 2011, the estimated total costs were \$ 18.5 billion (Table 1, Row 10).

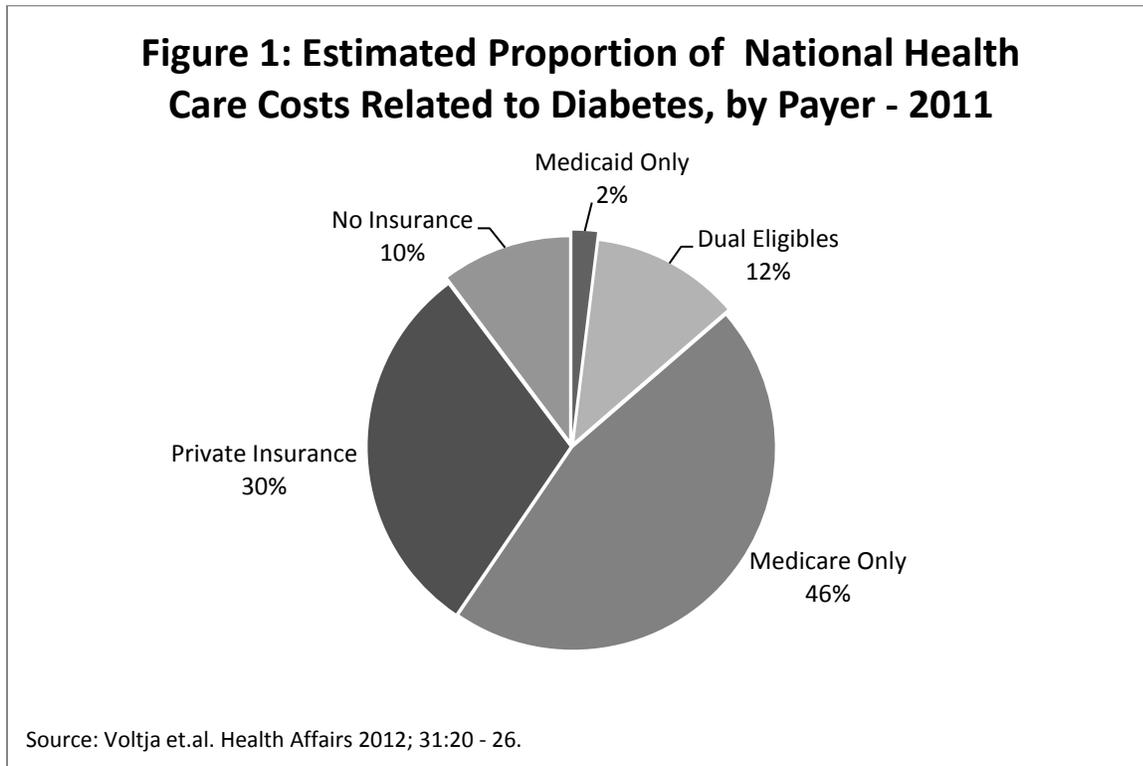
Table 1: Projected Prevalence and Cost of Diabetes in Texas

Row	2006	2007	2008	2009	2010	2011
BASELINE ESTIMATE OF TOTAL COSTS (direct & indirect)						
	<u>\$12,463,000,000</u>					
1 Estimated Prevalence	1,486,758	1,599,514	1,717,919	1,720,600	1,760,739	1,796,161
Direct (Medical) Cost of Diabetes						
2 BASELINE ESTIMATE	<u>\$8,118,000,000</u>					
3 Per Capita Medical Cost	\$5,460	\$5,793	\$6,065	\$6,308	\$6,554	\$6,869
4 CMS NHE Growth Rates*		6.1%	4.7%	4.0%	3.9%	4.8%
5 PROJECTED ESTIMATE		<u>\$9,265,984,602</u>	<u>\$10,419,178,735</u>	<u>\$10,853,544,800</u>	<u>\$11,539,883,406</u>	<u>\$12,337,829,909</u>
Indirect Cost of Diabetes						
6 BASELINE ESTIMATE	<u>\$4,345,000,000</u>					
7 Per Capita Indirect Cost	\$2,922	\$3,039	\$3,154	\$3,296	\$3,385	\$3,456
8 Texas Wage Growth Factor		4.0%	3.8%	4.5%	2.7%	2.1%
9 PROJECTED ESTIMATE		<u>\$4,860,923,046</u>	<u>\$5,418,316,526</u>	<u>\$5,671,097,600</u>	<u>\$5,960,101,515</u>	<u>\$6,207,532,416</u>
10 Total Cost (sum of Direct and Indirect Costs)						<u>\$18,545,362,325</u>

*Centers for Medicare and Medicaid Services (CMS), National Health Expenditure Data (NHE) <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf>

Breakdown of Medical Expenditures by Private and Public Funding Sources

Baseline estimates of the proportion of the medical costs of diabetes incurred by private and public sources are not available using the ADA cost calculator. According to Vojta et.al,⁴ 60% of national health care costs fall to public sources (Figure 1). National public health costs are broken down into three groups: Medicaid, Medicare and combined Medicaid-Medicare costs for persons with dual eligibility.



Applying these proportions to the 2011 projected costs yields:

Payer	Costs (in Millions)	Percent
Medicaid Only	\$ 247	2 %
Dual Eligibles	\$ 1,481	12 %
Medicare Only	\$ 5,675	46 %
No Insurance	\$ 1,234	10 %
Private	\$ 3,701	30 %
Total	\$ 12,338	

⁴ Vojta D, De Sa J, Prospect T, Stevens S. Effective Interventions For Stemming The Growing Crisis of Diabetes and Prediabetes: A National Payer's Perspective. Health Affairs 2012; 31:20 - 26.

Analysis of Medicaid/CHIP Claims, Encounters, and Vendor Drug Data

The costs of diabetes to the Texas Medicaid program can be directly calculated using fee-for-service (FFS) and Primary Care Case Management (PCCM) claims, encounters data from managed care organizations (MCOs) participating in Medicaid managed care, and pharmacy drug costs from the Medicaid Vendor Drug Program. Because MCOs are paid on a capitation basis and not on a FFS basis, dollar amounts provided for managed care are estimates.

Claims and encounters having a primary diagnosis code for diabetes (ICD-9-CM 250.00-250.93) or gestational diabetes (ICD-9-CM 648.00-648.04; 648.80-648.84) were used to identify the population of clients with diabetes and to calculate expenditures related to diabetes. The claim types included physician, outpatient, and inpatient hospital claims.

Drugs prescribed for the treatment of diabetes included insulin or oral hypoglycemic/antihyperglycemic medications. The complete list of medications and National Drug Codes (NDC)⁵ included in the analysis was compiled by the National Committee for Quality Assurance (NCQA) for the Healthcare Effectiveness Data and Information Set (HEDIS[®]) 2011 measurement year.⁶

The diabetes population identified using Medicaid data can be subdivided into two groups based on enrollment eligibility in Medicare. Medicare has the primary responsibility for providing basic medical services for all seniors, while Medicaid provides coverage for low income populations. Medicare participants with limited income and resources may receive benefits from Medicaid to cover Medicare cost-sharing (deductibles, coinsurance or copayments). Individuals eligible for both Medicare and Medicaid are referred to as “Dual Eligible” or crossover clients.

It is important to note that the demographic characteristics and expenditure patterns of clients enrolled in Medicaid only are very different from that of the dual eligible population (Table 2). Although the number of Medicaid clients with diabetes is large, especially when dual eligible clients are included, the costs to the program are low and are not representative of the total publicly funded costs since Medicaid is not the primary payer for dual eligibles. Further, undiagnosed diabetes cannot be assessed using Medicaid claims and encounters since these data are for administrative purposes and not designed to be a comprehensive medical record or history.

The Children’s Health Insurance Program (CHIP), a publicly funded insurance program, is designed to cover uninsured children in families with modest incomes which are too high to qualify for Medicaid. CHIP clients are enrolled in MCOs. The diabetes population in the CHIP

⁵ The National Drug Codes (NDC) for drugs included in this specification can be found online here:

<http://www.ncqa.org/HEDISQualityMeasurement/HEDISMeasures/HEDIS2012/HEDIS2012FinalNDCLists.aspx>

⁶ The Healthcare Effectiveness Data and Information Set (HEDIS[®]) is a set of standardized measures created by the National Committee for Quality Assurance (NCQA) to collect and report information on the quality of care provided by health plans. The “Comprehensive Diabetes Care” set of measures includes a specification for identifying members with diabetes using pharmacy data.

program and their associated costs are comparatively low and are included in Table 3 with reported Medicaid costs.

Table 2: Distribution of demographic characteristics of Medicaid clients with diabetes in Medicaid FFS and PCCM, with and without dual eligibles included.

	Medicaid FFS/PCCM without Dual-Eligible		Medicaid FFS/PCCM with Dual-Eligible included	
	n	%	n	%
Type *				
Type 1	2,401	3%	5,421	2%
Type 2, or unspecified	70,298	88%	216,579	96%
Gestational	10,205	13%	10,212	5%
Race/ethnicity				
White, non-Hispanic	20,383	29%	62,141	29%
Black, non-Hispanic	12,614	18%	36,202	17%
Hispanic	39,659	56%	99,016	46%
Other	2,248	3%	9,636	4%
Missing/Unknown	5,163	7%	19,680	9%
Age				
<18	5,235	7%	5,273	2%
18-64	63,623	90%	108,468	50%
65+	11,209	16%	112,934	52%
Total	80,067 *		226,675	

* Numbers and percents for diabetes by type will not add up to the total because the categories are not mutually exclusive. Clients' diagnoses can differ over the course of the calendar year.

The costs incurred by Medicaid clients include:

**Table 3: Expenditures for Services Related to Diabetes Type 1 and 2
by Type of Service and Model**

	Type of Service *	Number of Clients who Received this Service	Number of Claims for this Service	Total Amount Paid
Medicaid Only	Inpatient/Outpatient	23,528	56,862	40,486,836
	Professional	65,073	346,548	26,062,307
	Total			\$ 66,549,143
Crossover Claims	Inpatient/Outpatient	64,056	176,668	6,198,667
	Professional	154,989	1,023,781	23,607,208
	Total			\$ 29,805,875
Managed Care Encounters	Institutional	11,470	27,962	\$ 11,886,526
	Professional	52,560	520,640	\$ 129,175,359
	Total			\$ 141,061,885
CHIP	Institutional	1,313	27,962	\$ 2,119,090
	Professional	2,909	43,744	\$ 4,000,773
	Total			\$ 6,119,863
Vendor Drug Costs	Pharmacy	58,255	237,546	\$ 77,978,821
All Costs				\$ 315,395,724

* Inpatient and outpatient claims are associated with hospital and/or outpatient facilities (including some clinics). Professional claims are associated with physicians. For encounter data, outpatient and inpatient are both included in the “institutional” category.

Dual eligibles (Crossover)

Dual eligibles are Medicare Part A and/or B recipients who also qualify for Medicaid. These individuals may be eligible for Qualified Medicare Beneficiary (QMB) benefits, in which Medicare Part A premiums, Medicare Part B premiums, and Medicare deductibles, coinsurance, and copayments are covered by Medicaid (the secondary payer), effectively providing full health care coverage. Because of the additional Medicare coverage, the State’s share of the total payments for these individuals’ medical coverage may be substantially decreased. Therefore, the per-client costs incurred by Medicaid are lower for this population.

Many of the clients identified through claims as having diabetes were individuals with dual eligibility for Medicare and Medicaid. “Crossover claims” are the claims that are Medicaid’s share of payments for services provided to a dual eligible client.

Because enrollment in Medicaid and Medicare is fluid, there may be clients with both crossover claims and traditional Medicaid (Medicaid only) claims during different parts of the year. Table 2 presents the number of individuals that have claims for diabetes related services when crossover claims are not included alongside the number of individuals identified when crossover claims are included. While the crossover and non-crossover population counts may overlap, the costs for crossover claims are distinct and can be carved out from the total Medicaid costs. Table 3 presents distinct costs Medicaid/CHIP by type of service. In CY2011, Medicaid expenditures for Type 1 and Type 2 diabetes totaled \$ 315.4 million. Approximately \$ 29.8 million of the total expenditures are for crossover claims. For calendar year CY 2011, the costs for diabetes-related services for Medicaid (not including costs for dual eligibles) totaled \$ 285.6 million (or approximately 2% of the estimated medical costs).

No Insurance

The County Indigent Health Care Program (CIHCP) provides health care services to eligible residents through the counties, hospital districts and public hospitals in Texas. Counties that are not fully served by a public facility, i.e., a hospital district or a public hospital, are responsible for administering an indigent health care program for eligible residents of all or any portion of the county not served by a public facility.

Hospital districts and public hospitals are required to provide health care to eligible residents who reside in the hospital district's or public hospital's service area and meet the minimum resource and income limits.

Counties are required to provide Basic Health Care Services (including diabetes related services) to eligible residents and may elect to provide a number of DSHS-established Optional Health Care Services.

Data on the utilization rates, services provided, costs, and revenues for health centers are collected by the Health Resources and Services Administration (HRSA). Community Health Centers, Migrant Health Centers, Health Care for the Homeless grantees and Public Housing Primary Care grantees are all required to submit reports. HRSA uses the data to improve health center performance and to identify target areas (areas with which expanding programs may benefit underserved and vulnerable populations).

The "Uniform Data Set" (UDS) reports are available online at <http://bphc.hrsa.gov/healthcenterdatastatistics/index.html#who>.

In Texas, there are 64 grantees that report UDS data to HRSA. The combined number of patients served in 2011 was 975,509. Approximately half (51.4%) of that population was uninsured, with the remainder having Medicaid (27.4%), Medicare (6.4%), CHIP, Medicaid, or other Public Insurance (5.3%) and public insurance (9.5%). Diabetes is ranked number one in the number of visits by primary diagnosis and number two in the number of patients with a primary diagnosis.

Financial costs data for health centers do not have the granularity to report the proportion of costs for diabetes patients or diabetes-related services. Likewise, the proportion of revenue by payer cannot be reported for the diabetes population alone.